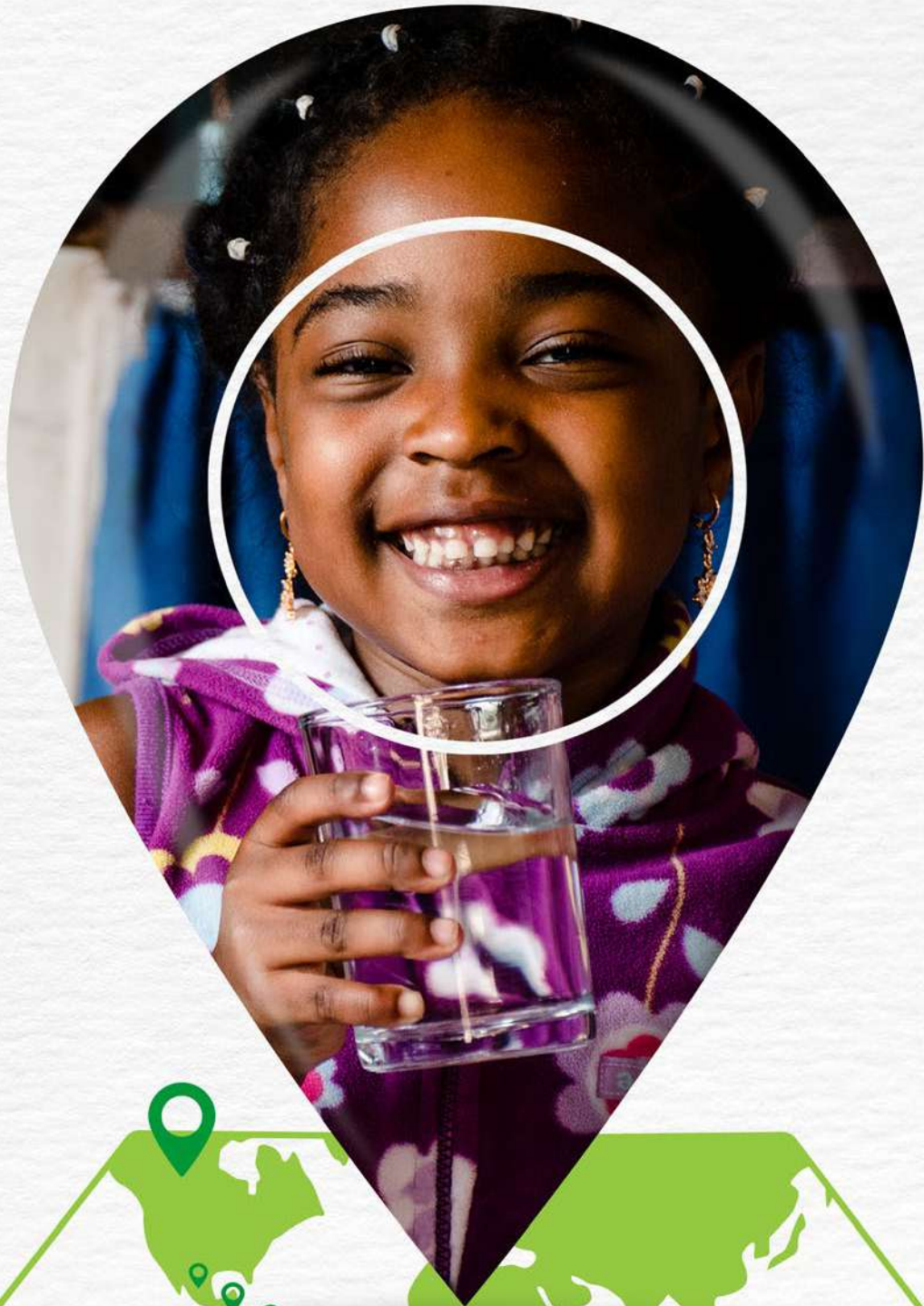




Sustainability Report 2018





Grupo·epm[®]



Our
group

Our Group

About us

2018
Our businesses

Grupo **epm**



Jobs
Grupo EPM

13,478

6 countries
7 businesses
47 companies



Power generation



Power transmission



Power distribution



Gas



Water supply



Wastewater management



Solid waste management

Provision of our services



Power generation



Power transmission, distribution and commercialization



Natural gas



Water supply



Sewerage

Some management indicators



Environmental management index

91%



Grupo EPM's CSR evolution

74%

Operations in Latin America



Guatemala



El Salvador



Panama



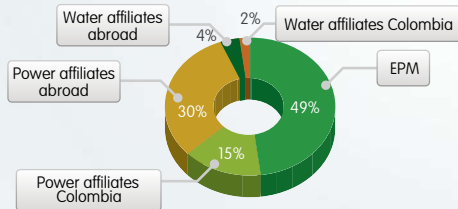


Grupo EPM's financial results 2018

Figures in billion COP

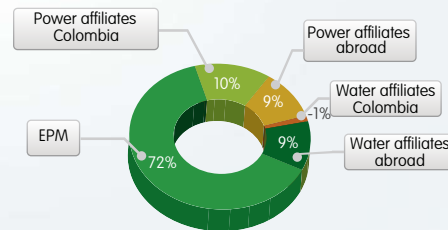
Revenue

COP 16,321



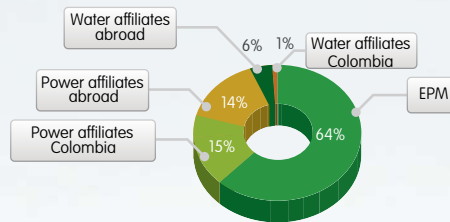
Comprehensive outcome for the period

COP 2,417



EBITDA

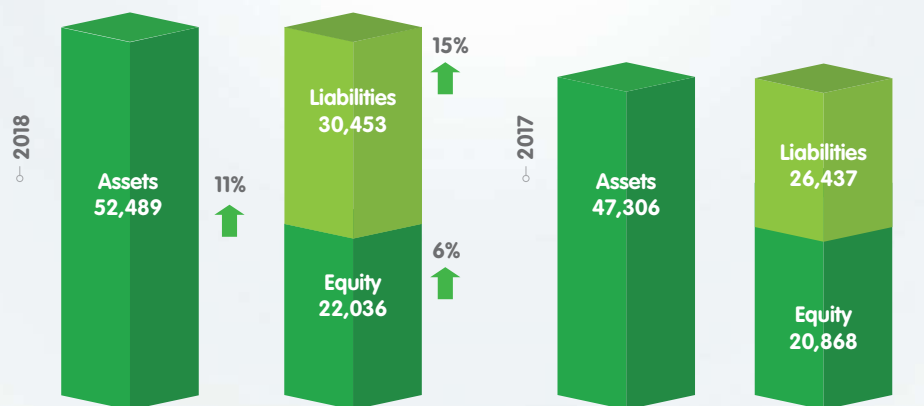
COP 5,115



Grupo EPM's statement of financial position 2018

Figures in billion COP

Grupo EPM



Power

Grupo EPM's power generation efficiency indicators 2018

EPM ESSA CHEC HET



Source: Vice Presidency of power generation



Thermal power efficiency

| | | |
|--|--------|------|
| Actual availability/ projected availability | 107.6% | 114% |
| Power penalized/ power generated | 2.6% | 0% |



Hydraulic power efficiency

| | | | |
|--|--------|-------|--------|
| Actual availability/ projected availability | 101.4% | 99.1% | 104.7% |
| Minor plants (<20MW) | 101.4% | 64.9% | 96.8% |
| Power penalized/ power generated | 0.1% | | |



Wind power efficiency

| | |
|--|--------|
| Major plants (>20MW) Actual availability/ projected availability | 101.1% |
| Minor plants (<20MW) | 94.9% |

Power generation mix

| Type of source | Power plants | | Net production (GWh) | | Installed capacity (MW) | | | | |
|------------------------|------------------------------|-----------|----------------------|---------------|-------------------------|--------------|-----------------|--------------|-------|
| | 2018 | | 2018 | | 2018 | | Projection 2020 | | |
| Wind power | 2 | 1 | 300 | 44 | 128 | 18 | 18 | 18 | |
| Thermal power | 2 | 1 | 20 | 19 | 496 | 445 | 496 | 445 | |
| Hydraulic power | Less than 10MW | 15 | 10 | 78 | 52 | 25 | 16 | 3,065 | 2,825 |
| | Between 10 and 20 MW | 9 | 7 | 775 | 594 | 153 | 119 | | |
| | More than 20 MW | 9 | 6 | 14,922 | 14,311 | 2,887 | 2,690 | | |
| | Total hydraulic power plants | 33 | 23 | 15,775 | 14,957 | 3,065 | 2,825 | | |
| Total | 37 | 25 | 16,095 | 15,020 | 3,689 | 3,289 | 3,579 | 3,289 | |

*Grupo EPM generated 17 GWh from natural gas.
EPM generated 15 GWh from natural gas.

Grupo EPM EPM

Installed capacity for power transmission and distribution 2018

Grupo EPM EPM

Service universalization - Colombia

4,460,912 Total customers
96.14% Universalization (%)

Service coverage - other countries

2,118,838 Total customers
97.14% Service coverage (%)



Power transmission and distribution networks (km)

245,646 94,647

Power distribution and transmission transformers

347,054 138,551

Transformation capacity in substations (MVA)

17,186 8,523

Source: VP of power transmission and distribution and commercial VP.

Detailed electrical energy service per company 2018

Service universalization - Colombia

epm
Total customers 2,437,797
Universalization (%) 96.42%

chec
Total customers 496,855
Universalization (%) 98.73%

edeq
Total customers 192,030
Universalization (%) 98.88%

CENS
Total customers 519,533
Universalization (%) 91.92%

ESSA
Total customers 814,697
Universalization (%) 95.89%

Total electrical energy service customers 6,579,750

Service coverage - Other countries

DELSUR
Total customers 394,477
Service coverage (%) 97.00%

ENSO
Total customers 459,075
Service coverage (%) 95.10%

EEGSA
Total customers 1,265,286
Service coverage (%) 99.32%

Water supply and sanitation

Grupo EPM's water supply installed capacity indicators 2018

Grupo EPM EPM



Installed capacity

| | | |
|---|-------|-------|
| Drinking water treatment plants | 35 | 12 |
| Capacity for drinking water treatment (m ³ /s) | 20.98 | 16.45 |

Water distribution

| | | |
|--------------------------------------|-------|-------|
| Primary distribution networks (km) | 622 | 283 |
| Secondary distribution networks (km) | 5,889 | 3,627 |

Net production of drinking water (million m³)

| | |
|-----|-----|
| 379 | 284 |
|-----|-----|

Grupo EPM's sanitation installed capacity indicators 2018

Grupo EPM EPM

Installed capacity

| | | |
|---|-------|------|
| Wastewater treatment plants | 17 | 1 |
| Capacity for wastewater treatment (m ³ /s) | 13.97 | 1.80 |

Distribution

| | | |
|--|-------|-------|
| Collection and transport networks (km) | 825 | 392 |
| (Secondary) Collection and transport networks (km) | 5,684 | 4,261 |

Waste collection

| | |
|---|-----------|
| Tons transported | 682,916 |
| Tons admitted to La Pradera landfill for final disposal | 1,140,198 |
| Leachate treatment plants | 1 |
| Leachate treated (m ³) | 334,136 |





Water treated in wastewater treatment plants (million m³)

| | |
|-----|----|
| 182 | 43 |
|-----|----|



Source: Vice Presidency of water supply and sanitation.

Water supply and sanitation service coverage 2018

| | Water supply  | Sewerage  | Waste collection  |
|---|---|--|---|
|  Total customers | 1,228,667 | 1,192,580 | N.A. |
| Universalization (%) | 97.17% | 95.15% | N.A. |
|  Total customers | 5,426 | 5,506 | N.A. |
| Universalization (%) | 100% | 100% | N.A. |
|  Total customers | 93,409 | 68,931 | N.A. |
| Universalization (%) | 91.41% | 73.19% | N.A. |
|  Total customers | 32,754 | 29,371 | N.A. |
| Universalization (%) | 98.00% | 97.49% | N.A. |
|  Total customers | 23,408 | 20,502 | N.A. |
| Universalization (%) | 91.62% | 76.18% | N.A. |
|  Total customers | N.A. | N.A. | 818,098 |
| Service coverage (%) | N.A. | N.A. | 99.21% |
|  Total customers | 177,476 | 176,945 | N.A. |
| Service coverage (%) | 100% | 99.86% | N.A. |
| Total customers | 1,561,140 | 1,493,835 | 818,098 |
| Universalization (%) in Colombia | 96.66% | 93.30% | 99.21% |

Source: Vice Presidency of water supply and sanitation.


Note: TICSA has no direct customers, but it indirectly serves 1,374,840 customers through the operation of eight wastewater treatment plants.


Gas

Grupo EPM's gas installed capacity 2018

Grupo EPM

 Pressure regulating stations
88

 Compressor station (2,000 m³/h)
2

 Polyethylene pipes in Antioquia (km)
8,154



EPM's gas service coverage

 Total customers
1,196,467

 Service universalization (%)
84.63%

Source: Vice Presidency of gas.

Grupo·epm

Colombia • Panama • El Salvador
Guatemala • Mexico • Chile

Our Story

Grupo·epm

1955

Grupo EPM originates from **EPM**,
*a public company owned by the municipality
of Medellín.*



1997

EPM is transformed
**into an industrial and
commercial company
of the State**

to comply with Law 142 of 1994.

1999

**The company Aguas
del Oriente is born**

*to meet the demand of water supply and
sewerage in the Municipality of El Retiro.*





2000

EPM
becomes the parent company
of a business group.

2002

EPM Bogotá Aguas is created;
later on it would turn into:



2003

EPM purchases
and creates EPM Inversiones S.A.



chec

(Central Hidroeléctrica
de Caldas)

edeq

(Empresa de Energía
del Quindío)



(Hidroecológica del Teribe,
Panamá)

2005

EPM adopts a new strategy and changes
its organizational structure.



une

UNE EPM Telecomunicaciones S.A.E.S.P. is created.

2006

2006 - 2007

**EPM becomes a business partner
of the regional companies**

Aguas de Urabá and Aguas de Occidente.



2007



EPM is included into the regional electricity market of Antioquia.



2009

EPM purchases
and participates in the creation
of Empresas Públicas de Oriente.



(Centrales Eléctricas del Norte
de Santander)



(Electrificadora
de Santander S.A.)

2010

**EPM invests in electric power
companies of Central America**



that have already been operating
in the region, and acquires

holding DECA II
and its subsidiary companies.

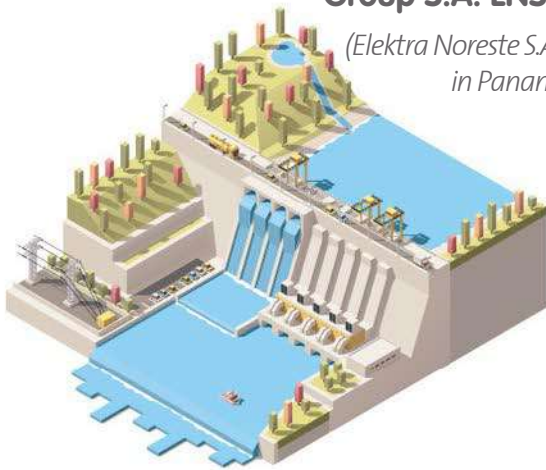
2011

EPM purchases, through DECA II, the company El Salvador Holdings Ltd.

which in turn owns Delsur (Electricidad Del Sur) in El Salvador

and through the acquisition of Panamá Distribution Group S.A. ENSA

(Elektra Noreste S.A.) in Panama



EPM formally takes on the financing, construction, maintenance, operation, and commercial exploitation of the Ituango Hydroelectric Project

which will be the largest power generation station in Colombia with a capacity of 2,400 megawatts and will be operational in 2018.

EPM acquires 85% of the public company Aguas de Malambo S.A. E.S.P.

epm[®]

Mexico



2012

EPM Mexico is created as a platform for the different projects that can be developed in that country

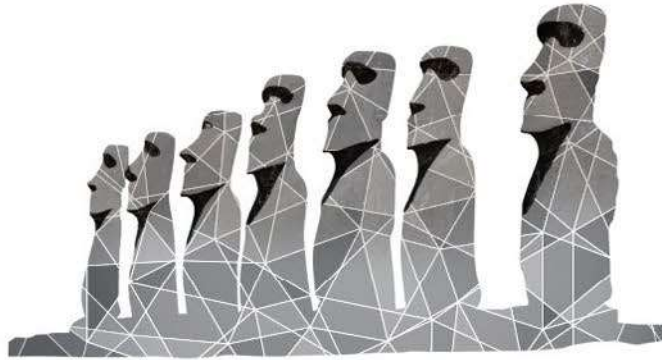
After an early achievement of its big hairy audacious goal in 2011, the group defines a new strategic planning, projected for 2022, and undertakes a transformation process.

2013

EPM Chile is born as a holding company

in order to leverage the growth plan of the company in South America.

Through this company, Grupo EPM starts the construction of Los Cururos Wind Farm with 109.6 megawatts, in the region of Coquimbo, Northern Chile, through a "turnkey" contract with the Danish firm Vestas.



Grupo EPM transforms itself to achieve the goals set for 2022

EPM becomes the majority shareholder of Ticsa, in Mexico. This company focuses on design, construction, operation, and start up of waste water treatment plants.

Upon acquiring Emvarias,

Grupo EPM expands its portfolio to solid waste collection and sanitation services.





2014

Grupo EPM, through its affiliated company EPM Chile, opens Los Cururos Wind Farm with 110 MW.

Grupo EPM consolidates its new administrative structure.



UNE – Millicom seal the merger to create new digital alternative in Colombia.

2015

EPM strengthens its presence in Chile purchasing *Aguas de Antofagasta*.



2016

Regional de Occidente and Aguas de Urabá merge, and the corporate name of the merger becomes **Aguas Regionales EPM**



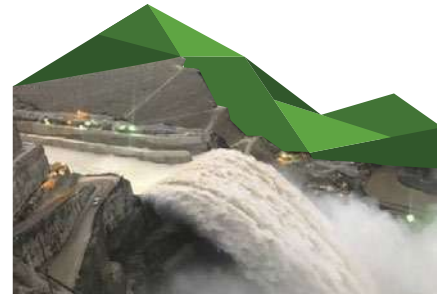
2017

ep·rio³

Sale and purchase of assets, allowing **EPRio** to continue providing the services in the municipality of Rionegro as affiliate of Grupo EPM.

2018

EPM addresses the different social, environmental, and technical aspects for the management of the **Ituango Hydroelectric Project** contingency. Thanks to the progress in the construction of the dam and the completion of the spillway works, the risk for the downstream communities was reduced.



Grupo·epm

Corporate strategic planning

Strategic planning seeks to guide Grupo EPM to its desired future position, making planning a continuous process and a natural component of the organizational culture. This process includes the activities necessary to define a strategic framework, propose strategies to be further developed, and realize the long-term challenges, so as to ensure their compliance by implementing planning activities in the businesses and vice presidencies of corporate services and their translation into specific goals and commitments to results down to the individual level.

Therefore, it is essential to have elements of planning clearly defined and understood by the entire group, so that it is possible to focus efforts throughout the organization and so that these elements become references for decision-making at all levels, in accordance with the group's philosophy and its purpose, as well as with the direction it is intended to have.

The meaning and, above all, the content of the strategic planning elements have been presented in a clear, specific, and comprehensive manner, using a simple and motivating language that facilitates its understanding by the Grupo EPM people and creates a common meaning and a shared vision. For this purpose, the strategic planning has been defined as corporate strategic planning for the group, and as competitive strategic planning for each business, identifying, in each case, elements that guide the work of the group.

Corporate strategic planning is understood as the set of elements, decisions, and actions that define global choices in a multi-business group, seeking to create value through the configuration and coordination of its activities in multiple markets.

Reading and analyzing the signals provided by the environment, together with the expectations of the owner and the stakeholders, mark the starting point for the analysis and definition of the strategic planning of the group and its businesses, and, in turn, for the alignment of the intentions of result and performance of its companies.

For Grupo EPM, the corporate strategic planning is grouped in three dimensions: identity, action, and results. Each dimension contains, in turn, two elements:

Identity:

- Purpose
- Values

Action:

- Businesses
- Strategy

Results:

- Strategic imperatives
- Business model

Purpose

We seek to **remain through time** by contributing to the development of sustainable and competitive territories, **fostering well-being and equitable progress** in the places where we operate. Therefore, we focus on **developing infrastructure projects and offering our customers and users** electricity, gas, water, and sanitation **solutions** complemented with business agreements with information and communication technology (ICT) services, creating **business activities that harmonize financial, social, and environmental results.**

Values

- Transparency
- Warmth
- Responsibility

Businesses

Current businesses



Generation



Water supply



Transmission



Wastewater management



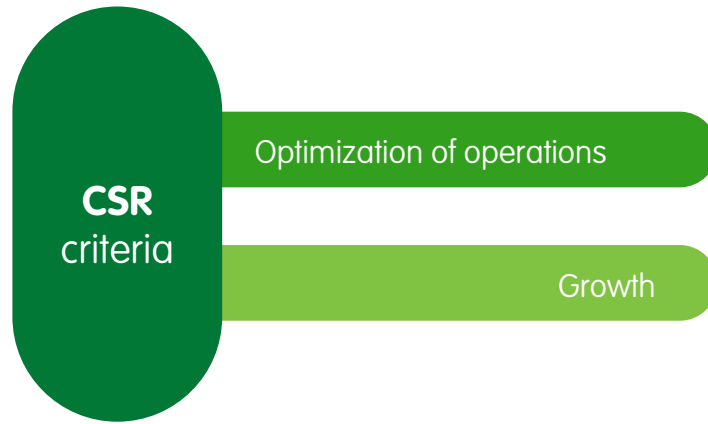
Distribution



Solid waste management



Gas



Competitive strategic planning

Refers to a group of integrated choices that seek an explicit intention to position the business in the target market. It comprises the strategic imperative and the business model:

Strategic Imperative

It is defined within the fundamental mandate that needs to be developed by the business to respond to the ambitions set out in the business group's strategic planning.

A strategic imperative has been defined for each business, as follows:





Business model

It describes the way chosen by the business to create, deliver, and capture value. It begins with the identification of its competitive advantages and their potential of use in the market so that the business reaches a higher position than the competition. This work involves a collective effort by the whole organization.

In order to define its business model, the group has followed the Canvas methodology, introduced by Alexander Osterwalder and Yves Pigneur in their book *Business Model Generation*.

Our challenges

The current strategic plan of Grupo EPM has the following goals:



1. Recover the Ituango hydroelectric project.



2. Obtain sources of liquidity.



3. Make businesses profitable, especially power distribution and generation.



4. Grow looking at 2025.



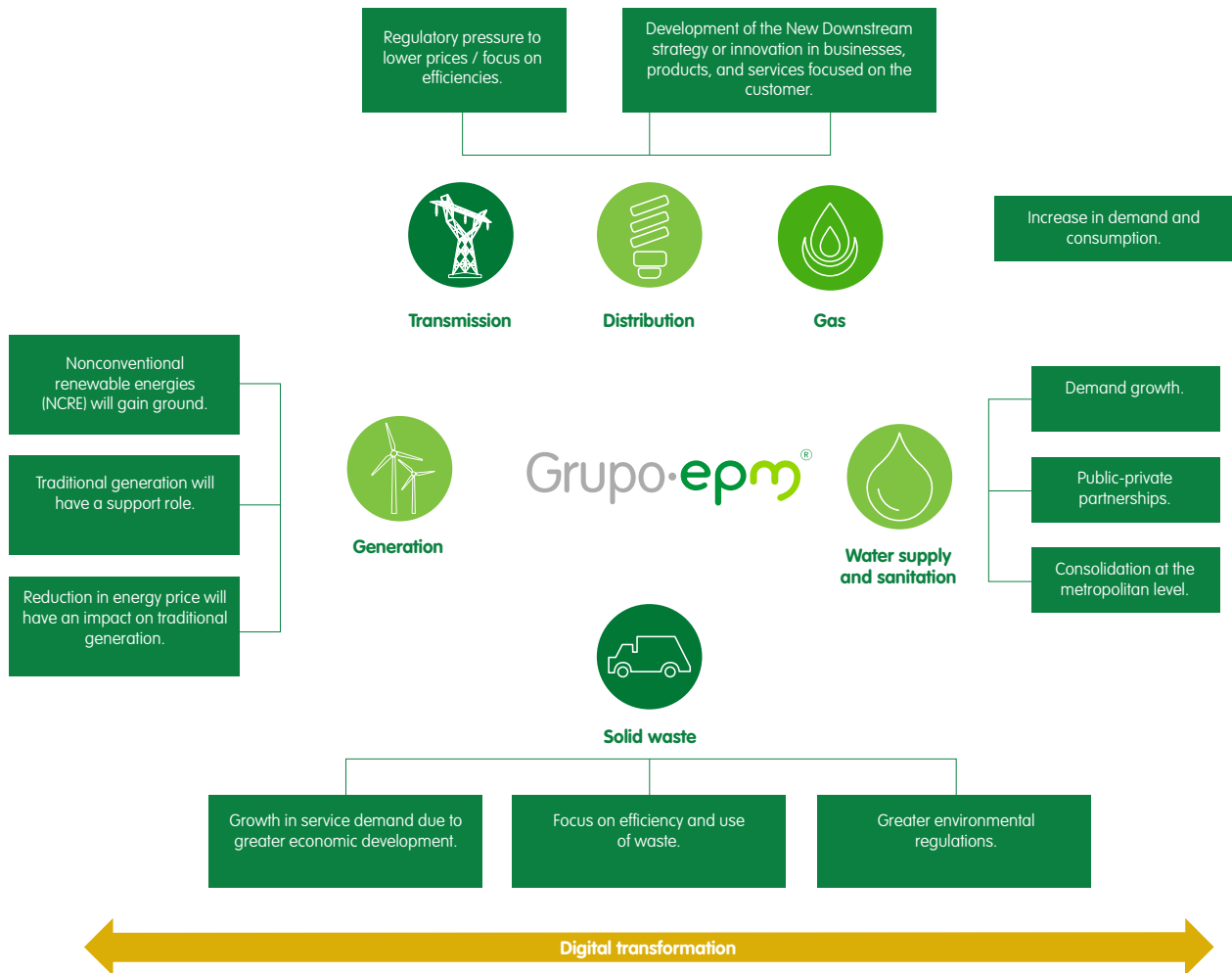
5. Transform the organizational culture.

Macro-trends

Three disruptive trends are observed in the businesses:




Signals - Global trends



Comprehensive risk management

GRI Disclosures 102-26, 102-29, 102-30, 102-31

As part of the control environment, Grupo EPM implemented the comprehensive risk management (CRM) as a formal and cross-cutting practice in the organization. The group defined a regulatory framework for managing risks, which includes policies, guidelines, and rules that establish the commitment of the senior executives to the management and mitigation of risks. In the process model there is a formal process called comprehensive risk management, and in the organizational structure there is a department with three associated dependencies to lead this topic.



The risk management cycle is applied at the different management levels of the organization (group, businesses, companies, processes, projects, and contracts) and is divided into different reporting lines based on the criticality of the risks. In this way, it is possible to identify and mitigate diverse types of risks and, consequently, deal with them in a comprehensive way. Other activities, such as specialized risk analysis for decision-making, physical risk inspections and, disaster risk management planning are also performed. As part of this comprehensive work, risk management is articulated with insurance management and compliance practices; the latter focused on the prevention of money laundering, financing of terrorism, corruption, and on the protection of personal data, among others.

In order to analyze and assess the risks to which the organization is exposed, a formal methodology is applied, along with some associated tools for the identification and qualitative and quantitative assessment of risks. EPM has defined the various elements that make up its risk profile and, in this way, the company establishes its risk tolerance as the level of risk that it is able to handle, given the limits defined in the risk assessment tables by impact object, prepared according to the types of potential effects in terms of damages to reputation, people, quality of service, project execution time, financial resources, information, or the environment.

In addition, as an organizational function, EPM has defined the Middle Office scheme, focused on designing and implementing methodologies for the quantification, review, and monitoring of financial risks associated with the administration of excess liquidity and the definition of related regulations. Likewise, this function has a reporting line to the executive vice president of corporate finance and risk and investment management and the vice president of corporate auditing.

The comprehensive risk management is part of various reports that are delivered to stakeholders and helps demonstrate responsibility and due diligence.

Risk reporting mechanisms

The business group identifies, assesses, and periodically manages the highest-level and highest-criticality risks. However, once the event that caused the contingency in the Ituango project occurred, a risk matrix was designed to address the risks derived from it, which could affect the sustainability of the organization in this new context. An intensive scheme was also implemented in order to monitor and report to both the management committee, in which the first-level business and support vice presidents participate, and the audit committee, which is made up of three independent members of the board of directors and a representative of the external audit firm. Subsequently, the results of the risk monitoring and their mitigation plans are presented to the board of directors.

The risks of each business are validated by their respective vice presidency (power generation, transmission and distribution, gas, water supply and sanitation, commercial), and their periodic monitoring is carried out by the Performance Management Unit of each business, whose function is to keep track of these risks and their mitigation plans.

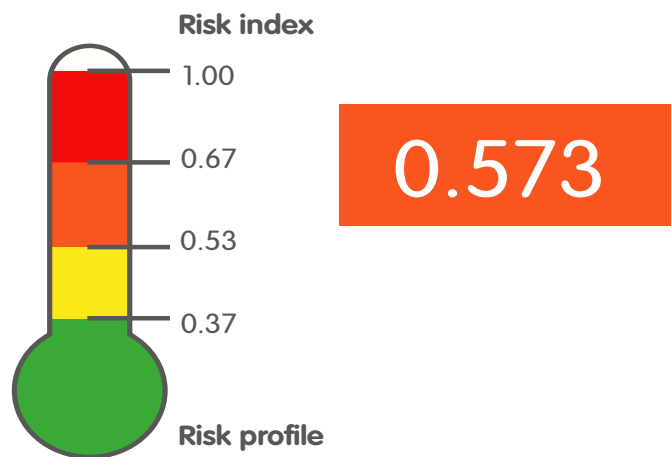
At company level, each of the group's national and international affiliates have risk matrices that are approved by the board of directors, and whose periodic monitoring is carried out by the management committee or audit committee of each company.

The risk matrices of projects, processes, and contracts are approved by the person in charge, who may be the head of the unit, the director and sponsors of the project, or the person requiring the contract. Based on the criticality of the risks, these matrices are presented to the vice presidency to which the process belongs: in the case of projects, to the vice presidency of projects and engineering; and, in the case of contracts, to the vice presidency of supply chain or to the contracting committee.

Besides the risk exercises of the organizational management levels, specialized risk analyzes are conducted aiming at supporting decision-making processes. Examples of these exercises include quantitative risk modeling, reputation alerts, and analysis of risks related to budget, cybersecurity, and new businesses.

Risk matrix of the new business context – December 2018

| | | Consequence | | | | | Risk level |
|------------|---|--------------------|------------|---------------|------------|----------------|-------------------------------------|
| | | Insignificant 1 | Minor 2 | Moderate 4 | Major 8 | Critical 16 | |
| Likelihood | | | | | | | |
| Very high | 5 | | R14 | | | R9,R11 | Critical High Moderate Low |
| High | 4 | | | | R1 | R2,R12 | |
| Medium | 3 | | | | R4,R5,R16 | R7,R13,R18 | |
| Low | 2 | | R17 | R6,R8 | R3,R10 | R15 | |
| Very low | 1 | | | | | | |



*The risk index is a number that can take values between 0 and 1, with 0 being the lowest risk and 1 the highest risk, which represents the risk level of the matrix as a whole.

Top 10 risks of the new business context

| Code | Name of the risk |
|------|--|
| 9 | Unfavorable regulatory changes - Ituango hydroelectric project. |
| 11 | Unfavorable regulatory changes - Environment. |
| 2 | Third-party claims. |
| 12 | Contractual breaches. |
| 7 | Difficulty to comply with the assumptions of the business plans. |
| 13 | Unsatisfactory or untimely delivery of projects to the operation - General projects. |
| 18 | Unsatisfactory or untimely delivery of projects to the operation - Ituango project. |
| 1 | Investigations or inquiries from control bodies. |
| 15 | Difficulties in insurance claims. |
| 16 | Inappropriate engagement or communication with stakeholders. |

Emerging risks

During the assessment of risks of the new business context, the following emerging risks were identified. They are relatively new, have a high degree of uncertainty and tendency to increase.

| No. | Risks | Main potential impacts | Main improvement actions |
|-----|--------------------|--|--|
| 2 | Third-party claims | <ul style="list-style-type: none"> • Significant economic outlays. • Negative impact on the reputation of Grupo EPM. • Claims and complaints that exceed the Grupo EPM's response capacity. | <ul style="list-style-type: none"> • Design the procedure for the attention to and compensation of people affected - Ituango hydroelectric project. • Define the methodology for assessing damages to furniture, chattels, and houses. • Validate the proposed compensation plan for the families affected. |
| 14 | Cyberattacks | <ul style="list-style-type: none"> • Sabotage. • Data modification. • Data wiping. • Intellectual property infringement, plagiarism, and defamation. • Network disruption (denial of service). • Negative impact on reputation. • Ransomware (data kidnapping for ransom). • Economic losses. • Alteration of critical assets and cyber assets. • Discontinuity in the service (energy, water supply, gas). • Negative impact on the integrity and well-being of individuals. • Environmental damages. | <ul style="list-style-type: none"> • Implement cybersecurity and cyber defense services. • Clean data exposed to the Internet. • Develop situational awareness and ensure digital certification process. • Review and adjust the cybersecurity architecture in the business operation processes. • Support affiliated companies' security. • Continue implementing cybersecurity and cyber defense services and other specialized services. • Implement digital security controls in the development of applications. • Implement physical security. |

Sources of the definition of emerging risk: Risk and Insurance Management Society, Inc. (RIMS). RIMS executive Report – The Risk Perspective. Emerging Risks and Enterprise Risk Management, New York, NY 10018.

Actions proposed to mitigate risks

Each risk identified in the risk matrix of the new business context is in the charge of a vice presidency that has to define the improvement actions to mitigate the risk and engage the relevant stakeholders in its management. During 2018, improvement actions were proposed to address these risks. Each action was documented along with the expected result, start and due dates, leader in charge, and person responsible for its implementation.

Key actions for the comprehensive risk management in 2018:

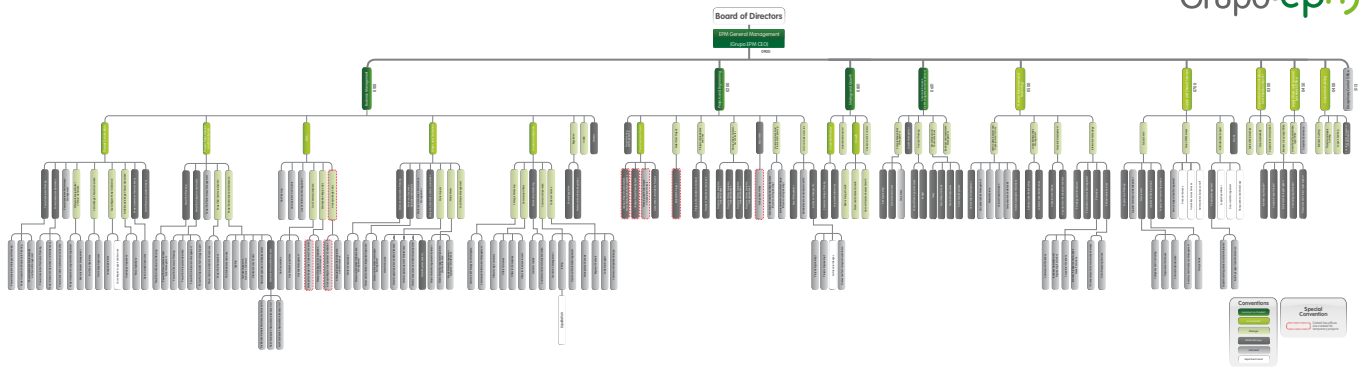
- Definition and implementation of the monitoring scheme for the risks of the new business context and their mitigation actions.
- Advice and support to the Ituango project and analysis of risks for decision-making during the contingency.
- Implementation of the disaster risk management plans by business, pursuant to Decree 2157 of 2017 issued by the Presidency of the Republic of Colombia.
- Strengthening and adjustment of contingency and emergency plans for the different businesses (generation, transmission, distribution, gas, water supply, wastewater management, and solid waste management).
- Update of risk matrices of national companies: CENS, ESSA, CHEC, EDEQ, Aguas Regionales, Aguas de Malambo, Aguas de Oriente, Aguas Nacionales, and EPRio.
- Update of risk matrices of international companies and some investment vehicles:
- Update of risks for documented business processes.
- Analysis of risks for 26 new projects and monitoring and update of risks for 48 projects underway.
- Analysis of risks for all contracts negotiated in 2018.
- 51 new specialized analyses of risks and 5 in process of monitoring and update of risks.
- Launch of the virtual course on Protocol for Addressing Events and Crisis (abbreviated PADEC in Spanish) for the entire organization.
- Design of a methodology for developing contingency plans.
- Design of the methodological guide and the handbook for developing disaster response plans, pursuant to Decree 2157 by the Presidency of the Republic of Colombia.
- Preparation of a pilot plan for disaster response in the facilities, and management of two requirements of the National Environmental Licensing Authority (abbreviated ANLA in Spanish) on the matter.
- Consolidation, for the fourth year, of the national and international insurance program and the national brokerage service.
- Public procurement processes were carried out during this year, which continued showing economic efficiencies and homogeneous technical conditions. In addition, through consolidation, disaster management is further strengthened with standardized guidelines and administrative efficiencies.
- Management and acquisition, for the second consecutive year, of a cyber risk coverage specialized in possible impacts on the infrastructure of the EPM's businesses—a pioneering coverage for this type of risks in the country.
- In 2018, Maxseguros EPM had its financial strength rating of A- (Excellent) and the issuer credit rating of a-, with stable outlook, affirmed by ratings agency AM Best (New Jersey), which demonstrates the trust and support to the actions performed over the past year.
- As part of the comprehensive risk management chain for Grupo EPM, Maxseguros EPM contributed to the renewal of the policies for the 2018-2019 period, achieving very good results despite the occurrence of relevant disaster events.
- Maxseguros EPM maintained its retention in the material damage + loss of profit, directors and administrators, breaches, and financial risks policies. Moreover, it acted as a facilitator in the civil liability, errors and omissions, and cyber risk policies.

- Loss management: losses were managed in different areas. It is worth highlighting the management of the event occurred in 2017 at the Playas power station, where the adjustment process was carried out and, therefore, USD 20,000,000 was paid in 2018 for material damage and COP 16,000,000,000 for loss of profit, added to USD 4,000,000 paid in 2017.
- Progress was made in the non-contractual civil liability and contractor's all risk policies of the event caused by the collapse in the structure of the auxiliary diversion system of the Ituango hydroelectric project, which led to a contingency that involved material damages, loss of profit, and third-party liabilities. This process has implied the exchange of information with the reinsurance market and management of the relevant information to request the payment of the compensations corresponding to these insurances.

Our organization

EPM'S Organizational Structure

Grupo **epm**



Click [here](#) to download the administrative structure PDF.

Cycle of supply of goods and services

EPM performs the acquisition of goods and services with efficiency and effectiveness criteria, supported by the principles of good faith, morality, transparency, economy, equity, responsibility, equality, and impartiality, in order to achieve the consolidation of its businesses in the market and, thus, increase the value for stakeholder groups.



| Process | Goal |
|---|--|
| Operational planning. | Plan and schedule the roles, processes, and improvement actions, as well as the projects defined to achieve the goals, allocating human, technical, and financial resources and identifying the contractual requirements for their execution. |
| Category management. | Identify opportunities to create synergies and optimize operating costs by means of a specialized knowledge of the elements that make up the required goods and services. |
| Supplier management. | Improve suppliers' performance and satisfaction in terms of their engagement with Grupo EPM. |
| Supply management. | Negotiate the acquisition of goods and services in order to meet the needs of the organization and ensure compliance with the subject of the contract. |
| Materials management. | Manage the logistics, receive, re-stock, safeguard, and supply movable assets according to the needs of the users. |
| Accounts payable management. | Comply with the payment mandate of the different administrative areas of EPM and its affiliated companies in an agile and safe manner, fully meeting financial obligations, ensuring proper management of resources, optimizing the economic benefit for EPM and the affiliate that orders the payment, and guaranteeing the satisfaction of suppliers and other stakeholder groups. |
| Monitoring and improvement of management. | Keep track of the corporate performance (business and support processes) by monitoring the strategic, tactical, and operational goals and objectives of the group and providing accurate, reliable, and systematic information that allows the organization to define corrective and preventive actions to ensure compliance with the strategy and goals. |

See more in the following sections of the Social and environmental report:

- [Responsible procurement for local development.](#)
- Purchasing and procurement.
- Engagement with suppliers and contractors.
- Strengthening and development of suppliers.



Sustainability Report 2018





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1. Letter from the CEO

Medellín. March 26, 2019

Dear Members of the EPM's Board of Directors

Medellín

In a few years, when this chapter of the history of EPM is written, words such as contingency and emergency will surely come out. A difficult situation for a company that at the beginning of 2018 was preparing to announce the completion of the works of the Ituango hydroelectric project.

Without underestimating the dimension of the facts occurred between April and May, when the auxiliary diversion tunnel (GAD) collapsed, I want to start the introduction of this management report with an optimistic view and with profound gratitude for the support of so many people and institutions, as well as for all the lessons that these difficulties have left to the organization and the country.

From the technical, environmental, and social perspectives, this is an experience that transforms us as a human team and leads us to feel much more committed to the values that have always given life to EPM.

We have faced this contingency with transparency, warmth, and responsibility, and today we can say that we have taken important steps to fulfill the greater purpose of this mission that we assumed: to safeguard the life of people.

All the activities that we have carried out comply with that code of ours in which, after the priority of protecting communities, we are committed to the environment and to the recovery of the project from the technical point of view.

We are getting ahead and we also continue making progress with the different projects of EPM and the business group.

This organization continues performing its daily task of providing its clients and users with the best public utilities, as well as developing important projects such as the sanitation of the Medellín river, with the setting in motion of Aguas Claras, the new wastewater treatment plant located in the northern area of Valle de Aburrá; the works of the Centro Parrilla project that contributes to the transformation of this vital zone of the capital city of Antioquia; the promotion of programs to facilitate access to drinking water in sectors with low economic resources; the rural electrification; the implementation of solar energy projects; the decisive contribution to sustainable mobility with the public charging eco-stations for electric vehicles; and the strengthening of the vehicular natural gas service.

EPM is a dynamic company that today honors its more than 63 years of constant effort for the development of the community. In consequence, innovation has always been part of its history. Grouping the different public utilities into one company was an innovative decision, as well as building the Guadalupe hydroelectric power stations that in the first half of the 20th century gave a definitive boost to the industrial development of Medellín, without leaving



aside leading-edge works such as the multiple use of the Grande river with the Manantiales water purification plant and the Niquía and La Tasajera power generation plants.

There would be much more to tell about our trajectory, but the most important is that we keep growing in a sustainable way, because the purpose of Grupo EPM in the different regions of Colombia and in several Latin American countries is supporting the development, providing people with opportunities, improving the environment, and ensuring well-being and quality of life.

This is how, year after year, we keep the level of transfers to the municipality of Medellín for its development plan, in addition to complying with our different obligations related to taxes and contributions, complemented with the execution of social responsibility programs that respond to the genuine interest of transforming the society in which we live through our company.

Our work in the Ituango hydroelectric project, before, during, and after the contingency, has the same characteristics. We are present in those communities, traditionally abandoned, helping people live better. That is the meaning of what we do.

The cooperation and support of multiple sectors of the society that recognize the work of EPM and trust in our responsibility encourage us to keep working in order to give the country, by the year 2021, the good news that the Ituango project is beginning to generate the energy that Colombia needs for its development in the coming years.

We are really thankful for that support. To the members of the board of directors, and especially to the mayor of Medellín and chairman of the board, Federico Gutiérrez Zuluaga, we express all our gratitude for their dedication so that this company continues operating in favor of Medellín, Antioquia, Colombia, and the regions where the group is present.

We also thank the companies, institutions, guilds, the honorable Council of Medellín, the government of Colombia, and the state agencies that have accompanied this process.

The EPM people are the real heroes of the Ituango project. We have seen them facing the problem, offering technical solutions, providing transparent information, and working hand in hand with the communities. Workers of all organizational levels have moved to the territory to mitigate the contingency. We feel that we are a team that makes commitment a way of life.

These are the different facets of the company during 2018; above all, an expression of our conviction, values, sense of belonging, knowledge, and willingness to serve the communities where we are present.

More than figures, here you will find testimonies of willingness to serve, of closeness, of concern to do things well. These are facts that we share as a way of thanking and congratulating those who made them possible.

This report meets the requirements of the Communication on Progress to respond to the EPM's commitment to the Global Compact of informing on the disclosure and application of the principles in its strategy and operations. It should be noted that it was in 2014 when EPM reaffirmed its willingness to join the United Nations Global Compact and its commitment to the ten principles on human rights, labor, environment, and anti-corruption.



Jorge Londoño De la Cuesta
EPM's CEO

2. Business purpose

Grupo EPM seeks to remain through time by contributing to the development of sustainable and competitive territories, fostering well-being and equitable progress in the places where we operate. Therefore, the group focuses on executing infrastructure projects and offering our customers and users electricity, gas, water, and sanitation solutions complemented with business agreements with information and communication technology (ICT) services, comprising business activities that harmonize social, environmental, and financial results.

To achieve our business purpose and our short-, medium-, and long-term goals, and taking into account the contingency of the Ituango hydroelectric project, in the second half of 2018 an adjustment was made to the group's strategic planning, prioritizing five points:

1. Recovering the Ituango hydroelectric project.
2. Obtaining sources of liquidity.
3. Making businesses profitable.
4. Growing based on the 2025 vision initiatives.
5. Transforming the organizational culture.

These points are, in turn, framed in five grouping concepts defined as the "4C+1G," from which we focus on being **closer** to our customers and users, suppliers and contractors, and Grupo EPM people; we work on the improvement of our **coverage** in the territories where we operate; we take **care of the environment** through the protection of water basins and the search for a carbon neutral operation; we **consolidate** ourselves through projects that generate efficiency in processes and new capacities required by the organization; and we **grow** giving priority to the development of infrastructure projects, strengthening our presence in Urabá and Eastern Antioquia, and taking into account the business opportunities that may arise. With the "4C+1G" concepts, we explicitly articulate the strategy with the BHAG and this is what we are developing from that approach.



3. Closeness


3.1. Customers and users

During 2018, we managed to interact with more than 601,000 people from all over the country, thanks to the educational activities we conducted with the community.

Through the strategies **Por ti estamos ahí** (We are there for you), of EPM, and **Cercanías** (Closeness), of the national energy affiliated companies, 80 programs were developed in the country, in which we talked with 159,000 people about the provision of residential public services. As part of the **Lectura a tu medida** (Reading at your measure) program, we held conversations with 250,000 people, achieving a better understanding of our bill and rates.

Based on the social and educational work of the **Unidos por el agua** (United for water) program, we established bonds of trust with the leaders and communities of the benefited territories and interacted with more than 9,000 people. Within the **Cuidamundos** (World's protector in your school) program, we interacted with more than 72,000 students, seeking to encourage care for the environment and promote the proper use of public utilities, which implies inspiring closeness and trust with our future customers and users.





In order to improve the experience of our customers and users and provide them with more options, **self-service solutions and digital channels** were enhanced. Six spaces were enabled in strategic areas of the city of Medellín, called “Puntos fáciles” (Easy points). These self-service spaces are equipped with technological devices so that customers and users can use new technologies that improve their experience and interaction with the company, allowing them to perform up to 20 types of online transactions, such as paying public utilities in cash or by debit card, topping up prepaid energy cards, generating payment coupons, obtaining certificates of prepaid services and account statements of the Somos card, among others. More than 311,000 transactions were processed during the year. Additionally, 18 types of transactions were implemented in the online channel and some functionalities were improved. The **EPM mobile app** continues gaining strength—in 2018, it reached 26,500 active users and customers, 65% more than the previous year. In addition, during this year, more than 75,000 customers and users received their bill only via e-mail, and about 320,000 coupons were paid electronically, that is, 16.25% of the total coupons collected in the year.

The **Somos loyalty program** continues providing customers and users with benefits. There are currently 890,000 members in Antioquia and 31,866 new families benefited from the Somos housing credit, 88% of them belonging to the socioeconomic strata 1 to 3, with a predominance of strata 2 and 3. Since 2008, more than 214,000 families have been able to fulfill the dream of acquiring the products they need for their home thanks to Somos, thus contributing to their well-being and enjoyment of residential public utilities. During this year, more than COP 110,546 million have been granted in loans.

In addition, about 50,000 customers and users enjoyed additional benefits of the Somos program, such as discounts, experiences with soccer teams, contests, raffles, marathons, exchange of points as part of payment for public utilities, Metro’s Cívica card credit, and products of the rewards catalog.

Also in 2018, the Somos credit by Grupo EPM benefited 4,688 new families in CHEC, for a total of 40,489, and 171 new families in EDEQ, for a total of 2,156, reaching sales that amounted to COP 10,400 million and COP 713 million, respectively.

Seeking to consolidate EPM as a strategic ally of its **corporate customers** and leverage commercial offers, business outreach programs were conducted, including meetings and academic and regulatory events that counted on the participation of more than 1,000 employees of 45 administrations or government institutions and about 5,000 employees of companies and large EPM customers. In addition, 300 industrial customers received academic advice and 586 small businesses participated in awareness campaigns on energy efficiency. In the construction sector, 1,841 projects were supported at the national level, managing to connect 23,117 new homes to the public utilities. Similarly, the company conducted 31 informative events on procedures and 43 training sessions on the linking and use of public utilities.

In the citizen perception survey “Medellín cómo vamos,” 88% of the population has a favorable image of EPM and 77% rates their business management as good or very good.

3.2. Suppliers and contractors

In order to continue strengthening the relationship with these stakeholders, the **EPM contractors loyalty assessment** was performed, showing a result of 52.1% that represents an increase of 5.11% in relation to the previous year, which evidences a positive growth of the most loyal contractors, who are satisfied and refer in positive terms to EPM.

As part of the positioning and consolidation of the strategy for the development of suppliers and contractors called **Sustainable Ecosystem for Supplier Development**, the company continues promoting alliances with government institutions, guilds, clusters, among others, focused on creating opportunities for improvement based on the knowledge and understanding of the mutual needs and expectations, where EPM acts as a driver of development, enhancing capacities in suppliers and contractors. During 2018, progress was made in different initiatives aimed at promoting the development of skills:

- 131 new technicians graduated from the **School of Transmission Linemen**, for a total of 281, and 175 are still in the training stage.
- Within the framework of the **PARES Group**, led by Isagén, whose purpose is to promote external collaboration networks with companies from different economic sectors, EPM worked along with Éxito in a project for the development of suppliers on **energy efficiency**. The project was sponsored by the Municipality of Medellín and counted on the participation of 15 SMEs. Moreover, an event on **health and safety at work** was conducted with 252 suppliers and 304 attendees.
- **Escuela de Destrezas Aguas** (Water Skills School) was created with the purpose of improving the technical skills of employees and collaborators in charge of the maintenance of water supply and sewerage networks and, thus, increasing the supply of skilled labor.
- During 2018, 20 suppliers joined the **supplier development program**, conducted by INNPULSA, aiming at increasing by 15% the productivity of their processes. Under the same methodology followed by INNPULSA, EPM enrolled 10 additional suppliers, which are currently in the development stage.

In addition, with the objective of strengthening the **clear and continuous communication**, 14 events were held in EPM and 33 in national affiliated companies, positively impacting a total of 2,400 people from 1,200 companies. The subjects addressed included contracting, human rights, code of conduct, prevention of frauds to EPM, permanent information on the contingency of the Ituango hydroelectric project, health and safety at work, registration in the Ariba information system, Global Compact, among others.

The second meeting of technical and administrative managers also took place, in which topics such as the moments of truth in the administration of contracts, "contracting zero-day", health and safety at work and how to manage them, and updating of the corporate security manuals were discussed.

In the meeting with suppliers and contractors, EPM launched the **contractor recognition program**, which seeks to exalt the good practices implemented in favor of the sustainability. Additionally, engagement workshops were conducted with suppliers and contractors to discuss opportunities for improvement regarding the cycle of supply of goods and services.



It is worth highlighting that in the 2018 transparency assessment, EPM scored 100/100 in the contract management for the year 2017.


In order to strengthen the different **communication channels with suppliers and contractors**, the national hotline 018000515552 was enabled and the line 3807070 was unified with the line 3805556, option 4. Both lines offer support to suppliers and contractors for the cycle of supply of goods and services, nationally and locally.

3.3. EPM people

During 2018, EPM continued improving its work environment by fostering camaraderie, respect, and closeness inside the organization based on a new leadership style that allows employees to have a satisfactory experience in the development of their activities in the company, as well as emotional well-being, balance between family and work life and between professional contribution and recognition—all in line with its strategic goals. Although 2018 was a year of challenges, strong cohesion was exhibited around the organizational values and principles, as well as high levels of resilience and sense of belonging, which proves that EPM is an organization with a high sense of responsibility, transparency, and warmth when facing difficult situations.

The above is evidenced in the 2018 measurement of **quality of life and psychosocial risk**, in which 86% of the EPM population took part. The results show that 64.22% of the participants are at low risk or no risk, which means an improvement of 2.28% compared to the 2017 measurement and classifies EPM as a healthy company. These figures are the result of a work focused on variables such as characteristics of leadership, participation and change management, performance feedback, role clarity, and recognition and compensation.

Regarding the actions oriented toward the **development of leadership**, it is worth mentioning that 115 executives participated in the senior management program; 220, in the conversation circles; and 22, in the advanced leadership training program. In addition, 52 executives decided to deepen their knowledge and participated in the executive coaching program.



With respect to the **training plan**—one of the fundamental axes of development—EPM University was renewed with an innovative and powerful approach in virtual media. Moreover, 7,115 people received training and 54,642 attended events, with an average of 16.74 hours of training per employee.

Workshops and meetings were conducted in order to strengthen the **ability to converse** for better coordination in terms of the organizational purposes; they counted on the participation of 92% of the employees. Similarly, an ambitious **cultural transformation** process was started that will allow preparing this organization for future challenges and scenarios. This process is part of a novel approach that departs from the traditional way of intervening organizations, since it focuses on the reflective capacity of each of the individuals and appeals to the conscience, the presence, and the inner place from which employees observe and interact with their environment. In this way, it appeals to the capacity for change that all people have.

As part of the strategy to strengthen **organizational clarity**, six sessions of “El valor de lo que hacemos” (The value of what we do) were held in the company. These are spaces designed for the different areas to report on topics related to their activities and their main challenges, so that all members of the organization get to know firsthand what their colleagues do, thus achieving greater organizational clarity.

Relating to **recognitions and compensations**, 89% of the EPM’s employees made use of at least one of the benefits granted by the company, which means a total of 50,086 benefits amounting to COP 26 billion. Among the corporate activities and events performed, we highlight:

- Resignification of celebrations such as the Family Day, the EPM Classic Day, and the Children’s Day, with a message of gratitude and solidarity with the company, and the optimization of costs and expenses by using the creativity and skills of EPM’s workers.
- 260 people benefited from housing loans amounting to COP 32 billion.

Regarding the **internal mobility** of the employees, it is worth mentioning:

- Admission of 190 new individuals to the organization.
- 36 promotions, 65 changes through selection processes, and 41 employees commissioned as project leaders.
- 301 transfers among departments, taking into account the development of the employees and the optimal location of resources.
- 293 employees enrolled in the teleworking program.

4. Coverage

In 2018, **universalization** reached coverages above 96% for the services of energy and water supply in Grupo EPM. Wastewater management reached 93.30% in the group and solid waste management reached 99.21% in Medellín, while gas supply reached 84.63% at the regional level.

As for the **connection of new customers and users**, there were **69,340** new connections to the EPM energy service, for a total of 2,437,797 customers. Specifically, the **Rural Electrification** program connected 15,839 new homes in 2018, for a total of 181,701 homes and 776,534 customers and users.

The gas service received 64,138 new customers and users, for a total of 1,196,467. The water supply and sewerage services reached **42,233** and **38,897** new customers and users respectively, for a total of 1,228,667 and 1,192,580.

EPM contributed to improving the quality of life of 25,268 families that lived in previously built homes without public utilities, including 11,742 homes in Bello Oriente, La Honda, La Cruz, Versalles 2, Nuevos Conquistadores, Manrique, Campo Valdés, Castilla, Popular, Santo Domingo, Robledo, López de Mesa, and 12 de octubre, which were connected through the **Unidos por el agua** (United for water) program, developed in conjunction with the Municipality of Medellín, the Social Institute for Housing and Habitat of Medellín (Isvimed), and the Enterprise of Urban Development (EDU). The program reached a total of 23,068 connections to the water supply and sewerage services.

Regarding the options and solutions available for clients and users to maintain the possibility of consuming the EPM's residential public utilities and thus satisfy their tastes, preferences, and needs, aligned with their capabilities and willingness, we highlight the **Paga a tu medida** (Pay according to your needs) offer, which in 2018 connected 42,375 customers and users in Antioquia, for an accumulated, since the beginning of the offer in 2014, of 163,083 customers and users, allowing them to pay their bill in up to 5 installments within a month. Additionally, CENS and ESSA connected 6,057 customers and users in 2018. As part of this offer, 164,833 accounts receivable equivalent to COP 90,573 million were financed, thus facilitating the payment of outstanding balances and allowing customers and users to continue enjoying their services.

The services provided through prepayment systems have also been very favorably received. 15,550 customers and users were connected to **prepaid energy** in Antioquia, for a total of 258,506 connections since 2007; that is, almost 10% of the total number of customers and users of the EPM energy service. In addition, CENS and ESSA connected 13,456 new customers and users, for a total of 32,365. The **prepaid water** service received 2,168 new customers and users in Valle de Aburrá, reaching 22,070 connections since 2015.



These solutions make it possible for people with economic difficulties to access services according to their economic capacity. To that end, non-conventional payment channels have been provided, such as the UNE public telephones network, through which 73,690 micro-payments or top-ups from COP 1,500 were carried out, contributing more than COP 134 million in revenues and 445,000 kWh in consumption. Also, in times of emergency, nearly 478,000 customers, by means of their cell phones, added COP 2,000 in advance to their accounts in order to access the service and pay for it later. This service amounted to 3 million kWh in consumption and COP 955 million in revenues. Finally, at the authorized points, customers and users of the water supply service carried out 3.67 top-ups per month, for an average amount of COP 7,496 and with an average consumption of 7.65 m³ of water.

5. Care for the environment

The EPM Business Group is aware of its interdependence upon the environment and, therefore, it has committed itself, by means of its environmental policy, to perform a comprehensive environmental, economic, and social administration.

For that reason, it works for the conservation and management of natural resources, compliance with environmental regulations, and development of voluntary initiatives for the protection of the environment, among which **water care** and **carbon neutral operation** should be highlighted, thus contributing to sustainability, which is the business purpose of Grupo EPM.

5.1. Integrated water resources and biodiversity management strategy of Grupo EPM

In 2018, the integrated water resources and biodiversity management strategy: **Agua y biodiversidad para la vida y la sostenibilidad** (Water and biodiversity for life and sustainability) was approved by Grupo EPM with the aim of contributing to the sustainability of the group itself and the territories where it operates, through joint activities with different stakeholders and taking into account the land use plan, the characteristics of the territories, the conservation of ecosystems, the supply and demand, and the risks related to water and biodiversity. Likewise, the group defined the roadmap for its implementation.

5.1.1. Water protection

Grupo EPM implemented, directly and in coordination with other actors, a series of strategies such as **forest conservation, restoration and reforestation, sustainable practices and uses, offset, and new protection areas, with the objective of protecting the water resources** in the hydrographic basins of Porce (Grande river, Aburrá river, and Porce-Alto Nechí), Nare (La Fe, Río Negro-Nare), Cauca (area of influence of the Ituango Project), Chinchiná, area of influence of Aguas Regionales in Urabá and of other affiliated companies such as EDEQ, CENS, CHEC, and ESSA, thus contributing to the protection of 21,282 hectares in 2018, for a total of 57,321 hectares from 2016 to 2018. These results were obtained thanks to the following initiatives:

- Alliances and agreements of CHEC with Corpocaldas, Carder, Municipality of Manizales, Caldas Governor's Office, National Natural Parks of Colombia (PNNC), to support programs such as BanCO2, Agreements for the Chinchiná River Basin, and Manizales Siembra (Manizales plants trees).
- Alliances and agreements of EDEQ, CENS, and ESSA with environmental authorities and other public and private actors to support programs such as BanCO2, which contribute to the protection of some basins in the territories where they operate.
- Agreement between EPM, Aguas Regionales, and Corpourabá for the conservation and restoration of forests through payment for environmental services in Serranía de Abibe, which supplies water to the municipalities served by Aguas Regionales.
- Forestry development program implemented by EPM in the hydrographic basins that supply its systems and reservoirs, and acquisition of protection and offset zones in compliance with the requirements of the Ituango hydroelectric project.

5.1.2. Aburrá river Sanitation and Wastewater Management Plan

As part of the Sanitation and Wastewater Management Plan (SWMP), Grupo EPM is constructing the **Aguas Claras Wastewater Treatment Plant Park** and, at the same time, is executing **modernization works in the water supply and sewerage networks** of Rodas - Piedras Blancas and El Salado, Otras Cuencas, La Iguaná - La García, and Castilla - Bello Potrero. The purpose of these projects is contributing to the sanitation of the Aburrá river (Medellín).

Additionally, the **Environmental Education Program** was conducted, through the University of Antioquia, with 120 leaders from Bello, Copacabana, Girardota, and Medellín, in which a formal education process is being carried out to provide conceptual and methodological tools that allow participants to formulate and implement **Environmental Education Civic Projects** (abbreviated Proceda in Spanish). The Program also includes a monitoring and ex-post evaluation stage and has been considered by the communities and municipalities as a strategic tool to enhance the capacities of the communities, so that they can carry out environmental projects in their neighborhoods and improve their quality of life and well-being.

To complement this program, EPM signed an **interadministrative agreement with the municipalities of Bello, Copacabana, and Girardota** in order to join hands, ensure the participation of the administration in the training process, and be jointly responsible for the projects, thus guaranteeing that, at the end of the process, the strengthening, evaluation, and improvement of competences continue.

Likewise, for developing and designing the forest offset and environmental education programs and strategies, an **interinstitutional work** is carried out with the secretariats of environment of the municipalities covered by the SWMP. The group has also signed agreements and contracts with entities such as University of Antioquia, Santo Tomás University, Medellín Botanical Garden, Arví park, Corantioquia, Área Metropolitana del Valle de Aburrá (AMVA), among others, to achieve an articulated management in the territories.

Through the operation of the four lines of the **Aguas Claras Wastewater Treatment Plant Park** project, the group contributed to the protection of the environment, achieving optimal results of 76.1% in the removal of the Biochemical Oxygen Demand (BOD) and of 81.5% in the removal of Total Suspended Solids (TSS), thus improving the quality of the treated wastewater discharged to the Medellín river, as well as the continuity in the provision of the wastewater treatment service. In addition, the operation of the plant generates 47% of the energy necessary to satisfy the total demand of the San Fernando WWTP processes.

Other important activities carried out during 2018 include the **elimination of 63 direct effluents** to bodies of water, the plantation of 1,160 trees as forest offset, the protection of 176 trees that were going to be cut down, and the development of 41 environmental education workshops with the community and other 68 with the construction staff.

5.2. Climate strategy of Grupo EPM

Aware that climate change represents a significant challenge for humankind and the global economy, the group also approved its **climate strategy** during this period, whose purpose is the development of resilient and carbon-efficient businesses by 2050 through the implementation of its action plan and based on important management axes: energy efficiency, renewable energies, sustainable mobility, carbon footprint management, and adaptation measures implementation focused on knowledge, infrastructure, ecosystems, and communities. It also considers the articulated management for the comprehensive study and analysis, from the political, regulatory, normative, technological, financial, and cultural perspectives that allow its development.

5.2.1. Carbon neutral operation

In the search for a **carbon neutral operation by 2025**, Grupo EPM made progress in the following areas during **2018**:

Emissions inventory

The inventory of greenhouse gas (GHG) emissions in 2017¹ was estimated, including the national and international affiliated companies of Grupo EPM². This inventory showed significant variations in relation to the two previous years, due to the fact that, in 2017, the La Sierra thermal station received a thorough maintenance that was required after its full operation to back up the sector and support EPM's generator park during the 2015-2016 El Niño.

| Emissions inventory (scope 1 and 2) - Grupo EPM | | | |
|---|----------------------------|----------------------------|----------------------------|
| Scope | Ton CO ₂ e 2015 | Ton CO ₂ e 2016 | Ton CO ₂ e 2017 |
| Scope 1 | 665,972 | 584,627 | 62,674 |
| Scope 2 | 265,592 | 249,113 | 165,350 |
| Total | 931,564 | 833,740 | 228,024 |

Source: <https://www.sostenibilidadgrupoepm.com.co/gestion-social-y-ambiental/nuestra-gestion/temas-materiales/estrategia-climatica/mitigacion-al-cambio-climatico/>

Icontec verified the EPM emissions inventory for 2016 - base year for the carbon neutral operation of the group - and made some suggestions and adjustments that are being included in the calculation methodology.

¹ The annual inventory is calculated during the first semester of the following year. Estimations are made based on scopes 1 and 2, that is, those emissions under the organization's control.

² Except for Emvarias, Cururos, Ticsa, HET, and Adasa.

Carbon offset

- Certified emission reductions corresponding to 85,559 tCO₂e for the operation in 2017 of the La Vuelta and La Herradura small hydroelectric power stations and 266,814 tCO₂e for the operation in 2014 and 2015 of Los Cururos wind farm.
- Progress in the verification process for the reduction of emissions of the EPM REDD+ (Reducing Emissions from Deforestation and Forest Degradation) project.

5.2.2. Sustainable mobility

To mitigate air pollution, contribute to sustainable mobility in the region, and thus improve the quality of life of the community, EPM makes progress in public-private alliances that allow taking measures to strengthen electric mobility and vehicular natural gas as cleaner transport alternatives that benefit the environment and reduce noise and air pollution. In this sense, EPM developed the **Calidad del aire** (Air quality) program with the **sustainable mobility** strategy and with initiatives that include **vehicular natural gas (VNG)**, slow internal charging, and public charging **eco-stations** for electric vehicles, contributing to the reduction of CO₂ emissions, promoting a more rational use of energy, and opening new spaces to diversify and optimize the country's clean energy mix.

During 2018, 2,533 vehicles were converted to natural gas, for a total of 59,138. In these four years, 430 public transport vehicles and 63 waste collection vehicles of Emvarias have also started to operate with natural gas. There are currently 17 vehicular natural gas stations: 15 in Valle de Aburrá, one in Apartadó, and one in Rionegro. Of the 15 stations in Valle de aburrá, one is exclusive to the Metroplús mass transit system and another to the Emvarias trash compactor trucks. In EPM, 620 employees already have natural gas vehicles.



In the internal charging offer for **electric vehicles**, 120 visits and 43 installations were carried out and **9 eco-stations** were put into operation for a total of 19 in Valle de Aburrá, with 5 fast-charging and 14 slow-charging points. At the end of the year, there were 273 new electric vehicles on the roads of Valle de Aburrá, for a total of 482.

EPM formulated the **Sustainable Corporate Mobility Plan (SCMP)**, which promotes telework. There are currently 128 executives enrolled in mobile telework programs, 106 in supplementary telework programs, 525 people in cycling-to-work campaigns, 221 bicycle parking lots in the EPM building, flexible staggered working hours (5 established schedules), and transport service for employees to the EPM building on the first electric bus.



The national and international affiliated companies continued structuring the electric mobility business model, acquiring chargers for the cities, and participating in the Calidad del Aire working groups. **EDEQ** acquired a 100% electric vehicle, put into operation the first eco-station of the coffee region, and will open two more in 2019. **CHEC** put into operation the first 100% electric bus. **ESSA** acquired one electric vehicle and will open one fast-charging and two slow-charging stations in 2019.

At the international level, both **Eegsa** and **ENSA** acquired the first vehicles to conduct tests and installed charging points in their administrative buildings.

6. Consolidation

6.1. In businesses

6.1.1. Power generation

The national energy demand grew by 3.3% in 2018 and was mostly covered by hydraulic generation. The thermal power plants contributed to the creation of security in the Atlantic coast and the coal-fired plants of the interior of the country generated by merit order during the first quarter of the year and in December.

The stock price was below the expected range during most of the year, due to the decrease in water inputs and, therefore, to the strong competition among hydroelectric power plants, which affected the income from energy sales in the Stock Market. To mitigate the impact of reduced income in the Energy Exchange, energy sales were increased in long-term contracts, which allowed a portion of the energy generated to be sold at a price much higher than that of the Stock Exchange.

Despite the competition among agents and the non-entry of a unit of the Ituango hydroelectric project in December, **the actual EPM generation** in 2018 was 15,020 GWh; 3% higher than that registered in 2017.

The energy sales portfolio for 2020 and 2021 included part of the generation expected from the Ituango hydroelectric project. Given the contingency, energy was purchased to cover those years, thus eliminating the risk of a possible exposure to stock prices. Gas was also purchased for the operation of Termosierra between 2020 and 2022. This generation complements the coverage of energy sales and improves income from the reliability charge.

Likewise, through the safety rings of the reliability charge, the company has sought to support the firm energy obligations of the Ituango project. The materialization of some alternatives will depend on the decisions made by CREG in the administrative action in progress.

In the technical context, some important events stand out, such as **major maintenance in Guatapé and La Sierra, recovery of the Playas power plant, coming into commercial operation of the Pajarito II power plant, and recovery of the operation of the Jepirachi wind farm**, among other milestones that account for the technical expertise and rigor of the business. In addition, those procedures were carried out without affecting the Grupo EPM's availability that reached 90.5% in 2018, which is in line with the expectations, taking into account maintenance plans and forced output rates below those projected.




In terms of **operational safety**, EPM defined a road map to close the gap between the current status and the proposed goal, in order to guarantee the reliability and continuity of the generator park. Additionally, important progress was made relating to the **action plan in the regions**, which solves pending issues and ensures the path towards cultural transformation, not only in the business but also in the company. Another important milestone was the formulation of operational risk management plans for each of the generation plants, thus identifying control activities for each of them.

As part of the **Alianzas para el Desarrollo** (Alliances for development) program, important achievements have been attained in the areas of influence of the generation centers: in the United Nations Development Programme (UNDP)-EPM agreement (Porcè-Cauca basin), the Colombia Bio Anorí expedition was carried out, in which 14 new species were found; an alliance was achieved with **FINTRAC**, **USAID's** resource operator, and with **Olam** Agro Colombia, to strengthen productive start-ups and the commercialization process. In the Nare-Magdalena basin, through the agreement between EPM, the Associated Municipalities of the Subregion of Río Negro-Nare Reservoirs (abbreviated MASER in Spanish), ISAGEN, and seven municipalities of Eastern Antioquia for the strengthening of sustainable agricultural production systems, five revolving funds were implemented and the + CAMPO + SOSTENIBLE (+ COUNTRYSIDE + SUSTAINABLE) brand was formalized, which supports the commercialization of the products; finally, through the EPM-**Prodepaz** alliance, the community organizations were strengthened and the local development plans were formulated for five municipalities and seven regional development hubs of the east. Regarding the Jepírachi agenda, the company implemented handicrafts, fishing, and transport projects with 3 Wayuu communities and the profits were invested in their sustainability and community projects. The most important thing was to show that alliances generate processes of co-management and self-management in the communities and that it has a positive impact on local and regional development, since it allows joining (economic, human, etc.) resources from different organizations, thus enabling the environmental and social sustainability of the territories.

³ PNUD: United Nations Development Programme

⁴ MASER: Associated Municipalities of the Subregion of Río Negro - Nare Reservoirs (abbreviated MASER in Spanish)



As for the affiliated companies⁵, **HET stands out** for obtaining the best results since the beginning of its commercial operation, thanks to its high levels of generation, availability of the plant, savings in costs, and energy prices higher than the expected. In **CHEC**, maintenance procedures performed in Dorada, Esmeralda, and San Francisco will improve the reliability levels of these assets for the coming years. La Cascada, of **ESSA**, was not available between May and September due to the Fonce river flood that affected the civil infrastructure of the plant. In **Cururos**, high prices and low generation levels due to light winds and restrictions in the transmission system in Chile implied lower revenues and greater purchases in the Stock Market to meet long-term contracts.

6.1.2. Power transmission and distribution

To strengthen the **management and control of energy losses**, EPM, along with the National Dispatch Center and other network operators, designed a calculation procedure, framed within the agreement 1063 of 2018 of the National Operation Council, for the proper implementation of the methodology for calculating technical losses found in the new regulatory framework in its chapter on losses.

Following the agreed procedure, it was possible to develop a tool within the “*DigSilent*” simulation software, which allowed to calculate the real value of the technical losses in voltage level 4 (systems with nominal voltage higher than or equal to 57.5 kV and lower than 220 kV), in order to validate and request the respective adjustments to the recognized loss index. In consequence, it is expected that the loss index (in voltage level 4) will have better recognition by the regulatory body, which translates into higher revenues for the business.


The **RIHANA** solution (revenue intelligence on the big data platform HANA), that currently allows addressing non-technical losses (locates the crews and the efforts) for the energy services in the national companies of Grupo EPM and ENSA Panamá, evolved in 2018 with the implementation of a new risk model and some changes in the data sources for the gas and water supply businesses of EPM.

At the national level, the energy recovered in the companies of Grupo EPM in 2018 was 297.94 GWh, equivalent to COP 120,927 million, for a total of 728.33 GWh, equivalent to COP 303,664 million, recovered from 2015 to date.

In terms of **operational safety**, this program is formally started with the formulation and implementation of an action plan in the processes for operating the Local Distribution System (LDS) and the Regional Transmission System (RTS), both in local and remote way, in substations and lines and in the support to operation technologies.

Framed within the consolidation of infrastructure projects to improve the continuity, quality, and coverage of services to customers and users, ESSA put into operation the Buena Vista substation in the department of Santander, whose purpose is improving the service, delivering greater capacity and reliability of the system, and meeting the future demand of its customers and users.

⁵ National affiliates: CHEC (235 MW) and ESSA (18 MW) represent 7.1% of the generation capacity of the group. International affiliates: Cururos (109.6 MW) in Chile and HET (31.8 MW) in Panama represent 3.1% of the generation installed capacity of the group.



In CHEC, the Normalización Subestación Manzanares 115 kV (Normalization of the Manzanares 115-kV substation) project came into operation to ensure energy supply to the municipalities of Manzanares, Pensilvania, and Marquetalia, thus improving stability, security, and reliability of the regional transmission system that serves the Eastern Caldas. The company also put into operation two big infrastructure projects of the six included in the 2015-2018 expansion plan: the project for the connection of the La Enea 230-kV substation to the San Felipe - La Esmeralda 230-kV circuit, with which it returned to the power transmission business after 19 years, providing greater stability, security, and reliability in the electrical system; and the assembly and put into operation of the second bank of 230/115/13.8 kV single-phase autotransformers of 150 MVA in the Enea substation, approved by the Mining and Energy Planning Unit (abbreviated UPME in Spanish) on May 27, 2015, to be started on June 30, 2018.

CENS, with its new Buturama substation in Aguachica, put into operation a modern electrical complex that will supply energy to current users and will provide service to new projects coming to this area. It also modernized the Ayacucho substation, in the municipality of La Gloria, and built a new 115-kV line between Buturama and Ayacucho.

In Trelec, the first project of the National Transmission Expansion Plan (abbreviated PETNAC in Spanish), called “Iztapa – Taxisco”, came into operation, which involved the construction of a 69-kV field in the Iztapa substation, a 69-kV transmission line between the Iztapa and Taxisco substations, and a 14 MVA 69/13.8 kV substation in Taxisco. This first project represents a historic milestone for Trelec, not only because of the magnitude and impact of the PETNAC in the Guatemalan electricity system, but also because it becomes another proof of the company’s commitment to the development of infrastructure projects, all in congruence with the Corporate Environmental Policy and in harmony with the neighboring communities. Additionally, the La Vega – Barberena and Guanagazapa – Pasaco projects were also started.

6.1.3. Water and sanitation

EPM continues achieving favorable historic results in the integrated management of Non-Revenue Water (NRW), through strategies aimed at reducing technical and commercial losses, obtaining a score of 30.51% in the NRW index and a result of 6.05 m³/billed user/month in the Index of Losses per Billed User, achieving in advance the regulatory goal for the year 2026.

In terms of **operational safety**, the action plan was structured, including priority actions, to be executed in 2019.

Aguas Nacionales improved the **water supply continuity** in the municipality of Quibdó, going from 67% to 90% (an average of 22 hours). Likewise, more than 3,500 new users were connected, which significantly leveraged the year-on-year income growth by more than 28%, closing 2018 with COP 4,319 million.

Thanks to the contract signed between EPM and the Ministry of Housing, City, and Territory, Aguas Nacionales performs the integral management of the Water Supply and Wastewater Management program in rural areas of Colombia, where six infrastructure projects amounting to COP 37 billion are being carried out.

Among those rural projects, it is worth highlighting the **pilot project for water distribution through public standpipes in the municipality of Manaure**, department of La Guajira, where the first users association was

formed by and for the Wayuu community: PAINWAJIRAWA'Á ASAA WUIN (United for water), which benefits 10,000 people from 131 indigenous communities. This project extends the water supply coverage in rural areas of La Guajira from 3% to 9%. Additionally, the project for the construction of toilet units in the municipality of Puerto Caicedo, department of Putumayo, was completed, benefiting about 3,000 people of rural areas and widening the sanitation and water supply coverage from 0% to 21%.

Aguas del Oriente, in its operational management, has one of the best rates of losses per user billed: 2.87 m³/user billed.

In **Aguas de Malambo**, thanks to the strengthening of the commercial strategy through programs such as Paga a tu medida, the average collection from customers and users was improved. In addition, domestic metering was increased, reaching 86% at the end of the year, by articulating resources of Fondo Fuente de Vida, the Atlántico Governor's Office, and Aguas de Malambo. It is also important to mention that the company decreased the dump points and made progress in the construction of the WWTP. Moreover, it signed a contract with Postobon for the provision of treated water.

Emvarias acquired new mechanical and suction road sweepers of different dimensions, capacities, and technologies, which allow a more comprehensive and efficient service. It also implemented a new waste management model, whose main initiative is a containerization system in the city, which integrates other equipment such as self-compactor boxes, orange points, underground containers, and ampliroll system, and represents benefits not only for customers and users but also for the organization from the logistical and operational perspectives.

Thanks to its expertise, **Ticsa** completed the sludge treatment projects in Manantiales, La Ayurá, and Caldas, as well as the modernization of the San Fernando WWTP. In addition, it started the expansion projects in the San Fernando and El Retiro WWTPs and the designs in Valle San Nicolás. The company is also executing 14 projects in Mexico and Colombia that amount to USD 79 million.



6.1.4. Gas

Regarding gas commercialization and distribution, in 2018, 830 million m³ of gas was sold, and the nonregulated market—which includes the sales of cubic meters for power generation—generated the most consumption, followed by the regulated market.

The efforts of this business focused on the increase in service coverage and access equity, which is reflected in the increase in customers and users connected of the regulated and nonregulated markets: 1,196,467 customers and users enjoying the service, which makes EPM the second gas distribution company in Colombia with a market share of 13%.

The expansion outside Valle de Aburrá continues in consolidation with the **Gas sin fronteras (Gas without borders)** program, which connected to the service the municipalities of Yalí and Vegachí and the small town of Palermo (in the municipality of Támesis) and built the corresponding infrastructure in the municipality of Remedios and in the small town of Versalles (in the municipality of Santa Bárbara). With this program, 12,621 new customers and users were connected and about 41,000 people from 115 towns of Antioquia were benefited.

As for the operation of the **Distrito térmico La Alpujarra (La Alpujarra district cooling)** - first of its kind in Latin America—the Empresa de Desarrollo Urbano (EDU) company building was connected in 2018. The district cooling has now then four customers: Antioquia Governor's Office, Directorate of National Taxes and Customs (abbreviated DIAN in Spanish), Municipality of Medellín, and EDU. With the operation of this district cooling, 100% of ozone-depleting substances (ODS) were eliminated in the year and the emission of CO₂ to the environment was reduced in 670 tons.

6.2. Corporate transformation projects

Throughout its history, Grupo EPM has been characterized by providing quality services based on the efficiency of its processes. In this sense, its efforts are focused on the implementation of corporate development projects whose purpose is to optimize processes. The following are among their most significant achievements:

In the **Productividad en campo (Field productivity)** project, COP 66,975 million was obtained in profits through the implementation of improvement actions in the processes of expansion and replacement, customer and user technical service, control of power losses in the Colombian power affiliated companies and of water losses in the water supply affiliated companies, wastewater management in EPM, and solid waste management in Emvarias. The Productividad en campo methodology is also being applied in international affiliated companies.

In the **Gestión de activos (Asset management)** project, COP 40,270 million was obtained in profits. Progress was made in the inclusion of asset management business rules in the EPM process model, as well as in the evolution of methodologies proposed in the project such as criticality, fault analysis, asset soundness, among others. In addition, EPM implemented the information system to manage the life cycle of centralized assets, which favors the availability of optimized maintenance plans and all the necessary information to make decisions related to the investments on the assets as part of the digital transformation.

With the **Conexión digital (Digital connection)** project, COP 72 million were obtained as savings in 2018. New platform capabilities were implemented such as the service to implement modern and innovative business solutions and the new requests, complaints, and claims (RCC) module with self-service for customers and users. Moreover, 70 servers were moved to the public cloud; they turn off during non-business hours and turn on on demand, generating significant savings for the company.

The **Centro de servicios compartidos (Shared services center)** project was successfully completed with the implementation of new transactional services in the financial, administrative, and human resource areas both in EPM and in national affiliated companies. These new services include the automation of the accounting close control, the provision of the service of selection to the Colombian power affiliates companies, and the improvements in extra voluntary contributions with integrations in the payroll service, obtaining benefits for COP 8,806 million. Currently, within the Vision 2025 program, the Global shared services center project, which seeks greater synergies among Grupo EPM's affiliated companies, is being executed.

The implementation of Grupo EPM's **Cadena de suministro (Supply chain)** project was completed with the entry into force of the contracting guidelines and the implementation and start-up of the tool for the management of strategic purchases in EPM and in the Colombian affiliated companies, obtaining profits for COP 382,534 million.

The interior building renovation project was completed in 2018 with the intervention of floors 7, 8, 11, and 12 with civil works, furnishing, and adaptation with information technology systems and infrastructure.

As a result of the contingency presented in the Ituango Hydroelectric Project, floors 0, 1, 2, 9, and 13 remain pending for intervention.



6.3. Information technology

Aware of the importance of **information technology (IT) in Grupo EPM's sustainability**, the organization revised and adjusted the respective strategy, orienting it to transform the group through technology and innovation, operating with excellence and empowering its people in skills and knowledge. The following are the main achievements in this matter.

- The strategy, structure, and project to accelerate and consolidate the **digital transformation** was defined, seeking a fundamental change in the way of operating and offering value to the different stakeholders, incorporating digital technology in all areas of the organization. During the first advances of this strategy, **a model of electrical network fault prediction** was implemented. **Self-service points were made available in different areas of Medellín** to print the payment voucher, divide accounts, and print certificates (prepaid energy, prepaid water, and financing), thus contributing to reduce the overflow of people at the customer service offices and making the procedures for customers and users easier. Additionally, **the self-management of the Information Technology Management customers** was enabled with the implementation of functionalities such as forms on the corporate website for the generation and monitoring of RCCs, the application for feasibility of the water service, and the application for water and sewerage services.
- Progress was made in the **consolidation of the data analytics capacity at EPM** to predict faults in elements of the local distribution system, analyze information of potential customers and users for the gas service, monitor key management variables in the Ituango Hydroelectric Project and the Environment Security System (abbreviated SIAE in Spanish), detect indicators for power transmission and distribution, and analyze revenues and commercial operation for generation, among others. The advance in terms of analytics and the data quality capabilities brought to the company in previous years allow EPM to develop increasingly more projects that support its operation and generate additional value from the data.
- Regarding infrastructure, the network in the metropolitan area was expanded to improve connectivity in customer and user service centers; unified communications were expanded; virtual desktops were implemented in the different Grupo EPM offices; Office 365 was implemented in EPRio; the mobile communications infrastructure was expanded and improved to reduce costs in mobile, national, and regional calls; and a new security operations center (SOC) covering operating technologies was launched.

According to the provisions of Article 1 of Act 603 of 2000, which modifies Article 47 of Act 222 of 1995, relating to intellectual property and copyright on the use of legal software, EPM develops and performs periodic controls of various kinds, implemented by the Information Technology Management and evaluated by the Vice Presidency of Corporate Auditing, in order to ensure compliance with the principles of legality in the use of software, in accordance with the provisions of Circular Letter 12 of 2007, modified by Circular Letter 017 of 2011, of the Special Administrative Unit, Colombian National Directorate of Copyright (DNDA).

El Centinela cybersecurity project

To ensure the operation of businesses with a high level of availability and to minimize in a sustained manner over time the critical strategic risks that may affect the information assets and cyber assets of key business processes, EPM started in January 2018 the **cybersecurity project** called El Centinela, within which the main achievements during 2018 were framed by the **security program and strategy** with the implementation of the following services:

- Operational center for security and cybersecurity.
- Monitoring and correlation of events, favoring greater visibility of possible attacks.
- Advanced internal analytics for internal atypical behaviors within our systems.
- Cyber intelligence services, to preventively investigate and analyze external threats that indicate possible attacks.
- Cyber defense services, to investigate the behavior of attackers and implement defensive controls.
- Solutions to handle confidential information through cloud tools and protection mechanisms to secure the information on mobile devices.
- Reduction of the risk indicator for cyber attacks in the areas and processes of the energy business with the implementation of intrusion detection systems and other control devices.

The Colombian affiliated companies started the risk analysis of the operation at the control centers, implemented controls to prevent and detect unauthorized staff on their systems, and formulated the digital security management process.

6.4. Corporate governance

The contingency of the Ituango Hydroelectric Project put EPM's corporate governance to the test, imposing huge challenges on its governing bodies to find ways that would allow the company to overcome the contingency in the best possible way and, at the same time, without affecting its normal operation.

Throughout the contingency, the chairman of the board of directors and the CEO have been at the forefront of the situation with the full support of the board of directors and the senior management, who have been permanently available for everything that has been required, in order to make the proper decisions. The **flow of clear, timely, and transparent information between the governing bodies and the different stakeholders** has been one of the main challenges.

As the main governing body, the board of directors adjusted internally to address the contingency. For that purpose, it made decisions on how to establish a specific follow-up and with greater frequency to the Ituango Hydroelectric Project, on appointing the member of the board of directors with greater technical knowledge as chairman of the specific sessions for monitoring, and on the authorization to hire, for the board of directors, an external advisor experienced in power generation projects, who also participates in the project monitoring.

As for the affiliated companies, during 2018, **Grupo EPM continued strengthening its corporate governance model** and developed activities framed within the plan of engagement with partners. The boards of directors and the managers were evaluated, the strengthening plans were implemented and executed throughout the year, and the **rules of procedure of the international affiliated companies' boards** were unified, which are in the process of adoption.

The contingency of the Ituango Hydroelectric Project also resulted in the need to make decisions that had an impact on the corporate structure of Grupo EPM. **EPM's Board of Directors thus authorized the CEO to carry out a divestment process** with the purpose of obtaining the necessary resources to ensure the required liquidity. As part of this process, it is decided to transfer the shareholdings in the Chilean affiliated companies (Aguas de Antofagasta and Los Cururos Wind Farm) and ISA.



7. Growth

As part of Grupo EPM's growth strategy, the following was achieved during 2018:

7.1. Expansion projects

7.1.1. EPM's Aguas Claras WWTP Park

As part of the Medellín River Sanitation and Wastewater Management Plan, progress was made in the construction of the Aguas Claras WWTP, designed to treat an average flow of 5 m³/s with a capacity to remove 123 t/day of biochemical oxygen demand (BOD5) and 120 t/day of suspended solids. This **will remove over 80% of the polluting particles of the water.**

The project included the construction of a 7.7-km-long diversion tunnel that will transport the wastewater until the plant and 6.5-km pipe branches to splice the existing pipes to the tunnel. The plant also includes the biosolid drying system generated at the Bello and San Fernando WWTPs, with a capacity for 400 t/day, which guarantees the final disposal of biosolids according to the current regulations.

As part of the project's commitment to the environment and the communities, the Plaza del Agua (Water Square)—a space for the active interaction of the community—was built to go beyond the vision of river sanitation. Likewise, around **1,644** direct jobs have been generated.

In 2018, **COP 148,764 million** was invested, for an accumulated investment of **COP 1.5 trillion** and a total **progress of 98%** since the beginning of the works. The following stands out:


- 97% in the construction of the treatment plant.
- 96% in the construction of the biosolid drying system.
- 100% in the construction of Interceptor Norte (north diversion tunnel) and pipe branches.

During 2018, the project started operating per lines, as well as its stabilization. As of December 2018, the four lines were operational with an average flow of entrance to the plant of 3.5 m³/s.

7.1.2. Valle de San Nicolás Project

The aim of this project is to provide the services of **drinking water supply and waste water sanitation** in the rural and suburban sectors of the center-western area of Valle de San Nicolás and the municipality of Envigado. (The municipalities benefited are El Retiro, Rionegro, and Envigado).

COP 31,186 million was invested in 2018 and **COP 177,022 million** has been invested since the beginning of the works, generating 236 direct jobs. The progress of the works is **61%** in the four stages.



The main achievements of the year include the termination of the contract associated with the El Retiro circuit for the La Fe tank and the networks; the completion of the designs of the El Retiro WWTP, Escobero WWTP, and Don Diego WWTP; and the first stages of construction of the El Retiro WWTP expansion. Likewise, progress was made by 83% in the construction of the Sancho Paisa-Escobero collector and by 100% in the Paraíso I - II and Alcaravanes collectors.

7.1.3. Water Provision Intervention Plan

With the purpose of ensuring continuity of the water supply service in the short and the medium terms, the **Water Provision Intervention Plan (abbreviated PIPA in Spanish)** was created by the end of 2017. This plan integrates critical interventions defined and a series of projects that will improve the continuity of the water supply service.

The PIPA came to life due to the water supply rationing problem presented during 2016 and 2017 impacting approximately 46,000 users, affecting their quality of life, and compromising the image and reputation of EPM.

This intervention plan is made up of six projects located in the upper part of the western sector of the city of Medellín (Pajarito, San Cristóbal, San Javier, among others), in the southern sector of the small town of San Antonio de Prado, and in the municipalities of Bello and Itagüí.

Its purpose is to guarantee the water supply service to more than 500,000 users in a reliable manner, considering the quick growth of Valle de Aburrá (expansion projects and vegetation growth) and the deterioration of water sources.

This plan estimates an investment of over **COP 530 billion**.

In 2018, **COP 14,183 million** was invested, for an accumulated investment of **COP 14,661 million** and a **progress of 12%** since the beginning of the works. The following stands out:

- Implementation of the Naranjitos system in the small town of San Antonio de Prado.
- Procedures before Área Metropolitana del Valle de Aburrá (AMVA) to obtain environmental permits.
- Procedures to ensure the lands and easements necessary to execute the works.
- Procedures before the Colombian Institute of Anthropology and History (abbreviated ICANH in Spanish) to approve and implement the archeological management plans.
- Progress in the designs of the Macarena-Calasanz and Cucaracho-Pajarito systems and the Robledo substation in the western area of Medellín.
- Progress by 61% in the installation of pipes corresponding to 390 m (including accessories and complementary works) in Aures I - Aures II.
- Reception of pipes for Porvenir-Aures and order to start the civil works contract.
- Designs of the Itagüí tank for the expansion of the primary infrastructure of the Itagüí-Manzanillo system.

7.1.4. Regional Transmission System - Urabá region

Interventions required by the transmission and distribution business to guarantee coverage, quality, and continuity of service in the Urabá region.

Currently, four expansion projects of the Regional Transmission System (abbreviated STR in Spanish) are taking place to:

- Provide reliability in the operation of the electrical system in the Urabá region of Antioquia.
- Guarantee energy supply and reliability in the service provision for the connection of Puerto Antioquia and the current users of the system in the Urabá region of Antioquia, and those expected with the dynamism that the port brings, which in turn strengthens the satisfaction of customers and users regarding the service provided.

The portfolio of projects has an investment of around **COP 76,894 million**.

In 2018, **COP 8,485 million** was invested, for an accumulated investment of **COP 9,492 million** and a **material progress of 36%** since the beginning of the works. The following stands out:

- Completion of the detailed designs of civil works for the Nueva Colonia substation in the municipality of Turbo.
- Completion of the detailed designs of civil works and the electromechanical and communications works for the Urabá substation expansion.
- Completion of the detailed designs of civil works and the electromechanical and communications works for the new Carepa substation construction and the discussion with the community to start the works.
- Completion of the detailed designs of civil works and the electromechanical and communications works for the Arboletes substation capacity.
- Redefinition of the line route in partnership with Corpourabá.

EPM is expected to generate an annual income of approximately **COP 7,500 million**, with the development of these projects.

7.2. In Eastern Antioquia

The integration stage after the acquisition by Grupo EPM of the affiliate company **EPRio** was completed, which favored the progress of homologation, stabilization of its different processes, and transfer of knowledge and best practices.

Three achievements are highlighted: (1) the **compliance with the drinking water quality** regarding its smell, color, and flavor to the end customer and user in the municipality, which meant an improvement in the Water Quality Risk Index (WQRI) that went from 0.72% in October 2017 to 0.34% in December 2018; (2) the progress in the formulation of the Water Supply and Sewerage Master Plan; and (3) the updating of mandatory reports to the Sole Information System (abbreviated SUI in Spanish) of the Superintendence of Public Utilities, achieving zero reports at present, when there were 390 pending issues, enabled and expired from three years ago, of which 247 had to do with water quality.

As for the operating results, there was a decrease of the loss ratio per user billed, from 4.9 m³/customer and user billed in 2017 to 2.58 m³/customer and user billed in 2018, doing actions such as replacement of 2,500 meters for technological renovation and management of technical and commercial losses. Thanks to strategies oriented to reduce the technical and commercial losses in the integrated management of non-revenue water (NRW), the NRW index went from 28.17% to 16.90%.

7.3. In Urabá

Grupo EPM obtained 28% of the **quota of the Superior Council of Fiscal Policy** (abbreviated CONFIS in Spanish) for **Works instead of Taxes**, with four projects for Antioquia, **three of which benefit Urabá** (13% of the country's quota) and were in process of bidding by the end of 2018. They are (1) the optimization of the water supply in Apartadó (replacement of 13 km of networks), (2) the construction of the La Lucila tank, and (3) the expansion of sewerage networks in the Obrero neighborhood in Turbo. The investment amounts to **COP 28,486 million** from taxes of EDEQ, EPM, and Aguas Regionales. Thus, the path to increase the continuity of water supply in Turbo will continue; in 2017 continuity was 8.16 hours and in 2018 it was possible to reach 11.5 hours. These projects will increase continuity to around 20 hours and sewerage coverage from 33.6% to 42%. In Apartadó, continuity will improve by reducing technical and commercial losses.

In addition, resources from the nation amounting to **COP 34,713 million**, currently invested with the supervision of Findeter and technically managed by Aguas Regionales EPM, add up to close the gap in water supply and sewerage in Turbo, through projects such as the construction of sewerage networks, Distrito Sur (Southern District), phase 1 of the La Yuquita wastewater pumping station, the optimization and expansion of secondary distribution networks of water supply, and the construction of a deep well and accessory works for the new source of groundwater catchment of the water supply system of Apartadó.

During 2018, in the water supply service, the affiliated company Aguas Regionales invested **COP 11,605 million** from its own resources in water and sanitation infrastructure, 87% in sewerage (COP 10,125 million) and 13% in water supply (COP 1,480 million), through the construction and maintenance of water supply and sewerage networks, the construction of collectors for the treatment system and designs of the Turbo, Carepa, and Apartadó WWTPs. These investments, plus the efforts with resources under condition that do not affect the fees, favored the connection of **3,189 new customers and users to water supply**, for a total of 74,865, and of **2,442 new customers and users to sewerage**, for a total of 54,502.

The initial phase of the aerial water piping pilot in Turbo was completed. An approximate budget of COP 1,500 million was invested in it, benefiting more than 350 families in the Pescador 1, Pescador 2, and El Progreso neighborhoods, where there was no access to the service for more than 20 years due to the conditions of the land.

The **Working Group of Development, Habitat, and Public Utilities of Apartadó** was created to review and manage the requirements in water supply and sanitation coverage during the implementation of the 16 partial plans approved and the six in progress; to develop the urban growth projects, the union of wills is key. Currently, alternatives are being generated following EPM models and with the possibilities offered by regulations in force, with the purpose of generating synergies for the growth of the region.

Thanks to the **Agua para la educación, educación para el agua (Water for education, education for water) program, Fundación EPM** has installed water purification solutions in 44 rural schools in Urabá, benefiting 13,054 students in 10 municipalities, with an investment of COP 1,738 million. In **2018** purification solutions were delivered **in three schools of Vigía del Fuerte** and, in the Más agua, más sonrisas (More water, more smiles) competition, the municipalities of San Pedro de Urabá and Arboletes won the solution for six more schools.


It is worth highlighting the progress of the affiliate company in the 2016-2025 sanitation route for Mutatá, Chigorodó, Carepa, Apartadó, and Turbo, municipalities that already have acquired lands and designs for WWTPs.

In the Urabá region, **5,311 new customers and users** were connected to the **energy** service, for a total of 176,711, of which 38% use prepaid energy, reaching 100% coverage in urban areas and 97.2% coverage in rural areas of the nine municipalities. As part of the strategies to increase coverage in rural areas, thanks to the management with Electrificación rural (Rural electrification), in 2018 EPM brought power to 73 new rural settlements in Urabá, including rural schools in Carmen del Darién, Turbo, and Carepa. Being able to refrigerate food, talk at night enjoying the lighting, and have access to new technologies is a new reality for 1,023 families.



In the 2018-2021 period, the investments in energy amount to COP 82,000 million corresponding to expansion, transfer, and construction of new infrastructure that will increase capacity in the substations of the region, incorporating the loads of future development with the start-up of the ports.

Regarding **natural gas**, COP 1,191 million was invested, for an accumulated amount of **COP 35,937 million** since 2012 with 738 km of networks. Social actions, liaison with mayors' offices for drilling permits, and clarifications from planning offices in neighborhoods with restrictions are also included. Thus, 2018 ends with 3,500 new customers and users and with the inclusion of three neighborhoods in Arboletes, Turbo, and San Pedro de Urabá, for a total of 650 stratum-1 families. As a result, today there are 58,243 customers and users in the region.



With the purpose of growing while generating reliability in the industry, progress is made in the negotiations with Unibán and the National Navy to start using gas at Zungo Embarcadero as well as in the negotiations in ports and the free trade zone, entities with which working groups are held to expand the company's portfolio in the region.

7.4. Growth and capacity development initiatives: vision 2025

During 2018, the business cases were prepared for the initiatives identified in the context of the strategic direction and in the definition of Grupo EPM's vision for 2025. The result of this task is 14 projects that can be grouped into three categories:

The first category refers to the **projects of growth**, which seek to incorporate new businesses or business lines such as the generation of energy from non-conventional renewable sources, the growth in small hydroelectric power stations, the management of special solid waste such as hazardous waste, debris from demolitions, or recyclable material, as well as additional services for homes and businesses and the strengthening of financing. The second category is the projects that seek to develop or **evolve key capacities for the development of the vision for 2025**, where the management of infrastructure projects and the digital transformation stand out. Finally, opportunities were found to make **the processes more efficient** in the generation business by improving the availability of plants, in the transmission and distribution business by improving the quality of the service to obtain incentives, in the gas business by making adjustments to the operation contracts, and in the solid waste business by optimizing street and public space cleaning processes and generating synergies among the affiliate companies, leveraging mainly the shared services center.

It is expected that from 2019 all the defined projects are in execution and some of them already generating the expected benefits in the business case.

7.5. Development and innovation

Within its growth strategy, EPM is constantly searching for new or better solutions for its customers and users. Therefore, it considers innovation as a tool for growth and sustainability to improve existing services and develop new scalable, replicable, and sustainable businesses.

In 2018, an **open innovation strategy**—Call for Innovative Initiatives 2018—was implemented to collect initiatives. It favored a better understanding of previously identified needs and opportunities, as well as a mapping of possible alternatives to address them.

Thanks to the EPM Ventures brand, which will support EPM's private equity fund and miscellaneous investments in entrepreneurs, the following was achieved:

- Three new investments that will leverage the energy distribution and water and sanitation businesses in solid waste management and engagement with customers and users: Kaptar, with a 33% share; Triclos, with a 14% share; and **Hybrico** with an 11% share.
- A **collaboration agreement with Ruta N and Creame** for the development of the first group of enterprise acceleration aligned with the business strategy, as a mechanism to continue strengthening relationships with innovative entrepreneurs.

Moreover, EPM seeks to develop innovation capacities in the new generations with the **Jóvenes innovadores (Young innovators) program**, to provide solutions to the challenges of the future. This program strengthens scientific competences in young people of Medellín and other municipalities of Antioquia with projects that generate alternative solutions in five lines of interest: sustainable mobility, alternative sources of energy, water and life, solid waste management, and comprehensive solutions for agriculture. Thus, three events were held during 2018: Innóvate, EPM (Innovate yourself, EPM); Feria CT+i (Science, Technology, and Innovation Fair); and Circuito Solar (Solar Circuit).

In **Innóvate, EPM**, more than 100 projects associated with the thematic lines were presented, and in 2018 the program was expanded in Armenia. For the **Feria CT+i**, coverage was expanded in 2018 in three municipalities: **Andes, Ciudad Bolívar, and Jardín** for a total of 25 municipalities in Antioquia in which 120 educational institutions benefited from the program, 53 of them belonging to the rural sector. Of 74 projects that reached the final phase of the program in November, 40 were focused on solving challenges in the thematic lines defined by EPM. And for **Circuito Solar**, there were 60 teams made up of 175 young people from 43 educational institutions in 13 municipalities of Antioquia.



Finally, it is worth mentioning some initiatives that were developed during 2018 to **strengthen current businesses and promote new ones**. In order to promote generation with non-conventional renewable energies and to make the assets of the organization profitable, EPM worked on the pilot of **floating solar panels in the Peñol-Guatapé reservoir**, located in Eastern Antioquia; furthermore, the **intelligent integration project of non-conventional renewable energies** was executed, evaluating the combination of several sources as an alternative that is expected to ensure reliability, especially for the energy supply, in the medium term.

For the energy distribution business, in agreement with Comfama, a **pilot project of installing solar kits was executed in eight homes in Antioquia** to evaluate its performance and replicate it on a larger scale, with interesting results and lessons learned to improve the business. In the water business, progress was made in projects for **more efficient treatment of wastewater**, water desalination, use of water supply networks for power generation, and remote water metering in rural aqueducts.

To optimize the water and gas businesses, EPM worked on the formulation of a **circular economy project** that will make better use of the biogas generated in the San Fernando WWTP to convert it to biomethane quality and to inject it into the gas network.

Regarding new business options, notable advances are those associated with the formulation of the use and **valuation option of the biosolids** generated in the WWTPs for the production of fertilizers.



8. Ituango Hydroelectric Project

This project is not only a transcendental infrastructure work for Colombia, but also a **regional development** initiative that benefits 12 municipalities directly and over 160,000 people in its area of influence.

On April 28, 2018, a partial obstruction took place in the GAD, which, among other effects, led to the decision to enable the mechanical room as a channel for the discharge of the retained water, in order to give priority to the protection of human life and the environment.

As of the moment of the contingency in 2018, **COP 536,882 million** was invested, for a total investment, since the beginning, of **COP 8.48 trillion** in the construction of this work.

After estimating the new works to be undertaken to bring the project to the point of operation, the project presented a materialized advance in the following aspects:

- The filling of the dam, with a 97.9% progress, for a volume placed of 19,742,707 m³.
- The excavation of the spillway and the concretes, with a 100% progress.
- The concretes in the immediate discharge, with a 99.8% progress.
- The closing operation of the headrace gates 1 and 2.

Thus, **COP 1.4 trillion** was invested during 2018, for a total investment of **COP 9.8 trillion** since the beginning of the works. Of this amount, **COP 489,965 million** corresponds to contingency works.

The environmental, social, and sustainability management amounts to **COP 1,084,989 million**, and **COP 640,071 million** has been invested as of December 2018, for an advance of 59%. The cost of lands and easements amounts to **COP 94,760 million**, and **COP 76,954 million** has been invested as of December 2018, for an **advance** of 81.2%.

The detail of all the social, environmental, and technical management of the Ituango Hydroelectric Project can be found on the [Ituango Hydroelectric Project Report](#).



9. Financial results

9.1. Macroeconomic behavior

In 2018, the economic activity showed a recovery compared to the dynamics of the previous year, achieving a GDP growth of 2.7%. Externally, the better performance of the main trading partners and the increase in the prices of exported raw materials improved the terms of trade. Internally, the behavior of the economy was supported by the reactivation of domestic demand in the components of imports and final consumption expenditure of households and the government. Due to the offer approach, the sectors with the greatest contribution to growth were public administration and defense, education and health, wholesale and retail trade, transportation, accommodation and food services, and professional, scientific, and technical activities; only the mining and quarrying sector had a negative variation (-0.8%). In line with the increased dynamism of the economy, the demand for electric power grew at an annual rate of 3.3%, higher than that observed one year ago, when it was 1.3%.

At the macroeconomic level, the Colombian Financing Act is expected to boost investment in the short term and positively impact employment generation and GDP expansion. However, in fiscal matters, this act will not generate the expected tax collection. This would mean that the fiscal deficit would not be corrected in the coming years, which would be a risk factor in the compliance with the fiscal regulation and in maintaining the grade of investment. In the long term, the impact of the act is uncertain, given the recent transitory nature of tax reforms in Colombia.

Regarding inflation, the Producer Price Index (PPI) of domestic offer registered an annual growth of 3.09%, higher than that observed in 2017 (1.86%). Upward pressures were observed mainly in the mining components due to the rebound in the price of commodities, food, and imported goods, which would be related to the depreciation of the exchange rate. In turn, by the end of the year, the Consumer Price Index (CPI) increased 3.18%, compared to the increase registered in 2017 (4.09%). The reduction of prices was mainly due to the lower contribution of the food and tradable components, while the expenses that contributed the most to the rise in prices were the regulated and non-tradable items.

In the exchange field, during the first nine months of the year, the COP strengthened, compared to the end of 2017, reaching an average value of COP 2,886.38 per USD, in line with the rebound in the price of oil. Then, during the last quarter, the currency had a tendency to depreciation, when the exchange rate was above COP 3,000 per USD. This behavior was mainly associated with the greater dynamism of the US economy, the increases in the Fed's rates, the aversion to financial risk in emerging markets, and the trade tensions between the US and other economies such as China and the European Union. As a result, the COP was valued by the end of the year at COP 3,249.75 per USD, registering an annual depreciation of 9%.

In the other countries where Grupo EPM is present, the economic activity continued strengthening the recovery process, with moderate expansion. There was a significant decline in consumer price inflation, with the exception of Chile, where there was a slight increase compared to the inflation in 2017. The evolution of prices was influenced mainly by the dynamics of domestic demand, increases in the price of energy, and the disappearance of supply shocks that pushed up the prices of food and tradable goods. Regarding exchange, by the end of the year there was a tendency to depreciation of currencies in relation to the USD. This behavior was influenced by the evolution

of the price of raw materials, the worldwide strengthening of the USD, the normalization of monetary policy in developed economies, the flow of remittances, and the global financial and commercial tensions.

The following are the main macroeconomic indicators of the countries where Grupo EPM operates:

| Indicator | Colombia | México | Panamá | Chile | El Salvador | Guatemala |
|----------------------------------|----------|--------|--------|--------|-------------|-----------|
| CPI | 3.18% | 4.83% | 0.16% | 2.57% | 0.44% | 2.31% |
| PPI / WPI | 3.09% | 6.42% | N.A. | 0.95% | 1.76% | N.A. |
| Exchange rate (end of the year) | 3,249.75 | 19.65 | N.A. | 695.69 | N.A. | 7.74 |
| Devaluation/revaluation (annual) | 8.91% | -0.06% | N.A. | 13.08% | N.A. | 5.34% |

CPI: Consumer Price Index PPI: Producer.

Price Index WPI: Wholesale Price Index.

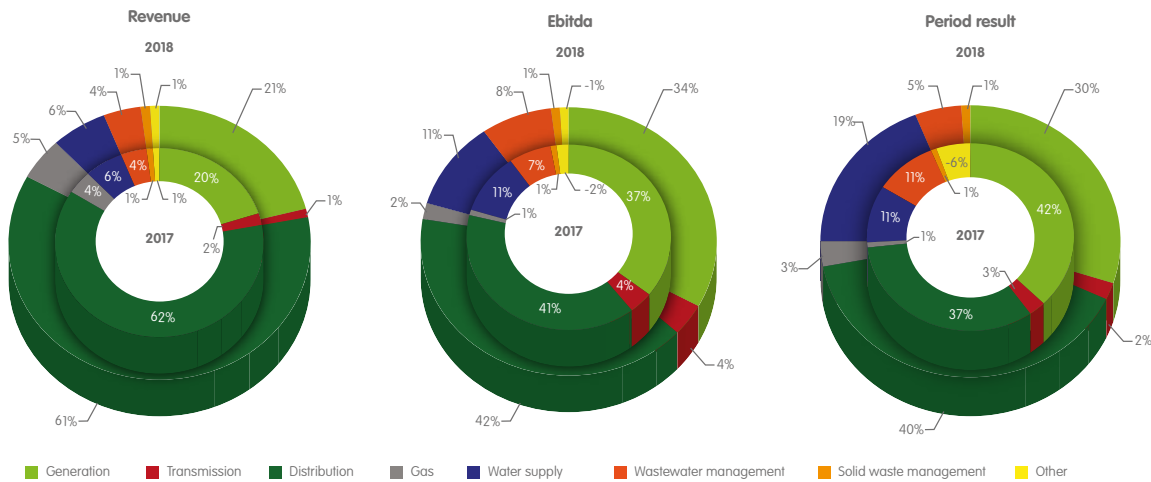
N/A: Not applicable.

9.2. Grupo EPM's results

Grupo EPM has taken on important challenges and has made decisions regarding growth that have required the increase of its leverage, supported mainly in the performance of its business results. Given the contingency of the Ituango Hydroelectric Project, 2018 was particularly challenging. Decisions have been made to ensure the continuity of the operation of the businesses, to cover the needs generated by the contingency and the financial obligations of the company, and to guarantee the financial health using an optimal structure of sources, not only of the necessary resources in the short and medium term but also the sustainability of the group's companies in the long term.

During 2018, liquidity, financial indicators, and credit rating, among others, were taken care of. Through the businesses and affiliate companies, the group achieved revenues amounting to COP 16.3 trillion, with a 9% increase; an EBITDA amounting to COP 5.1 trillion, 8% higher than that of 2017; and a period result of COP 2.4 trillion, which means an increase of 4%.

In turn, the parent company, EPM, achieved revenues amounting to COP 8.2 trillion, with a 10% increase; an EBITDA amounting to COP 3.3 trillion, 7% higher than that of 2017; and a net profit of COP 2.3 trillion, which means an increase of 7%.



The group's generation segment achieved an EBITDA of COP 1.8 trillion, growing 2% compared to 2017. Although EPM's revenues increased thanks to higher energy sales to large customers and to the increase in sales to the long-term electricity sector, costs and expenses grew in greater proportion due to higher long-term energy purchases on the stock exchange and due to the expenses associated with the contingency of the Ituango Hydroelectric Project.

The distribution segment obtained an EBITDA of COP 2.2 trillion, with a positive variation compared to the 9% of 2017, mainly explained by increases in consumption and fees in EPM.

The higher sales to the secondary market and the greater demand in the thermal power plants of the coast, result of the maintenance in the networks of customers and users of the nonregulated market, made the results for the gas segment positive in 2018, with a variation of 89% compared to 2017, thus contributing COP 121,281 million to the EBITDA of the group.

The EBITDA of the water supply and wastewater management segments amounted to COP 570,820 million and COP 394,854 million, with positive variations of 11% and 14%, respectively, compared to 2017, an increase explained in EPM due to more users, consumption, and the increase in the fee, result of the application of the fee path (6%) and the CPI increase (3.37%); additionally, the increase in users was 3.6% and in consumption, of 1.46%.

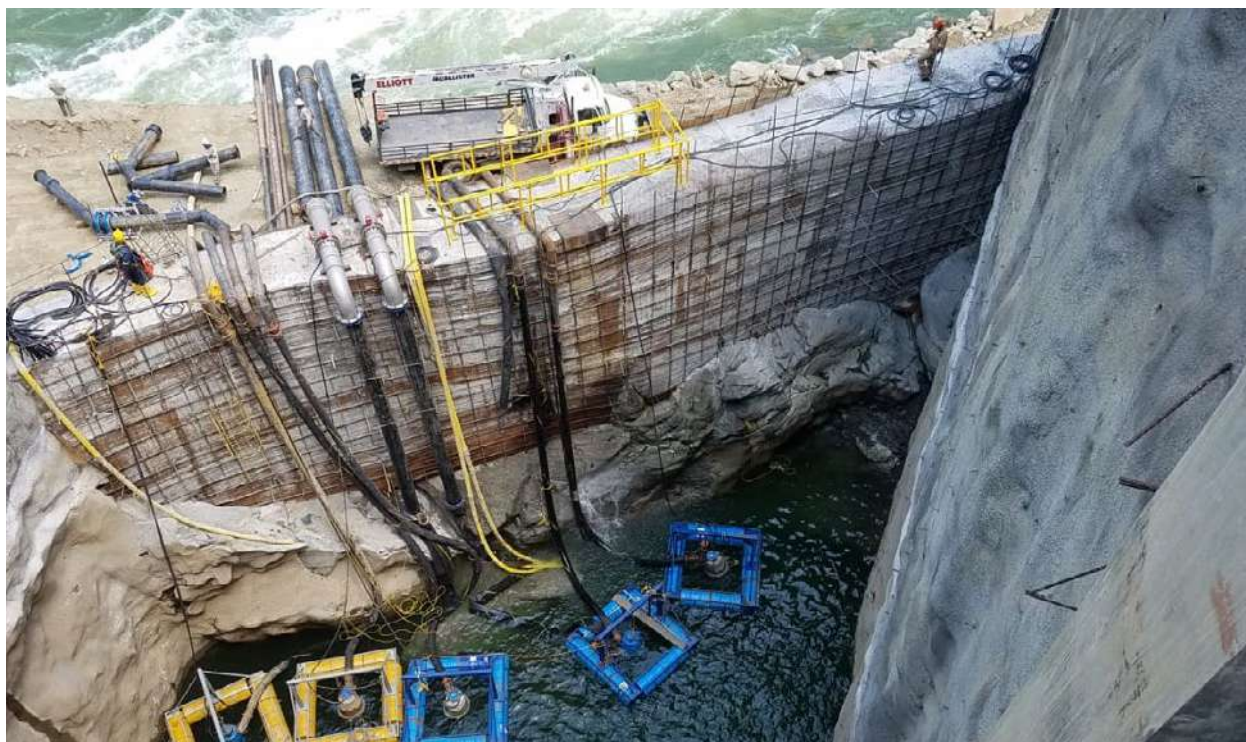
The highest consumption in the nonregulated market in Adasa, affiliated company located in Chile, and the increase in operating and construction contracts in Ticsa, Mexican affiliated company, contributed to the good results of these segments.

The solid waste management segment of Emvarias obtained an EBITDA of COP 38,818 million, reflecting a very good result in relation to the previous year, as a result of the increase in revenues explained mainly by the increase of 21,539 new approved users and 14,785 users above expected. At the same time, Emvarias added 21,924 km more of street cleaning and 76% more in square meters of washing of critical points. Costs and expenses are optimized by having 130 compactor vehicles, of which 65 operate with vehicular natural gas; and finally there were optimizations in cutting and pruning contracts.

The international affiliated companies contributed COP 1 trillion to the group's consolidated EBITDA, and the national affiliated companies, COP 852,729 million.

The net profit was COP 2.4 trillion with a growth of 4%, equivalent to COP 90,434 million. This is explained by a positive variation of the EBITDA in COP 383,176 million, lower expense of income tax due to the application of the new rates of the Financing Act, the deferred tax, higher income from equity investments, higher costs and expenses due to the Ituango contingency, and higher expenses due to exchange differences.

The extraordinary expenses generated by the attention to the contingency of the Ituango project amount to COP 477,299 million, of which COP 329,665 million correspond to the estimates for the guarantee of the reliability charge, the connection guarantee, expenses associated with the attention to those affected and evacuated, and the provision for environmental contingency. COP 69,339 million have been disbursed as recognition of contingency expenses for the attention to the community, and lastly, assets for COP 78,295 million were discharged.



The expenses corresponding to the estimates did not affect the EBITDA indicator by the end of 2018.

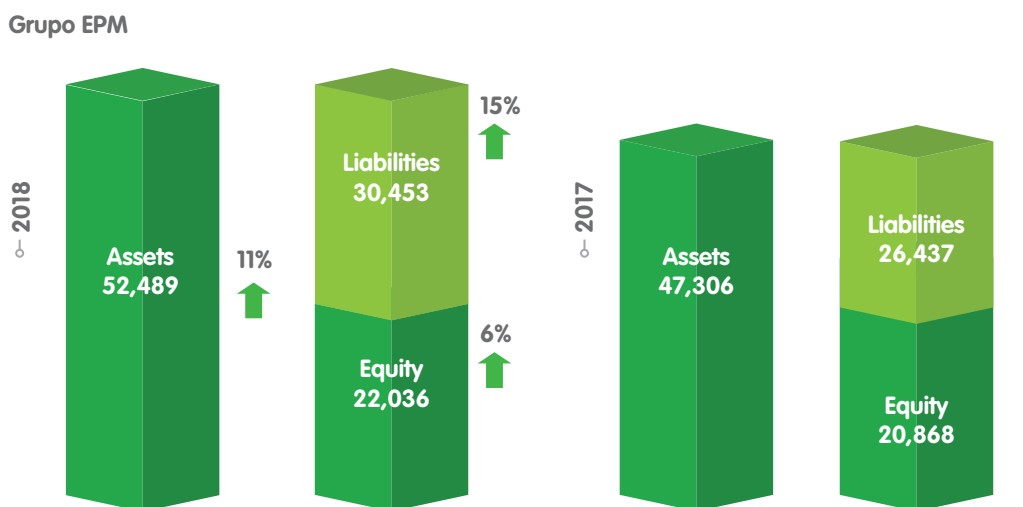
Moreover, the performance of the market representative rate (abbreviated TRM in Spanish) resulted in a net expense from exchange difference higher than that obtained in 2017. This was caused by the increase in USD contract debt and by the financial derivatives with coverage purposes.

In turn, the net financial liabilities contracted in USD increased, which, together with the behavior of the domestic macroeconomic indicators (three-month reference bank indicator, fixed-term deposit, and consumer price index) and the international macroeconomic indicators (six-month LIBOR, interest rates that are used for the projection

of the future flows of the debt and its subsequent valuation at amortized cost) explain the increase in financial expense that, between one year and another, grew by a percentage of approximately 11%.

9.2.1. Statement of financial position

In Grupo EPM, increase in assets was 11%, going from COP 47.3 trillion to COP 52.5 trillion; liabilities reached a 15% increase, going from COP 26.4 trillion to COP 30.5 trillion; and equity increased by 6%, going from COP 20.9 trillion to COP 22 trillion. In EPM, increase in assets was 15%, going from COP 39.6 trillion to COP 45.6 trillion; liabilities reached a 27% increase, going from COP 18.1 trillion to COP 22.9 trillion; and equity increased by 5%, going from COP 21.5 trillion to COP 22.6 trillion.



The non-current assets of the group increased by 8%, mainly due to EPM's greater investments in infrastructure in the Ituango Hydroelectric Project and to projects associated with compliance with the service and efficiency standards required by the regulating entity in the water supply and power transmission businesses.

As for the national affiliated companies, we highlight the investments that contribute to the improvement of the service quality through the construction and modernization of substations and lines and through the system expansion and replacement plan. In Aguas Nacionales, the Aguas Claras WWTP started operating in December 2018. As for the international affiliated companies, ENSA had the highest level of investment in substation and line projects, reduction of losses, expansion of coverage, and quality in new customers and users. In Trelec, investments focused on projects associated with substations and lines.

The execution of investments was oriented to expand the systems and to maintain the conditions that favor the proper provision of the service.



EPM holds 93% of the group's total non-current assets. In 2018, investments in infrastructure amounted to COP 3.5 trillion, of which EPM, the parent company, executed COP 2.3 trillion; the national affiliated companies, COP 550,759 million; and the international affiliated companies, COP 619,647 million. Current assets show a 31% growth due to the cash available in EPM as a result of disbursements.

The group's total liabilities grew 15%, given the disbursements made during 2018 in EPM.

The debt/EBITDA indicator was placed above the value obtained in 2017, due to a greater increase in financial liabilities of 22% compared to that of EBITDA of 8%. The increase in financial liabilities is mainly explained by the disbursements of credits to finance the general investment plan, where the Ituango Hydroelectric Project stands out with an allocation of USD 585 million out of a total of disbursements of USD 950 million. Additionally, the devaluation presented in 2018 had an impact on the increase of the financial liability in approximately COP 503,317 million.

9.2.2. Transfers to the municipality of Medellín

In 2018, transfers to the municipality amounted to COP 1.5 trillion, of which COP 656,457 million corresponds to ordinary transfers and COP 547,047 million to extraordinary transfers, plus transfers made for the sale of Isagén shares which amounted to COP 300 billion. The variation, compared to the previous year, in terms of ordinary and extraordinary transfers is 15%, equivalent to COP 194,368 million.

9.2.3. Transfers from the electricity sector

In 2018, 53 municipalities in the Antioquia's sub-regions of Valle de Aburrá, Middle Magdalena, Northeastern Antioquia, Northern Antioquia, Western Antioquia, Eastern Antioquia, and Southwestern Antioquia and the regional autonomous corporations Corantioquia, Cornare, and Corpourabá received around COP 74,000 million, amount that substantially contributes to sustainability and protection of the environment in the regions.

9.2.4. Credit risk ratings

EPM kept the Moody's Baa3 (with negative outlook) and the Fitch Ratings BBB grades of international investment as well as the AAA national grade, which facilitated maintaining confidence to the investing public and the financial market in general. These ratings have become a key point for the financing strategy throughout 2018.

Considering the setback of the contingency at the Ituango Hydroelectric Project during 2018, EPM continued its practice of keeping constant communication with the risk rating firms, the investors, and the financial market in general, aiming to keep their confidence.

Additionally, the local energy affiliated companies and Adasa had positive behaviors as their ratings were maintained in AAA and AA-, respectively.

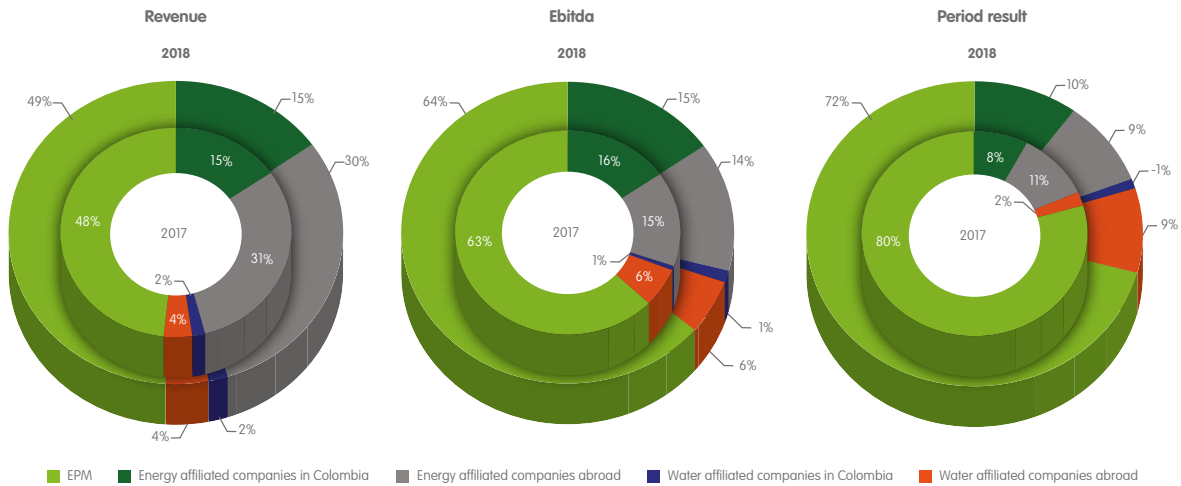
9.3. Performance and evolution of investments

EPM has been growing on a path derived from its traditional segments and a national and international portfolio that has allowed it to diversify its level of risk and thus transfer to its owner resources that have benefited the development of the city of Medellín.

Having a diversified portfolio of investments has allowed the organization to achieve the expected results, which shows its commitment to the social, environmental, and economic dynamics of the regions where it operates. The new strategy of the group's companies is focused on the efficient and profitable operation of existing segments and on new growth options, considering the financial constraints according to the new framework of action that demands increased prudence in the administration of resources.

EPM received, from its affiliated and subsidiary companies, dividends amounting to COP 474,509 million, of which COP 371,540 million were contributed by the controlled companies and COP 102,968 million by the non-controlled companies that correspond mainly to COP 61,032 million from ISA and COP 38,483 from UNE.

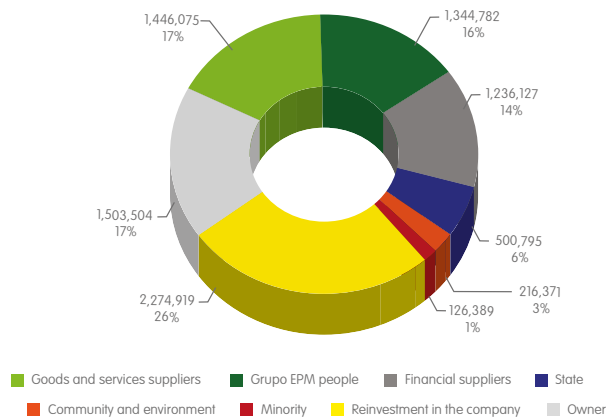
During 2018, EPM capitalized EPM Chile in COP 2,453 million for it to execute the works of the double sectioning of the La Cebada substation of its property, through its affiliated company EPM Transmisión. EPM also capitalized Aguas de Malambo in COP 8,000 million to finance its investment plan.



9.4. Value generated and distributed

Grupo EPM generated added value for COP 8.6 trillion, thus contributing to the development of the territories in which it operates. The suppliers of goods and services received COP 1.4 trillion, which reflects an important contribution to the generation of employment and economic growth. This same concept also includes the COP 216,371 million that was allocated to the communities and to the improvement of the environment. Learn more in [Stakeholder engagement](#).

Grupo EPM's financial statement per stakeholders in 2018 (million COP)



10. Liquidity strategies

The liquidity strategy of Grupo EPM is focused on undertaking the following actions to guarantee the sources of resources that allow it to cover the needs derived from the normal operation of the businesses and to guarantee the execution of the infrastructure investment plan, in order to continue providing quality public utilities.

10.1. Insurance claim for the Ituango Hydroelectric Project incident

Once the contingency of the Ituango Hydroelectric Project happened, the incident was notified to the insurance company and a firm was appointed as adjuster, with which the communication channels and the guidelines for the handling of the incident were established. These include periodic visits to the project by the adjusters, reinsurers, and insurer; appointment of experts by EPM and by reinsurers who have visited the project to analyze the root cause; and periodic meetings on recovery plans, schedule, and costs associated with recovery. As for the noncontractual civil liability policy, the insurer and the reinsurers already confirmed coverage.


10.2. Disinvestments

At the request of EPM's Board of Directors, the investment portfolio (shareholdings) in Colombia and abroad was analyzed to determine those disinvestments that should eventually be made in order to generate resources for the company in the contingency context of the Ituango Hydroelectric Project and guarantee the correct provision of public utilities to current and new users.

For this analysis, different aspects were evaluated, including the strategic fit of the shareholding, the probability of materializing the transaction quickly and successfully, and the amount of the disinvestment and its contribution of resources to EPM.

In July 2018, EPM's Board of Directors authorized the initial necessary procedures, including the corresponding procedure before the Council of Medellin, to transfer the shares that Grupo EPM has in ISA, Gasoriente, Promioriente, Río Aures, Adasa, Los Cururos Wind Farm, and other minority shares.





Subsequently, the procedure before the Council of Medellin was carried out, which was completed, through Agreement 090 of 2018, with the approval of transfer of EPM's shareholding in the Colombian companies indicated. During the last quarter of 2018, the activities focused on the structuring of the sales processes of ISA, Gasoriente, Promioriente, and Río Aures.

In accordance with the foregoing, EPM contracted the investment banks that are supporting the structuring of the sale of the aforementioned assets. Concerning ISA, Gasoriente, and Promioriente, valuation models were prepared, the documents required by Act 226 were structured to carry out the transfer (transfer program, sales booklet, transfer regulations, warnings), and progress was made in the contracting analysis of the floor broker companies and the Colombian Stock Exchange.

As for the transfer of shares in Chile (Adasa and Los Cururos Wind Farm), the contracting of the investment banks required for the structuring of sales was also completed.

Additionally, progress has been made in the construction of the data rooms for the companies that require them, in the financial, administrative, labor, operational, commercial, technical, environmental, and legal matters, necessary for the valuation of these companies and thus for the transfer process.

10.3. Optimization of costs, expenses, and displacement of investments

Grupo EPM established a savings goal of 10% of the total costs and expenses, which for 2018 amounted to COP 420,792 million. This amount was reached according to plan and thanks to the implementation of new efficiencies in operating and support processes. It is important to note that these savings do not involve the commercial operation component, thus ensuring continuity in the provision of services in a timely manner and with the quality that characterizes EPM. Regarding investments for 2018, the lowest execution amounted to COP 983,846 million.

10.4. Credit disbursement

The confidence granted by the credit rating agencies, plus Grupo EPM's favorable track record in the credit market in general, allowed the group to obtain credit disbursements already agreed for around USD 950 million. Likewise, it was possible to obtain credits for approximately USD 750 million from the international financial sector and for COP 1 trillion from the local bank. These resources were allocated to the investment plan of EPM's base segments.

Additionally, Adasa, ENSA, and Grupo DECA, Grupo EPM's affiliated companies, executed financial liability management operations for a total amount of USD 688 million, which improved their debt profile. These operations did not increase the group's debt level and were conducted with the purpose of reducing cash requirements in the short term.



10.5. Risk coverage

As a strategy to minimize exchange risk, EPM made coverage transactions for USD 300 million during the year, decisions that neutralized the 10% impact of the COP devaluation in relation to the USD on the company's financial statements.



11. Integrated Model of Planning and Management

With regard to the progress in management through the evaluation of the achievement of results, performance is presented as established in the dimensions of the Integrated Model of Planning and Management (abbreviated MIPG in Spanish) and in Decrees 1499 and 648 of 2017 of the Administrative Department of Public Service (abbreviated DAFP in Spanish), for public entities.

Progress details on the MIPG can be found on [Monitoring and evaluation of MIPG institutional performance](#).

12. Awards and honors

These are the most notable awards and honors of Grupo EPM in 2018.

International recognition to EPM in the World Water Forum: This recognition was received thanks to the **Medellín River sanitation program**, which the company has developed for almost 50 years as a commitment to the environment. This was one of the five winning proposals of the call for good practices and experiences in water and sanitation for Latin America and the Caribbean of the Inter-American Development Bank (IDB).

Cocier-Asocodis award: As a result of the regional survey on residential customer satisfaction from the Regional Energy Integration Commission (abbreviated CIER in Spanish), conducted among South American and Central American users, with the participation of nearly 80 companies throughout the region, EPM obtained the highest index of satisfaction with perceived quality (ISPQ), which made it worthy of the award in this category.


Recognition of the Global Compact Network Colombia to EPM's good practices of sustainable development: EPM was chosen winner for its contribution to the **Sustainable Development Goal (SDG) 6** with its practice of **water resource and biodiversity management: water protection**. The recognition was awarded as part of the 8th Congress on Economy and Sustainability: the 2030 Agenda Wager, organized by the Global Compact in Bogotá.

Honor as reference company in the Andean region: The Andean Parliament recognized EPM's role in the development of Medellín and its constant contribution to the quality of life of millions of people, thanks to the coverage, quality, and continuity of its public utilities.

Recognition for the proper management of polychlorinated biphenyl (PCB) oils: During the International Environmental Trade Fair, the Colombian Ministry of Environment and Sustainable Development and the United Nations Development Program (UNDP) recognized EPM's effort, work, and contribution to the environmentally adequate management of PCB in Colombia.

Accenture Innovation Award: Important leaders from different sectors and the audience awarded this honor to EPM for the most innovative concepts at the business level in the country, promoting the generation of knowledge and best practices. On this occasion, the company participated in two categories: energy, with prepaid water, and social responsibility, with social contracting.

Seal of Excellence in Digital Governance: Thanks to its good practices in citizen participation, disclosure of information, and skills in IT management, the Colombian Ministry of Information and Communications Technologies awarded EPM several seals of excellence in digital governance. With this honor, entities of the Colombian state certify the high quality of procedures, services, and products provided by digital means, as well as a public entity's skills in the management of information technologies.



BBB- international credit rating and AAA- national credit rating granted by Fitch Ratings: This agency granted EPM a BBB international rating with investment level in negative observation from a stable outlook. Likewise, the national rating was AAA with negative observation from a stable outlook, which reflects the agency's perception of EPM's credit profile, considering it similar to that of the company's national peers. On this occasion Fitch Ratings highlights the geographic and business-line diversification, since around 66% of the company's revenues come from regulated and stable businesses, such as energy distribution and transmission, water supply, and gas distribution and commercialization.

Baa2 international risk rating by Moody's Investors Service: This risk rating agency placed EPM in the Baa2 investment grade with a stable outlook, thanks to its financial performance and the reasonable management of its finances.

Recognition to EDEQ for the proper management of PCB oils: On June 20, 2018, the Colombian Ministry of Environment and Sustainable Development and the UNDP recognized EDEQ's comprehensive management of PCBs in Colombia from 2013 to 2018.

Neutral carbon certification to EDEQ: The company received this certification for its management in the greenhouse gas emission offset and reduction in the region.

Andesco Sustainability Award to ESSA: the National Association of Utilities and Communications Companies (abbreviated Andesco in Spanish) rewarded ESSA, in the Market Environment category, for implementing corporate social responsibility actions aligned with the SDGs.


Innovation award to CHEC: During the 8th International Conference on Voltage Works held in Argentina, CHEC received recognition for the 3D Virtual Training Project in Electric Power Distribution Networks.

Recognition to CHEC for its environmentally proper management and disposal of PCBs: The Colombian Ministry of Environment and Sustainable Development recognized CHEC's commitment to and active and constructive participation in the Development of the Capacity for the Environmentally Proper Management and Disposal of PCB, project that defines the PCB-free Colombia policy.

Energy efficiency award to Delsur: Promoted by the National Energy Council (abbreviated CNE in Spanish), this award was given to Delsur in the Contribution to the Energy Efficiency Culture category with the Electromobility Innovation project.

Yo sí cumplo (I do keep my word) seal to Delsur: The Salvadorian Ministry of Labor and Social Welfare gave this award to Delsur for its good working practices in search of safe working spaces at the organization.

InnovaCiudad Award 2018 to Emvarias: The Ruta Recicla (Recycle Route), Emvarias' commitment to environmental sustainability in Medellín, was recognized by the InnovaCiudad Award 2018, which annually recognizes initiatives that contribute to the quality of life of communities and to the development of cities.



Recognition to Aguas Regionales for its innovation in the construction of the aerial water piping: The Antioquia Governor's Office awarded a recognition plaque to Aguas Regionales for its innovation to bring quality of life to the communities of Turbo with water supply through an aerial piping in the Pescador 1, Pescador 2, and El Progreso sectors.



Institutional performance monitoring and evaluation

Integrated Model of Planning and Management

Results

With regard to the progress in management through the evaluation of the achievement of results, performance is presented as established in the dimensions of the Integrated Model of Planning and Management (abbreviated MIPG in Spanish), in accordance with Decrees 1499 and 648 of 2017 of the Administrative Department of Public Service (abbreviated DAFP in Spanish), for EPM's public entities.

1. Human resource dimension

Human resource management in EPM is focused on the consolidation and articulation of organizational capabilities that enable the development of comprehensive solutions and support the achievement of the strategy.

We contribute to EPM's sustainability by helping reach the goal of reducing at least 10% the costs and expenses through the Creando-Ando (Creating-I am) initiative. Furthermore, this management is starting a process of cultural transformation that seeks to adapt the organization to current and future challenges and environments, which encompasses collaborative work, savings culture, digital transformation, and innovation.

In addition, 3.5% of the public servants telework (293 teleworkers out of a total EPM's population of 7,611).

2. Strategic planning dimension

As a result of the expected consequences of the Ituango Hydroelectric Project contingency, we adjusted the corporate strategic planning to focus on:

- Recovery of the Ituango Hydroelectric Project;
- Obtaining liquidity sources;
- Profitability of the businesses, especially power distribution and generation;
- Vision of growth for 2025; and
- Transformation of the organizational culture.

The abovementioned means new strategic objectives, indicators, and associated goals for the 2018-2022 period. Within this scope, Grupo EPM's businesses will be oriented towards efficient, profitable, and safe operation and towards the implementation of 2025-vision programs that drive the transformation of business.

We periodically manage the highest-level and highest-criticality risks. After the event that generated the contingency in the Ituango Hydroelectric Project, the company prepared a matrix oriented to manage the derived risks. At the same time, it implemented an intensive scheme to monitor and report to Senior Management and the board of directors the mitigation plans to ensure its effectiveness.

We highlight the management for the compensation of damages and loss of profits due to the fire at the Playas power station and the claims of the "all construction and assembly risk" and "noncontractual civil liability" policies of the Ituango Hydroelectric Project.

Furthermore, with the intervention of the captive affiliated company, Maxseguros, the company successfully renewed Grupo EPM's insurance program.

Integrated Model of Planning and Management (MIPG)

To implement the MIPG, EPM made progress mainly in:

- The formalization of the MIPG's institutionality (according to EPM's Management Committee, to ensure the inclusion of the roles corresponding to the Institutional Committee of Internal Control Coordination and the Institutional Committee of Management and Performance required by the DAFF, in accordance with Decree 2208 of 2018);
- The preparation of the self-diagnosis of the MIPG implementation in EPM to assess the degree of progress of the model in EPM and the group's affiliated companies;
- The definition of the plan to improve or close gaps; and
- The second progress assessment of the MIPG implementation.

Integrated Model of Planning and Management (abbreviated MIPG in Spanish)

With the tools provided by the DAFP to assess the progress of the MIPG implementation in EPM, both the self-assessment and the standard form of progress report to management (abbreviated FURAG in Spanish), the following global results were obtained and consolidated by dimension in the institutional performance index (abbreviated IDI in Spanish):

FURAG* diagnosis

| | Score | Level |
|-------------|----------|--------|
| IDI 77.9 | 0 - 59 | Low |
| | 60 - 79 | Medium |
| | 80 - 100 | High |

*FURAG: Standard form of progress report to management. Mandatory annual report. Evidence of the answers must be attached.

Self-diagnosis

| | Score | Level |
|-------------|----------|---------------|
| IDI 91.6 | 0 - 50 | Initial |
| | 61 - 80 | Consolidation |
| | 81 - 100 | Improvement |

Self-diagnosis: The MIPG has tools by policy to self-assess the MIPG implementation. Optional.

According to the self-assessment results for each dimension, the actions with scores lower than 60 were selected to define improvement plans during the MIPG implementation process. These actions are mainly delimited by the following matters, in five of the seven dimensions:

- **Human resources:** information management, training, welfare, and organizational culture and climate.
- **Strategic planning:** articulated with the improvement plan of the human resource dimension in the training component.
- **Result-oriented management with values:** online procedures and services, catalog of information components, traceability of information systems transactions, accountability, and citizen service.
- **Information and communication:** articulated with the results of the audit conducted by the General Archive of the Nation.
- **Internal control:** planning and assessment of audits to integrity strategies.

3. Result-oriented management with values dimension

There were no changes in EPM's administrative structure. The contingency derived from the Ituango Hydroelectric Project included an organized attention of the crisis and considered fronts for the continuity of the project and the operation and continuity of the EPM businesses.

During the year the company advanced in the modeling of the 78 processes of the EPM process model. The Enter information system included the complementary documentation of manuals, instructions, guides, and templates associated with the processes.

As part of the operational safety project, the documentation and controls of the operation and maintenance core processes were strengthened, with the purpose of mitigating business continuity risks.

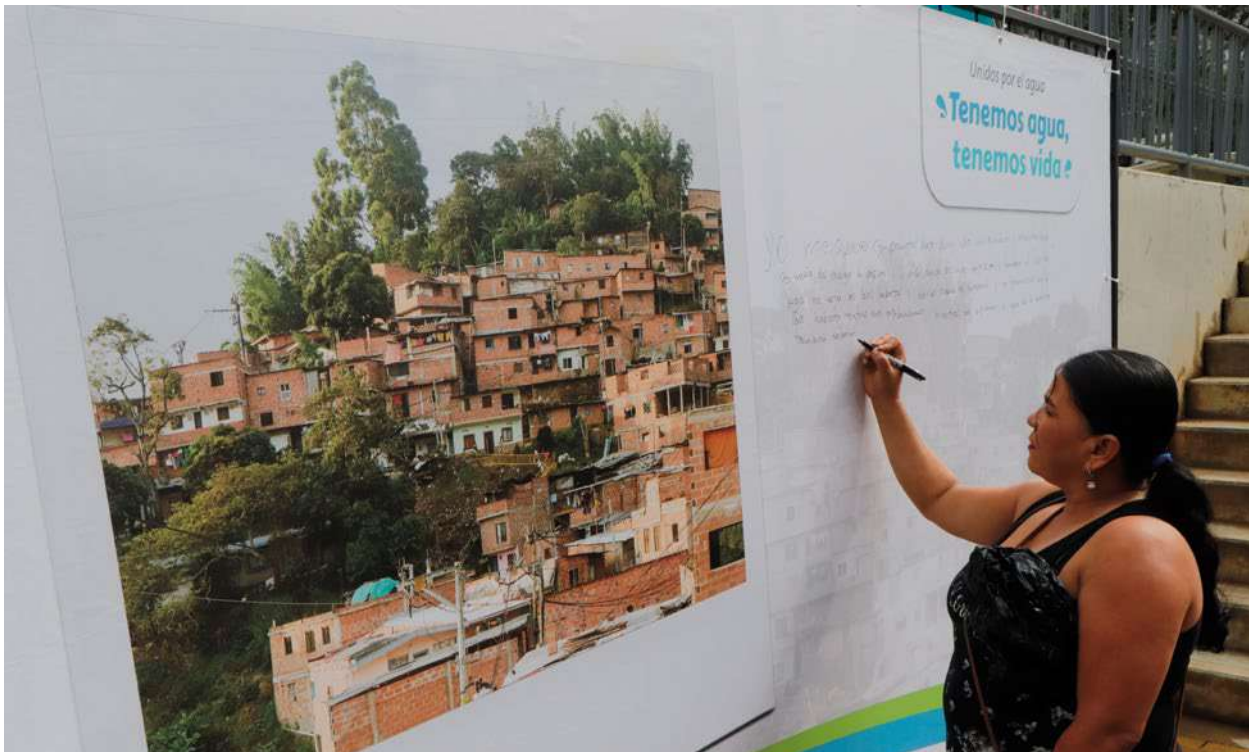
The online governance program started the transition to the digital governance policy, with new aspects to develop a comprehensive view of the solutions that the company proposes to its stakeholders, based on the use of information and communication technologies (ICT). The seal of excellence was obtained in three categories: open governance, online services, and IT management capabilities.

4. Result assessment dimension

Balanced scorecard

- EPM achieved the goals associated with financial performance, revenues, EBITDA, EBITDA margin, and net profit. Although the EBITDA and EBITDA margin goals in the generation business and the revenue goal in the transmission business were not achieved, the results are very positive considering the operational and financial difficulties that arose due to the contingency of the Ituango Hydroelectric Project.
- The perspective of customers and markets ends with the fulfillment of most of the goals established for this strategic objective. It was possible to maintain the continuous growth of the businesses through the fulfillment of the goal of universalization of the services, physical units sold, and customers and users. In addition, the Unidos por el agua (United for water) program evidences the commitment acquired to the community by supplying 11,742 families during the year, for a total of 23,068.

Notwithstanding the contingency of the Ituango Hydroelectric Project, the indicators associated with reputation were maintained at acceptable levels, while the customer and user service indicators and the service quality indicators showed positive results.



- The perspective of operations obtained sufficient sources of financing to ensure cash flow and guarantee operations during 2018. Although the company did not achieve the goals of investments and the physical progress in infrastructure projects, the good results of the business development projects stand out. In addition, the safety program road map for the generation business was completed, with progress in the level of maturity of asset management and the fulfillment of the goal in water protection.

EPM conducted an internal quality audit program to inspect the ISO 9001 and ISO/IEC 17025 (Colombian technical standard) certified management systems and to determine how the MIPG requirements are met. The consolidated findings correspond to 76% compliances, 11% strengths, 10% opportunities for improvement, and 3% non-compliances.

The efficiency and effectiveness of the management systems audited stand out thanks to the research and development of materials, the constant improvement, and the use of new technologies and controls in processes.

With the purpose of strengthening constant improvement, EPM decided to change the information system to support the improvement plans. Thus, the Avanza (Advance) initiative was developed, which involves:

- Migration of improvement programs;
- Design of views (findings, formulation of actions and monitoring, and parameterization of controls);
- Integration with information systems;
- Training of 149 people at EPM and national affiliated companies; and
- Awareness workshop on improvement for sustainability with EPM managers.

As of December 31, 2018, the total shares from all origins registered since 2014 in the improvement plans in Avanza amount to 2,267; 1,202 are in finished status, of which 88% (1,061) are effective and 12% (141) are ineffective. As for the 14 origins, 79% of the plans are concentrated in work environment (34%) and internal audit (45%). There is a relevant participation of 59% between preventive and improvement actions, which shows an advance towards continuous improvement.

- The perspective of learning and development started an ambitious cultural transformation process that will prepare this organization for future challenges and environments, leveraging people's ability to change. Likewise, 86% of EPM's population participated in the assessment of the quality of life psychosocial risk.

5. Information and communication dimension

Regarding information management, the company developed data governance, conducted the diagnosis of commercial data quality, and advanced on technological aspects such as the data lake and the advanced analytical platform for the commercial year.

EPM has the transparency mechanisms that favor its interaction with citizens. We can emphasize on the publication on the website of the provisions of Act 1712 of 2014 and its Regulatory Decree 103 of 2015, as well as the policies on information security and personal data protection.

EPM considers transparency and access to information fundamental tools to prevent corruption and to improve democracy, accountability, and citizens' quality of life.

The organization participated in the Collective Agreement of the Electricity Sector on fighting corruption and promoting free competition, promoted by the National Operation Council (abbreviated CNO in Spanish) and XM S.A. E.S.P., with the supervision of the Transparency Secretariat of the Presidency of the Republic of Colombia, Transparencia por Colombia, and the United Nations Office on Drugs and Crime (UNODC). Moreover, the money laundering and terrorist financing (ML/TF) risk matrix was prepared and shared during the 6th Forum on Ethics of the Electricity Sector. This agreement was recognized as a good practice during the disclosure of results event of the Business Transparency Assessment 2018 organized by Transparencia por Colombia.

3 ONODC: United Nations Office on Drugs and Crime (UNODC).



6. Knowledge management dimension

EPM developed and applied the elements associated with knowledge management to increase organizational capabilities, thus aiming to promptly, efficiently, and responsibly respond to the demands of the stakeholders.

The company published relevant knowledge in the Revista EPM magazine, as well as the Porce III collection, the flora and fauna inventory of the Ituango Hydroelectric Project, the Mundo del agua (World of water) collection, the Letras Jurídicas magazine, and the Guía práctica de la propiedad intelectual (Practical guide to intellectual property). Likewise, the continuation of knowledge transfer took place through educational programs of Universidad EPM and a 40% advance was achieved in the identification of EPM key knowledge.



7. Internal control dimension

The result of the MIPG management self-diagnosis application for dimension seven, internal control, gave a final score of compliance with the internal control policy of 92.9 points out of 100, score obtained from the assessments of the control environment (94.8), institutional risk management (96.1), control activities (90.9), information and communication (92.5), and continuous monitoring or supervision (89.6) components.

As the assessment of this dimension encompasses the other MIPG dimensions, a first analysis was conducted for each component, where six activities in total were identified with scores below 60 points; two of these activities are the direct responsibility of the Vice Presidency of Corporate Auditing and are associated with the integrity strategy effectiveness assessment and with the global audit opinions.

The good score (92.9) of the internal control policy is in line with the good results obtained in the EPM's transparency rating, where it is classified as "a company with a low level of corruption risk."



Grupo·epm[®]



Corporate
governance

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Presentation

In its role as parent company of Grupo EPM, EPM annually prepares a corporate governance report that is submitted, with the other year-end documents, to the Board of Directors of EPM, after review and favorable report from the Audit Committee. **Código País 33.1, GRI 102-32**

The corporate governance model implemented by EPM for the business group includes practices and measures to maintain the proper balance between ownership and management and to ensure the achievement of business objectives, sustainability, growth, transparency, disclosure of information, ethical management, balanced access of stakeholders to the information, and rights of the investors.

This report is based on the practices of *Código País* and the contents established in the standards of the *Global Reporting Initiative (GRI)*. It accounts for the compliance with the main corporate governance practices and the progress and changes that took place during 2018; it is also a sign of the commitment of EPM to transparency and disclosure of information to its stakeholders. **Código País 33.2, 33.3**

Conceptual framework of corporate governance in Grupo EPM and Corporate Governance Plan

The corporate governance model of Grupo EPM responds to the challenges arising from the growth and consolidation of the business group and includes actions that increase the level of maturity of its corporate governance through the development, training, and dissemination of good practices in EPM and in the companies of the group.

Every year, the Board of Directors of EPM approves the Corporate Governance Plan included in this report. This plan consolidates the initiatives that will be developed on this matter in a long-term perspective. It is a voluntary practice that has been implemented since 2006.

This plan includes activities to be carried out by the different departments of EPM, whose common objective is to improve the relationship between the governance bodies of the company and the group (*Annex 1: Governance bodies and framework for action*), allowing the achievement of the unity of purpose and direction in a transparent manner and the accountability to the stakeholders.

Ownership structure of EPM

EPM is an official residential public utilities entity established as a state-owned municipal industrial and commercial company subject to the legal system that regulates the provision of residential public utilities in Colombia, pursuant to Act 142 of 1994.

The municipality of Medellín possesses all the rights of ownership of EPM.



La Alpujarra Administrative Center.

The relationship with the municipality of Medellín, in its role as owner, is regulated by the Law, the autonomy provided by the administrative decentralization, and the internal regulations; it is contained in the Relations Framework Agreement signed in 2007 by the Medellín Mayor's Office and EPM. The powers of the Council of Medellín over EPM are defined in the bylaws of the company and in the Colombian laws.

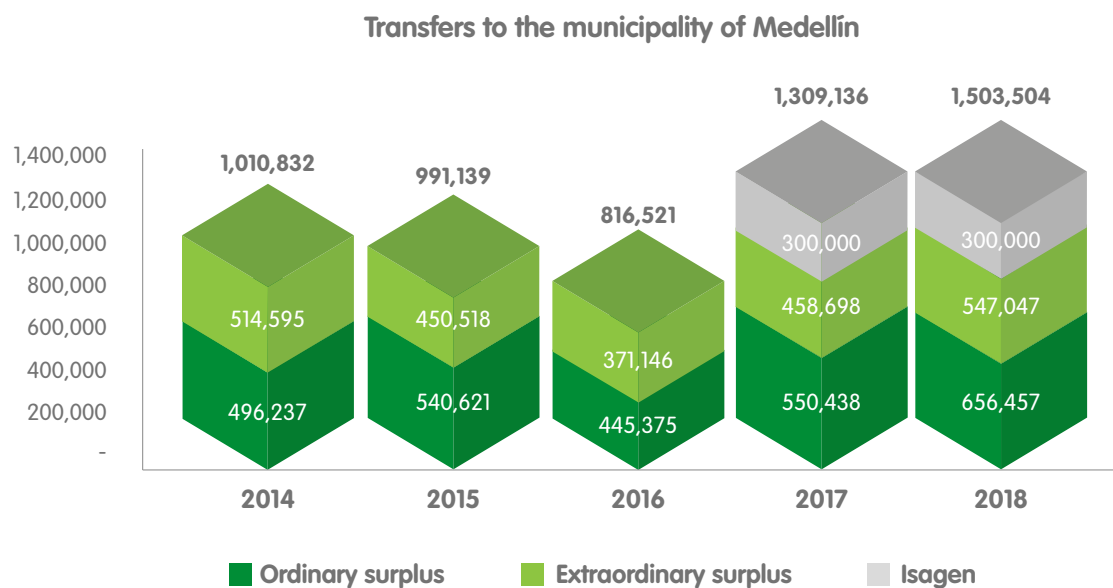
The mayor of Medellín, as representative of the owner, exercises the exclusive ownership through the Board of Directors of EPM, as chairman of the same, by virtue of the established in the Relations Framework Agreement. In accordance with the Law and the bylaws of the company, the mayor of Medellín designates the CEO and appoints the members of the board of directors.

Transfers to the municipality of Medellín

The Municipal Agreement 69 of 1997 of the Council of Medellín establishes that EPM shall ordinarily transfer up to 30% of its profits to the municipality every year. However, the Relations Framework Agreement allows additional transfers to be decreed, considering both the financial requirements of the municipality for specific investment programs and the financial sustainability of EPM. The additional transfers must be authorized by the Council of Medellín.

In 2018, EPM transferred COP 656,457 million, corresponding to 30% of the profits for 2017; the company also delivered extraordinary transfers amounting to COP 547,047 million, corresponding to 25% of the profits. Additionally, COP 300 billion was transferred as a result of the sale of the shares of Isagen S.A.

The following figure shows the transfers during the last five years.



Ordinary and extraordinary transfers to the municipality of Medellín from 2014 to 2018 (figures expressed in million COP).

Relations Framework Agreement between EPM and the municipality of Medellín

The Relations Framework Agreement signed by EPM and the municipality of Medellín in 2007 serves to agree on the obligations of both parties through self-regulations that delimit the exercise of ownership and business management; it also reflects the common goal of the two entities to create conditions of business management in EPM that improve the creation of value for its stakeholders and that make the company viable as a growing and sustainable source of revenue for the city of Medellín.

This agreement determines the principles of the owner-company relationship. These principles go beyond the legal conditions that both entities must meet and become self-regulations that limit the exercise of ownership and business management. In this way, a system of counterbalances is created, which establishes responsibilities and self-limitations for each party.

This agreement clearly ratifies that corporate governance is a key factor in business competitiveness and sustainability, which contributes to the proper balance in the exercise of ownership, direction, and management. *(Annex 2: Context on the Relations Framework Agreement).*

Monitoring of compliance with the framework agreement

During 2018, the municipality of Medellín and EPM fully complied with the obligations stipulated in the framework agreement.

| Obligations of EPM | | |
|---|---|--|
| | Key aspect | Compliance |
| Compliance with indicators of financial management. | Efficient and productive financial management based on technical criteria and reflected in minimum criteria of EBITDA, return on equity, and other financial indicators. The board of directors will annually define the indicators based on the strategic plans and budget for the time limits agreed by the board. | It is included in the annual planning cycle and is an indicator of the balanced scorecard of the company. See the Ownership structure of Grupo EPM chapter in this report. |
| Transfers to the municipality. | The transfers can only be higher than 30%, considering the municipal financial requirements for specific investment programs and financial needs of EPM so as not to jeopardize the business viability or its expansion. Additional transfers must be authorized by the council, prior justification by the mayor of their effects on the finances of EPM. | See the Ownership structure of EPM chapter in this report. <u>See financial report.</u> |
| Settlement of transfers. | The plan to make transfers must refer to the cash requirements of the municipality and to the availability of liquid resources of EPM. In this way, an adequate cash management in both entities can be conducted. | See the Ownership structure of EPM chapter in this report. <u>See financial report.</u> |
| Appropriate communication mechanisms. | For the decentralized owner-entity relationship, the channel is mayor - board of directors - management of EPM; for the other relationships, private secretariat of the municipality and External Relationships of EPM. | The mayor exercises his role of owner as chairman of the board of directors. The other relationships are exercised through the External Relationships Management of EPM. |
| Commitment to transparency with the community. | Contractual processes under the principles of transparency, impartiality, and objectivity, in an environment of free competition, applying the system of disqualifications and incompatibilities. Call for the submission of bids through the corporate information system. | <ol style="list-style-type: none"> <u>Decree 362 of 2014</u> by the board of directors through which the general contracting regulations are issued. Policy for the supply of goods and services, approved by the board of directors in December 2014. Application of the public servants' transparency statement. See the Compliance chapter in this report. |
| | Public servants' profiles and competencies that will be strictly verified in the selection processes. | EPM has the manual of position descriptions defined. The manual is available on the intranet of the company and is the input for the selection processes which are strictly verified. |
| | Communication and dissemination mechanisms to inform citizens about contracting and selection processes. | EPM makes the contracting and selection processes public on its website, on the following links: <u>Job offers</u> <u>Te Cuento application</u> |



| Obligations of EPM | | |
|--|--|---|
| | Key aspect | Compliance |
| Permanent external auditing. | Permanent external auditor hired according to guidelines of the Audit Committee. The auditor shall not provide other services within the company and his contract shall have a term of three years or less. There will be a conscious effort so that the external auditor be the same for all the companies that make up Grupo EPM. | See the <i>Accountability</i> chapter in this report. |
| Corporate social responsibility. | Formulation and development of corporate social responsibility (CSR) policies, especially with actions aimed at the most vulnerable population and considering the following criteria: <ul style="list-style-type: none"> • Activities delimited in the corporate purpose and aligned with its strategic objectives. • Actions that do not compromise the financial viability. • CSR model incorporated into the strategic framework, keeping the sustainability of the company as core objective and taking into account the Global Compact commitments. | The CSR policy was approved by the Board of Directors of EPM on September 1, 2009. The CSR in EPM is based on an ethical conviction and is materialized in facts that add value to the stakeholders and the company. |
| Provision of support services to the municipality with human resources of EPM. | Provision of support services to the municipality with public servants of EPM, formalized through agreements defining the resource, the time required, and the consideration. | In 2018, Ana Catalina Ochoa Yepes served the Medellín Mayor's Office as director of the Administrative Department of Planning, pursuant to Ruling 2017-RES-13100. |

| Obligations of the municipality of Medellín | | |
|---|---|---|
| | Aspect | Compliance |
| Respect for the administrative autonomy of EPM. | Role of owner through the board of directors. | The mayor of Medellín is the chairman of the board of directors. The attendance details are included in the chapter on the board of directors of this report. |
| | Not to influence or participate, directly or indirectly, in the process of selection and appointment of public servants of EPM, except in those in which its participation is as chairman of the board. | EPM carries out its selection process based on the Colombian laws for public companies and, strictly, based on regulatory frameworks that are internally designed for that purpose (guidelines and business rules). These regulatory guidelines are mandatory and define the execution of the selection process in EPM. |
| | Not to influence or participate, directly or indirectly, in the contracting processes of EPM. | <u>Policy for the supply of goods and services</u> , approved by the board of directors in December 2014. |
| | Criteria of experience, suitability, professionalism, honesty, and moral solvency when appointing the CEO. | The CEO is assessed every year to ensure continuity of these criteria. |
| | Change of CEO based on objective reasons, considering results and assessment. | The CEO was assessed. There were no changes in the period. |
| | The chairman of the board of directors promotes corporate governance practices. | Complying with the provisions of the Bylaws of EPM, the Governance Code of EPM, the Regulations of the Board of Directors, and the Relations Framework Agreement between EPM and the municipality of Medellín. |
| | Ensure compliance with the corporate governance guidelines approved by the board of directors in the affiliated companies. | See the Corporate Governance Plan chapter in this report. |



Obligations of the municipality of Medellín

| | Aspect | Compliance |
|---|---|---|
| Obligations related to the board of directors (appointment). | Appoint and maintain at least five independent members. For continuity of medium- and long-term strategic planning, and policies and guidelines set by the board of directors. | See the Board of Directors of EPM chapter in this report. According to what is established in: 1. Bylaws of EPM. 2. Governance Code of EPM. 3. Guidelines for the composition of the board of directors. 4. Relations Framework Agreement between EPM and the municipality of Medellín. |
| | Establishment of training and experience requirements. | |
| | Requirements for control members. | |
| | Lists of candidates drawn up by the stakeholders to ensure transparency in the appointment. | |
| | Periodic assessment of the board of directors and CEO. Base element for considering removal. | Assessment of the management and directorate was performed. There were no changes in the period. See the Management structure of EPM chapter in this report. |
| | The chairman will strive for the implementation of the rules of procedure of the board of directors. | Rules of procedure of the board, adopted through Decree 376 of August 25, 2015. |
| Independence in managing financial resources. | Independence in the operational management of financial resources. Portfolio management and EPM's own position responds to financial profitability criteria. The municipality will not influence decisions on the financial management of resources of EPM. | As part of the cash flow management process, EPM manages its financial resources autonomously, with criteria of transparency, security, liquidity, and profitability, maintaining an adequate control of the associated financial risks; the above is based on the investment system provided in the internal and external regulations applicable to the company, including the business rules for the administration of excess liquidity contained in Decree 2059 of 2015. |
| Approval of budget of EPM. | The municipal administration is committed to annually manage the powers delegated by the Municipal Council of Tax Policy (abbreviated COMFIS in Spanish) at the board of directors for the budget approval. | Ruling 022 of March 22, 2017 through which COMFIS delegates powers so that the Board of Directors of EPM will approve the budget for 2018. |
| Participation of EPM in the design and execution of the Municipal Development Plan. | The municipality will encourage the participation of EPM in the design of the plan, in order to ensure its consistency with the long-term projects of EPM. Transfers must be harmonized with the financial projections to meet the requirements of the owner without jeopardizing the viability, solvency, and financial strength, or the financial projections of the company. The commitments of EPM in the plan will be consistent with its strategic plans, and its participation will be determined based on technical, financial, economic, and market criteria, taking into account the compliance with the corporate purpose. | EPM participated in the construction of the municipal agreement project for the 2016-2019 Medellín Cuenta con Vos Development Plan. The contribution of the company consisted mainly in the integration of the projects, services, and resources of EPM with the different strategic dimensions of the plan, so that there is consistency between the planning exercise of the municipal administration and that of EPM. Once the development plan has been approved, it becomes the route that determines the relationship between EPM and the municipality of Medellín regarding the execution of city projects and programs. |

Public accountability

By understanding that the citizens of Medellín are ultimately the owners of EPM and as a practice of transparency and in compliance with the constitutional and legal provisions, EPM carries out annually its public accountability in order to inform the main achievements and challenges of the corporate management and its alignment with stakeholders.



Public accountability in 2017. Jorge Londoño De la Cuesta, CEO of EPM; Federico Gutiérrez Zuluaga, mayor of Medellín.

Some of the management topics of EPM addressed in this space were the following:

- Financial results.
- Transfers to the municipality of Medellín.
- Administrative efficiency.
- Population benefited and improvement of the quality of life.
- Meaning and progress of the five management focuses (closeness, care for the environment, coverage, consolidation, and growth).

The public accountability corresponding to the 2017 term was held on April 7, 2018; likewise, the public accountability corresponding to the 2018 term will be held in April 2019.

Management structure of EPM

Ituango hydroelectric project contingency in the corporate governance framework

GRI 102-33 102-34

The Ituango hydroelectric project contingency put the corporate governance of EPM to the test, imposing huge challenges on its governing bodies to find ways that would allow the company to overcome the crisis in the best possible way, with all its social, environmental, technical, and financial implications, focusing on protecting the life of people at all times and, simultaneously, ensuring the normal operation of the company.

During the crisis, the chairman of the board of directors and the CEO have been at the forefront of the situation; likewise, the members of the board of directors and the senior management have been permanently available for everything that has been required. The flow of clear, timely, and transparent information between the management and the different stakeholders has been one of the main challenges.

Board of Directors of EPM

The board of directors is in charge of the direction of EPM pursuant to the provision of the bylaws of the company and the Law.

Composition of the board of directors **Código País 33.3 – ii. a); GRI 102-22**



Federico Gutiérrez Zuluaga
Chairman (non-independent)
Profile: Mayor of Medellín
Start: 01/01/2016
Participation in other boards: 3



Claudia Jiménez Jaramillo
Independent
Profile: Public management
Start: 01/26/2016**
Participation in other boards: 2



Elena Rico Villegas
Control member (independent)
Profile: Public utilities management
Start: 01/26/2016
Participation in other boards: 0



Manuel Santiago Mejía Correa
Independent
Profile: Business management
Start: 04/30/2012
Participation in other boards: 5



Alberto Arroyave Lema
Control member (independent)
Profile: Social participation and control
Start: 02/25/2008
Participation in other boards: 0



Javier Genaro Gutiérrez Pemberthy
Independent
Profile: Public utilities
Start: 03/11/2016
Participation in other boards: 1



Gabriel Ricardo Maya Maya
Control member (independent)
Profile: Legal
Start: 09/01/2006*
Participation in other boards: 4



Carlos Raúl Yepes Jiménez
Independent
Profile: Financial and CSR
Start: 07/08/2016
Participation in other boards: 4



Andrés Bernal Correa
Independent
Profile: Business management and financial
Start: 02/25/2008
Participation in other boards: 2

*Gabriel Ricardo Maya Maya was also a member of the board of directors from January 30, 2004, until January 16, 2006.

**Claudia Jiménez Jaramillo was also a member of the board of directors from November 19, 2010, until December 7, 2011.

The structure of the Board of Directors of EPM, with its nine main members without alternates, meets what is stated in Act 142 of 1994, the bylaws, the Relations Framework Agreement, and the Corporate Governance Code of EPM:

- The mayor of the city of Medellín, who is the chairman of the board of directors.
- Five people freely appointed by the mayor of Medellín, all of them acting independently.
- Three people selected by the mayor of Medellín among the control members registered by the development and social control committees of residential public utilities (Article 27.6 of Act 142 of 1994).

Código País 33.3 – ii. f); GRI 102-24

Eight members (88% of the board) are independent, which exceeds the 25% required in Article 44 of Act 964 of 2005 for issuers of securities, and the 55.6% defined in the internal regulations.

The Corporate Governance Code of EPM points out the following criteria to be considered by the mayor to appoint the members of the board of directors: **GRI 102-24**

- Professional academic training in matters related to the corporate purpose of EPM and to the duties proper to the board of directors.
- Business or work experience in the public utilities industry.
- Control members are required to submit proof of their time in the Development and Social Control Committee that selected them, description of their relationship with it, and evidence of the activities carried out in the development of their role.

The relationship of the board of directors with the users of residential public utilities is fulfilled through the participation of the control members in the deliberative body. In this way, the constitutional provision of citizen participation in the management and oversight of the company as an entity providing residential public utilities is materialized.

GRI 102-21 102-22 102-29

The Board of Directors of EPM defined in 2015 the guidelines for its structure, including the requirements necessary for a seat on it: profiles of a multidisciplinary and independent nature, with a global vision and a high sense of responsibility for public service. (*Annex 3: Profiles of the board of directors*).

The details of the résumé of each member of the board of directors are available on the website of EPM. Click [here](#) to see them. **Código País 33.3 – ii. b); GRI 102-22**

In 2018, there were no changes in the structure of the board of directors. **Código País 33.3 – ii. c); GRI 102-28**

The average tenure of the current members in the board, as of December 31, 2018, was 5.7 years.

Independent members of the board are considered as such since the date they start their role as members of the board, except for Claudia Jiménez Jaramillo, who became an independent member on January 26, 2017. Independence is achieved by:

- Not holding an executive position at EPM or its affiliated companies. **Código País 33.3 – ii. d); GRI 102-22**
- Not having been employed by EPM for an executive position over the last five years.
- Not being related to any of the members of the senior management.
- Not having relationship with companies providing consultancy or advisory services to EPM.
- Not having signed contracts with EPM to provide personal services.

- Not being linked to a non-profit organization that receives significant contributions from EPM.
- Not having been a partner or an employee of the external audit firm of EPM over the past three years.

The members of the board of directors are subject to the system of disqualifications and incompatibilities established by the law.

The delegation of duties at EPM must be previously authorized through a decree by the board of directors. Regarding procurement, the board of directors is responsible for issuing the general rules and indicating the amounts within which the CEO can delegate the powers to award and enter into contracts.

GRI 102-19

Quorum of the board of directors **Código País 33.3 – ii. i)**

The deliberative quorum for the meetings of the board of directors is formed with the majority of its members.

The decision-making quorum corresponds to the majority of those present at the respective session. For decision-making purposes, each member of the board has a vote.

Management of the board of directors



Board of Directors of EPM. Standing from left to right: Javier Genaro Gutiérrez Pemberthy, Andrés Bernal Correa, Federico Gutiérrez Zuluaga (mayor of Medellín, chairman of the board of directors), Gabriel Ricardo Maya Maya, and Carlos Raúl Yepes Jiménez. Sitting from left to right: Alberto Arroyave Lema, Claudia Jiménez Jaramillo, Elena Rico Villegas, and Manuel Santiago Mejía Correa.

In accordance with the rules of procedure of the board of directors, the following are the main duties of the chairman:

GRI 102-26

- Freely appoint and remove members of the board.
- Make sure that the board of directors efficiently sets and implements the strategic planning of the company.
- Coordinate and plan its functioning by means of an annual work plan.
- Ensure the execution of agreements, the exercise of responsibilities, and the active participation of all the members of the board.
- Lead the process of assessment of the board and its committees.
- Promote active coordination between the company and the issues of interest for the city of Medellín, in compliance with the provisions of the relations framework agreement, and ensure compliance with the rules of the board of directors. **Código País 33.3 – ii. k); GRI 102-23**

The secretary of the board, who, according to the bylaws of the company, is, in turn, the secretary-general of EPM, has the following duties:

- Call the meetings.
- Duly process the requests of the board.
- Prepare the minutes of the board of directors and sign them jointly with the chairman.
- Ensure preservation of the documents of the board and legality of their actions.
- Define the procedure to effectively develop the meetings of the board of directors.

Código País 33.3 – ii. l)

Important actions of the board of directors in 2018

- Definition of a new strategic direction of the company and adjustment of the corporate risk map, within which five focuses were established: (i) recovery of the Ituango project, (ii) obtaining of sources of liquidity, (iii) profitability of the businesses, especially generation and distribution, (iv) growth with vision for 2025, and (v) transformation of the organizational culture.
- Follow-up and control to the development of the necessary actions to overcome the Ituango project contingency.
- Authorization to start the necessary procedures to sell the shares in Interconexión Eléctrica S.A. (10.17%) and some non-material minority shareholdings in Colombia. In addition, the acquisition of certain non-material minority shareholdings owned by affiliated companies of the group was authorized, as well as the necessary transfer procedures once these shares are acquired.
- Approval to transfer the indirect shareholdings in the Chilean companies Aguas de Antofagasta S.A. (100%), through its affiliates EPM Chile S.A. and Inversiones y Asesorías South Water Services SpA., and in Parque Eólico Los Cururos Ltda. (100%), share of the company through its affiliates EPM Chile S.A. and EPM Inversiones S.A.
- Monitoring and control to the development of the Aguas Claras Wastewater Treatment Plant.
- Approval of the security policy, whose purpose is to contribute to the protection and integrity of the people, infrastructure, and reputation of the company, respecting human rights.

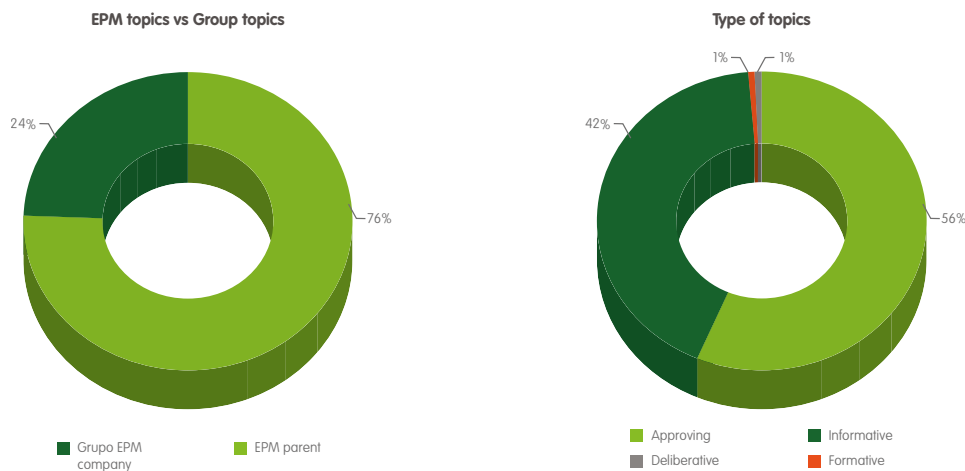
Código País 33.3 – ii. e)

- Support for the investment strategy in corporate entrepreneurship and innovation through private equity funds.
- Monitoring and support for the Unidos por el agua (United for water) program, and its structuring for it to continue after 2019.
- Approval to start the Unidos por el agua (United for water) program.
- Definition to work for the improvement of the provision of water services in the small towns of Medellín.
- The members of the board of directors attended training events on relevant topics such as cybersecurity, internal control system, and risk management in the public sector, among others.

Since August 2018, Mr. Luis Fernando Rico has provided his consultancy services to the board of directors for matters related to the Ituango project contingency.

Código País 33.3 – ii. n); GRI 102-27

The topics analyzed by the Board of Directors of EPM in 2018 were distributed according to the following graphs:



Management of the board of directors information **Código País 33.3 – ii. o)**

The management of the information related to the board is subject to the information management policy approved by the board of directors on December 2, 2014, with the purpose of ensuring its integrity, reliability, availability, transparency, and dissemination, and thus favor an adequate decision-making process that promotes corporate growth and sustainability. Additionally, it adheres to the currently applicable regulations and best practices on corporate governance.

The online IT solution, known as ARCA, operates through workflows and favors the management of the information of the Board of Directors of EPM and its committees. This solution was improved in 2018.

Attendance to the board of directors meetings **Código País 33.3 – ii. j)**

A total of 18 meetings of the board of directors were held during the year, with a total average attendance of 93%. The attendance by member of the board of directors is presented below.

| Attendance at the board of directors in 2018 | |
|---|---------------------------------|
| Name | Percentage of attendance |
| Federico Gutiérrez Zuluaga | 89% |
| Alberto Arroyave Lema | 100% |
| Andrés Bernal Correa | 89% |
| Claudia Jiménez Jaramillo | 83% |
| Elena Rico Villegas | 100% |
| Gabriel Ricardo Maya Maya | 100% |
| Javier Genaro Gutiérrez Pemberthy | 94% |
| Manuel Santiago Mejía Correa | 83% |
| Carlos Raúl Yepes Jiménez | 94% |

Management of the committees of the board of directors

The four committees of the Board of Directors of EPM analyzed the topics under their responsibility in line with the recommendations of Código País and with the legal and statutory functions which concern them. The committees are spaces designed with the purpose of ensuring efficiency in decision-making, through a detailed analysis of the topics before each meeting of the board of directors.

The external auditor of EPM is a permanent guest to the Audit Committee for his constant and periodic communication with the board of directors. **Código País 33.3 – ii. m)**

The committees are fully formed and chaired by the independent members of the board of directors, aligning the training and experience of its members with the definition and responsibility of each one of them.

GRI 102-18 102-26 102-30

| Committee | Activities | Composition |
|-------------------------|--|---|
| Audit | Supervision: internal audit, disclosure of financial information, external audit, internal control system, comprehensive risk management system, compliance, credit proposals, internal and external control entities, operations between related parties, intellectual property, and annual report on corporate governance. | Alberto Arroyave Lema, Andrés Bernal Correa Javier, Genaro Gutiérrez Pemberthy |
| Management | Monitoring of business management, corporate reputation, intellectual capital, ethics, business image, administrative structure, business and commercial development projects, appointments and remuneration, conflicts of interest, assessment of the directorate and senior management, and corporate governance. | Claudia Jiménez Jaramillo, Gabriel Ricardo Maya Maya, Carlos Raúl Yepes Jiménez |
| Strategy and Investment | Strategy; unity of purpose and direction; business policies; investments and new businesses; research, development, and innovation projects; corporate social responsibility; sustainability; environmental management, and engagement plans with stakeholders. | Elena Rico Villegas, Claudia Jiménez Jaramillo, Javier Genaro Gutiérrez Pemberthy |
| Project Monitoring | Monitoring of the design, execution, and evaluation of the projects prioritized by the board of directors, as well as their corresponding risk maps, BSC, and other control instruments. | Manuel Santiago Mejía Correa, Elena Rico Villegas, Gabriel Ricardo Maya Maya |

In August 2018, the board of directors made the decision to create, as part of the Project Monitoring Committee, the chapter to follow up on the Ituango project. **GRI 102-30**

The chapter to monitor the Ituango project has the specific objective of carrying out the follow-up and detailed analysis of the activities of recovery and continuity of the contingency. It is chaired by Javier Genaro Gutiérrez Pemberthy, has the external advice of Luis Fernando Rico Pinzón, and held 10 sessions during 2018.

GRI 102-22 102-34

Besides the members of the Project Monitoring Committee, those regularly attending at this committee include the representatives of the designers and the consultancy of the Ituango project (Integral), the constructors (CCC Consortium), the auditors (Ingetec), and Ana Catalina Ochoa Yepes, secretary of the Office of Planning of the Municipality of Medellín; the EPM Expert Board for the Ituango project also attends when required. **GRI 102-27**

Attendance at the committees of the board of directors **Código País 33.3 – ii. j)**

Attendance at the committees of the board of directors is above 90% in average, as follows:

| Member | Audit Committee | Strategy and Investment Committee | Project Monitoring Committee | Management Committee |
|---------------------------------|-----------------|-----------------------------------|------------------------------|----------------------|
| Claudia Jiménez J. | | 92% | | 100% |
| Elena Rico V. | | 100% | 100% | |
| Alberto Arroyave L. | 100% | | | |
| Andrés Bernal C. | 92% | | | |
| Carlos Raúl Yepes J. | | | | 100% |
| Gabriel Ricardo Maya M. | | | 100% | 100% |
| Javier Genaro Gutiérrez | 100% | 92% | 100% | |
| Manuel Santiago Mejía | | | 86% | |
| Total number of sessions | 12 | 12 | 21 | 11 |
| Total attendance (%) | 97% | 94% | 96% | 100% |
| 2017 | 88% | 93% | 83% | 87% |

Remuneration of the board of directors **Código País 33.3 – ii. h); GRI 102-36 102-37**

The remuneration paid to the members of the Board of Directors of EPM is defined through Decree 1165 of August 12, 2009 by the mayor of Medellín in three Colombian monthly minimum wages for the attendance at each session of the board of directors and the committees. **Código País 33.3 – ii. g); GRI 102-35**

At EPM, the members of the board of directors do not receive any kind of variable remuneration and the mayor of Medellín, as member of the board, receives no remuneration.

The amount paid for fees to members of the board of directors in 2018 is indicated below.

| Item | Amount paid in 2018 |
|--------------------------------------|---------------------------|
| Board of directors | COP 311,715,558.00 |
| Committees of the board of directors | COP 320,992,887.00 |
| Total paid in 2018 | COP 632,708,445.00 |

Assessment of the board of directors **Código País 33.3 – ii. q); GRI 102-28**

It refers to a comprehensive and periodic exercise of the board of directors to identify the quality and efficiency of this deliberative body's management and its opportunities for improvement. Based on the assessments carried out every period, a strengthening plan is designed with the purpose of improving the performance of the board and its committees, as well as the relationship with the management of EPM.

In accordance with the methodology established for the assessment of the board of directors, an internal assessment corresponded for the 2018 period; it was directed by the Corporate Governance Unit and included the self-assessment of the members of the board of directors and the assessment by the management.

The analysis focuses on six areas of assessment. (The maximum score is 5).

- Relationship of the board of directors with the company's management (4.23).
- Performance and effectiveness of the board of directors as a deliberative body (4.48).
- Dynamics and functioning of the board of directors (4.33).
- Role of the CEO (4.81).
- Role of the secretary of the board of directors (4.75).
- Self-assessment of the individual performance as a member of the board of directors (4.75).
- Management of the committees of the board of directors (4.70).

The results obtained from the assessment show that the board of directors has high levels of commitment to and responsibility for the organization and constitute the basis for the strengthening plan to be implemented in 2019.

Senior Management

GRI 102-20

The CEO is in charge of the management of EPM, its representation, and the management of its business; he has the powers to enter into or execute, without limitations other than those established in the bylaws, all the acts included in its purpose or that relate directly to its existence or functioning.

The CEO has a team of vice presidents who support him in his management. The high levels of experience, technical knowledge, and tenure in the exercise of the duties allowed the team to provide an efficient management to face the challenges of EPM in 2018, especially during the contingency of the Ituango hydroelectric project.

The Senior Management in EPM is composed of nine managers who report directly to the CEO of EPM; they perform functions that impact the entire group and are responsible for directing, planning, and verifying the fulfillment of the objectives, plans, and goals of EPM and the companies of the group.



Senior Management team. From left to right: Ana María González Gómez, VP of Corporate Communications and Relationships (i); Óscar Alberto Cano Castrillón, VP of Corporate Auditing; Jorge Andrés Tabares Ángel, EVP of Corporate Finance, Risk Management, and Investment; John Alberto Maya Salazar, EVP of Projects and Engineering (i); Alejandra Vanegas Valencia, VP of Shared Services and Supplies (i); Jorge Londoño De la Cuesta, CEO of Grupo EPM; Maritza Alzate Buitrago, VP of Legal Affairs and general secretary; Ricardo José Arango Restrepo, VP of Human Resources and Technology; Gabriel Jaime Betancourt Mesa, EVP of Strategy and Growth; Carlos Arturo Díaz Romero, EVP of Business Management (i).

The team of vice presidents supporting the management of Jorge Londoño De la Cuesta was modified twice during the year: from January 1, 2018, Óscar Alberto Cano Castrillón was appointed by the mayor of Medellín, pursuant to the provisions of Article 8 of Act 1474 of 2011, as vice president of Corporate Auditing; on December 4, 2018, Wilson Chinchilla Herrera submitted his resignation to the position of executive vice president of Projects and Engineering, a position held ad interim by John Alberto Maya Salazar, executive vice president of Business Management; and, in turn, Carlos Arturo Díaz Romero was appointed as executive vice president of Business Management in John Alberto Maya Salazar's replacement.

The managerial level positions that are vacant have been held ad interim by public servants of long career at the organization.

In the second semester of 2018, on the occasion of the Ituango hydroelectric project contingency, the company began a process of cultural transformation that constitutes a commitment to organizational innovation since it addresses the challenge from each individual's deep reflection, seeking to generate changes in their behavior that favor useful and constructive conversations in the organization, by enabling greater levels of openness, authenticity, communication, and collaboration. As part of the methodology, the company implemented "conversation circles" provided by an external consultant, with the participation of the CEO and his team.

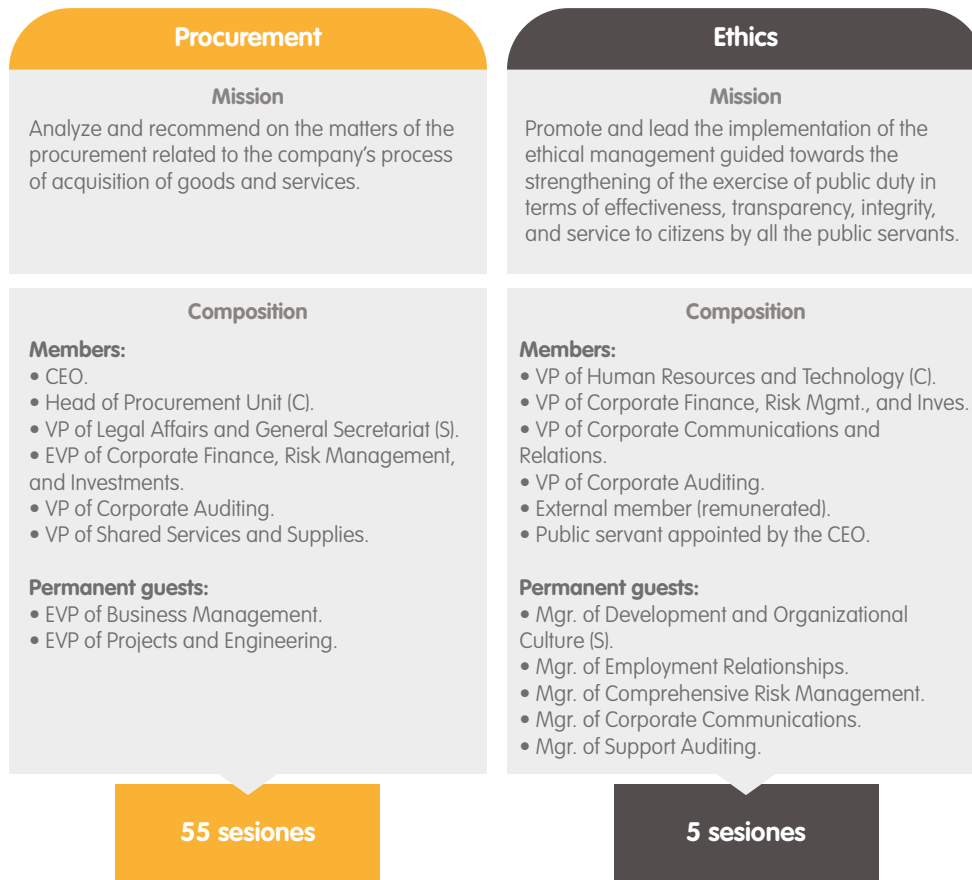
Performance of Senior Management **GRI 102-26**

By means of Decree 2198 of January 5, 2018, the EPM strategic committees were modified with the creation of the Corporate Core Committee, which is responsible for establishing the unity of purpose and direction of Grupo EPM, through the analysis, definition, and monitoring of the appropriate matters. This function was assumed by the Management Committee.

The separation of these two committees allows the Senior Management to independently manage the matters of the business group and the matters of EPM.

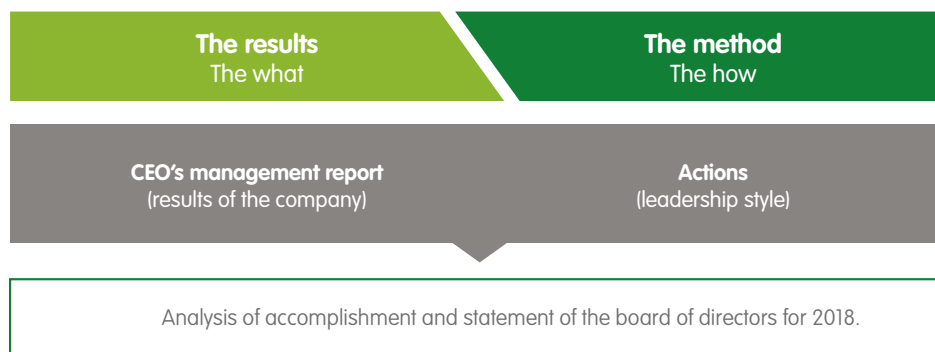
The following is the structure of the strategic committees and the number of sessions held during the year.





Assessment of the CEO **Código País 33.3 – ii. q); GRI 102-28**

The Board of Directors of EPM performs a systemic process that shows the achievements and challenges of the CEO's performance in terms of results and methods for obtaining them (the what and the how).



The result of this assessment is reflected in the statement made by the board of directors in the public accountability *(Annex 4: Statement by the Board of Directors of EPM on the performance of the CEO)*.

Remuneration of Senior Management **Código País 33.3 – ii. h); GRI 102-36**

As part of the human resources management policy, approved by the board of directors on December 7, 2010, the Vice Presidency of Human Resources and Technology issued on November 26, 2018, Guideline 36 that addresses three important issues related to the variable pay, the fixed pay, and the benefits for the employees of EPM.

The total remuneration of the Senior Management in 2018 was as follows:

| Remuneration of the Management of EPM | | | |
|---------------------------------------|---|---------------------------------|---------|
| Level | Position | Total payments received in 2018 | |
| | | Minimum | Maximum |
| CEO's Office | CEO. | 505 MMW | 505 MMW |
| Executive vice presidencies | EVP of Strategy and Growth. EVP of Corporate Finance, Risk Management, and Investments. EVP of Business Management. EVP of Projects and Engineering. | | |
| | First level vice presidencies | | |

Note: Payments include vacation, bonuses, and benefits.

- Ratio of annual total compensation for the highest-paid individual of the organization to the median of annual total compensation for all employees, excluding the highest-paid individual: **8.64 GRI 102-38**
- Ratio of percentage increase of the annual total compensation for the highest-paid individual of the organization to the median of percentage increase of the annual total compensation for all employees, excluding the highest-paid individual: **1 GRI 102-39**

Related party transactions

Since the implementation of the IFRS, in 2013, EPM adopted the definitions established by IAS 24 regarding related parties and established specific financial policies and guidelines in agreement with the applicable financial regulations.

The Governance Agreement and the relationships arising therefrom, as well as the annual statement of transfer prices, are articulated with the information published in the financial statements under IFRS as elements that delimit the operations with the related parties of Grupo EPM.

The transactions of EPM with its related parties are executed under conditions equivalent to those that exist in transactions between independent parties, in terms of their purpose and conditions. The description of the operations with the most relevant related parties, including the transactions between companies of the group, can be found in the financial report that is an integral part of the (annual) sustainability report of Grupo EPM.

During 2018, progress was made in the formulation of the project of Management and Disclosure of Transactions between Related Parties of Grupo EPM in accordance with the methodology established by the project bank, with the purpose of assessing the implementation of internal measures to strengthen the management of operations with related parties.

Conflicts of interest

Código País 33.3 - iii. c); GRI 102-25

Annex 8 of the Corporate Governance Code, "Manual of conflicts of interest and treatment of decisions of interest for the group," issued through Decree 390 of November 24, 2015, defines the procedure to manage conflicts of interest among the members of the board of directors. Additionally, it is indicated that when in doubt about the existence of a conflict of interest, the member of the board or committee is not exempted from avoiding his participation in the decision. When the conflict is of a permanent nature and prevents exercising duties independently, the board member must resign.

Código País 33.3 - iii. d); GRI 102-25

This manual regulates the differences that may arise between the parent company of Grupo EPM and the subsidiary companies, regarding the interest of the business group. The procedure refers to the Governance Agreement concluded between the companies of Grupo EPM, the shareholders' agreements entered into, and the governance model defined for each of the subsidiary companies. Moreover, it points out the corresponding actions, in each case, of the board of directors of the subsidiary company, the Management Committee of the parent company, and the board of directors with its respective committees. **Código País 33.3 - iii. a)**

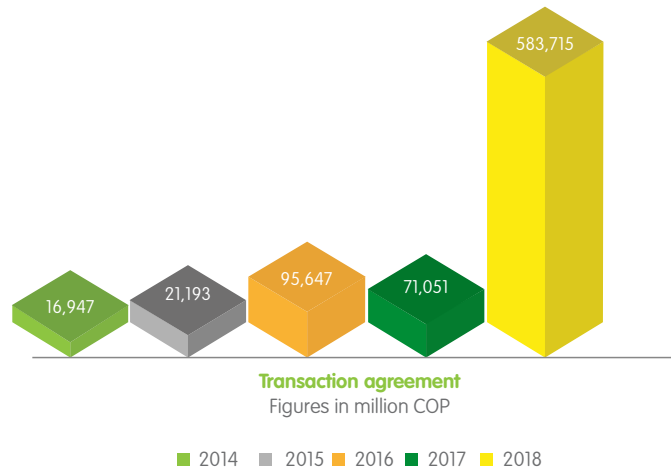
During 2018, the members of the board of directors had no conflicts of interest.

Governance Agreement

The **Governance Agreement** is a document that formally defines and delimits the relationships between the companies that make up Grupo EPM; it has favored the signing of different agreements to achieve the corporate objectives and group synergies as part of the unity of purpose and direction.

In 2018, ENSA Servicios, company based in Panama, joined this agreement.

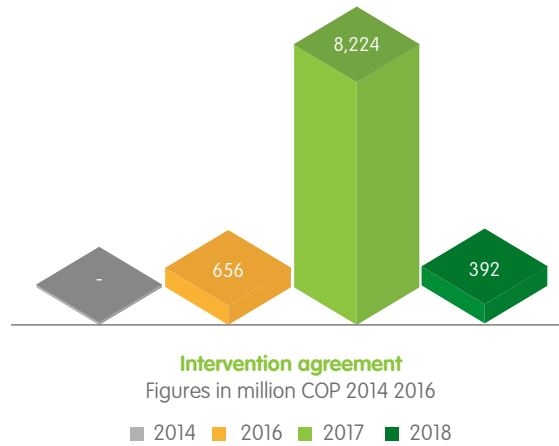
General report of the agreements signed as part of the Governance Agreement



Compared with the information disclosed at the end of 2017, it is reported that the historical data presented the following variations:

- There is an increase of COP 375 million in 2015, corresponding to modifications in two agreements signed with EDEQ and Emvarias.
- There is a decrease of COP 754 million in 2016, corresponding to modifications in five agreements signed with Emvarias, Ticsa, Fundación EPM, and CHEC.
- There is an increase of COP 24,104 million in 2017, corresponding to modifications or agreements created in said term, which were formalized in December 2017 or during 2018.

In 2018, there was an increase in the figures, mainly due to the sewerage interconnection contract amounting to COP 458,786 million signed with Aguas Nacionales, and the services of construction of works and supply, installation, and commissioning of the systems for the expansion of the San Fernando wastewater treatment plant signed with Ticsa for COP 104,296 million.



Regarding the historical data, there was a modification of COP 72 million in 2017, associated with the provision of financial services to the national water affiliated companies. Likewise, in 2018, the Service Center renewed the agreement with the national water affiliated companies for COP 392 million.

Ownership structure of Grupo EPM

Grupo EPM, whose parent company is EPM, provides public utilities in seven business lines: power generation, power transmission, power distribution, gas distribution, water supply, sanitation, and solid waste management. These services are provided in six countries of Latin America: Colombia, Chile, Panama, El Salvador, Guatemala, and Mexico.

At the end of 2018, the revenues of Grupo EPM amounted to COP 16.3 trillion.

Ownership capital and structure of Grupo EPM

Código País 33.3 – i. a); GRI 102-18

In 2018, there were no changes in the ownership structure of the group; however, the Board of Directors of EPM made a decision in relation to the transfer of the indirect shareholdings in the Chilean companies Aguas de Antofagasta S.A. and Parque Eólico Los Cururos Ltda.

The ownership structure of Grupo EPM is shown in Annex 5 of this report. *(Annex 5: Grupo EPM's shareholding structure).*

Shareholders' agreements in Grupo EPM

Código País 33.3 i. f)

The following table shows the shareholders' agreements signed by EPM, which are effective as of December 31, 2018.

| Company | Parties involved | Signature date | Summary |
|----------------------------|---|------------------|--|
| UNE EPM Telecomunicaciones | <ul style="list-style-type: none"> EPM. Millicom Spain S.L. Instituto de Deportes y Recreación de Medellín (Institute of Sports and Recreation of Medellín, abbreviated INDER in Spanish). | October 1, 2013. | Relationship and commitments between shareholders. It establishes the special majorities of the shareholders' meeting and the board of directors, gives EPM power to decide on issues of greater impact, and defines the right to leave. |

| Company | Parties involved | Signature date | Summary |
|--------------------------|---|--------------------------------------|---|
| Aguas Regionales EPM* | <ul style="list-style-type: none"> EPM. Antioquia Governor's Office. Municipality of Apartadó. Municipality of Chigorodó. Municipality of Mutatá. Municipality of Turbo. Municipality of Carepa. | December 1, 2006. | Conditions and framework for action for their participation as shareholders, taking into account the background and special considerations for the management and development of the regional water supply system which constitutes the corporate purpose of the company. |
| | <ul style="list-style-type: none"> EPM. Antioquia Governor's Office. Municipality of Santa Fe de Antioquia. Municipality of Sopetrán. Municipality of San Jerónimo. Municipality of Olaya. | December 19, 2007. | |
| | <ul style="list-style-type: none"> EPM. Antioquia Governor's Office. | December 2006 and December 27, 2007. | It ensures that decisions taken in the company represent the plural vote of EPM and the Antioquia Governor's Office. |
| Aguas de Malambo | <ul style="list-style-type: none"> EPM. Municipality of Malambo. Community action boards of Malambo. Municipal Institute of Sports. Hospital of Malambo. Institute of Culture of Malambo. | June 29, 2011. | Conditions and framework for action for their participation as shareholders, taking into account the background and special considerations for the management and development of the regional water supply system which constitutes the corporate purpose of each of these companies. |
| EV Alianza Energética ** | <ul style="list-style-type: none"> EPM Latam S.A. Proactiva Colombia S.A. | February 16, 2016. | It establishes the number of members of each shareholder to vote in the highest governing body of shareholders and in the highest administration and management body of the company. |

* Following the merger of Aguas de Urabá S.A. E.S.P. and Regional Occidente S.A. E.S.P. in 2015, the shareholders' agreements of each merged company are maintained.

** Company under liquidation.

Shareholders' meeting and engagement with partners

During the first quarter of 2018, ordinary meetings of the shareholders' meetings of all the companies of Grupo EPM were held, at which the Board of Directors and CEO Management Report as well as the year-end financial results were presented, and the board of directors for the March 2019 - March 2020 period was appointed. These meetings are the meeting space par excellence with the different partners of Grupo EPM.

Furthermore, and in order to strengthen the partners' trust, a site was created on the website of each affiliated company for this stakeholder, and the website content of each company was updated, standardized, and adjusted. With these measures, transparency of and access to information, as well as communication channels, were strengthened. **Código País 33.3 – v. b) y c)**

Management structure of Grupo EPM

The management of Grupo EPM is exercised through its governing bodies: General shareholders' meeting, board of directors, and general manager of each affiliated company. Such bodies must ensure the integration of each of the companies and the vision of the group.

Boards of directors of Grupo EPM

The composition of the boards of directors of the affiliated companies is in line with the engagement model established in the business group. Strategic factors, the specific situation of each company, the level of involvement of the affiliated company with EPM, and the knowledge of the executives of the company about the area where the affiliated company operates are taken into account.

The objective is to have administrative bodies that favor a coordinated decision-making process with effective instruments to develop the principles of corporate governance that govern Grupo EPM, framed in the purpose of generating value.

In this way, the boards of directors have internal members who are part of the management of EPM and do not receive additional remuneration for this role; they also have representatives of the partners that correspond mostly to territorial entities (departments and municipalities) where each affiliated company is located.

Attendance at the boards of directors of Grupo EPM

The average attendance of the main members belonging to the boards of Grupo EPM's companies is shown below by type of business:

Water, sanitation, and solid waste companies

| Water affiliates in Colombia | Average of attendance |
|------------------------------|-----------------------|
| Aguas Regionales | 78% |
| Aguas Nacionales | 86% |
| Aguas de Oriente | 42% |
| Aguas de Malambo | 77% |
| EPRio | 60% |
| Emvarias | 67% |

| Water affiliates in Latin America | Average of attendance |
|-----------------------------------|-----------------------|
| Ticsa | 87% |
| Adasa | 84% |

Power generation, distribution, transmission, and commercialization companies.

| Electrical energy affiliates in Colombia | Average of attendance |
|--|-----------------------|
| CENS | 67% |
| CHEC | 89% |
| EDEQ | 90% |
| ESSA | 100% |

| Electrical energy affiliates in Latin America | Average of attendance |
|---|-----------------------|
| ENSA | 79% |
| HET | 94% |
| DECA | 85% |
| Eegsa | 86% |
| Delsur | 81% |
| EPM Chile | 81% |
| EPM Transmisión Chile | 72% |

Assessment of the boards of directors of Grupo EPM

A methodology of unified assessment of the boards of directors of Grupo EPM is implemented on an annual basis since 2014. This is in order to learn accurate information on the management of the boards, the degree of compliance with the commitments that each of the members has assumed, and the value that their performance adds to the company.

The items assessed include the following:

1. Relationship of the board of directors with the company's management.
2. Performance and effectiveness of the board of directors as a deliberative body.
3. Roles of both the chairman and secretary of the board.
4. Individual performance as a member of the board of directors.
5. Level of discussion and in-depth coverage of the topics addressed by the board of directors **New**.
6. Interaction and parent-affiliates relationship **New**.

Additionally and in order to strengthen the assessments of the boards of directors and to adopt best practices on this matter, since 2017, the assessment from the management perspective was implemented, with the purpose of assessing the degree of alignment and interaction between the directorate (board of directors) and the management (senior management).

The table below summarizes the results of the self-assessment by item and by group of companies.

Water, sanitation, and solid waste companies

| Items assessed | Oriente | | Malambo | | Regionales | | Nacionales | | Emvarias | | EPRio | Ticsa | | Adasa | |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2018 | 2017 | 2018 | 2017 | 2018 |
| 1 Relationship of the board of directors with the company's management. | 87% ● | 78% ● | 83% ● | 88% ● | 83% ● | 84% ● | 87% ● | 88% ● | 77% ● | 81% ● | 83% ● | 85% ● | 91% ● | 94% ● | 90% ● |
| 2 Performance and effectiveness of the board of directors as a deliberative body. | 90% ● | 86% ● | 90% ● | 94% ● | 87% ● | 88% ● | 90% ● | 93% ● | 89% ● | 88% ● | 89% ● | 83% ● | 92% ● | 98% ● | 95% ● |
| 3 Roles of both the chairman and secretary of the board. | 88% ● | 95% ● | 91% ● | 99% ● | 92% ● | 93% ● | 88% ● | 85% ● | 91% ● | 86% ● | 95% ● | 91% ● | 97% ● | 97% ● | 99% ● |
| 4 Individual performance as a member of the board of directors. | 95% ● | 94% ● | 86% ● | 93% ● | 89% ● | 95% ● | 95% ● | 93% ● | 91% ● | 95% ● | 95% ● | 82% ● | 98% ● | 97% ● | 98% ● |
| Total average | 90% ● | 88% ● | 88% ● | 93% ● | 88% ● | 90% ● | 90% ● | 90% ● | 87% ● | 88% ● | 90% ● | 85% ● | 95% ● | 96% ● | 95% ● |

Approval levels

- Averages higher than 91%
- Averages between 84% and 91%
- Averages equal to or lower than 83%

The results obtained from the self-assessment changed positively. Substantial improvement is evident regarding the "individual performance as a member of the board of directors" item, since most of the companies stand out for their compliance with legal duties, confidential information protection, independence and objectiveness in decision-making, and compliance with the rules of procedure of the board of directors and the Corporate Governance Code. A common comment by the boards of directors of the water companies is the trouble with the allotted time for the meetings.

Power generation, distribution, transmission, and commercialization companies

| Items assessed | | CHEC | | EDEQ | | CENS | | ESSA | |
|----------------|---|------|------|------|------|------|------|------|------|
| | | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 |
| 1 | Relationship of the board of directors with the company's management. | 92% | 96% | 93% | 96% | 92% | 94% | 95% | 96% |
| 2 | Performance and effectiveness of the board of directors as a deliberative body. | 95% | 97% | 95% | 98% | 94% | 98% | 98% | 96% |
| 3 | Roles of both the chairman and secretary of the board. | 96% | 99% | 97% | 99% | 100% | 100% | 100% | 100% |
| 4 | Individual performance as a member of the board of directors. | 97% | 97% | 96% | 98% | 93% | 99% | 98% | 99% |
| Total average | | 95% | 97% | 95% | 97% | 95% | 98% | 98% | 98% |

| Items assessed | | DECA II | | Delsur | | ENSA | | HET | | EPM Chile | | EPM Transmisión Chile |
|----------------|---|---------|------|--------|------|------|------|------|------|-----------|------|-----------------------|
| | | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2018 |
| 1 | Relationship of the board of directors with the company's management. | 90% | 79% | 89% | 83% | 94% | 92% | 79% | 83% | 88% | 84% | 83% |
| 2 | Performance and effectiveness of the board of directors as a deliberative body. | 90% | 88% | 96% | 92% | 98% | 95% | 93% | 98% | 93% | 91% | 90% |
| 3 | Roles of both the chairman and secretary of the board. | 93% | 90% | 97% | 98% | 98% | 98% | 100% | 98% | 98% | 98% | 100% |
| 4 | Individual performance as a member of the board of directors. | 98% | 93% | 97% | 98% | 97% | 98% | 98% | 97% | 93% | 97% | 98% |
| Total average | | 93% | 87% | 95% | 93% | 97% | 96% | 93% | 94% | 93% | 92% | 93% |

Approval levels

● Averages higher than 91% ● Averages between 84% and 91% ● Averages equal to or lower than 83%

The boards of directors of the companies in the energy business in Colombia continue to be the ones with the best results in their self-assessment, which shows the synchrony and alignment of the expectations among the governing bodies.

Strengthening plan

Based on the results of the evaluation, each board of directors establishes a plan to strengthen its management and seek excellence.

This plan is agreed by the deliberative body and the monitoring of its implementation is part of the typical agenda of each affiliated company.

Remuneration of the boards of directors of the companies of Grupo EPM

Grupo EPM recognizes the attendance at the meetings of the board of directors and at the committees in the companies that have these spaces.

The public servants of EPM who act as members of the board of directors in the companies of Grupo EPM do not receive additional remuneration for this role. Furthermore, each shareholders' meeting defines annually the amount to be paid to the external members and some partners (when applicable), as follows:

| Companies | Value per meeting |
|--|-------------------|
| Aguas Regionales | COP 1,106,575 |
| Adasa | 55 UF* |
| Ticsa | USD 800 |
| CHEC | COP 1,562,484 |
| ENSA | USD 2,000 |
| Eegsa | USD 1,600 |
| Delsur | USD 2,000 |
| *Unidad de Fomento (unit of account used in Chile) | |

Managers of Grupo EPM

Since 2014, the management team of Grupo EPM, made up of the vice presidents of EPM and the managers of the operating affiliated companies in Colombia and Latin America, led by the CEO of EPM, has met periodically with two main objectives:

- To create a shared vision of the group.
- To empower the leaders of the companies as leaders of the group.

In each of the meetings, a specific topic is addressed, which is aligned with the strategic moment of the group and which strengthens the unity of purpose and direction.

In 2018, the Meeting of Executives was held on December 4 and 5. The topics addressed were:

- The Ituango hydroelectric project.
- The cultural transformation process.

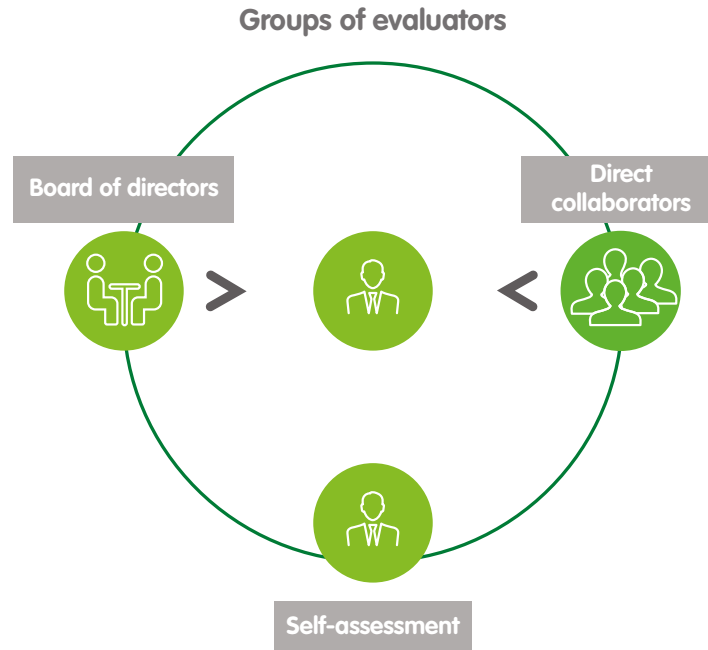


Team of managers of Grupo EPM and team of vice presidents of EPM.

Assessment of the managers of Grupo EPM

Just as the CEO and leader of Grupo EPM is assessed, the managers of the companies of the group are also assessed based on the quantitative results of their management (the what) and the way in which said results were obtained (the how). The assessment considers the results obtained from the Balanced Scorecard, as well as the coherence of the management style of each manager with the behaviors and actions that Grupo EPM has defined for its leaders.

EPM has a unified methodology that consists of a multisource tool for assessing the descriptors associated with ten organizational actions defined for Grupo EPM. The actions are behaviors that show the presence of the cultural features of the group, defined to enable its strategic planning.



The following are the organizational actions defined by Grupo EPM to evaluate the exercise of leadership by the managers of the affiliates:

- | | |
|-------------------------|---------------------|
| Ethical management | Service orientation |
| Create strategic vision | Development |
| Achieve results | Adaptability |
| Impact and influence | Innovation |
| Cultural sensitivity | Ability to learn |



Results and strengthening plans

The evaluation results are submitted to the February session of the board of directors of each affiliate. According to the feedback, each collegial body concludes whether the manager:

- Does not comply.
- Complies with the actions.
- Shows superior actions that allow him or her to be a role-model leader in the group.

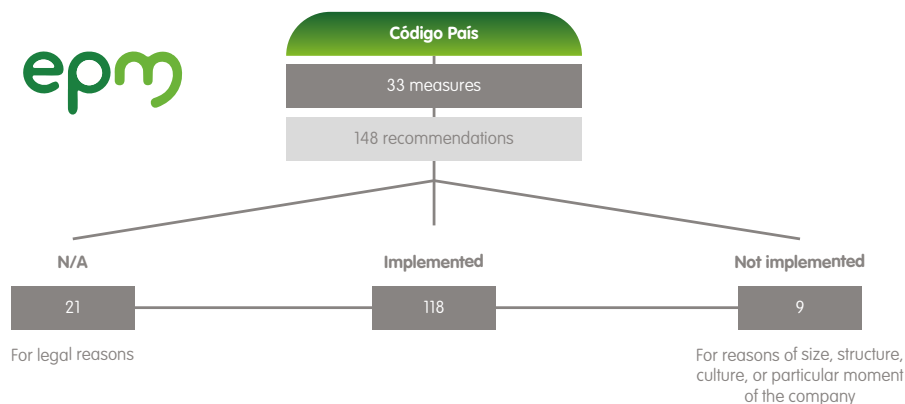
This evaluation is part of each manager's goals and is known as the management style indicator; in cases where the company has variable pay, it represents a significant factor for its annual bonus.

From this evaluation exercise, a strengthening plan is defined for the manager as well as a public statement about his or her performance, which is part of the annual management report of the corresponding company.

Corporate governance assessments

Código País

EPM submitted the 2018 Código País survey within the term established by the Financial Superintendence of Colombia, which explains the corporate governance practices adopted and applied during the period between January 1 and December 31, 2018.



The report of this survey is published on the EPM website.

Dow Jones Sustainability Index

During 2018, improvement actions identified in the 2017 Dow Jones measurement results were implemented.

Transparencia por Colombia (Transparency for Colombia)

For more than 10 years EPM has participated voluntarily in the Business transparency assessment, public utilities chapter, promoted by Transparencia por Colombia Corporation.

The overall goal of the Business transparency assessment (abbreviated MTE in Spanish) is to improve transparency and anti-corruption standards. It is a tool that identifies institutional designs and practices that lead to corruption risks.

Specific goals:

- Monitor and evaluate transparency and anti-corruption mechanisms and policies.
- Generate particular recommendations on transparency and anti-corruption.
- Promote spaces for dialogue and exchange of good practices.

With a final score of 89.6 points on average, EPM ranks low in corruption risk.

In this way, it is possible to identify the extent to which policies and mechanisms have been improved to prevent this risk, to facilitate access to information, and to promote spaces for dialogue and participation with the different stakeholders.

Based on the results, an improvement plan will be defined to be executed in 2019. It is intended to close gaps, meet the established goals, and improve rating in the next measurement.

Relevant information

EPM is considered an issuer, since it participates in the Colombian public securities market through the issuance of bonds and commercial papers. Therefore, it is subject to timely notification on the market concerning relevant information arising in the course of its activities.

Furthermore, since it is a business group, the Financial Superintendence also requires the reporting of relevant information from its affiliates. In compliance with this requirement, Circular Letter 2018-CIR-1553 of October 10, 2018 was issued with detailed instructions and procedures, disclosed and accepted by all companies of Grupo EPM.

In addition, since 2013 EPM has received the Issuer Recognition -IR¹- granted by the Colombian Stock Exchange (BVC), given the importance that markets have sufficient and timely information for investment decisions. This promotes the adoption of best practices among issuers in terms of disclosure of information and investor relations (IR).

Credit risk rating

In view of the contingency that occurred in the Ituango Hydroelectric Project, and in order to maintain confidence, EPM continued its practice of informing credit risk rating firms, investors, and the financial market in general.

In 2018, EPM was able to maintain the level of international investment grade given by the rating agencies: Moody's Baa3 with negative outlook, and Fitch Ratings BBB, and national AAA.

In turn, the ratings granted definitively supported the financing strategy, which included loans of approximately USD 750 million with the international financial sector, and COP 1 trillion with local banks. Thus, liquidity risk was reduced.

Moreover, the energy affiliates in Colombia and Adasa in Chile performed positively by maintaining their AAA and AA ratings, respectively.

¹ https://www.bvc.com.co/pps/tibco/portalbvc/Home/Empresas/IR/Empresas_IR?action=dummy




Corporate governance planning

Monitoring of the 2018 Corporate Governance Plan

During 2018, a periodic monitoring was carried out regarding the fulfillment of the proposed activities, and improvements that facilitated their fulfillment were identified. Also, the management committee of the Board of Directors of EPM continued monitoring in August.

| N. | Emphasis / Plan matters | Fulfillment (%) 2018 |
|----|--|-------------------------|
| 1 | Strengthening of property management. | 85% |
| 2 | Strengthening of Grupo EPM's governance bodies. | 73% |
| 3 | Strengthening of the intra-group engagement. | 90% |
| 4 | Strengthening of the framework for action of governance and its relations. | 78% |

Legend

| | |
|---|--|
|  | Fulfillment equal to or greater than 90%. |
|  | Fulfillment between 75% and less than 90%. |
|  | Fulfillment below 75%. |

Achievements and progress in EPM

- Definition and implementation of the engagement plan with the owner.
- Evaluation and definition of the strengthening plan for the Board of Directors of EPM with the support of an external consultant.

Achievements and progress in Grupo EPM

- Definition and implementation of the engagement plan with partners.
- Updating of the regulations for the boards of directors of the international affiliates.
- Updating of the evaluation mechanism of the boards of directors of the affiliates (sessions and annual).
- Evaluation and definition of the strengthening plan for the boards of directors of the affiliates.
- Updating of the guide for the execution and management of minutes of the governance agreement.
- Strengthening of the group audit through definition and implementation of the audit plan.
- Strengthening of fulfillment management at group level through:
 - Updating of the code of business conduct with group scope.
 - Progress in the design and implementation of procedures for consultation and verification of public lists in ENSA, Eegsa, and Delsur.
 - Actions focused on the implementation of accountability guidelines in group's national affiliates.
 - Implementation of the transparency and conflict of interest statements tool in the affiliates ESSA, EDEQ, CENS, and EPRio.

2019 – 2022 Corporate Governance Plan

The 2019-2022 Corporate Governance Plan was designed based on a multi-source analysis that consolidates a long-term vision and includes Grupo EPM's initiatives to maintain constant evolution in the area of corporate governance.

Long-term plan Corporate governance model of Grupo EPM

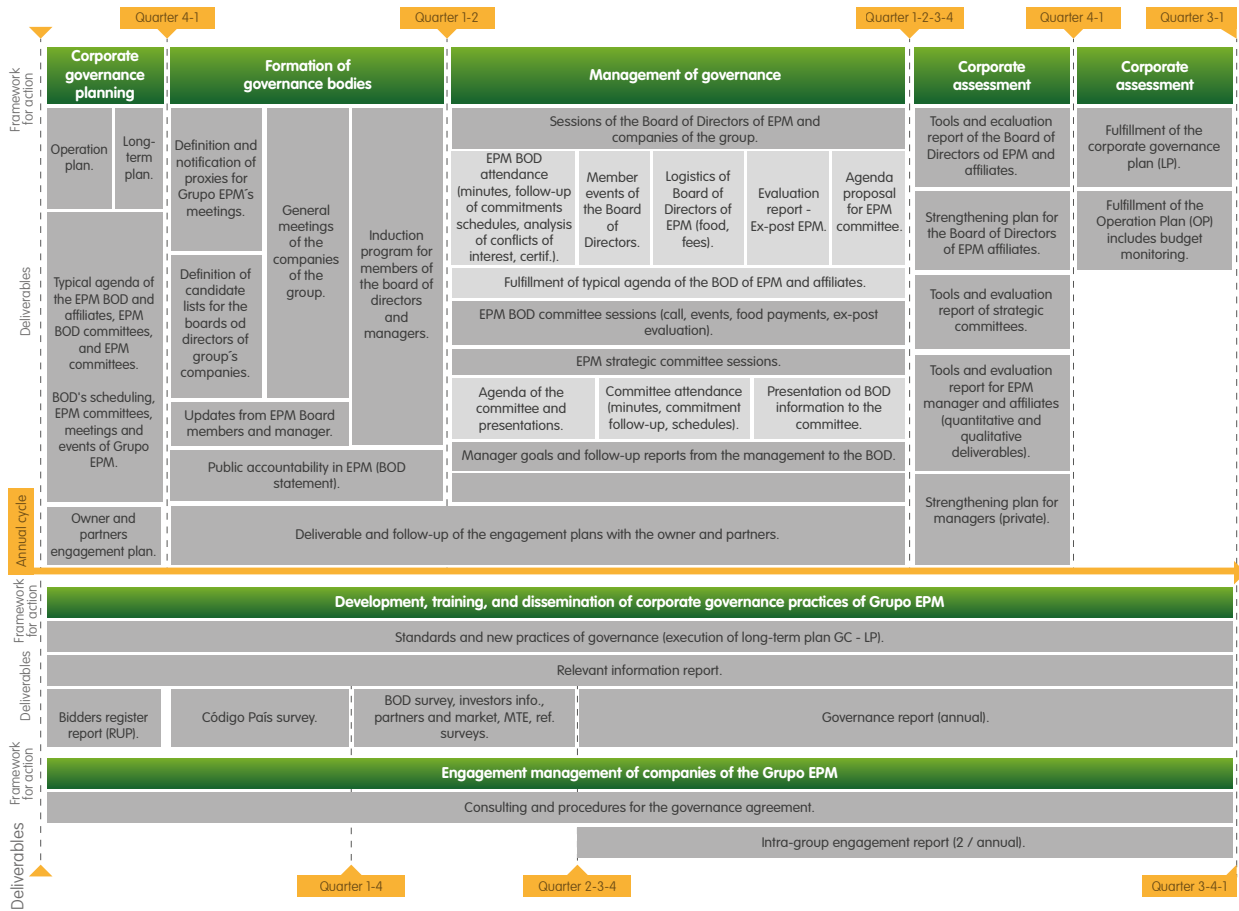


2019 Operation Plan of the Corporate Governance Unit

It consolidates the recurring deliverables of the annual corporate governance cycle, in accordance with the framework for action of Grupo EPM's governance model. (See Annex 1: governance bodies and framework for action). The outcome of the follow-up to the operation plan is detailed in this report.

Operation plan

Corporate governance model of Grupo EPM



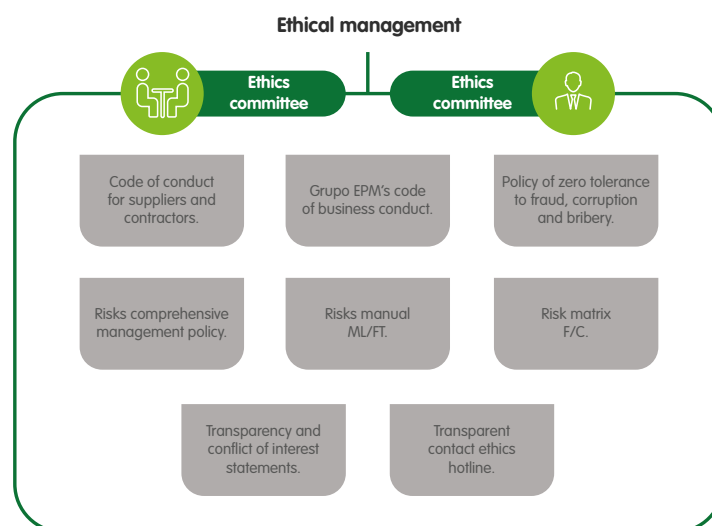
Accountability

Ethical management of Grupo EPM

GRI 102-17

EPM is aware of its role in the society in which it operates and to which it provides its services. Therefore, it has established social responsibility as the cross-cutting theme that guides its actions and strategy for optimizing operations and growth.

This responsibility becomes a reality in the performance of the human group that makes up the company, since each behavior we carry out reflects the principles of ethical action and values on which it is based.



Control environment of Grupo EPM

Its legal nature, its 100%-public capital, the economic sector in which it operates, and its condition as an issuer of securities are reasons why EPM is a company broadly supervised by internal control mechanisms regulated by law and external control bodies, as well as those that have been voluntarily adopted and have been implemented in the companies of the group.

The control environment allows the company to have policies, processes, procedures, activities, and information that ensure the unity of purpose and direction, and that they comply with the internal and external legal framework that regulates us; all of this intending to achieve the objectives and the BHAG of the group. It also allows cohesion between the companies that are part of it.



Corporate audit management

In 2018, 100% of the risk-based audit plan approved by the board of directors was implemented. It covers the processes with the highest level of risk and according to the prioritization criteria set based on the methodology.

949 audit assignments for assurance and consulting and management and development were implemented in Grupo EPM to assess mission, strategic, and support processes.

As a result of the audit work, improvement opportunities were identified that are managed by those responsible through the development of improvement plans and the verification of their fulfillment and effectiveness, in accordance with the monitoring carried out by the audit.

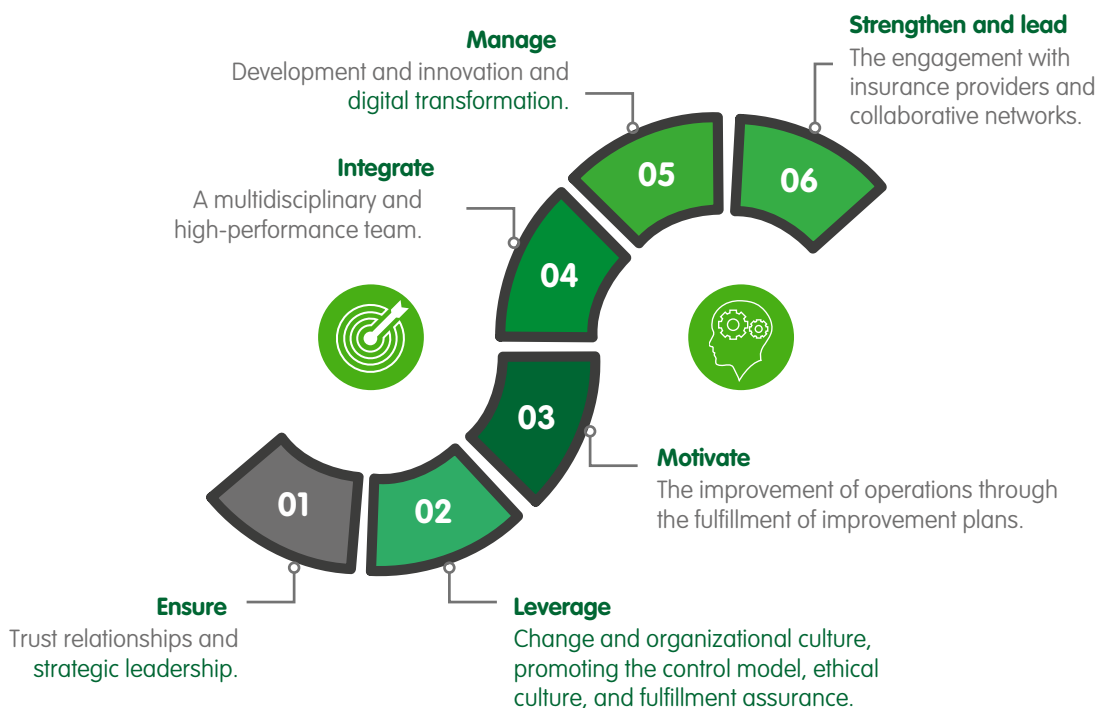
During 2018, the indicator for the formulation of improvement plans by audit work performed reached 91% in Grupo EPM.

In addition, as part of the corporate audit model whose purpose is to carry out assurance and consulting activities within the group, the following activities were performed:

- Definition and promotion of awareness-raising and communication plans in control culture, emphasizing the three lines of defense model and improvement plans.
- Support in the implementation of the group's ethical management elements.
- Quality assurance and improvement program (abbreviated PAMC in Spanish).
- Development of tools for data extraction and task automation.
- Consulting in the structuring of the Integrated Model of Planning and Management (abbreviated MIPG in Spanish).

Also, the audit team of EPM allocated 12% of the operating time to support the audit plan of the group's affiliated companies, as well as direct support in the audit management and development activities.

As a result of the strategic approach of the corporate audit for the 2018-2025 period, the strategic initiatives are framed within six management focuses:



External audit plan **Código País 29.12**

Due to its legal nature of state-owned industrial and commercial company, EPM is not required to have an external financial audit. As a good corporate governance practice and in order to fulfill the commitments that the company has with multilateral banks, EPM hired an external financial auditor. The audit scope includes the opinion on the financial statements, an annual evaluation of the company's internal accounting control system (which is relevant for the preparation and reasonable submission of the financial statements), an audit to the information reported to the CREG by the network operators and related to the expenses of administration, operation, and maintenance (AOM), and a specific audit to certify EPM's fulfillment of the commitments established in the legal stability contract, as well as the verification of the corporate environmental management index (abbreviated IGAE in Spanish), verification of the sustainability report, and the financial audit for the district cooling project.

As external financial auditor for the Grupo EPM, the private firm KPMG S.A.S., which is one of the four largest audit firms in the world, was selected for the second half of 2018.

| Contract | Purpose | Period (Start – End) | Payments in 2018 |
|-------------------------------|---|--------------------------|---------------------------------|
| CT-2013-000094-R4 Deloitte | EPM requests the contractor to provide the external audit services required by the company. | 01/01/2018 30/04/2018 | COP 558,714,375 (before VAT) |
| CRW 11756 KPMG | EPM requests the contractor to provide the external audit services required by the company. Addendum to the contract for the final report of the Aguas Claras Wastewater Treatment Plant project (Bello), under the 2120 OC-CO credit. | 01/05/2018 31/12/2018 | COP 840,333,333 (before VAT) |

The value of the tax audit contract is COP 1,380 million. The fees paid by EPM represent 0.91% of KPMG's total revenue from tax auditing activity.

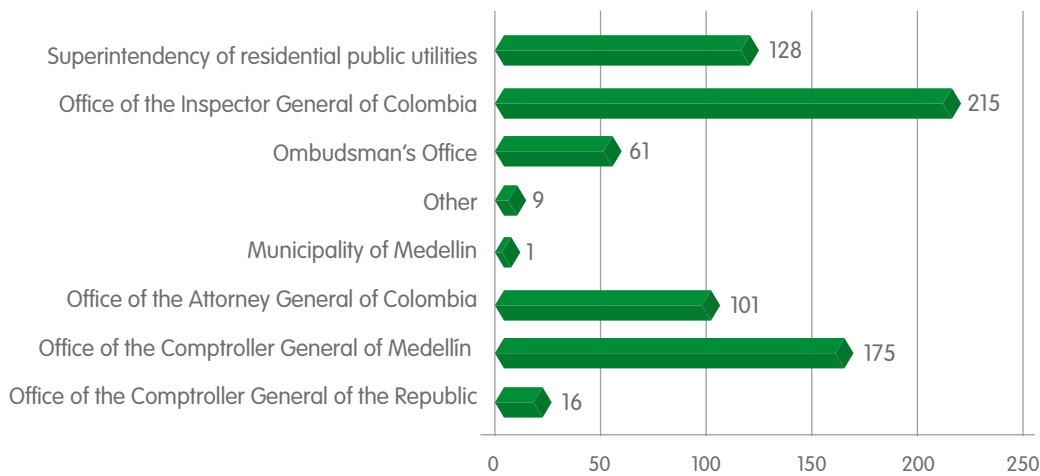
Insurance providers

The exercise of control carried out by the external insurance providers (control entities) to the companies that are part of Grupo EPM has its origin in the Colombian National Constitution. According to this fundamental law, the control objects are different for each entity; however, in practice, the control is materialized on the same projects, processes, issues, or topics.

External insurance providers are all public entities at the municipal, departmental, or national level that exercise tax, disciplinary, penal, or management control over each of the companies of Grupo EPM.

In compliance with its accountability to the different entities in charge of tax, disciplinary, and penal supervision, EPM received a total of 706 requests from external control entities in 2018, with an indicator of 100% of response.

Requirements received



Comprehensive risk management

Código País 33.3 – iv. b) c) d); GRI 102-26 102-29 GRI 102-30 102-31

The comprehensive risk management report is part of the sustainability report and can be consulted by [clicking here](#).

Internal control

The MIPG is a new reference framework for directing, planning, executing, monitoring, evaluating, and controlling the management of public entities and agencies in order to generate results that meet development plans and solve citizens' needs and problems, with integrity and quality of service, according to decrees 1499 and 648 of 2017 of the Administrative Department of Public Service (abbreviated DAFP in Spanish).

The responsibility for the MIPG in EPM lies with its legal representative (Decree 2198 of May 2, 2018). Its institutionality is represented by both the Institutional Committee of Management and Performance and the Institutional Committee of Control Coordination (Decree 2192 of January 5, 2018). **Código País 33.3 – iv. a)**

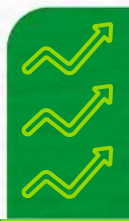


Compliance

GRI 102-17

The compliance report describes transparency practices, is part of the sustainability report, and can be consulted by [clicking here](#).

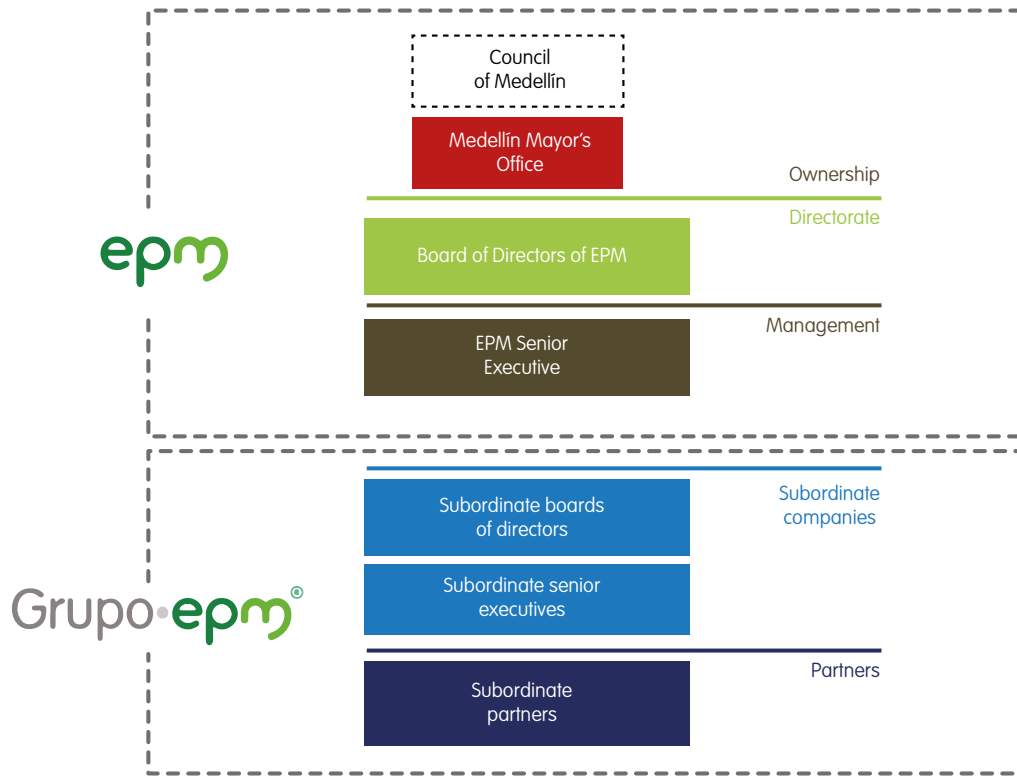




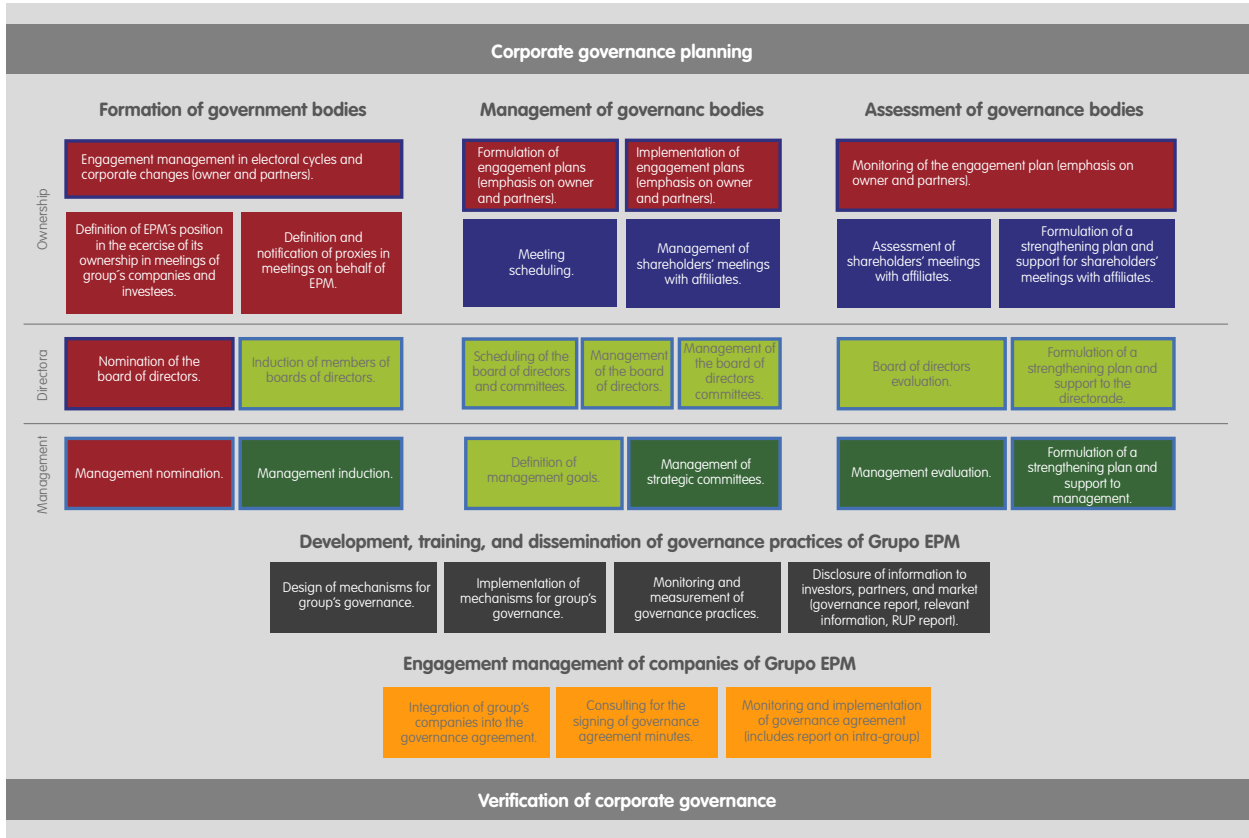
Annexes

Annex 1: Governance bodies and framework for action

Governance bodies



Marco de Actuación del Modelo de Gobierno del Grupo



Annex 2: Context on the Relations Framework Agreement

The Relations Framework Agreement², signed by EPM and the Municipality of Medellín in 2007, reflects the common goal of these two entities of creating conditions of business management that enable sustainability and creation of value for their stakeholders, but, especially, that make EPM a viable source of revenue for the city of Medellín.



² Link to the Relations Framework Agreement:

<https://www.epm.com.co/site/Portals/5/documentos/InformacionRelevante/1.%20Convenio%20marco%20de%20relaciones.pdf>

Annex 3: Board of directors' profiles

GRI 102-18

| Profiles of the members of the board of directors | | | | | | | | | |
|--|--------------------|---------------|-----------------|-------------------------|-----------------------|------------------|------------|----------------------|-------------------|
| Education and experience / Board's member | Federico Gutiérrez | Andrés Bernal | Claudia Jiménez | Javier Genaro Gutiérrez | Manuel Santiago Mejía | Alberto Arroyave | Elena Rico | Gabriel Ricardo Maya | Carlos Raúl Yepes |
| Business management with an emphasis on international business | | x | x | x | x | | x | | x |
| Financial management | | x | x | x | x | | x | | x |
| Management of residential public utilities or other EPM's corporate sectors, including urban development | x | | x | x | | x | x | x | |
| Ethics, sustainability, and corporate social responsibility | x | x | | x | x | | | | x |
| Public management or legal management | x | | x | x | x | x | x | x | x |

The "profile" concept is understood as the area of knowledge in which someone has training and experience.

Annex 4: Statement by the Board of Directors of EPM on the performance of the CEO

In its session held on March 26, 2019, the Board of Directors of EPM, in the performance of its duties for the strengthening of and the compliance with Corporate Governance practices, evaluated the performance of Jorge Londoño De la Cuesta, CEO of EPM and leader of Grupo EPM, considering the 2018 results described in its Management Report, as well as the assessment of the management style reflected in his actions, which are a proof of the organizational values in the fulfillment of the group's goals.


It is important to note that, except for the Mayor of Medellín, Federico Gutiérrez Zuluaga, the members exercise our functions with total autonomy before the management and the municipality of Medellín as the owner of the company.

We also highlight that EPM is and will continue to be a 100% public company at the service of all citizens.

The year 2018 brought enormous challenges due to the contingency of the Ituango Hydroelectric Project, a transcendental infrastructure work for Colombia, but also a regional development initiative that benefits 12 municipalities directly and over 160.000 people in its area of influence, not only through job generation, but through investments in institutional strengthening and the contribution to education, culture, residential public utilities and the strengthening of productive projects among communities, within the framework of the corporate social responsibility policy. With an optimistic attitude and immense gratitude for the support from so many people and institutions, we can affirm that we are making progress in the recovery of the project and committed to providing the country with the electrical energy that it requires for its development.

The board of directors recognizes not only the company's excellent financial and operational performance under the direction of Jorge Londoño De La Cuesta, but also its leadership capacity in facing the toughest year in the company's history, demonstrating a great balance and an exemplary integrity to address complex situations in a calm manner and transmitting peace of mind to the teams. His determination, dedication, commitment, and responsibility, added to his enormous hard work, have allowed him as a human being and professional to keep going without giving up, despite the adversities on all fronts. His exceptional human qualities are undoubtedly a hallmark that will forever mark the history of this institution.

In particular, we want to highlight how Jorge Londoño has handled the contingency of the Ituango Hydroelectric Project. He has always been present in every situation that has required attention and has permanently support the internal and external teams, with ability and determination to make difficult and risky decisions, attentive to respond to all the requirements from various organisms and interested people, and with a transparent, effective, and accessible information to every audience, prioritizing always the life of the people, the environment, and the project. Today, thanks to the work of our CEO and his team, we are optimistic about the definitive recovery of the project and the possibility of being able to meet the commitments we have acquired with Colombians.



Grupo EPM is an example of perseverance in its business purpose and a symbol of strength and leadership supported by principles and values. It has a history that has allowed it to overcome different situations, strengthen its spirit, and make its organizational culture evolve, seeking to remain in time and grow through sustainability criteria. The presence of Grupo EPM in Antioquia, in several regions of Colombia, and in different Latin American countries represents the materialization of a business strategy with a long-term vision, which has contributed to maintaining its financial strength and to the development of the territories where it operates, by generating well-being, opportunities for people, and improving their quality of life.


Among the main financial results obtained through its businesses and affiliate companies, the group achieved revenues amounting to COP 16.3 trillion, with a 9% increase compared to the previous year; an EBITDA amounting to COP 5.1 trillion, 8% higher than that of 2017; and a period result of COP 2.4 trillion, which means an increase of 4% compared to 2017. These results, in general terms, are in line with and, in some cases, exceed the goals proposed for 2018. In turn, the parent company, EPM, achieved revenues amounting to COP 8.2 trillion, with a 10% increase compared to the previous year; an EBITDA amounting to COP 3.3 trillion, 7% higher than that of 2017; and a net profit of COP 2.3 trillion, which means an increase of 7%, results that continue to grow and exceed the goal we set for 2018.

During 2018, EPM made, to its owner, the municipality of Medellín, transfers framed within the principle of sustainability, so that they are used for social investment and the payment of public lighting, in accordance with the provisions of Agreement 069 of 1997. These transfers amounted to COP 1.5 trillion.

Grupo EPM has a positive impact reflected in the generation of economic added value amounting to COP 8.6 trillion, which is distributed as follows:

- Reinvestment in company 26%
- Owner 17%
- Goods and services suppliers 17%
- Grupo EPM people 16%
- Financial suppliers 14%
- State 6%
- Community and environment 2%

The previous results have been obtained within the framework of some categories known as “4C+1G” (closeness, coverage, consolidation, care for the environment, and growth) around which the CEO will report on his management. The regional initiatives, in Urabá and Eastern Antioquia; the achievements related to the Unidos por el agua (United for water) program in Medellín, which closed the year with a total of 23,068 homes connected to the water supply and sewerage services; and various initiatives implemented by the national affiliates, which improve the universalization of public utilities, stand out. We also highlight the accumulated results in the protection of watersheds, which have exceeded the goals set; the progress made in the Sanitation and Wastewater Management Plan in Medellín; and initiatives to promote sustainable mobility. All these initiatives reaffirm our commitment to the city, the department, and the country. Moreover, part of the results include a huge effort to save costs and expenses, austerity in the operation of the entity, and some shifts in non-strategic investments for the near future.



In the second half of 2018, an adjustment was made to the group's strategic planning, in which the following aspects were prioritized:

1. Recovering the Ituango hydroelectric project.
2. Obtaining sources of liquidity.
3. Making businesses profitable.
4. Growing based on the initiatives within the framework of the prospective 2025 vision exercise.
5. Contributing significantly to evolution of the organizational culture.

The board of directors and the management team, headed by the CEO, will work together during 2019 to achieve a sound result in the main future challenges of Grupo EPM, both in terms of the recovery of the Ituango Hydroelectric Project, in the continuity of important social projects such as the Unidos por el agua (United for water) and the Unidos por el gas (United for natural gas), as well as in the other focal points of its strategic planning. This will be done following a path that will be marked by innovation, digital transformation, the development of power generation projects from non-conventional renewable sources, new models, and additional services to offer solutions for homes and businesses. These initiatives will lead to efficiency in the operation and synergy between the different businesses, among others, thus strengthening the performance as a business group.

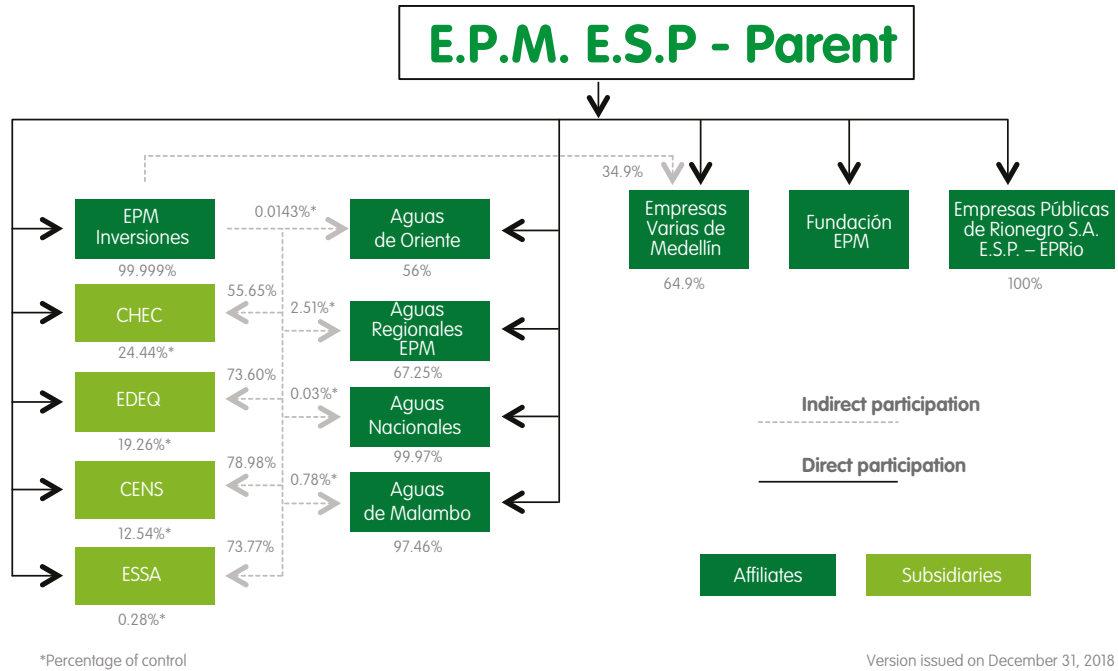
Receive, Mr. Londoño, on behalf of the board of directors, our most sincere congratulations and our gratitude for the work you and your team do.

Signed

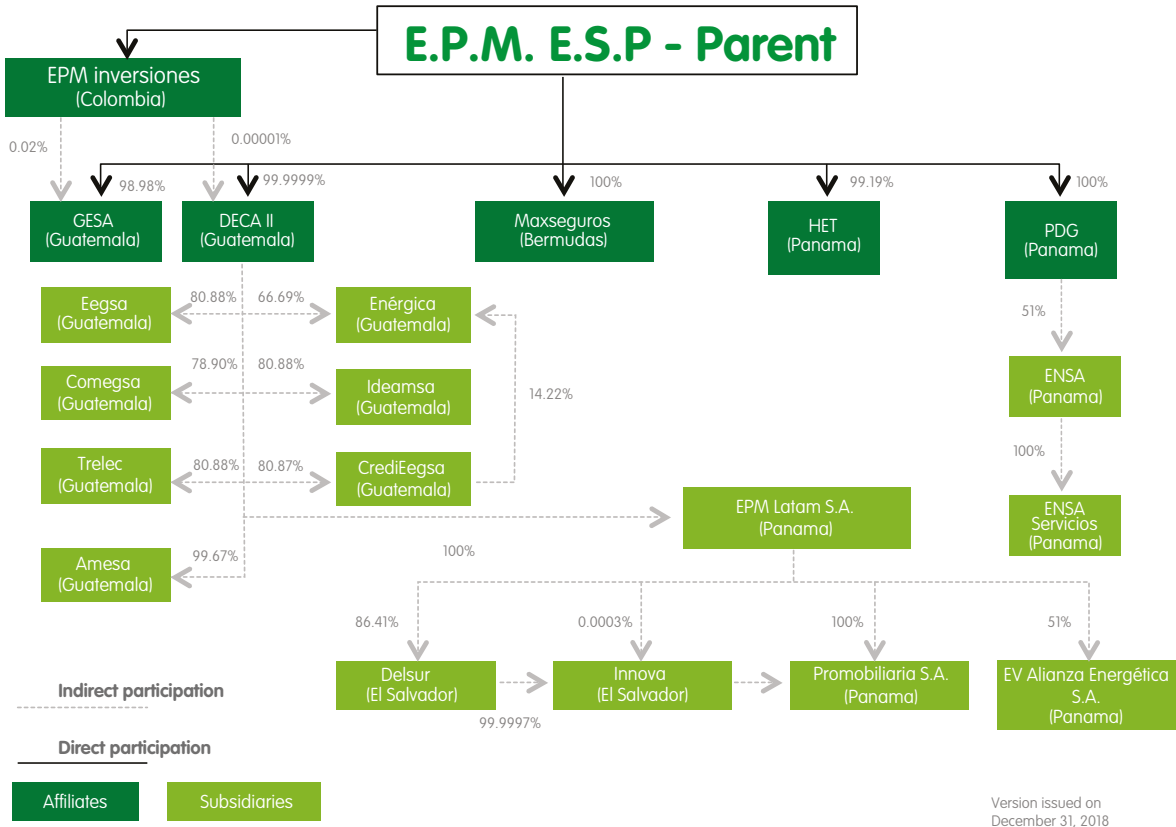
Claudia Jiménez Jaramillo
Chairwoman of the Management
Committee from Board of
Directors of EPM

Annex 5: Grupo EPM's shareholding structure

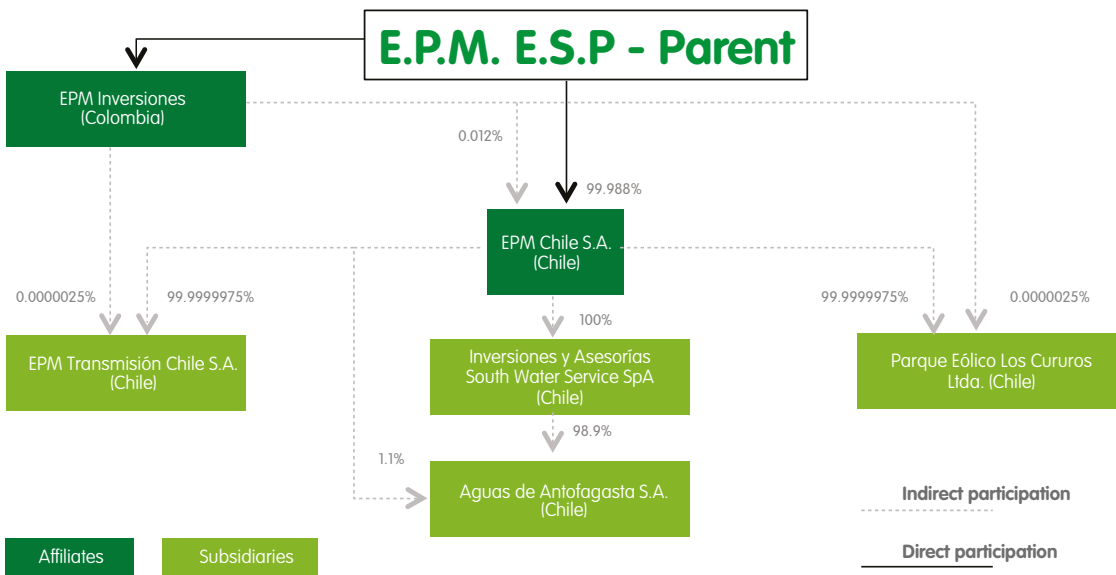
Affiliates and subsidiaries in Colombia



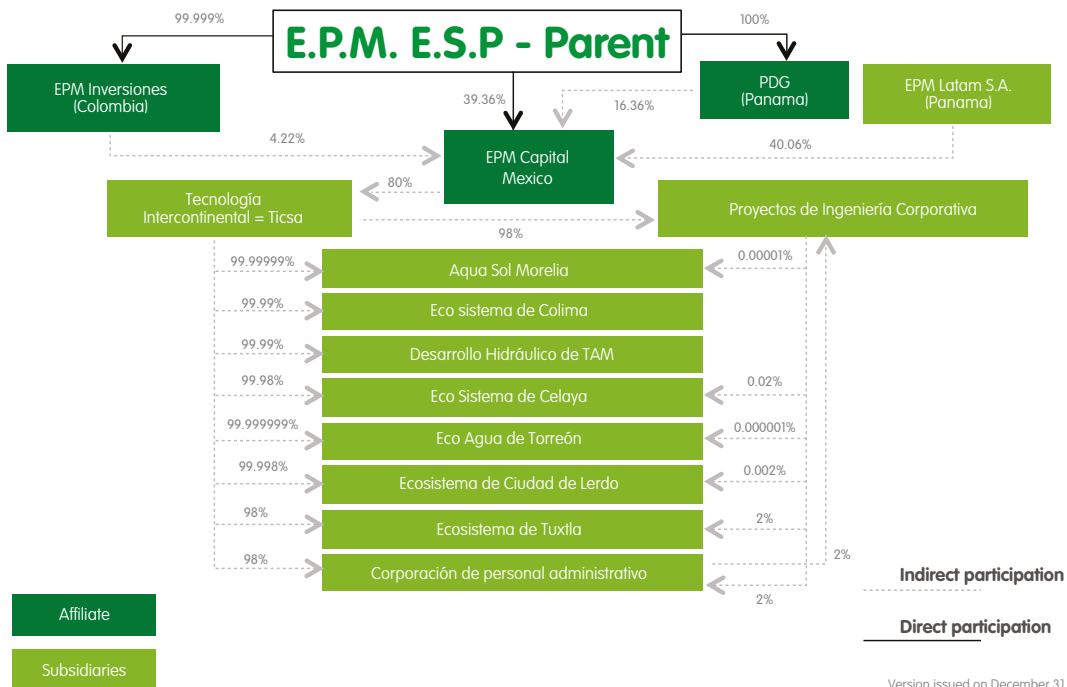
Affiliates and subsidiaries in Central America and the Caribbean



Affiliates and subsidiaries in Chile



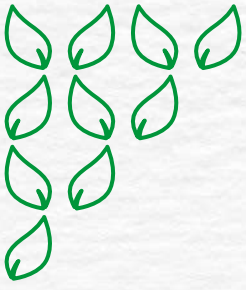
Affiliates and subsidiaries in Mexico



2018 Sustainability Report

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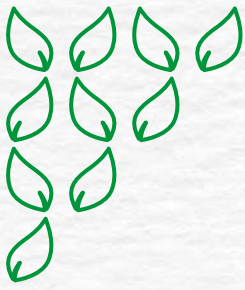
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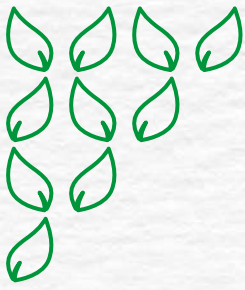
Social and
environmental
management



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General
information



Report profile

EPM and Grupo EPM publish every year the information on its work in terms of sustainability. Disclosure **GRI 102-52.**

This report provides information from January 1 to December 31, 2018. Disclosure **GRI 102-50.**

The report was published on the website in May 2018. Disclosure **GRI 102-51.**

This report has been prepared in accordance with the GRI Standards: Comprehensive option.

Disclosure **GRI 102-54**

This is the thirteenth EPM Sustainability Report prepared in accordance with the GRI methodology. See [Global Reporting Initiative Index – GRI](#)

This sustainability report corresponds to EPM and Grupo EPM. Their financial statements are included in the financial management. Social and environmental management contains information of the following companies of Grupo EPM:

Disclosure **102-45**

| Country | Company | Business |
|---|--|---|
| Colombia | Empresas Públicas de Medellín E.S.P. - EPM. | Water Sanitation Power generation Power transmission and distribution Gas |
| | Aguas Regionales EPM S.A. E.S.P. | Water |
| | Aguas Nacionales EPM. | |
| | Empresa de Aguas del Oriente Antioqueño S.A. E.S.P. | |
| | Empresas Públicas de Rionegro - EPRio. | |
| | Aguas de Malambo S.A. E.S.P. | Sanitation |
| | Empresas Varias de Medellín S.A. E.S.P. - Emvarias. | |
| | Central Hidroeléctrica de Caldas S.A. E.S.P. - CHEC. | Power generation Power transmission and distribution |
| | Electrificadora de Santander S.A. E.S.P. - ESSA. | |
| | Empresa de Energía del Quindío S.A. E.S.P. - EDEQ. | Power transmission and distribution |
| Centrales Eléctricas del Norte de Santander S.A. E.S.P. - CENS. | | |
| El Salvador | Distribuidora de Electricidad del Sur S.A. de C.V. - Delsur. | |
| Guatemala | Empresa Eléctrica de Guatemala S.A. - Eegsa. | |

| Country | Company | Business |
|---------|---|-------------------------------------|
| Chile | Aguas de Antofagasta S.A. - Adasa. | Water |
| | EPM Chile S.A. | Power generation |
| Panama | Hidroecológica del Teribe S.A. - HET. | |
| | Elektra Noreste S.A. - ENSA. | Power transmission and distribution |
| Mexico | Tecnología Intercontinental S.A.P.I. de C.V. - Ticsa. | Sanitation |

This report is in line with the Sustainable Development Goals (SDG), the Global Compact principles, the ISO 26000 standard, and the framework of the International Integrated Reporting Council (IIRC).

Evolution of the EPM Sustainability Report

| Concept | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------------|---|-------|--------|---------|--------|---|---|--|--|--|------|------|------|
| Scope | EPM | | | | | | | | EPM and affiliates in Colombia | EPM and Grupo EPM | | | |
| Content | Sustainability Report (social and environmental topics) | | | | | - Financial management - Social and environment management | - Financial management - Social and environmental management | - Financial management - Social and environmental management - Management of the CEO - Management of the board of directors - Corporate governance - Management in Medellín | - Financial management - Social and environmental management - Management of the CEO - Corporate governance Cross-cutting reports: - Review by the directorate - Management self-assessment | - Financial management - Social and environmental management - Management of the CEO - Corporate governance Cross-cutting reports: - Review by the directorate - Management self-assessment | | | |
| GRI methodology | 3.0 C | 3.0 B | 3.0 B+ | 3.1 B+ | 3.1 A+ | Comprehensive G4 | | | | GRI Standards Comprehensive option | | | |
| Assurance | Internal assurance | | | ICONTEC | | Deloitte | | | | KPMG | | | |

Evolution of the EPM Sustainability Report

| Concept | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-------------------------------------|------------------------|---------------------------|-------------------------|------|------------|----------|--|--------------|--|------|---|-------------|------|
| CoP Global Compact | Not applicable | | Basic | | | Advanced | | | | | | | |
| Systematization | Not applicable | | | | | Idsos | Idsos | | | | | Idsos Idsos | |
| | | | | | | | Sharepoint | Web platform | | | Analytics Standard forms | | |
| Publication | Printed (FSC Standard) | Printed on recycled paper | | | Multimedia | | Web | | | | | | |
| Alignment with external initiatives | Not applicable | | GRI Global Compact MDGs | | | | GRI Global Compact MDGs DJSI ISO 26000 | | GRI Global Compact CEO Water Mandate SDG DJSI ISO 26000 NTCGP 1000 Integrated report | | GRI Global Compact CEO Water Mandate SDG ISO 26000 NTCGP 1000 Integrated report | | |

The Sustainability Report includes the social and environmental management, the corporate governance management, the EPM's and Grupo EPM's financial management, and the CEO's management.

This information is annually reported to the stakeholders, the society in general, and other specific audiences through physical and virtual methods.

The contents of the report were reviewed and approved by directors of the company, and externally assured by KPMG, the firm that performs the external audit of EPM and the tax audit of the Grupo EPM's companies.

Disclosure 102-56 For more information, see: [External assurance of the report](#).

The preparation of the report is coordinated by the Sustainable Development Management, which is part of the Executive Vice Presidency of Strategy and Growth of EPM.

Contact Information: Disclosure 102-53

sostenibilidad.epm@epm.com.co

Phone number: (+57 4) 3802630.

EPM's headquarters address: Carrera 58 # 42 – 125. Medellín, Antioquia, Colombia.

Disclosure 102-3

GRI disclosures

102-3 Location of headquarters.

102-45 Entities included in the consolidated financial statements.

102-50 Reporting period.

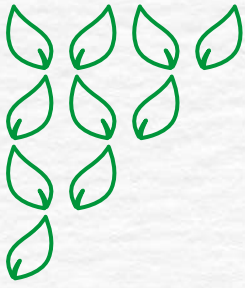
102-51 Date of most recent report.

102-52 Reporting cycle.

102-53 Contact point for questions regarding the report.

102-54 Claims of reporting in accordance with the GRI Standards.

102-56 External assurance.



Grupo·epm[®]



Relevant
sustainability topics
- Materiality

Relevant sustainability topics - Materiality

Materiality is the process that defines priority material or management topics for the sustainability of companies and society. In Grupo EPM, materiality contributes to strategic direction and planning and supports the work environment analysis, the comprehensive risk management, and the business plan through the definition of challenges.

Material topics are fundamental for managing the relationship with stakeholders and allow establishing the contribution of Grupo EPM to the Sustainable Development Goals.

The Sustainable Development Goals outline the thematic route for the Global Development Agenda, which crystallizes the company-society relation with which the materiality of Grupo EPM is articulated ([Sustainable Development Goals - SDG](#)).

Materiality is the process that defines priority material or management topics for the sustainability of companies and society. A new line of business leadership emerges when business objectives favor sustainable human development.

For Grupo EPM, materiality is based on the GRI Standards and on the stakeholder engagement model implemented in EPM since 2010¹, which is aligned with the principles of thoroughness, relevance, and response capacity of the AA1000 Standard.

The emphases of the material topics of Grupo EPM were identified, prioritized for each of the affiliated companies, and aligned with the Sustainable Development Goals and the actions of the business plans, as part of the update of the strategic thinking on sustainability with stakeholders carried out in 2018. Emphases are those aspects that guide the management of the material topics, according to the specific conditions in each territory.

This exercise made it possible to review the material topics. In consequence, the main adjustments are described below:

- *Unserved population* goes from being a material topic to an emphasis of the Access and purchasability topic.
- *Water care and Biodiversity* make up a new topic, Water and biodiversity, due to the interdependence between them.
- *Financial strength* arises as a new topic, which was suggested by stakeholders and found in the references of large organizations that include topics of the economic dimension in their materiality. This topic reflects the importance of the financial variable in sustainability.

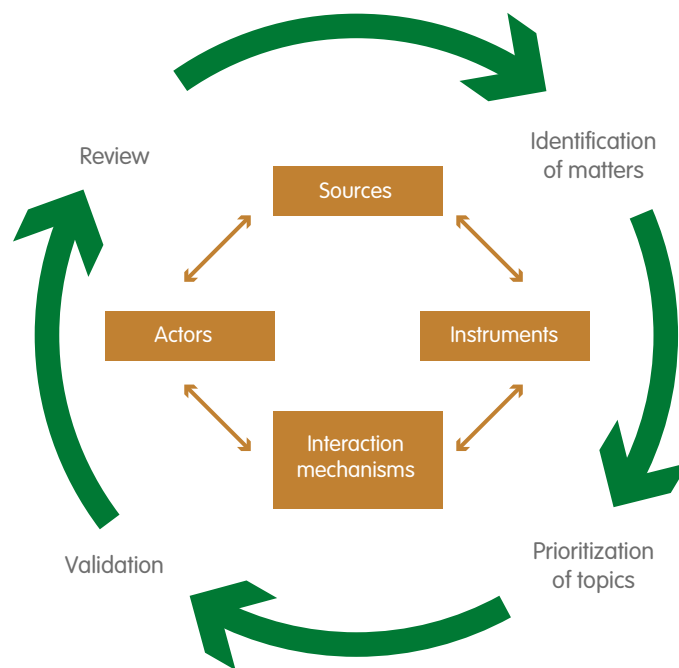
Disclosure 102-46

¹ The model is methodologically based on the *Practitioner's Handbook on Stakeholder Engagement*. AccountAbility Institute, UNEP, and Stakeholders Research Associates.

Material topics and their emphases – Grupo EPM

| Material topic | Emphasis |
|---|---|
| Access and purchasability | Public utility coverage in rural areas. |
| | Public utility coverage in urban areas. |
| | Unserved population. |
| | Migration from Venezuela. |
| Water and biodiversity | Areas of importance for water resources and environmental services. |
| | Prevention of pollution. |
| Quality and safety of products and services | Continuity of the service. |
| | Education for sustainable production and consumption. |
| | Legal and safe use of services. |
| Organizational climate | Adaptability. |
| | Organizational clarity. |
| Responsible procurement for local development | Procurement criteria. |
| | Generation of local capacities. |
| Human rights | Decent work in supply chain. |
| Nonconventional renewable energies | Offer of nonconventional renewable energies. |
| Climate strategy | Adaptation. |
| | Mitigation. |
| Financial strength | Engagement with the owner. |
| | Financial health. |
| Fees and prices | Education and communication of the factors that affect fees. |
| Transparency | Disclosure of information. |

Procedure for identifying the materiality of Grupo EPM



In 2018, the group identified the main challenges associated with the emphases of the material topics, which guide the management specific to each material topic in each territory.

Identification of matters

In the materiality procedure, matters are a large list of notable aspects related to sustainability. Material topics are obtained from the prioritization of the matters in that list.

In order to prepare the list of matters, the company resorted to the voices of the stakeholder groups by means of direct dialogs in some cases, and through studies on expectations, needs, satisfaction, or reputation, in other cases. Transactional interaction mechanisms, such as the ones for complaints and claims, were also used. The degree of the stakeholders' direct participation is heterogeneous because it corresponds to the engagement dynamic of each one of the group's affiliated companies that participated in the exercise, which are in different stages of evolution.

The voices of the stakeholder groups blended with the knowledge of the Grupo EPM people on their territories, and with their experiences in the day-to-day interaction through the diverse processes of the companies.

The matters identified were contrasted with strategic planning elements of Grupo EPM, as well as with relevant global sustainability matters, in order to incorporate them if they had not been identified in prior steps, provided that they were pertinent to the group's environment and strategy. For this purpose, the following sources were considered: the thematic areas and the Sustainable Development Goals of the 2030 Global Development Agenda, the 2010–2017 UNDP Human Development Reports, the international social responsibility standard ISO 26000, the Dow Jones Sustainability Index, sustainability reports of outstanding companies of the industry, events on topics related to climate and human rights, and the GRI document that contains sustainability topics by sector. In this way, the group implemented the principle of completeness proposed by the AA1000 APS and adopted in the EPM stakeholders engagement model.

The resulting list of matters and related actors was subjected to subsequent processes of refining, revision, discussion, and analysis, as well as to a shortlisting, based on potential economic, environmental, and social impacts for Grupo EPM and the society, at the discretion of people who have vast knowledge on the affiliated companies and the corporate core of Grupo EPM. This is how the principle of completeness of the engagement model was applied and the list of matters to prioritize was obtained.

Prioritization of topics

The prioritization was carried out with specialists of the organization following the prioritization criteria for material topics—an instrument designed by the company for estimating the social, economic, and environmental value potentially created or destroyed by each topic for Grupo EPM and its stakeholders. This is how the principle of relevance was applied.

The instrument favors the convergence of criteria. With the purpose of minimizing the possibility that matters with a high importance in one of the three assessed categories present a low total rating despite having deep repercussions for sustainability, an empirical contrast of the results is carried out by people who have the capacity to visualize the impact of the priority sustainability topics on Grupo EPM, its stakeholders, and the society in general.

For analyzing matters and topics, qualitative techniques were used and translated into numerical expressions that make it easier to understand, compare, and visualize certain features or trends, without forgetting that reality exceeds the limitations of the instruments trying to model it.

Prioritization criteria for material topics

| Relevance of the topics for Grupo EPM: impact or value of the topic for Grupo EPM. | Relevance of the topics for the stakeholders: impact and value of the topic for the Grupo EPM's stakeholders. | Management potential of the topic: possibilities or opportunities that the topic offers for its development. |
|---|---|---|
| It considers the strategic planning; the social, economic, and environmental aspects underlying Grupo EPM's policies; the capabilities of the companies; and the diverse time horizons. | It considers the expectations and needs of the stakeholders; the extent, scale, and urgency of the economic, social, or environmental impact; the closeness of the affected party; and the diverse time horizons. | It considers the status of the topic in the context, its development in the organization, and the mobilization of the stakeholders around it. |

The analysis of the management potential of the topic accounts for the application of the principle of responsiveness of the engagement model (the other two principles are completeness and relevance).

Validation

Disclosure 102-32

The Sustainable Development Management refines the final result with expert criteria. EPM's Executive Vice Presidency of Strategy and Growth is responsible for ensuring that the material topics identified are included in the Sustainability Report. The material topics are the axes upon which the departments, according to their functions, manage the engagement with each stakeholder group, both during businesses and other transversal processes.

The materiality results are communicated to the Strategic Corporate Planning and the business planning departments, in order to ensure articulation with the strategic planning and feed the context analysis, the comprehensive risk management, and the business plans.

In the Core Committee held on April 24, 2018, the highest decision-making body of Grupo EPM, the materiality of the group was approved, that is, the relevant topics in terms of sustainability for Grupo EPM and its stakeholders.

Review

The exercise described above was reviewed and validated in 2015 by the Management Committee of the Board of Directors of EPM and, in consequence, some adjustments were made to the material topics identified in 2014.

In 2017, the identification of emphases made it possible to review the material topics and included the perspective of some stakeholder groups such as customers and users, community, and suppliers and contractors, through dialogue for the companies in Colombia and through secondary information for the international affiliates included in the exercise.

In 2018, the 11 material topics of Grupo EPM were defined and approved: [Material topics](#)

Disclosure 102-47

Outsourcing, social control, and decent work are three matters that, despite their relevance for both Grupo EPM's companies and stakeholders, were not classified as material. However, they were reviewed as part of the emphasis identification exercise and will be managed as follows:

- **Outsourcing:** With the evolution and issuance of new labor regulations by the Ministry of Labor, Grupo EPM manages this topic and sticks to the new legal and procedural standards.
- **Social control:** The new perspective of public management has given special importance to citizen participation to exercise social control in the planning, management, and evaluation of public entities. That is why the national government requires public entities, pursuant to Decree 1499 of 2017, to implement an [Integrated Model of Planning and Management \(MIPG\)](#).
- **Decent work:** Decent work in the supply chain appears as an emphasis of the *Human rights* material topic. It aims at promoting respect for the human rights of the contractors' employees, in addition to establishing and strengthening the human rights grievance mechanisms for contractors' workers, in order to address incidents related to labor liabilities, employee welfare, child labor, discrimination, among others.

Several topics associated with decent work, specifically developed with Grupo EPM people, are reported in [Working environment](#).

Risks associated with material topics

In 2010, the engagement risks for EPM were identified. In 2014, the risk methodology for Grupo EPM was applied to the material topics. In 2015, the risks associated with each material topic were established.

In 2018, the group's risk map was reviewed due to the contingency in the Ituango hydroelectric project. The management of the material topics' emphases helps to minimize the effects of the group's risks, especially those related to stakeholders' trust. See [Comprehensive Risk Management](#).

Special analysis of materiality considering the contingency derived from the Ituango hydroelectric project

The results of the identification of emphases and updating of material topics were reviewed considering the conditions derived from the Ituango hydroelectric project.

The material topics approved by the Core Committee in April 2018 remain valid as a sustainability guide for Grupo EPM.

In addition, emphases were also analyzed to determine which ones can leverage sustainability to a greater degree, in the conditions derived from the contingency in the Ituango project. The following 11 emphases of special relevance were identified during the stage of overcoming the crisis. The material topic to which every emphasis belongs is also indicated.

High-priority topics by company

| | | |
|---|--|--|
|  Adaptability (Organizational climate). |  Adaptation (Climate strategy). |  Disclosure of information (Transparency). |
|  Areas of importance for water resources and environmental services (Water and biodiversity). |  Quality and continuity (Quality and safety of products and services). |  Human rights - Material topic. |
|  Education and communication of the factors that affect fees (Fees and prices). |  Offer of nonconventional renewable energies (Nonconventional renewable energies). |  Engagement with the owner (Financial strength). |
|  Financial health (Financial strength). |  Legal and safe use of services (Quality and safety of products and services). | |

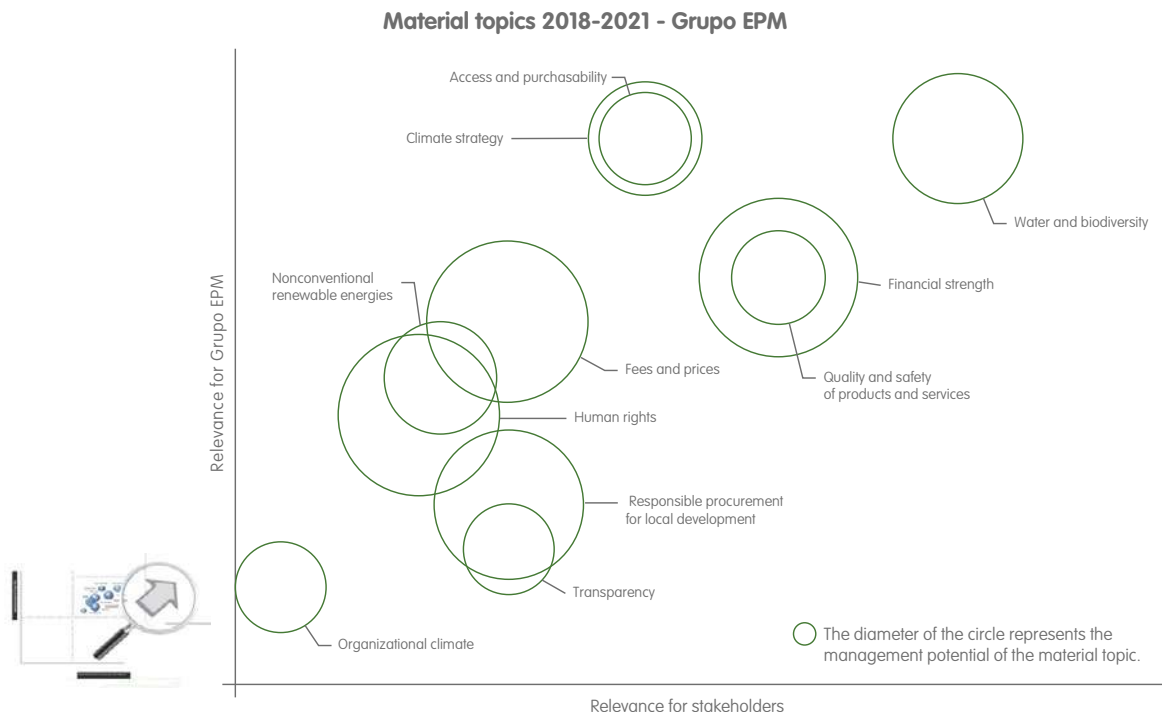
Scope of the Sustainability Report

The internal boundaries or materiality of the topics in relation to the diverse departments of the organization was analyzed for the whole group. In 2018, the emphases of each material topic were established by territory in the different companies of the group. For the management of these emphases, the most significant challenges were identified and they can be found in each of the [Material topics](#) in the Challenges section.

Materiality contributes to strategic direction and planning and supports the work environment analysis, the comprehensive risk management, and the business plan through the definition of challenges.

The material topics are the axes upon which the departments, according to their functions, manage the engagement with each stakeholder group, both during businesses and other transversal processes.

The external scope, that is, the materiality of the topic outside the organization, is expressed through the association between stakeholders and topics, which can be found at: [Stakeholder engagement](#), in the Stakeholders' topics and concerns section.



The position of the topics in the graph depends on their relevance for both Grupo EPM and the stakeholders, based on the prioritization criteria for the material topics.

Disclosure 103-1

Supplementary information within the Sustainability Report

The 2018 Sustainability Report includes supplementary information regarding sustainability matters not classified as material topics. The report on these matters is preserved because it constitutes information of interest and because it responds to diverse commitments related to initiatives or assessments in which Grupo EPM has willingly participated and for which public information is necessary. The Sustainability Report is the most suitable means to provide it.

Disclosure 102-49

Restatement and correction of data given in previous reports

The following are the adjustments made to the data reported in previous years. These changes were the result of improvements to the calculation methodologies or modifications to the information systems:

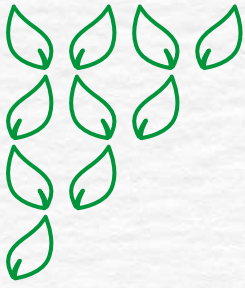
Disclosure 102-48

- The values reported in Stakeholder engagement and Our stakeholders, corresponding to 2016 and 2017, were restated in the Fourth Financial Statement.
- Likewise, in the historical records of the Fourth Financial Statement, the outlays related to Fundación EPM towards the Community and environment stakeholder group were reclassified for the following years:

| | |
|------|--------|
| 2018 | 15,025 |
| 2017 | 21,159 |
| 2016 | 19,700 |
| 2015 | 28,493 |
| 2014 | 23,593 |
| 2013 | 10,173 |

- Regarding Gas fees, the values for 2016 and 2017 were recalculated to be comparable with those reported in 2018 since, as of March 2018, the fee methodology was modified and new transitory charges were applied for all the relevant markets, except for the southeastern area of Antioquia (Guarne, Marinilla, Rionegro, and El Santuario).
- The number of people served in 2017 by means of the Habitable homes - Energy program was modified using the average factor of 3.1 inhabitants per home, taken from the Great Integrated Household Survey (abbreviated GEIH in Spanish) of the Housing and Household Area of the Colombian National Administrative Department of Statistics (DANE). As for the Gas service, the number of people served during 2017 was modified using the factor of 3.3 inhabitants per home.
- In Loss management, the commercial loss rate of Delsur, ESSA, CENS, and EDEQ was adjusted for 2017 due to recalculation of the indicator.
- In Quality and continuity of service, the SAIDI and SAIFI figures for 2017 were restated in national affiliates due to adjustments derived from regulations in this area.
- In Loss management, the commercial loss rate of Delsur, ESSA, CENS, and EDEQ was adjusted for 2017 due to recalculation of the indicator.
- In Quality and continuity of service, the SAIDI and SAIFI figures for 2017 were restated in national affiliates due to adjustments derived from regulations in this area.

- In Water and biodiversity, reporting criteria were standardized taking into account the changes in the GRI indicators related to water and effluents. Similarly, criteria for reporting on conservation of threatened species and impacted areas were also standardized. Finally, information of EPRio, HET, and Adasa was included and figures from previous years were adjusted in the following tables: Water supply, Use of water, Sources of effluents, Sources receiving effluents. The changes are due to mistakes when typing some figures or standardization of concepts.
- In Climate strategy, figures of previous years were adjusted in the following tables: Emission factor EPM, Emission factor SIN, Emissions inventory Grupo EPM (TCO₂e), Emissions inventory EPM (TCO₂e), SOx and NOx emissions Grupo EPM, SOx and NOx emissions EPM, Other emissions Grupo EPM, Other emissions EPM. The changes are the result of adjustments in the calculation methodology applied after the external assurance of the 2016 inventory.
- In Sustainable production and consumption, energy consumption was restated in MWh (until 2017 it was reported in GJ) and information of EPRio and Adasa was included. Figures of previous years were adjusted in the following tables: Internal energy consumption Grupo EPM, Energy consumption in the own vehicle fleet and stationary equipment Grupo EPM, Energy consumption in the own vehicle fleet and stationary equipment EPM, Energy consumption in the contracted vehicle fleet Grupo EPM, Energy consumption in the contracted vehicle fleet EPM, and Waste generated Grupo EPM. The changes are due to involuntary mistakes when typing figures.



Grupo·epm[®]



Communication
on Progress (CoP)
- Global Compact

Communication on Progress (CoP) - Global Compact

EPM manages the engagement with and commitment to its stakeholders according to the guidelines of the Practitioner's Handbook on Stakeholder Engagement, by UNEP, Accountability and Stakeholders Research Associates.

The company incorporates the ten principles of the United Nations Global Compact into a management of the commitments to its stakeholders that is immerse in its strategic and operative goals in the following way:

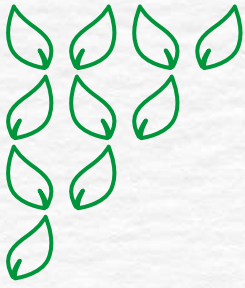
- **Human rights** management is associated with the following stakeholder groups: Suppliers and Contractors, Community, Customers and Users, and Grupo EPM People. The detailed report can be found in [Human rights](#).
- **Labor rights** management is associated with Grupo EPM people, and is reported in detail on [Organizational climate](#) and [Working environment](#).
- **Environmental management** details are reported in [Water and biodiversity](#), [Nonconventional renewable energies](#), [Climate strategy](#), and [Sustainable production and consumption](#).
- The management approach and the topics concerning **anti-corruption** are reported in [Transparency](#), [Transparency practices](#), and [Information for stakeholders](#).

The alignment of the EPM's social and environmental management topics with the Global Compact principles is described in [Global Compact](#).

EPM is willing to continue with its adherence to the Global Compact and with its participation in the activities of the Global Compact Network of Colombia and the Antioquia Node.

This report meets the requirements of the Communication on Progress to respond to the EPM's commitment to the Global Compact of informing on the disclosure and application of the principles in its strategy and operations.

See the Advanced Progress Communication Certificate of the Global Compact in [Communication on Progress \(CoP\) - Global Compact](#).



GRI content index

| GRI General Disclosures | | | | |
|---------------------------------|---------------------------|--|--|--------------------|
| GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | External assurance |
| GRI 102. General disclosures | 1. Organizational profile | 102-1 Name of the organization. | About us. | ✓ |
| | | 102-2 Activities, brands, products, and services. | | ✓ |
| | | 102-3 Location of headquarters. | Report profile. | ✓ |
| | | 102-4 Location of operations. | About us. | ✓ |
| | | 102-5 Ownership and legal form. | Control environment of Grupo EPM. | ✓ |
| | | 102-6 Markets served. | About us. | ✓ |
| | | 102-7 Scale of the organization. | About us Stakeholders: Grupo EPM people. | ✓ |
| | | 102-8 Information on employees and other workers. | Staff Purchasing and procurement The nature of the work performed by contractors corresponds to the operation, maintenance, and commercialization of the products and services offered by Grupo EPM. Omission: Neither the total number of employees by employment contract (permanent and temporary) broken down by gender and region, nor the total number of employees by employment type (full-time and part-time) broken down by gender are included in the report because the information is not available and is not considered necessary for management. | ✓ |
| | | 102-9 Supply chain. | Our supply chain. Topic: Responsible procurement for local development. Engagement with suppliers and contractors. Strengthening and development of suppliers. Purchasing and procurement. | ✓ |
| | | 102-10 Significant changes to the organization and its supply chain. | During 2018, there were no significant operational changes. | ✓ |
| | | 102-11 Precautionary principle or approach. | Precautionary principle. Climate strategy. Water and biodiversity. | ✓ |
| | | 102-12 External initiatives. | Water conservation. Fundación EPM. Commitment to external sustainability initiatives. Joint responsibility for the environment. | ✓ |

| GRI General Disclosures | | | | |
|------------------------------|-------------------------------|--|--|--------------------|
| GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | External assurance |
| GRI 102. General disclosures | 1. Organizational profile | 102-13 Membership of associations. | Commitment to external sustainability initiatives. | ✓ |
| | | EU1 Installed capacity broken down by primary energy source and by regulatory regime. | About us. | ✓ |
| | | EU2 Net energy output broken down by primary energy source and by regulatory regime. | | ✓ |
| | | EU3 Number of residential, industrial, institutional, and commercial customer accounts. | Stakeholders: Customers and users. Service coverage and expansion. | ✓ |
| | | EU4 Length of above and underground transmission and distribution lines. | Service coverage and expansion. About us. | ✓ ✓ |
| | | EU5 Allocation of CO ₂ emissions allowances or equivalent, broken down by carbon trading framework. | EPM does not operate in carbon trading markets. | ✓ |
| | 2. Strategy | 102-14 Statement from senior decision-maker. | Message from the CEO. | ✓ |
| | | 102-15 Key impacts, risks, and opportunities. | Challenges. Macro-trends. Comprehensive risk management. | ✓ |
| | 3. Ethics and integrity | 102-16 Values, principles, standards, and norms of behavior. | Corporate strategic planning. Transparency practices. | ✓ |
| | | 102-17 Mechanisms for advice and concerns about ethics. | Transparency practices. Control environment of Grupo EPM. | ✓ |
| | 4. Governance | 102-18 Governance structure. | Board of Directors of EPM: Management of the board of directors' committees. Capital and ownership structure of Grupo EPM. Annex 3: Board of directors' profiles. | ✓ |
| | | 102-19 Delegating authority. | Board of Directors of EPM: Composition of the board of directors. | ✓ |
| | | 102-20 Executive-level responsibility for economic, environmental, and social topics. | Senior management. The Sustainable Development Management, appointed to the Executive Vice Presidency of Strategy and Growth, has as primary function "to lead the planning process in terms of economic, human, social, and environmental sustainability, and ensure its development and alignment with the Grupo EPM business plan, so that value creation is viable for Grupo EPM and its stakeholders." | ✓ |

| GRI General Disclosures | | | | |
|------------------------------|--------------------|--|--|--------------------|
| GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | External assurance |
| GRI 102. General disclosures | 4. Governance | 102-21 Consulting stakeholders on economic, environmental, and social topics. | <u>Stakeholder engagement:</u> Dialogs with EPM's stakeholders. EPM's Sustainable Development Management coordinates the engagement model with stakeholders and reports on its performance to the senior management committees. The Vice Presidency of Corporate Communications and Relationships, along with the leaders of each stakeholder group, is responsible for materializing interaction and dialog. | ✓ |
| | | 102-22 Composition of the highest governance body and its committees. | Board of Directors of EPM: Composition of the board of directors and Management of the board of directors' committees. | ✓ |
| | | 102-23 Chair of the highest governance body. | Board of Directors of EPM: Management of the board of directors. | ✓ |
| | | 102-24 Nominating and selecting the highest governance body. | Board of Directors of EPM: Composition of the board of directors. | ✓ |
| | | 102-25 Conflicts of interest. | Conflicts of interest. | ✓ |
| | | 102-26 Role of highest governance body in setting purpose, values, and strategy. | The committees supporting the management and the board of directors are responsible for approving and updating the purpose, values, mission, strategies, policies, and goals: Board of Directors of EPM: Composition of the board of directors and Management of the board of directors' committees. Senior management: Senior management's performance. <u>Comprehensive risk management.</u> | ✓ |
| | | 102-27 Collective knowledge of highest governance body. | Board of Directors of EPM: Management of the board of directors' committees and Outstanding actions of the board of directors in 2018. | ✓ |
| | | 102-28 Evaluating the highest governance body's performance. | Assessment of the board of directors Senior management: Assessment of the CEO Board of Directors of EPM: Composition of the board of directors. | ✓ |
| | | 102-29 Identifying and managing economic, environmental, and social impacts. | The committees supporting the management and the board of directors are responsible for identifying and managing the impacts, risks, and opportunities. Board of Directors of EPM: Composition of the board of directors. <u>Comprehensive risk management.</u> | ✓ |
| | | 102-30 Effectiveness of risk management processes. | <u>Comprehensive risk management.</u> The Comprehensive Risk Management Unit, appointed to the Executive Vice Presidency of Corporate Finance, Risk Management, and Investment, is responsible for assessing the effectiveness of the risk management system. | ✓ |

| GRI General Disclosures | | | | |
|------------------------------|---------------------------|--|--|--------------------|
| GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | External assurance |
| GRI 102. General disclosures | 4. Governance | 102-31 Review of economic, environmental, and social topics. | Comprehensive risk management. | ✓ |
| | | 102-32 Highest governance body's role in sustainability reporting. | <u>Relevant sustainability topics - Materiality</u> , particularly in the validation stage. | ✓ |
| | | 102-33 Communicating critical concerns. | Comprehensive risk management. Board of Directors of EPM: Management of the board of directors' committees. | ✓ |
| | | 102-34 Nature and total number of critical concerns. | Senior management. Board of Directors of EPM: Management of the board of directors' committees. | ✓ |
| | | 102-35 Remuneration policies. | Senior management. Board of Directors of EPM: Management of the board of directors' committees. Senior management: Remuneration of the senior management. | ✓ |
| | | 102-36 Process for determining remuneration. | Board of Directors of EPM: Remuneration of the board of directors. | ✓ |
| | | 102-37 Stakeholders' involvement in remuneration. | Board of Directors of EPM: Remuneration of the board of directors. | ✓ |
| | | 102-38 Annual total compensation ratio. | Senior management: Remuneration of the senior management. | ✓ |
| | | 102-39 Percentage increase in annual total compensation ratio. | | ✓ |
| | 5. Stakeholder engagement | 102-40 List of stakeholder groups. | Identification of stakeholders. | ✓ |
| | | 102-41 Collective bargaining agreements. | Trade unions. | ✓ |
| | | 102-42 Identifying and selecting stakeholders. | Identification of stakeholders. | ✓ |
| | | 102-43 Approach to stakeholder engagement. | Stakeholder engagement. Information for stakeholders. | ✓ |
| | | 102-44 Key topics and concerns raised. | Topics raised by each stakeholder group during the material topics' emphases exercise are listed. They can be found in: Customers and users. Community. Suppliers and contractors. Grupo EPM people. Owner. Partners. Investors. Colleagues. State. | ✓ |

| GRI General Disclosures | | | | |
|------------------------------|-----------------------|--|---|--------------------|
| GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | External assurance |
| GRI 102. General disclosures | 6. Reporting practice | 102-45 Entities included in the consolidated financial statements. | Report profile. | ✓ |
| | | 102-46 Defining report content and topic boundaries. | Relevant sustainability topics - Materiality. | ✓ |
| | | 102-47 List of material topics. | | ✓ |
| | | 102-48 Restatements of information. | Relevant sustainability topics - Materiality: Restatement and correction of data given in previous reports. | ✓ |
| | | 102-49 Changes in reporting. | Relevant sustainability topics - Materiality. | ✓ |
| | | 102-50 Reporting period. | Report profile. | ✓ |
| | | 102-51 Date of most recent report. | | ✓ |
| | | 102-52 Reporting cycle. | | ✓ |
| | | 102-53 Contact point for questions regarding the report. | | ✓ |
| | | 102-54 Claims of reporting in accordance with the GRI Standards. | | ✓ |
| | | 102-55 GRI content index. | GRI content index. | ✓ |
| | | 102-56 External assurance. | External assurance of the report. | ✓ |

Material topics and GRI Standards

| Material topics | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance | |
|--------------------------------------|--------------------------------------|--|--|--|--|---------|--------------------|---|
| <u>Access and purchasability</u> | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. | Access and purchasability. | | | ✓ | |
| | | | 103-2 The management approach and its components. | | | | ✓ | |
| | | | 103-3 Evaluation of the management approach. | | | | ✓ | |
| | GRI 200. Economic standards. | GRI 203. Indirect economic impacts. | 203-2 Significant indirect economic impacts. | Universalization and expansion of the service. | The number of beneficiaries is estimated using criteria specific to each business. | | | ✓ |
| | | | | Rural electrification. | | | | ✓ |
| | | | | Account financing and default. | | | | ✓ |
| | | | | Gas without borders. | | | | ✓ |
| | | | | Habitación Viviendas (Habitable homes program). | | | | ✓ |
| | | | | Paga a tu medida (Pay according to your needs). | | | | ✓ |
| | | | | Community meters. | | | | ✓ |
| | | | | Unserviced population. | | | | ✓ |
| | Prepaid services. | | | ✓ | | | | |
| | | Access. | EU26 Percentage of population unserved in licensed distribution areas. | Universalization and expansion of the service. | | | | ✓ |
| Not applicable. | Not applicable. | EPM-12 Solutions for unserved homes. | Unserviced population. | | | | ✓ | |
| <u>Water and biodiversity</u> | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. | Water and biodiversity. | | | ✓ | |
| | | | 103-2 The management approach and its components. | | | | ✓ | |
| | | | 103-3 Evaluation of the management approach. | | | | ✓ | |
| | GRI 300. Environmental standards. | GRI 303. Water. | 303-1 Interactions with water as a shared resource. | Water conservation and biodiversity. | | | | ✓ |
| | | | | Use of water and effluents. | | | | ✓ |
| | | | | Management of impacts related to water and biodiversity. | | | | ✓ |

Material topics and GRI Standards

| Material topics | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance |
|------------------------|-----------------------------------|------------------------|---|--|--------------------|--|--------------------|
| Water and biodiversity | GRI 300. Environmental standards. | GRI 303. Water. | 303-2 Management of water discharge-related impacts. | Management of impacts related to water and biodiversity. Use of water and effluents. | | The group does not have specific guidelines on water quality and discharge since these topics are regulated by the environmental regulations in force in each of the countries where we operate. | ✓ |
| | | | 303-3 Water withdrawal. | Use of water and effluents. EPM does not operate in areas with water stress that could cause competitions for the resource since EPM supplies the basic water services. | No data available. | For this year, water withdrawals will not be broken down by concentration of total dissolved solids. | ✓ |
| | | | 303-4 Water discharge. | | No data available. | For this year, water discharges will not be broken down by concentration of total dissolved solids. | ✓ |
| | | | 303-5 Water consumption. | | | | ✗ |
| | | GRI 304. Biodiversity. | 304-1 Operational sites owned, leased, managed in, or adjacent to protected areas and areas of high biodiversity value outside protected areas. | Water conservation and biodiversity. | | | ✓ |
| | | | 304-2 Significant impacts of activities, products, and services on biodiversity. | Management of impacts related to water and biodiversity. | | | ✓ |
| | | | 304-3 Habitats protected or restored. | Water conservation and biodiversity. | | | ✓ |
| | | | 304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations. | Conservation of threatened species. | | | ✗ |

| Material topics and GRI Standards | | | | | | | | | |
|---|-----------------------------------|---|--|--|---|------------------------------------|--------------------|---|---|
| Material topics | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance | | |
| Water and biodiversity | GRI 300. Environmental standards. | GRI 304. Biodiversity. | EU13 Biodiversity of offset habitats compared to the biodiversity of the affected areas. | Management of impacts related to water and biodiversity. | | | ✓ | | |
| | | GRI 306. Effluents and waste. | 306-1 Water discharge by quality and destination. | Use of water and effluents. | | | ✓ | | |
| | Not applicable. | Not applicable. | EPM-01 Conservation areas. | Water Conservation and biodiversity. | | | ✓ | | |
| | | | EPM-10 Water protection. | Conservation of threatened species. | | | ✓ | | |
| Quality and safety of products and services | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. | Quality and safety of products and services. | | | ✓ | | |
| | | | 103-2 The management approach and its components. | | | | ✓ | | |
| | | | 103-3 Evaluation of the management approach. | | | | ✓ | | |
| | GRI 400. Social standards. | Health and safety in the provision of the service. | GRI 418. Customer privacy. | EU25 Number of injuries and deaths involving the organization's assets, including legal sentences, settlements, and pending legal cases of diseases. | Safety in the service provision. | | | ✓ | |
| | | | | 418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data. | Customer service Reported complaints correspond only to EPM. | | | ✓ | |
| | | | | GRI 419. Socioeconomic compliance. | 419-1 Non-compliance with laws and regulations in the social and economic area. | Safety in the service provision. | | | ✓ |
| | | | | Access. | EU28 Average power outage frequency. | Quality and continuity of service. | | | ✓ |
| | | | | | EU29 Average power outage duration. | | | | ✓ |
| | | EU30 Average plant availability factor by energy source and by regulatory regime. | About us. | | | ✗ | | | |
| | Not applicable. | Not applicable. | EPM-03 Loss rate. | Loss management. | | | ✓ | | |
| | | | EPM-04 Customer service channels. | Customer service. | | | ✓ | | |

| Material topics and GRI Standards | | | | | | | | | |
|--|-------------------------------|---------------------------------|---|---|--|--|--------------------|---|---|
| Material topics | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance | | |
| <u>Quality and safety of products and services</u> | Not applicable. | Not applicable. | EPM-05 Complaints. | Customer satisfaction. This indicator was previously called Complaints and claims. | | | ✓ | | |
| | | | EPM-17 Customer loyalty index. | This indicator was not assessed in 2018. | | | | | |
| <u>Responsible procurement for local development</u> | GRI 102. General disclosures. | 1. Organizational profile. | 102-9 Supply chain. | Purchasing and procurement. | | | ✓ | | |
| | | | | Strengthening and development of suppliers. | | | ✓ | | |
| | | | | Engagement with suppliers and contractors. | | | ✓ | | |
| | | 3. Ethics and integrity. | 102-17 Mechanisms for advice and concerns about ethics. | Engagement with suppliers and contractors. | | | ✓ | | |
| | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. | 103-2 The management approach and its components. | Responsible procurement for local development. | | | ✓ | |
| | | | | | | 103-3 Evaluation of the management approach. | | | ✓ |
| | | | | | | | | | ✓ |
| | GRI 200. Economic standards. | GRI 204. Procurement practices. | 204-1 Proportion of spending on local suppliers. | | | | | ✓ | |
| | Not applicable. | Not applicable. | | EPM-06 Number and value of social procurement contracts. | Purchasing and procurement. | | | ✓ | |
| | | | | EPM-07 Number, value, and type of contracts in Grupo EPM. | | | | ✓ | |
| EPM-08 External employment generated in Grupo EPM contracts. | | | | This indicator was not reported in 2018 given that work is being done on the application of the methodology with contract administrators. | | | | | |
| EPM-09 Suppliers' satisfaction. | | | | Engagement with suppliers and contractors. | | | ✓ | | |
| <u>Organizational climate</u> | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. | Organizational climate. | | | ✓ | | |
| | | | 103-2 The management approach and its components. | | | | ✓ | | |
| | | | 103-3 Evaluation of the management approach. | | | | ✓ | | |
| | Not applicable. | Not applicable. | EPM-02 Results of the organizational climate assessment. | | | | ✓ | | |

| Material topics and GRI Standards | | | | | | | | | | | | | |
|-----------------------------------|-------------------------------|-------------------------------|--|---|---|---|---|--|--|---|---|----------------------------|---|
| Material topics | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance | | | | | | |
| <u>Organizational climate</u> | Not applicable. | Not applicable. | EPM-18 Employees' commitment. | This indicator was not reported in 2018 and will no longer be reported. | | | | | | | | | |
| <u>Human rights</u> | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. | Human rights. | | | ✓ | | | | | | |
| | | | 103-2 The management approach and its components. | Human rights in the supply chain. Human rights management in projects under construction. Institutional management in human rights. Security and human rights. | | | ✓ | | | | | | |
| | | | | | | | ✓ | | | | | | |
| | | | 103-3 Evaluation of the management approach. | Human rights. | | | ✓ | | | | | | |
| | GRI 400. Social standards. | Local communities. | EU22 Number of people physically or economically displaced and compensation, broken down by type of project. | Human rights management in projects under construction. Security and human rights. This indicator corresponds only to the Ituango hydroelectric project. | Confidential information. | The compensation offered to displaced people is not reported. | ✓ | | | | | | |
| | | | | GRI 406. Non-discrimination. | 406-1 Incidents of discrimination and corrective actions taken. | Institutional management in human rights. Human rights in the supply chain. The scope of the disclosure 406-1 reported corresponds only to EPM. | | | ✓ | | | | |
| | | | | | | GRI 407. Freedom of association and collective bargaining. | 407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk. | Institutional management in human rights. Human rights in the supply chain. | | | ✗ | | |
| | | | | | | | | GRI 408. Child labor. | 408-1 Operations and suppliers at significant risk for incidents of child labor. | Human rights in the supply chain. Risk associated with forced labor is minimized through the incorporation of clauses into the contracting specifications. | | | ✗ |
| | | | | | | | | | | GRI 409. Forced or compulsory labor. | 409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor. | | |
| | | | | | | | | GRI 410. Security practices. | 410-1 Security personnel trained in human rights policies or procedures. | | | Security and human rights. | |

| Material topics and GRI Standards | | | | | | | |
|-----------------------------------|----------------------------|--|---|--|--------------------|---|--------------------|
| Material topics | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance |
| Human rights | GRI 400. Social standards. | GRI 411. Rights of indigenous peoples. | 411-1 Incidents of violations involving rights of indigenous peoples. | Human rights management in projects under construction. | | | ✓ |
| | | GRI 412. Human rights assessment. | 412-1 Operations that have been subject to human rights reviews or impact assessments. | Institutional management in human rights. | | | ✗ |
| | | | 412-2 Employee training on human rights policies or procedures. | Institutional management in human rights. Security and human rights. | | | ✓ |
| | | | 412-3 Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening. | Human rights in the supply chain. | No data available. | Investment agreements do not include human rights clauses. | ✗ |
| | | GRI 413. Local communities. | 413-1 Operations with local community engagement, impact assessments, and development programs. | | | | ✗ |
| | | GRI 414. Supplier social assessment. | 414-1 New suppliers that were screened using social criteria. | | | | ✗ |
| | | | 414-2 Negative social impacts in the supply chain and actions taken. | Human rights management in projects under construction Security and human rights Human rights in the supply chain. | No data available. | Not reported: - Number of suppliers assessed for social impacts. - Number or percentage of suppliers identified as having negative social impacts. - Percentage of suppliers with which improvements were agreed upon or with which relationships were terminated. | ✓ |

| Material topics and GRI Standards | | | | | | | | |
|------------------------------------|-----------------------------------|--------------------------------|---|--|---|---------|--------------------|---|
| Material topics | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance | |
| Nonconventional renewable energies | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. | Diversification of renewable energies. | | | ✓ | |
| | | | 103-2 The management approach and its components. | | | | ✓ | |
| | | | 103-3 Evaluation of the management approach. | | | | ✓ | |
| | Not applicable. | Not applicable. | EPM-20 Implementation of nonconventional renewable energies. | | About us: Energy generation mix. | | | ✗ |
| | | | | | Biomass energy. | | | ✓ |
| | | | | | Wind energy. | | | ✓ |
| | | | | | Geothermal energy. | | | ✓ |
| | | | | Solar photovoltaic energy. | | | ✓ | |
| | Biogas energy. | | | ✓ | | | | |
| Climate strategy | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. | Climate strategy. | | | ✓ | |
| | | | 103-2 The management approach and its components. | | | | ✓ | |
| | | | 103-3 Evaluation of the management approach. | | | | ✓ | |
| | GRI 200. Economic standards. | GRI 201. Economic performance. | 201-2 Financial implications and other risks and opportunities due to climate change. | | Climate strategy management. | | | ✗ |
| | | | | | Adaptation to natural variability and climate change. | | | ✗ |
| | GRI 300. Environmental standards. | GRI 305. Emissions. | 305-1 Direct (Scope 1) GHG emissions. | | Climate strategy management. Climate change mitigation. The methodology used to calculate scope 1 and scope 2 emissions is the GHG Protocol. For scope 3 emissions, the group uses the Corporate Value Change Accounting and Reporting Standard. Scope 1 emissions comprise CO ₂ , CH ₄ , N ₂ O, SF ₆ , and HFC gases, and include gas emissions covered by the Montreal Protocol. Scope 2 emissions comprise the total losses of electricity in the transmission and distribution of energy, and the consumption of electrical energy. | | | ✓ |

| Material topics and GRI Standards | | | | | | | |
|-----------------------------------|-----------------------------------|---------------------|--|--|-----------|---------|--------------------|
| Material topics | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance |
| Climate strategy | GRI 300. Environmental standards. | GRI 305. Emissions. | 305-1 Direct (Scope 1) GHG emissions. | Emissions resulting from combustion are obtained from UPME (FECOC). For reservoirs, effluent treatment plants, and anaerobic lagoons the group uses the IPCC emission factors. Electricity emission factors are taken from each of the countries. Assumptions: | | | |
| | | | 305-2 Energy indirect (Scope 2) GHG emissions. | | | | ✓ |
| | | | 305-3 Other indirect (Scope 3) GHG emissions. | | | | ✓ |
| | | | 305-4 GHG emissions intensity. | | | | ✗ |
| | | | 305-5 Reduction of GHG emissions. | i) In the case of reservoirs, the group assumes the following climates: Temperate, Warm, Moist, and Tropical wet; given that the IPCC guidelines do not provide specific references for our region. ii) In the case of fuels, from the FECOC table it is assumed: For diesel fuel and fuel oil #2, B2 Diesel; for regular gasoline and premium gasoline, E10 gasoline (commercial mixture); for natural gas. | | | ✓ |
| | | | 305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions. | Climate strategy management. Climate change mitigation. The calculations are made based on the consumption of materials and emission factors obtained from the United States Environmental Protection Agency (EPA). Emissions included are: VOC (g/km), CO (g/km), CO ₂ (g/km), NOx (g/km), SO ₂ (g/km), PM (g/km), and benzene (g/km), which are applied according to the type of vehicle, equipment, and fuel. | | | ✓ |

Material topics and GRI Standards

| Material topics | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance | |
|---|-------------------------------|-------------------------------|---|-----------------------------------|-----------|---------|--------------------|---|
| Financial strength | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. | Financial strength. | | | ✓ | |
| | | | 103-2 The management approach and its components. | | | | ✓ | |
| | | | 103-3 Evaluation of the management approach. | | | | ✓ | |
| | Not applicable. | Not applicable. | EPM-22 EPM's EBITDA. | Financial results. | | | | ✓ |
| | | | EPM-23 Grupo EPM's EBITDA. | | | | | ✓ |
| | | | EPM-24 EPM's EBITDA margin. | | | | | ✓ |
| | | | EPM-25 Grupo EPM's EBITDA margin. | | | | | ✓ |
| | | | EPM-26 EPM's net margin. | | | | | ✓ |
| | | | EPM-27 Grupo EPM's net margin. | | | | | ✓ |
| EPM-32 Resources from liquidity strategies. | Liquidity strategies. | | | | ✓ | | | |
| Fees and prices | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. | Fees and prices. | | | ✓ | |
| | | | 103-2 The management approach and its components. | | | | ✓ | |
| | | | 103-3 Evaluation of the management approach. | | | | ✓ | |
| | Not applicable. | Not applicable. | EPM-13 Fees by service type. | Water supply and sewerage fees. | | | | ✓ |
| | | | | Sanitation fees. | | | | ✓ |
| | | | | Electricity fees. | | | | ✓ |
| | | | | Gas fees. | | | | ✓ |

Material topics and GRI Standards

| Material topics | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance | |
|-----------------|-------------------------------|-------------------------------|--|-----------------------------------|--------------------|--|--------------------|---|
| Transparency | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. | Transparency. | | | ✓ | |
| | | | 103-2 The management approach and its components. | | | | ✓ | |
| | | | 103-3 Evaluation of the management approach. | | | | ✓ | |
| | GRI 200. Economic standards. | GRI 205. Anti-corruption. | 205-2 Communication and training about anti-corruption policies and procedures. | Transparency practices. | No data available. | Not reported: - Number and percentage of governance body members that have received information and training, broken down by region. - Number of employees that have received information, broken down by employee category and region. Only the percentage is reported. - Number and percentage of business partners that have received information, broken down by region. - Number and percentage of employees that have received training, broken down by employee category and region. | | ✓ |
| | | | | | | | | |
| | Not applicable. | Not applicable. | EPM-14 Transparencia por Colombia indicator. EPM-15 External communication strategy and mechanisms. | Information for stakeholders. | | | | ✗ |
| | | | | | | | | ✓ |

Complementary matters and GRI Standards

| Complementary matters | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance | |
|-----------------------------------|-------------------------------|---|--|--|-----------|---------|--------------------|---|
| <u>Corporate citizenship</u> | GRI 200. Economic standards. | GRI 203. Indirect economic impacts. | 203-1 Infrastructure investments and services supported. | Corporate citizenship. | | | ✗ | |
| | | | | Fundación EPM. | | | ✗ | |
| | | | | City projects. | | | ✗ | |
| | | | 203-2 Significant indirect economic impacts. | Christmas lighting. | | | ✗ | |
| | | | | Events and sponsorships. | | | ✗ | |
| | | | | Fundación EPM. | | | ✗ | |
| | | | | City projects. | | | ✗ | |
| <u>Development and innovation</u> | Not applicable. | Not applicable. | EPM-19 Implementation of new businesses in development and innovation. | Technological developments. | | | ✗ | |
| | | | | Innovation management. | | | ✗ | |
| | | | | Urban solid waste management. | | | ✗ | |
| | | | | Non-conventional solutions for the water business. | | | ✗ | |
| <u>Working environment</u> | GRI 102. General disclosures. | 1. Organizational profile. | 102-8 Information on employees and other workers. | Implementation and impact of the supply chain. | | | ✓ | |
| | | | | Staff. | | | ✓ | |
| | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. 103-2 The management approach and its components. 103-3 Evaluation of the management approach. | Working environment. | | | | ✗ |
| | | | | | | | | ✗ |
| | | | | | | | | ✗ |
| | GRI 200. Economic standards. | 5. Stakeholder engagement. | 102-41 Collective bargaining agreements. | Trade unions. | | | | ✓ |
| GRI 401. Employment. | | 401-1 New employee hires and employee turnover. | Staff. | | | | ✗ | |
| | | 401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees. | Employee welfare and benefits. | | | | ✗ | |

Complementary matters and GRI Standards

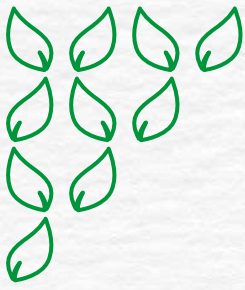
| Complementary matters | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance |
|-----------------------|------------------------------|--|--|-----------------------------------|-----------|---------|--------------------|
| Working environment | GRI 200. Economic standards. | GRI 401. Employment. | EU14 Programs and processes to ensure the availability of a skilled workforce. | Personnel selection. | | | ✗ |
| | | | EU15 Percentage of employees eligible to retire in the next 5 and 10 years, broken down by job category and by region. | Retirees and pensioners. | | | ✗ |
| | | | EU16 Policies and requirements regarding health and safety of employees, contractors, and subcontractors. | Occupational safety and health. | | | ✗ |
| | | | EU17 Days worked by contractor and subcontractor employees involved in construction, operation, and maintenance activities. | | | | ✗ |
| | | EU18 Percentage of contractor and subcontractor employees that have undergone relevant health and safety training. | | | ✗ | | |
| | | GRI 403. Occupational health and safety. | 403-2 Types of injury and rates of injury, occupational diseases, lost days, absenteeism, and number of work-related fatalities. | | | ✗ | |
| | | | 403-3 Workers with high incidence or high risk of diseases related to their occupation. | | | ✗ | |
| | | | 403-4 Health and safety topics covered in formal agreements with trade unions. | Occupational safety and health. | | ✗ | |

Complementary matters and GRI Standards

| Complementary matters | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance |
|--|------------------------------|---|---|---|--------------------------------|---------|--------------------|
| <u>Working environment</u> | GRI 200. Economic standards. | GRI 404. Training and education. | 404-1 Average hours of training per year per employee. | Training and development. | | | ✗ |
| | | | 404-2 Programs for upgrading employee skills and transition assistance programs. | | | | ✗ |
| | | | 404-3 Percentage of employees receiving regular performance and career development reviews. | Employee performance. | | | ✗ |
| | | GRI 405. Diversity and equal opportunity. | 405-1 Diversity of governance bodies and employees. | Staff. | | | ✗ |
| | | Not applicable. | EPM-16 Percentage of employees surveyed in quality of life and psychosocial risk. | Quality of life. | | | ✗ |
| <u>Social and environmental management in projects</u> | GRI 200. Economic standards. | | 203-1 Infrastructure investments and services supported. | Social and environmental management in projects. | | | ✗ |
| | | | 203-2 Significant indirect economic impacts. | | Ituango hydroelectric project. | | |
| | GRI 400. Social standards. | GRI 413. Local communities. | 413-1 Operations with local community engagement, impact assessments, and development programs. | Aguas Claras - EPM's Wastewater treatment plant park. Aldeas program Intermediate projects. | | | ✗ |
| | | | 413-2 Operations with significant actual and potential negative impacts on local communities. | In all projects, impacts are assessed and analyzed in order to identify the negative ones. | | | ✗ |

Complementary matters and GRI Standards

| Complementary matters | GRI Standards | GRI Standard Title | GRI Standards Disclosures | Location in the Report / Response | Omissions | Remarks | External assurance | | | |
|--|-----------------------------------|-------------------------------|---|---|---|---|---------------------|--------------------|--|---|
| Sustainable production and consumption | GRI 103. Management approach. | GRI 103. Management approach. | 103-1 Explanation of the material topic and its boundary. | Sustainable production and consumption. | | | ✓ | | | |
| | | | 103-2 The management approach and its components. | | | | ✓ | | | |
| | | | 103-3 Evaluation of the management approach. | | | | ✓ | | | |
| | GRI 300. Environmental standards. | GRI 301. Materials. | GRI 301. Materials. | 301-1 Materials used by weight or volume. | Other consumptions and efficient practices. Energy consumption is directly measured. For the calorific values of fuels, the group uses the values provided by UPME. | | | ✗ | | |
| | | | | 301-2 Recycled input materials used. | | | | ✗ | | |
| | | GRI 302. Energy. | GRI 302. Energy. | GRI 302. Energy. | 302-1 Energy consumption within the organization. | Energy consumption. <u>About us:</u> Energy generation mix. | | | ✓ | |
| | | | | | 302-2 Energy consumption outside of the organization. | | | | ✓ | |
| | | | | | 302-3 Energy intensity. | | Energy consumption. | No data available. | Information reported only for the water and sanitation businesses. | ✓ |
| | | | | | 302-4 Reduction of energy consumption. | | Energy consumption. | | | ✗ |
| | | | 302-5 Reductions in energy requirements of products and services. | | | ✗ | | | | |
| | | | GRI 306. Effluents and waste. | GRI 306. Effluents and waste. | GRI 306. Effluents and waste. | 306-2 Waste by type and disposal method. | Energy consumption. | | | ✓ |
| | | | | | | 306-4 Transport of hazardous waste. | | | | ✗ |



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External
assurance

External assurance

In accordance with the independence standards required by the Code of Ethics of the International Federation of Accountants (IFAC), the independent assurance report issued by KPMG confirms their independence from EPM. In addition, it mentions that all its employees complete annual updates to the ethics policy, in which they specifically declare no conflict of interest with EPM, its subsidiaries, or its stakeholders.

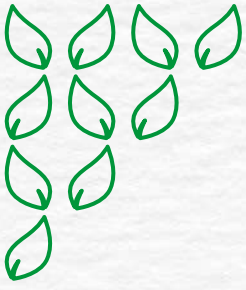
The inspection was conducted in accordance with ISAE 3000 - International Standard on Assurance Engagements Other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC).

In accordance with the **Disclosure 102-56**, the assurance report presents, for each of the material aspects, the GRI standards disclosures or the EPM indicators that were subject to verification.

The conclusion of the independent verification states that there is no evidence that would suggest that the Sustainability Report contains significant errors or that has not been prepared in accordance with the Sustainability Reporting Standards of the Global Reporting Initiative (GRI), with comprehensive compliance criteria.

This Sustainability Report was externally assured by KPMG, the firm that performs the external audit of EPM and the tax audit of the Grupo EPM's companies.

See the external assurance certificate on [Independent assurance report](#).







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Alignment with
sustainability
initiatives

Alignment between the GRI Standards used in the Sustainability Report and the ISO 26000 Standard

| GRI Standards | ISO 26000 Standard | | |
|---|---|--|--|
| | | Key principles and subjects of ISO 26000 | ISO 26000 matters |
|  | GRI 101. Reporting principles. | Accountability. | Accountability. |
| | GRI 101. Using the GRI Standards for sustainability reporting. | | |
| | GRI 101. Making claims related to the use of the GRI Standards. | | |
|  | GRI 102 - 1. Organizational profile. | Human rights. | Fundamental principles and rights at work. |
| | | Organizational governance. | Organizational governance. |
| | | Labor practices. | Conditions of work and social protection. |
| | | | Social dialogue. |
| | Employment and employment relationships. | | |
| | GRI 102 - 2. Strategy. | Organizational governance. | Organizational governance. |
| | GRI 102 - 3. Ethics and integrity. | Ethical behavior. | Ethical behavior. |
| | GRI 102 - 4. Governance. | Organizational governance. | Organizational governance. |
| GRI 102 - 5. Stakeholder engagement. | | | |
| GRI 102 - 6. Reporting practice. | Accountability. | Accountability. | |

| GRI Standards | | ISO 26000 Standard | |
|---|--|--|---|
| | | Key principles and subjects of ISO 26000 | ISO 26000 matters |
|  | GRI 103-1. Explanation of the material topic and its boundary. | Accountability. | Accountability. |
| | GRI 103-2. The management approach and its components. | | |
| | GRI 103-3. Evaluation of the management approach. | | |
|  | GRI 201. Economic performance. | Environment. | Climate change mitigation and adaptation. |
| | | Community involvement and development. | Wealth and income creation. |
| | Social investment. | | |
| | Community involvement and development. | | |
| | GRI 203. Indirect economic impacts. | Consumer issues. | Access to essential services. |
| | | Human rights. | Economic, social and cultural rights. |
| | | Community involvement and development. | Employment creation and skills development. |
| | | | Technology development and access. |
| Education and culture. | | | |
| Wealth and income creation. | | | |
| Social investment. | | | |
| Community involvement and development. | | | |

| GRI Standards | | ISO 26000 Standard | |
|--|-------------------------------------|--|---|
| | | Key principles and subjects of ISO 26000 | ISO 26000 matters |
|  | GRI 203. Indirect economic impacts. | Fair operating practices. | Promoting social responsibility in the sphere of influence. Respect for property rights. |
| | GRI 204. Procurement practices. | Community involvement and development. | Employment creation and skills development. Wealth and income creation. |
| | | Fair operating practices. | Promoting social responsibility in the sphere of influence. |
| | GRI 205. Anti-corruption. | | Anti-corruption. |
|  | GRI 301. Materials. | Environment. | Sustainable resource use. Sustainable resource use. |
| | GRI 302. Energy. | | Fair operating practices. |

| GRI Standards | | ISO 26000 Standard | |
|---|-------------------------------|--|--|
| | | Key principles and subjects of ISO 26000 | ISO 26000 matters |
|  | GRI 303. Water. | Environment. | Sustainable resource use. |
| | GRI 304. Biodiversity. | | Protection of the environment, biodiversity and restoration of natural habitats. |
| | GRI 305. Emissions. | | Climate change mitigation and adaptation. |
| | GRI 306. Effluents and waste. | | Prevention of pollution. |
| | | | Protection of the environment, biodiversity and restoration of natural habitats. |
| | | | Sustainable resource use. |


| GRI Standards | | ISO 26000 Standard | |
|--|---|--|--|
| | | Key principles and subjects of ISO 26000 | ISO 26000 matters |
|  | GRI 401. Employment. | Community involvement and development. | Technology development and access. |
| | | Labor practices. | Conditions of work and social protection. |
| | | | Health and safety at work. |
| | | | Employment and employment relationships. |
| | GRI 403. Health and safety at work. | | Health and safety at work. |
| | GRI 404. Training and education. | Community involvement and development. | Employment creation and skills development. |
| | | Labor practices. | Human development and training in the workplace. |
| | GRI 405. Diversity and equal opportunity. | Human rights. | Discrimination and vulnerable groups. |
| | | Labor practices. | Fundamental principles and rights at work. |
| | | | Employment and employment relationships. |

| GRI Standards | | ISO 26000 Standard | | |
|--|--|--|---|--|
| | | Key principles and subjects of ISO 26000 | ISO 26000 matters | |
|  | GRI 406. Non-discrimination. | Human rights. | Discrimination and vulnerable groups. | |
| | GRI 407. Freedom of association and collective bargaining. | | Labor practices. | Fundamental principles and rights at work. |
| | | | | Resolving grievances. |
| | | | | Avoidance of complicity. |
| | | | | Due diligence. |
| | | | | Civil and political rights. |
| | | Fundamental principles and rights at work. | | |
| | GRI 408. Child labor. | Human rights. | Human rights risk situations. | |
| | | | Social dialogue. | |
| | | | Employment and employment relationships. | |
| | | | Avoidance of complicity. | |
| | | Fair operating practices. | Fair operating practices. | Due diligence. |
| Discrimination and vulnerable groups. | | | | |
| | | | Fundamental principles and rights at work. | |
| | | | Human rights risk situations. | |
| | | | Promoting social responsibility in the sphere of influence. | |

| GRI Standards | | ISO 26000 Standard | |
|--|--|---|---|
| | | Key principles and subjects of ISO 26000 | ISO 26000 matters |
|  | GRI 409. Forced or compulsory labor. | Human rights. | Avoidance of complicity. |
| | | | Due diligence. |
| | Discrimination and vulnerable groups. | | |
| | Fundamental principles and rights at work. | | |
| | Human rights risk situations. | | |
| | Fair operating practices. | Promoting social responsibility in the sphere of influence. | |
| | GRI 410. Security practices. | Human rights. | Avoidance of complicity. |
| | | Fair operating practices. | Promoting social responsibility in the sphere of influence. |
| | | Labor practices. | Employment and employment relationships. |
| | GRI 411. Rights of indigenous peoples. | Human rights. | Civil and political rights. |
| | | | Discrimination and vulnerable groups. |
| | | | Resolving grievances. |
| GRI 412. Human rights assessment. | Human rights. | Respect for property rights. | |
| | | Avoidance of complicity. | |
| | | Due diligence. | |
| | Human rights risk situations. | | |
| | Fair operating practices. | Promoting social responsibility in the sphere of influence. | |

| GRI Standards | | ISO 26000 Standard | |
|--|---|--|--|
| | | Key principles and subjects of ISO 26000 | ISO 26000 matters |
|  | GRI 413. Local communities. | Human rights. | Economic, social and cultural rights. |
| | | Environment. | Prevention of pollution. |
| | | | Protection of the environment, biodiversity and restoration of natural habitats. |
| | | Community involvement and development. | Employment creation and skills development. |
| | | | Technology development and access. |
| | | | Education and culture. |
| | Wealth and income creation. | | |
| | GRI 414. Supplier social assessment. | Human rights. | Social investment. |
| | | | Community involvement and development. |
| | | | Health. |
| Community involvement and development. | | Avoidance of complicity. | |
| | Due diligence. | | |
| | Fundamental principles and rights at work. | | |
| | Employment creation and skills development. | | |
| | Technology development and access. | | |
| Community involvement and development. | Education and culture. | | |
| | Wealth and income creation. | | |
| | Social investment. | | |
| | Community involvement and development. | | |
| Health. | | | |

| GRI Standards | | ISO 26000 Standard | |
|--|--|---|--|
| | | Key principles and subjects of ISO 26000 | ISO 26000 matters |
|  | GRI 414. Supplier social assessment. | Fair operating practices. | Promoting social responsibility in the sphere of influence. |
| | | Labor practices. | Conditions of work and social protection. |
| | | | Human development and training in the workplace. |
| | | | Social dialogue. |
| | | | Health and safety at work. |
| | Employment and employment relationships. | | |
| | GRI 416. Customer health and safety. | Consumer issues. | Sustainable consumption. Protecting consumers' health and safety. |
| | | Human rights. | Economic, social and cultural rights. |
| | | Community involvement and development. | Education and culture. Community involvement and development. |
| | | | Health. |
| Fair operating practices. | | Promoting social responsibility in the sphere of influence. | |
| Labor practices. | Health and safety at work. | | |

| GRI Standards | | ISO 26000 Standard | |
|---|------------------------------------|--|--|
| | | Key principles and subjects of ISO 26000 | ISO 26000 matters |
|  | GRI 417. Marketing and labeling. | Consumer issues. | Sustainable consumption. |
| | GRI 418. Customer privacy. | | Fair marketing. |
| | | | Protecting consumers' health and safety. |
| | GRI 419. Socioeconomic compliance. | | Consumer service, support, and complaint and dispute resolution. |
| | | | Access to essential services. |
| | | | Education and awareness. |
| | | | Fair marketing. |
| | | | Consumer data protection and privacy. |
| | | | Consumer service, support, and complaint and dispute resolution. |
| | | | Community involvement and development. |
| Fair operating practices. | Respect for property rights. | | |

Sustainable Development Goals - SDG

In September 2015, world leaders adopted the ambitious 2030 Agenda for Sustainable Development, focused on 17 goals as a shared plan to transform the world in 15 years and, basically, foster a decent life for everyone.¹

“Architects of a Better World” recognizes the importance of the companies for this purpose and proposes the merger of corporate sustainability with effective contribution to sustainable development as a leverage to create value for businesses and society.

Grupo EPM’s planning is aligned with this global framework based on its business purpose, its big hairy audacious goal (BHAG)—that includes the universalization of public utilities and the care for the environment through the commitments to water protection and neutral carbon operation.

This section of the report shows, among others, the actions related to the Sustainable Development Goals (SDGs) 6 and 7, core actions of Grupo EPM’s purpose.

SDG 6 addresses the challenges of the population in terms of drinking water, sanitation, and cleanliness, as well as water-related ecosystems. Sustainable water resources and quality sanitation accelerate progress in many other areas of the SDGs, including health, teaching, and poverty reduction.

SDG 7 aims at universal access to affordable, reliable, and sustainable energy services. Its purpose is to expand access to electrical energy, clean fuels, and more efficient technologies to cook, as well as improve energy efficiency and increase the use of renewable energies. To reach this goal, greater financing and more audacious regulations will be required; moreover, the countries will have to be willing to accept new technologies at a much more ambitious scale.

The 2030 Agenda for Sustainable Development presents the business sector a historic opportunity to contribute to the achievement of global priorities, which promotes more resilient, competitive companies that are capable of generating new ties to the community in changing societies. The materiality of Grupo EPM integrates with the company-society relationship crystallized by the SDGs that outline the thematic route for the global development agenda.



¹ United Nations, *Sustainable Development Goals Report, 2017*. Available at: <https://unstats.un.org/sdgs/files/report/2017/TheSustainableDevelopmentGoalsReport2017.pdf> accessed on March 13, 2018.

Major milestones regarding SDGs in the global context and for Grupo EPM.

Sustainable Development Goals

SUSTAINABLE DEVELOPMENT GOALS



| | 2016 | 2017 | 2018 |
|---|--|--|--|
|  | <p>First UN SDGs report It sets benchmarks for the actions of the sustainable development agenda for the next 15 years.</p> | <p>Second UN SDGs report Progress is unequal in the different regions, among genders, and among people from different ages, strata, and locations. To accomplish the audacious vision of the 2030 agenda, progress must be faster and more inclusive.</p> | <p>Third UN SDGs report Progress has been made in guaranteeing access to energy, especially in the least developed countries. However, national priorities and strengthened political ambitions are still needed to guide the world towards the accomplishment of the energy goals by 2030.</p> |
|  | <p>It identifies priority SDGs for Grupo EPM included in the SDGs highlighted in the image.</p> <p>It associates SDGs with initiatives and the Balanced Scorecard of the Group's Business Plan.</p> <p>It strengthens the 2017-2020 Business Plan. It applies SDGs as driving forces for the challenges of material topics.</p> | <p>It strengthens connections between material topics of Grupo EPM and SDGs. The identification of emphases or aspects of specific material topics in the territories helps specifying the connection with the SDGs to act more accordingly.</p> | <p>It disseminates the SDGs, especially among its suppliers and contractors, and promotes the application of SDGs in personal and business activities, through partnerships with companies and institutions from different sectors that share its practices to contribute to sustainable human development.</p> |

Alignment between material topics and SDGs

| Material topic | | SUSTAINABLE DEVELOPMENT GOALS | | | |
|---|---|--|--|--|--|
|  | Access and purchasability |  1 NO POVERTY |  3 GOOD HEALTH AND WELL-BEING |  6 CLEAN WATER AND SANITATION |  7 AFFORDABLE AND CLEAN ENERGY |
| | |  11 SUSTAINABLE CITIES AND COMMUNITIES | | | |
|  | Water and biodiversity |  6 CLEAN WATER AND SANITATION |  13 CLIMATE ACTION |  14 LIFE BELOW WATER |  15 LIFE ON LAND |
|  | Organizational climate |  8 DECENT WORK AND ECONOMIC GROWTH | | | |
|  | Quality and safety of products and services |  9 INDUSTRY, INNOVATION AND INFRASTRUCTURE |  11 SUSTAINABLE CITIES AND COMMUNITIES | | |
|  | Responsible procurement for local development |  8 DECENT WORK AND ECONOMIC GROWTH |  10 REDUCED INEQUALITIES | | |

| Material topic | SUSTAINABLE DEVELOPMENT GOALS | | | |
|--|---|---|---|---|
|  Human rights | 5 GENDER EQUALITY  | 8 DECENT WORK AND ECONOMIC GROWTH  | 10 REDUCED INEQUALITIES  | 16 PEACE, JUSTICE AND STRONG INSTITUTIONS  |
|  Nonconventional renewable energy | 7 AFFORDABLE AND CLEAN ENERGY  | 11 SUSTAINABLE CITIES AND COMMUNITIES  | 12 RESPONSIBLE CONSUMPTION AND PRODUCTION  | |
|  Climate strategy | 12 RESPONSIBLE CONSUMPTION AND PRODUCTION  | | 13 CLIMATE ACTION  | |
|  Financial strength | 6 CLEAN WATER AND SANITATION  | 7 AFFORDABLE AND CLEAN ENERGY  | 11 SUSTAINABLE CITIES AND COMMUNITIES  | |
|  Fees and prices | 6 CLEAN WATER AND SANITATION  | 7 AFFORDABLE AND CLEAN ENERGY  | 8 DECENT WORK AND ECONOMIC GROWTH  | |
|  Transparency | 16 PEACE, JUSTICE AND STRONG INSTITUTIONS  | | | |
| 17 Partnerships for the goals | | | |  |

Balanced Scorecard's strategic objectives

Alignment between material topics and Balanced Scorecard's strategic objectives

| Material topics | Value creation | Customers and markets | | | Operations | | | Learning and development | | |
|---|---------------------------------|-----------------------------|--|--|---------------------------|--------------------|------------------------------------|----------------------------------|-------------------------------------|---------------------------------|
| | Increase value for stakeholders | Grow in markets and sectors | Strengthen engagement with external stakeholders | Provide comprehensive quality service to customers and users | Ensure required cash flow | Optimize processes | Assess and manage operating safety | Optimize development of projects | Develop organizational capabilities | Achieve cultural transformation |
| Access and purchasability | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | |
| Water and biodiversity | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | | |
| Quality and safety of products and services | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | |
| Organizational climate | ✓ | | ✓ | ✓ | | | | | ✓ | ✓ |
| Responsible procurement for local development | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | | |
| Human rights | ✓ | | ✓ | | | ✓ | | ✓ | | |
| Nonconventional renewable energy | ✓ | ✓ | ✓ | | | | | | | |
| Climate strategy | ✓ | ✓ | ✓ | | | ✓ | ✓ | | | |
| Financial strength | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ | |
| Fees and prices | ✓ | | ✓ | | ✓ | | | | | |
| Transparency | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Global compact

Alignment between material topics and the Global Compact's principles

| Material topics | Global Compact's principles | | | | | | | | | |
|---|------------------------------|-------------------------------------|---|---|-------------------------------|-------------------------|----------------------------------|--|---|--|
| | Human rights | | Labor standards | | | | Environment | | | Anti-corruption |
| | 01 - Human rights protection | 02 - Non-complicity in human rights | 03 - Freedom of association and collective bargaining | 04 - Elimination of forced and compulsory labor | 05 - Abolition of child labor | 06 - Non-discrimination | 07 - Prevention of environmental | 08 - Promotion of environmental responsibility | 09 - Promotion of environmentally friendly technologies | 10 - Working against corruption, extortion and bribery |
| Access and purchasability | ✓ | | | | | | | | | |
| Water and biodiversity | | | | | | | ✓ | ✓ | ✓ | |
| Quality and safety of products and services | ✓ | | | | | | | ✓ | | |
| Organizational climate | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| Responsible procurement for local development | | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| Human rights | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Nonconventional renewable energy | | | | | | | ✓ | ✓ | ✓ | |
| Climate strategy | | | | | | | ✓ | ✓ | ✓ | |
| Financial strength | | | | | | | | | | ✓ |
| Fees and prices | ✓ | | | | | | | | | |
| Transparency | | | | | | | | | | ✓ |

Alignment between complementary aspects and the Global Compact's principles

| Complementary matters | Global Compact's principles | | | | | | | | | |
|---|------------------------------|--|---|---|-------------------------------|-------------------------|--|--|---|--|
| | Human rights | | Labor standards | | | | Environment | | | Anti-corruption |
| | 01 - Human rights protection | 02 - Non-complicity in human rights abuses | 03 - Freedom of association and collective bargaining | 04 - Elimination of forced and compulsory labor | 05 - Abolition of child labor | 06 - Non-discrimination | 7 - Prevention of environmental problems | 08 - Promotion of environmental responsibility | 09 - Promotion of environmentally friendly technologies | 10 - Working against corruption, extortion and bribery |
| Corporate citizenship | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ | |
| Development and innovation | | | | | | | ✓ | ✓ | ✓ | |
| Working environment | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ |
| Social and environmental management in projects | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ | |
| Sustainable production and consumption | | | | | | | ✓ | ✓ | ✓ | |

International Integrated Reporting Council report

Alignment between the capitals of the International Integrated Reporting Council (IIRC) report and the material topics

| Material topics | Capitals | | | | | |
|---|----------|-------|--------|--------------|-----------|--------------|
| | Natural | Human | Social | Intellectual | Financial | Manufactured |
| Access and purchasability | | | ✓ | | ✓ | ✓ |
| Water and biodiversity | ✓ | | | | | |
| Quality and safety of products and services | | | ✓ | | | ✓ |
| Organizational climate | | ✓ | | | | |
| Responsible procurement for local development | | ✓ | ✓ | | | ✓ |
| Human rights | | | ✓ | | | |
| Nonconventional renewable energy | ✓ | | | ✓ | | |
| Climate strategy | ✓ | | | | | |
| Financial strength | | | | | ✓ | |
| Fees and prices | | | ✓ | | ✓ | |
| Transparency | | ✓ | ✓ | | | |

| Capitals | Meaning |
|--------------|--|
| Natural | All renewable and non-renewable environmental resources and processes that provide goods and services and that support the current and future prosperity of an organization. |
| Human | People's skills and experience, and their capacity and motivations to innovate. |
| Social | The institutions and relationships established within and between each community, group of stakeholders and other networks (and an ability to share information) to enhance individual and collective well-being. |
| Intellectual | Organizational, knowledge-based intangibles. |
| Financial | The pool of funds that is available to an organization for use in the production of goods or the provision of services obtained through financing, such as debt, equity or grants, or generated through operations or investments. |
| Manufactured | Manufactured physical objects that are available to an organization for use in the production of goods or the provision of services. |

Institutional performance monitoring and evaluation

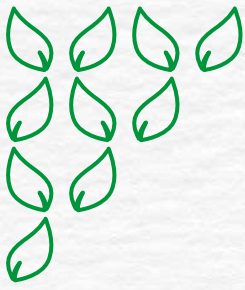
| Integrated Model of Planning and Management (abbreviated MIPG in Spanish) | | |
|---|---|---|
| MIPG | Company's language | Correlation with the 2018 Sustainability Report |
| 1. Human resource dimension. | Employee welfare and benefits. Quality of life. Organizational climate. Training and development. Personnel selection. Health and safety at work. Ethics and values. | EPM people |
| | | Organizational climate |
| | | Working environment |
| | | Transparency practices |
| 2. Strategic planning dimension. | Strategic planning. Business plans and corporate services. Corporate governance. Business projects. Balanced Scorecard's strategic objectives. Risk management. Information technology. | Corporate strategic planning |
| | | Competitive strategic planning |
| | | Macro-trends |
| | | Challenges |
| | | Corporate governance report |
| | | Expansion projects |
| | | Social and environmental management in projects |
| | | Ituango Hydroelectric Project |
| | | Balanced Scorecard's strategic objectives |
| | | Comprehensive risk management |
| Information technology | | |

Integrated Model of Planning and Management (abbreviated MIPG in Spanish)

| MIPG | Company's language | Correlation with the 2018 Sustainability Report |
|--|---|--|
| 3. Result-oriented management with values dimension. | Organizational structure. Stakeholders. Processes (monitoring of non-conforming products). Digital government, anti-corruption and citizen service plan, and procedure rationalization. Budget management. Regulations and legal defense. Citizen participation. Accountability. | Our organization |
| | | Our stakeholders |
| | | Reliability in the provision of the service |
| | | Transparency practices |
| | | Fees and prices |
| | | Information for stakeholders |
| | | Stakeholder engagement |
| | | Integrated Model of Planning and Management |
| 4. Result assessment dimension. | Customer satisfaction survey results. Complaints and claims (products, services). Institutional performance monitoring and evaluation (internal audit results of EPM's QMS and improvement plans). Process indicators. Follow-up to individual performance. | Customer satisfaction |
| | | Reliability in the provision of the service |
| | | Customer service |
| | | Integrated Model of Planning and Management |
| | | In businesses |
| | | EPM's financial management |
| | | Suppliers and contractors |
| | | Engagement with suppliers and contractors |
| 5. Information and communication dimension. | Communication with stakeholders. Transparency and access to information. Document management. | Work performance |
| | | Information for stakeholders |
| | | Stakeholder engagement |
| | | Education for and communication with customers and users and the community |
| | | Transparency practices |
| | | Information technology |

Integrated Model of Planning and Management (abbreviated MIPG in Spanish)

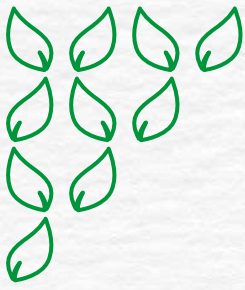
| MIPG | Company's language | Correlation with the 2018 Sustainability Report |
|--------------------------|--|---|
| 6. Knowledge management. | Development and innovation. | <u>Development and innovation</u> |
| | Knowledge management. | <u>Development and innovation</u> |
| 7. Internal control. | Independent audit results (internal audit and external audit). | <u>Internal control</u> |
| | | <u>Accountability</u> |



Grupo·epm[®]



Stakeholders



Grupo·epm[®]



**Commitments
and involvement**

Identification of stakeholders

For identifying stakeholders at Grupo EPM, three criteria are considered:

Disclosure 102-42:

- **Legitimacy** of the stakeholder group is evaluated in the context of the desirable, own, or suitable actions within the system of standards, values, beliefs, and definitions of the society. In operational terms, the legitimacy level is estimated based on the existence of regulations, contracts, and agreements, regarding the topics that link it to the organization.
- **Power** is evaluated in terms of coercive power (force or weapons); utilitarian power (direct or indirect, such as the power of information and knowledge); and symbolic power (relations, political support, and social and cultural recognition).
- **Urgency** or dependency is assessed in terms of the criticality of the urgency (extent of the dependency or the response demand it has over the organization), and the promptness required to respond to the urgency.

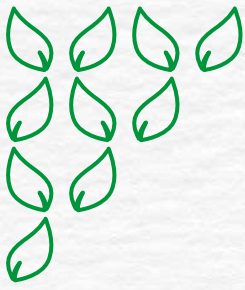
Stakeholder groups identified by EPM based on the criteria of the **Disclosure 102-40** are listed below:

- Customers and users
- Colleagues
- Community
- Owner
- State
- Grupo EPM people
- Investors
- Suppliers and contractors
- Partners

Stakeholders are groups of people or entities that impact or are highly impacted by Grupo EPM and have relatively stable and common interests with it. In technical terms, stakeholders are social groups with a high level of legitimacy, power, and urgency, that have a certain homogeneity and stability in their interests with regard to Grupo EPM.

The priority topics for the sustainability of Grupo EPM and its stakeholders are detailed on [material topics](#).

For Grupo EPM, stakeholders are social groups with a high level of legitimacy, power, and urgency, that have a certain homogeneity and stability in their interests with regard to Grupo EPM.



Grupo·epm[®]



Our stakeholders

Customers and users

Composition

People, companies, and other organizations with which a relationship has been established from the provision of public utilities. For the purposes of the business relationship, in particular billing, the organization associates an installation number with the address of the property where customers and users make the consumption.

| Installations - Grupo EPM | | | |
|---------------------------|-----------|-----------|-----------|
| Service | 2016 | 2017 | 2018 |
| Energy | 6,166,154 | 6,367,752 | 6,579,750 |
| Gas | 1,065,705 | 1,132,329 | 1,196,467 |
| Water | 1,429,195 | 1,477,534 | 1,561,140 |
| Sewerage | 1,379,292 | 1,419,400 | 1,493,835 |
| Sanitation | 767,687 | 789,334 | 818,098 |

Source: Commercial Vice Presidency.

- This table quantifies the facilities provided with public utilities.
- Data reported for the sanitation service were adjusted for each year considering the calculation criterion of Emvarias.
- Ticsa indirectly serves 1,332,720 customers through the operation of eight wastewater treatment plants.

| Installations - EPM | | | |
|---------------------|-----------|-----------|-----------|
| Service | 2016 | 2017 | 2018 |
| Energy | 2,291,716 | 2,368,457 | 2,437,797 |
| Gas | 1,065,705 | 1,132,329 | 1,196,467 |
| Water | 1,145,313 | 1,186,434 | 1,228,667 |
| Sewerage | 1,120,945 | 1,153,683 | 1,192,580 |
| Installations EPM * | 2,330,669 | 2,405,861 | 2,477,761 |

Source: Commercial Vice Presidency.

This table quantifies the facilities provided with public utilities.

* Corresponds to the amount of facilities with at least one service.

Engagement goal

Facilitate access to and use of public utilities by promoting joint actions with different legitimate actors, in order to impact the sustainable human development in the territories where Grupo EPM is present or is planning to be present.

Leader of the engagement plan

Commercial Vice Presidency.

Related topics

| | |
|--|---|
| Related material topics (GRI Standard 102-44) | Access and purchasability |
| | Water and biodiversity |
| | Quality and safety of products and services |
| | Human rights |
| | Nonconventional renewable energy |
| | Climate strategy |
| | Financial strength |
| | Fees and prices |
| Related complementary matters (GRI Standard 102-44) | Transparency |
| | Corporate citizenship |
| | Development and innovation |
| | Working environment |
| | Social and environmental management in projects |
| Sustainable production and consumption | |

Management indicators

102-44 Key topics and concerns raised.

Colleagues

Composition

It consists of guilds, associations, companies engaged in the provision of residential public utilities, and other entities that deal with, share, and exchange experiences and information of common interest in terms of development and sustainability, that are relevant to the sector.

Engagement goal

Formulate and develop a coordinated strategy of sustainability for the economic, social, and environmental contexts, through which a responsible behavior by the public utilities industry is promoted as part of a collaborative relationship with the members.

Leader of the engagement plan

External Relationships Management.

Related topics

Related material topics (GRI Standard 102-44)

| |
|---|
| Access and purchasability |
| Water and biodiversity |
| Quality and safety of products and services |
| Human rights |
| Nonconventional renewable energy |
| Climate strategy |
| Fees and prices |
| Transparency |

Management indicators

102-44 Key topics and concerns raised.

Community

Composition

People located in the areas where Grupo EPM's companies are present through their projects and operations.

Engagement goal

Define multidirectional commitments among the community, the state authorities, and other legitimate actors in the territories where Grupo EPM's companies are present, in order to co-manage permanent dynamics relevant to the society and the environment, which might be translated into equity and a better quality of life for people, all within the framework of the groups' policies and plans.

Leader of the engagement plan

Customers and Community Training Unit.

Related topics

| | |
|--|---|
| Related material topics (GRI Standard 102-44) | Access and purchasability |
| | Water and biodiversity |
| | Quality and safety of products and services |
| | Responsible procurement for local development |
| | Human rights |
| | Nonconventional renewable energy |
| | Climate strategy |
| | Fees and prices |
| | Financial strength |
| | Transparency |
| Related complementary matters (GRI Standard 102-44) | Corporate citizenship |
| | Development and innovation |
| | Working environment |
| | Social and environmental management in projects |
| | Sustainable production and consumption |

Management indicators

102-44 Key topics and concerns raised.

201-1 Direct economic value generated and distributed.

| Value distributed by EPM to the community | 2016 | 2017 | 2018 |
|---|--------------------------|--------------------------|--------------------------|
| | COP 153,185 million (2%) | COP 167,919 million (2%) | COP 216,371 million (3%) |

The value distributed was taken from the financial statements by stakeholder, prepared in accordance with the Fourth Financial Statement methodology by Luis Perera Aldama.

Owner

Composition

It refers to the owner of EPM, that is, the Municipality of Medellín (Municipal Mayor's Office and Council of Medellín) and its board of directors.

Engagement goal

Strengthen, in the Corporate Governance Model, the commitment of the Municipal Administration to excellence in the management of EPM and its autonomy in a stable and continuous way, conditioned to the effective implementation of EPM's Corporate Responsibility Model, on an ethical and non-welfare basis, aiming at an environmental, social, and economic sustainability.

Leader of the engagement plan

Corporate Governance Unit.

Related topics

| | |
|--|---|
| Related material topics (GRI Standard 102-44) | Access and purchasability |
| | Quality and safety of products and services |
| | Organizational climate |
| | Human rights |
| | Nonconventional renewable energy |
| | Financial strength |
| | Fees and prices |
| Related complementary matters (GRI Standard 102-44) | Transparency |
| | Corporate citizenship |
| | Development and innovation |
| | Social and environmental management in projects |

Management indicators

102-44 Key topics and concerns raised.

201-1 Direct economic value generated and distributed.

| Value distributed by EPM to the owner | 2016 | 2017 | 2018 |
|---------------------------------------|---------------------------|-----------------------------|-----------------------------|
| | COP 816,521 million (11%) | COP 1,309,136 million (16%) | COP 1,503,504 million (17%) |

The value distributed was taken from the financial statements by stakeholder, prepared in accordance with the Fourth Financial Statement methodology by Luis Perera Aldama.

State

Composition

National, departmental, and municipal entities that are part of the government executive, legislative, and judicial branches, as well as state agencies from other countries and supranational organizations.

Engagement goal

Promote inter-institutional coordination with the state for the regional development, regarding economic, social, and environmental sustainability of Grupo EPM, acting in a transparent and close way and without giving room to actions that supplant the responsibility of state institutions.

Leader of the engagement plan

External Relationships Management.

Related topics

| | |
|--|---|
| Related material topics (GRI Standard 102-44) | Access and purchasability |
| | Water and biodiversity |
| | Quality and safety of products and services |
| | Responsible procurement for local development |
| | Human rights |
| | Nonconventional renewable energy |
| | Climate strategy |
| | Fees and prices |
| Related complementary matters (GRI Standard 102-44) | Transparency |
| | Corporate citizenship |
| | Development and innovation |
| | Social and environmental management in projects |
| | Sustainable production and consumption |

Management indicators

102-44 Key topics and concerns raised.

201-1 Direct economic value generated and distributed.

| | 2016 | 2017 | 2018 |
|--|-----------------------------|-----------------------------|--------------------------|
| Value distributed by EPM to the state | COP 1,065,965 million (14%) | COP 1,057,387 million (13%) | COP 500,795 million (6%) |

The value distributed was taken from the financial statements by stakeholder, prepared in accordance with the Fourth Financial Statement methodology by Luis Perera Aldama.

Grupo EPM people

Composition

Grupo EPM's employees, beneficiaries, retirees, pensioners, trainees from the National Training Service (SENA), and interns.

| Grupo EPM people | 2016 | 2017 | 2018 |
|-------------------------------|---------------|---------------|---------------|
| Executive staff | 580 | 607 | 617 |
| Professional staff | 4,252 | 4,767 | 5,006 |
| Non-professional staff | 6,876 | 7,881 | 7,855 |
| Total employees | 11,708 | 13,255 | 13,478 |
| Beneficiaries | 11,116 | 11,912 | 12,351 |
| Retirees ¹ | 3,393 | 3,293 | 3,604 |
| Trainees and interns | 487 | 616 | 681 |
| Total Grupo EPM people | 26,704 | 29,076 | 30,114 |

¹ No data regarding pensioners through private pension funds or public funds.

| EPM people | 2016 | 2017 | 2018 |
|-------------------------|---------------|---------------|---------------|
| Executive staff | 213 | 226 | 219 |
| Professional staff | 2,486 | 2,878 | 2,817 |
| Non-professional staff | 3,582 | 4,182 | 4,117 |
| Total employees | 6,281 | 7,286 | 7,153 |
| Beneficiaries | 11,116 | 11,912 | 12,351 |
| Retirees ¹ | 2,243 | 2,193 | 2,135 |
| Trainees and interns | 363 | 345 | 411 |
| Total EPM people | 20,003 | 21,736 | 22,050 |

¹ No data regarding pensioners through private pension funds or public funds.

Engagement goal

Strengthen the relationship between the Grupo EPM people and the organization, in order to improve confidence and enhance the sustainable human development of stakeholders, thus achieving compliance with corporate goals.

Leader of the engagement plan

Vice Presidency of Human Resources and Technology.

Related topics

| | |
|---|--|
| Related material topics (GRI Standard 102-44) | Organizational climate |
| | Human rights |
| | Transparency |
| Related complementary matters (GRI Standard 102-44) | Working environment |
| | Sustainable production and consumption |

Management indicators

102-44 Key topics and concerns raised.

201-1 Direct economic value generated and distributed.

| | 2016 | 2017 | 2018 |
|--|--------------------------------|-----------------------------|--------------------------------|
| Value distributed in EPM people | COP 1,117,763 million (15%) | COP 1,255,589 million (15%) | COP 1,344,782 million (16%) |

The value distributed was taken from the financial statements by stakeholder, prepared in accordance with the Fourth Financial Statement methodology by Luis Perera Aldama.

Investors

Composition

This group comprises agents who are determinant for the provision of long-term financial resources to Grupo EPM. They act directly or indirectly in the capital market and do not share ownership in EPM or its affiliated companies. They include local and international bondholders, long-term funding providers, facilitators, and governmental entities.

Engagement goal

Consolidate trustworthy relationships with the investors and other local and international actors of the securities market, in order to ensure the corporate purpose.

Leader of the engagement plan

Directorate of Capital Management.

Related topics

| | |
|--|---|
| Related material topics (GRI Standard 102-44) | Water and biodiversity |
| | Human rights |
| | Climate strategy |
| | Nonconventional renewable energy |
| | Financial strength |
| | Fees and prices |
| Related complementary matters (GRI Standard 102-44) | Transparency |
| | Social and environmental management in projects |
| | Sustainable production and consumption |

Management indicators

102-44 Key topics and concerns raised.

Main achievements of the engagement plan

| Goals for 2018 | Achievements in 2018 | Accomplishment |
|---|--|----------------|
| Hold the 12th annual event for investors of Grupo EPM. | The annual event was held on April 12 in Bogotá. It counted on the participation of the most representative actors of the securities market. The management, performance, and achievements of the business group during the previous year, as well as the expectations and challenges for the current year, were highlighted during the event. | Total |
| Perform videoconferences to report quarterly financial results. | The four quarterly results teleconferences were conducted (in Spanish and English) for national and international investors. | Total |
| Participate in annual events of international capital markets, such as non-deal roadshows, organized by the commercial banking sector. | The group participated in three international events held in the United States during the second and third trimesters of the year. During these events, it was possible to introduce and update information about the main topics of the business group that are of interest to investors. | Total |
| Receive the visit of Itaú bank and a group of international investors to the EPM's La Tasajera plant. | On April 5, a group of ten large international investors visited La Tasajera. | Total |
| Update both versions (Spanish and English) of the website aimed at investors. | Both versions of the website were updated throughout the year. | Total |
| Comply with the requirements of the Colombian Stock Exchange for the renewal of the IR Recognition to issuers. | IR Recognition awarded by the Colombian Stock Exchange for the 2018-2019 period. | Total |
| Perform engagement activities in response to the contingency of the Ituango hydroelectric project aimed at investors, risk rating agencies, and financial institutions. | Teleconferences: 5 in each language (Spanish and English). Meetings: 30 with investors, 18 with financial institutions (meetings and phone calls), and 3 with risk rating agencies. IDB missions: 3. Phone calls: 26 with investors, 14 with rating agencies. | Total |

Challenges

| Challenges for 2019 | Achievement indicator |
|---|---|
| Hold the 13th annual event for investors of Grupo EPM. | Holding an annual event for investors of Grupo EPM during the second trimester of the year. |
| Conduct teleconferences to report quarterly financial results. | Conducting four quarterly results teleconferences (in Spanish and English) for national and international investors. |
| Participate in annual events of international capital markets, such as non-deal roadshows, organized by the commercial banking sector. | Participating in three international events held in the United States during the second and third trimesters of the year. During these events, it was possible to introduce and update information about the main topics of the business group that are of interest to investors. |
| Perform engagement activities in response to the contingency of the Ituango hydroelectric project aimed at investors, risk rating agencies, and financial institutions. | Conducting teleconferences, phone calls, meetings, as well as non-deal roadshows during February in London, New York, Boston, Los Angeles. |
| Keep both versions of the investor's website updated and improve navigation to facilitate access to content. | Updating regularly the website and improving navigation to facilitate access to content in both English and Spanish versions. |
| Comply with the requirements of the Colombian Stock Exchange for the renewal of the IR Recognition to issuers. | Obtaining the renewal of the IR Recognition to issuers awarded by the Colombian Stock Exchange. |

Suppliers and contractors

Composition

This group comprises natural persons and legal entities, at a national and international level, that are able to provide goods and services to the companies of Grupo EPM.

| Number of suppliers registered in the Supplier and Contractor Information System of EPM | 2016 | 2017 | 2018 |
|---|------|-------|-------|
| | | 5,335 | 3,397 |

This report corresponds to the suppliers registered in the Ariba system as of December 31 of each year.

Engagement goal

Set engagement schemes aligned with the strategic planning of Grupo EPM, in order to turn contracting into a lever for both the strategic goals and the sustainable and competitive development of the territories, by enhancing the local production network and strengthening and developing suppliers and indirect worker conditions, thus favoring sustainable human development.

Leader of the engagement plan

Vice Presidency of Shared Services and Supplies.

Related topics

| | |
|---|---|
| Related material topics (GRI Standard 102-44) | Water and biodiversity |
| | Quality and safety of products and services |
| | Responsible procurement for local development |
| | Human rights |
| | Climate strategy |
| | Fees and prices |
| | Financial strength |
| | Transparency |
| Related complementary matters (GRI Standard 102-44) | Working environment |
| | Sustainable production and consumption |

Management indicators

102-44 Key topics and concerns raised.

201-1 Direct economic value generated and distributed.

| Value distributed by EPM to: | 2016 | 2017 | 2018 |
|--|------------------------------------|------------------------------------|------------------------------------|
| Goods and services suppliers | COP 1,329,363 million (18%) | COP 1,356,969 million (16%) | COP 1,446,075 million (17%) |
| Financial suppliers | COP 512,008 million (7%) | COP 822,031 million (10%) | COP 1,236,127 million (14%) |
| Total suppliers and contractors | COP 1,842,171 million (25%) | COP 2,179,000 million (26%) | COP 2,682,202 million (31%) |

The value distributed was taken from the financial statements by stakeholder, prepared in accordance with the Fourth Financial Statement methodology by Luis Perera Aldama.

The value includes suppliers of goods and services and financial service providers.

Partners

Composition

Natural persons and legal entities that have non-controlling property rights in the national or international affiliated companies that are part of Grupo EPM.

Partners applies for EPM. For the affiliated companies of Grupo EPM, they are called shareholders.

Engagement goal

Maintain the trust through the strict compliance of rights and commitments.

Leader of the engagement plan

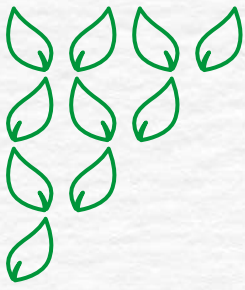
Corporate Governance Unit.

Related topics

| | |
|--|---|
| Related material topics (GRI Standard 102-44) | Access and purchasability |
| | Quality and safety of products and services |
| | Nonconventional renewable energy |
| | Financial strength |
| | Fees and prices |
| | Transparency |
| Related complementary matters (GRI Standard 102-44) | Corporate citizenship |
| | Development and innovation |

Management indicators

102-44 Key topics and concerns raised.



Grupo·epm[®]



Stakeholder
engagement

Stakeholder engagement

The materiality exercise, which includes the stakeholders' view, is described in [Relevant sustainability topics - Materiality](#).

This exercise guides the sustainability management of Grupo EPM based on 11 material topics and their emphases in each territory. For the management of these emphases, the most significant challenges were identified and can be found in each [Material topic](#) in the challenges section.

Stakeholders' topics and concerns

| Material topic | Material topics pointed out by each group | | | | | | | | |
|---|---|-----------|---------------------------|------------------|----------|-------|-----------|-------|------------|
| | Customers and users | Community | Suppliers and contractors | Grupo EPM people | Partners | Owner | Investors | State | Colleagues |
| Access and purchasability | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ |
| Water and biodiversity | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ |
| Quality and safety of products and services | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ |
| Organizational climate | | | | ✓ | | ✓ | | | |
| Responsible procurement for local development | | ✓ | ✓ | | | | | ✓ | |
| Human rights | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| Nonconventional renewable energy | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Climate strategy | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ |
| Financial strength | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | |
| Fees and prices | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Transparency | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Dialogs with EPM's stakeholders

Disclosure 102-43

On April 7, 2018, EPM held the "Public accountability, 2017 Management Report" event at the La Imaginación articulated life unit (abbreviated UVA in Spanish). It was broadcast live on the regional channels, Telemedellín and Teleantioquia, and counted on the presence of the EPM's CEO and the Medellín mayor, as the chairman of the company's board of directors. The event had a conversational format and the community had the opportunity to participate with their questions and contributions.

Prior to the event, a press conference was conducted so that local and national media (newspapers, radio, and TV) had the possibility to register the event and ask what they considered of interest to their audiences.

The public accountability information is available at:

<http://www.epm.com.co/site/Home/SostenibilidadEPM/InformedeSostenibilidad.aspx>

In addition, the national energy affiliates CENS, CHEC, EDEQ, and ESSA used various means to account for their management to the stakeholders in their respective territories.

In order to disseminate the information, programs were conducted some days before in EPM's own media, that is, radio, television (Camino al barrio program), social media, website, intranet, and internal and external newsletters. Likewise, other spaces were used, such as:

Naturalmente, a space to directly talk with Grupo EPM people, which was live streamed on March 21, 2018.

Meeting with investors: the EPM's CEO and the Vice Presidents of Corporate Finance and Risk and Investment Management presented the most relevant facts of the 2017 management at the JW Marriot Hotel, in Bogotá, on April 12, 2018.

Other events were also held with stakeholders, where topics mainly related to the Ituango hydroelectric project were addressed:

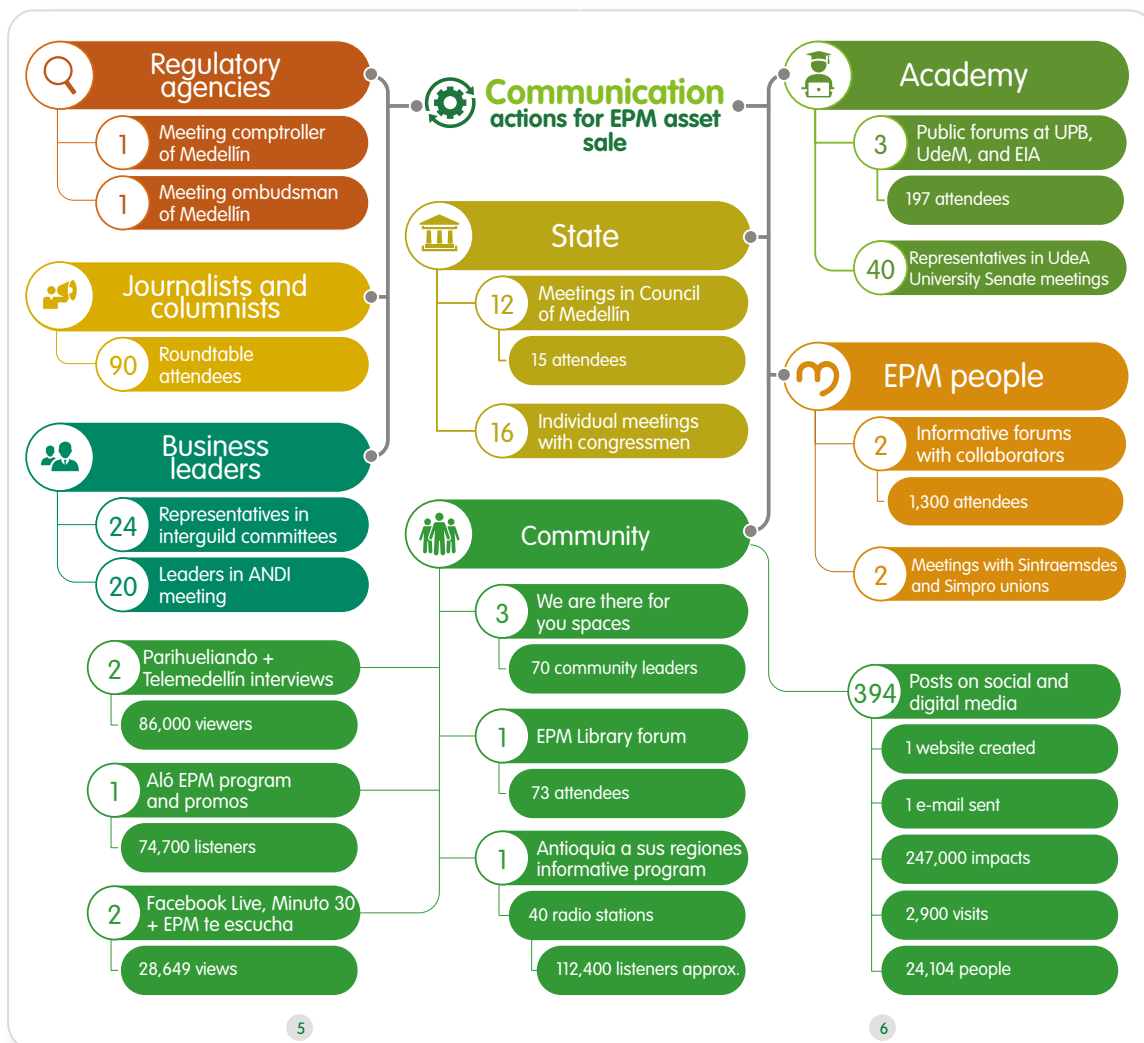
State. Ten debates were conducted in the Council of Medellín, two in the Congress of the Republic of Colombia, and three in the Departmental Assembly of Antioquia.

Colleagues. Meetings with the National Business Association of Colombia (abbreviated ANDI in Spanish), the Colombian Chamber of Infrastructure, the Medellín-Antioquia Chamber of Commerce, the Southern Aburrá Chamber of Commerce, the Eastern Antioquia Business Corporation, and the Engineering Society of Antioquia.

Media, columnists, and journalists. Roundtable with columnists and journalists from Bogotá and Medellín, and attention to media requirements.

Meeting with guilds of Antioquia: Presentation of the chronology of the events that took place in the Ituango hydroelectric project. Meetings with opinion leaders and guilds, including ANDI and the Interguild Committee of Antioquia, to talk about the sale of EPM assets.

Visits to the Ituango hydroelectric project by representatives of the guilds and the academy: directors and CEOs of the Colombian Chamber of Infrastructure (CCI), Grupo SURA, the National Federation of Merchants (Fenalco), the Colombian American Chamber of Commerce, Augura, deans of engineering colleges, and engineering associations.



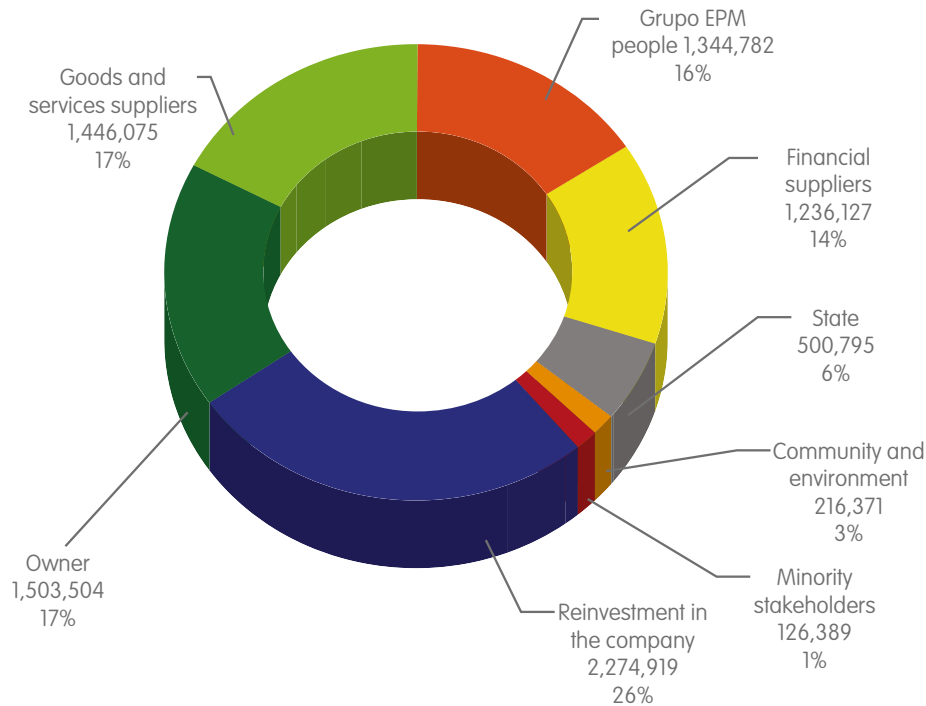
During 2018, the discussion spaces were intended to provide stakeholders with understandable, updated, available, complete, and appropriate information. The topics addressed were mainly related to the works, projects, and challenges faced by EPM and the business group, both in the short and medium term, including those derived from the Ituango hydroelectric project.

Financial statements by stakeholders

Disclosure 201-1

The graph of value generated and distributed shows a quantitative expression of the impact on stakeholders, based on the Fourth Financial Statement methodology by the Uruguayan Luis Perera Aldama.

EPM's financial statements by stakeholders in 2018
Value generated and distributed = COP 8,648,962 million



Source: Executive Vice Presidency of Finance and Investment Management.

| EPM's financial statements by stakeholders - Historical record (million COP) | | | | | | |
|--|------------------|------------------|------------------|------------------|------------------|------------------|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| Total value generated (TVG) | 7,266,391 | 7,721,717 | 8,180,633 | 7,395,881 | 8,388,647 | 8,648,962 |
| Operating value generated (OVG) | 7,866,383 | 7,066,843 | 8,501,525 | 8,048,649 | 8,771,017 | 9,308,234 |
| Income | 13,306,570 | 12,443,064 | 15,424,867 | 15,280,241 | 15,155,519 | 16,573,026 |
| Direct costs | -5,440,187 | -5,376,221 | -6,923,342 | -7,231,592 | -6,384,502 | -7,264,792 |
| Added value generated (AVG) | -599,992 | 654,874 | -320,891 | -652,767 | -382,370 | -659,272 |
| Affiliates and associates | 22,798 | 950,978 | -192,709 | -177,432 | -67,137 | -112,095 |
| Accounting items | -622,790 | -296,104 | -128,183 | -475,335 | -315,234 | -547,177 |
| Total added value distributed (AVD) | 7,266,391 | 7,721,717 | 8,180,633 | 7,395,881 | 8,388,647 | 8,648,962 |
| Company's reinvestment | 1,412,901 | 1,480,818 | 1,091,010 | 2,322,245 | 2,333,287 | 2,274,919 |
| Owner | 1,234,557 | 1,984,566 | 991,139 | 816,521 | 1,309,136 | 1,503,504 |
| Goods and services suppliers | 1,341,016 | 1,064,440 | 1,348,719 | 1,329,363 | 1,356,969 | 1,446,075 |
| Grupo EPM people | 1,410,574 | 883,283 | 1,016,864 | 1,117,763 | 1,255,589 | 1,344,782 |
| Financial suppliers | 768,475 | 1,123,480 | 2,583,090 | 512,808 | 822,031 | 1,236,127 |
| State | 909,354 | 946,341 | 776,462 | 1,065,965 | 1,057,387 | 500,795 |
| Community and environment | 109,480 | 132,637 | 204,944 | 153,185 | 167,919 | 216,371 |
| Minority stakeholders | 80,035 | 106,152 | 168,405 | 78,031 | 86,328 | 126,389 |

Source: Executive Vice Presidency of Finance and Investment Management.

The main concepts included in each group are explained below:

Income

Operating income, net exchange difference from own position, and financial returns from debtors.

Direct costs

Costs of goods sold, commercial operation, and direct supplies used for the provision of public utilities.

Affiliates and associates

Net results of the equity method, income from dividends, and other results associated with the acquisition or disposition of equity investments.

Accounting items

Non-cash income and expenses associated with impairment of assets and provisions for liabilities.

Reinvestment in the company

Depreciation, maintenance, repairs, costs for quality control, undistributed surpluses.

| | |
|------------------------------|--|
| Owner | Ordinary and extraordinary transfers effectively paid. |
| Financial suppliers | Net results of income and expenses from interests, commissions, other results, and exchange difference with financial entities. |
| Grupo EPM people | Costs and expenses associated with the staff and the actuarial calculation. |
| Goods and services suppliers | Costs and expenses associated with the procurement of goods and services not directly related to other stakeholders. |
| State | National and territorial taxes, rates, and contributions. |
| Community and environment | Act 56 of 1981 - Public works regulations, Act 99 of 1993 - General Environmental Law of Colombia, Fund for the Electrification of Non-interconnected Areas (Faznil), Fund for the Electrification of Interconnected Rural Areas (FAER), environmental fees, and contributions to Fundación Grupo EPM. |
| Minority stakeholders | Effective payment of dividends to shareholders and partners of the companies directly and indirectly controlled by EPM. |

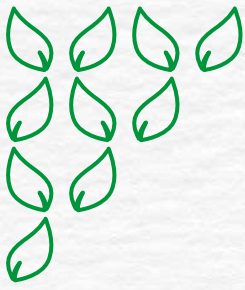
| Grupo EPM's financial statements by stakeholders and business segments in 2018 (million COP) | | | | | |
|---|------------------|------------------|------------------|----------------|-----------------------------|
| | Total Grupo EPM | Energy segment | Water segment | Other segments | Eliminations among segments |
| Total value generated (TVG) | 8,648,962 | 6,570,454 | 2,014,444 | 278,072 | -214,008 |
| Operating value generated (OVG) | 9,308,234 | 7,219,053 | 2,054,780 | 247,187 | -212,786 |
| Income | 16,573,026 | 14,429,452 | 2,146,147 | 251,683 | -254,256 |
| Direct costs | -7,264,792 | -7,210,399 | -91,367 | -4,496 | 41,470 |
| Added value generated (AVG) | -659,272 | -648,599 | -40,336 | 30,885 | -1,222 |
| Affiliates and associates | -112,095 | -152,378 | -3,339 | 44,844 | -1,222 |
| Accounting items | -547,177 | -496,221 | -36,997 | -13,959 | 0 |
| Total added value distributed (AVD) | 8,648,962 | 6,570,454 | 2,014,444 | 278,072 | -214,008 |
| Reinvestment in the company | 2,274,919 | 2,109,325 | 701,327 | -515,559 | -20,174 |
| Owner | 1,503,504 | 759,972 | 226,274 | 517,258 | |
| Goods and services suppliers | 1,446,075 | 984,497 | 482,323 | 46,591 | -67,336 |
| Grupo EPM people | 1,344,782 | 915,943 | 305,146 | 128,821 | -5,128 |
| Financial suppliers | 1,236,127 | 871,077 | 217,906 | 272,819 | -125,675 |
| State | 500,795 | 606,600 | 61,758 | -171,868 | 4,305 |
| Community and environment | 216,371 | 196,651 | 19,710 | 10 | 0 |
| Minority stakeholders | 126,389 | 126,389 | 0 | 0 | 0 |

Source: Executive Vice Presidency of Finance and Investment Management.

Grupo EPM's financial statements by stakeholders and countries in 2018 (million COP)

| | Total Grupo EPM | Colombia | Chile | El Salvador | Guatemala | Panama | Mexico | Bermudas | Eliminations among countries |
|--|------------------|------------------|----------------|----------------|----------------|----------------|----------------|--------------|------------------------------|
| Total value generated (TVG) | 8,648,962 | 7,021,575 | 447,906 | 203,231 | 494,765 | 420,805 | 163,545 | 9,317 | -112,182 |
| Operating value generated (OVG) | 9,308,234 | 7,556,549 | 459,299 | 208,428 | 539,620 | 471,124 | 176,079 | 9,317 | -112,182 |
| Income | 16,573,026 | 11,019,538 | 525,669 | 889,712 | 1,953,496 | 2,111,029 | 177,939 | 9,130 | -113,487 |
| Direct costs | -7,264,792 | -3,462,989 | -66,370 | -681,284 | -1,413,876 | -1,639,905 | -1,860 | 187 | 1,305 |
| Added value generated (AVG) | -659,272 | -534,974 | -11,393 | -5,197 | -44,855 | -50,319 | -12,534 | 0 | 0 |
| Affiliates and associates | -112,095 | -18,427 | -33 | -5,885 | -37,826 | -44,387 | -5,537 | 0 | 0 |
| Accounting items | -547,177 | -516,547 | -11,360 | 688 | -7,029 | -5,932 | -6,997 | 0 | 0 |
| Total added value distributed (AVD) | 8,648,962 | 7,021,575 | 447,906 | 203,231 | 494,765 | 420,805 | 163,545 | 9,317 | -112,182 |
| Reinvestment in the company | 2,274,919 | 1,460,348 | 446,057 | 77,183 | 201,406 | 147,215 | -67,114 | 10,711 | -887 |
| Owner | 1,503,504 | 1,503,504 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Goods and services suppliers | 1,446,075 | 1,069,704 | 46,603 | 29,202 | 90,854 | 79,363 | 131,102 | 1,184 | -1,937 |
| Grupo EPM people | 1,344,782 | 1,100,783 | 55,514 | 40,313 | 70,000 | 51,914 | 25,899 | 356 | 3 |
| Financial suppliers | 1,236,127 | 1,036,491 | 132,391 | 9,124 | 42,079 | 79,277 | 49,060 | -2,934 | -109,361 |
| State | 500,795 | 578,003 | -232,738 | 46,835 | 54,590 | 29,511 | 24,594 | 0 | 0 |
| Community and environment | 216,371 | 216,016 | 79 | 0 | 89 | 183 | 4 | 0 | 0 |
| Minority stakeholders | 126,389 | 56,726 | 0 | 574 | 35,747 | 33,342 | 0 | 0 | 0 |

Source: Executive Vice Presidency of Finance and Investment Management.















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Commitments to
external sustainability
initiatives

Commitments to external sustainability initiatives

External sustainability initiatives signed or adopted by EPM

| | |
|---|---|
|  | <p>Sustainable Development Goals 2030 2030 Agenda for sustainable development about 17 goals focused on people, the planet, prosperity, peace, and alliances.</p> |
|  | <p>Architecture for a better world Corporate sustainability, priorities of the post-2015 global development agenda, long-term business goals, action and collaboration platforms, social and market-related drivers and incentives, transparency, and public accountability.</p> |
|  | <p>Global Compact Principles Labor rights, human rights, environment, and anti-corruption.</p> |
|  | <p>Business for peace - Global Compact Role of the companies in relation to peace in the territories where they have direct influence.</p> |
|  | <p>The CEO Water Mandate - Global Compact Commitment of the private sector to water management.</p> |
|  | <p>Rio Declaration Sustainable development.</p> |
|  | <p>COP 21. Paris Agreement Emission mitigation.</p> |
|  | <p>Global Reporting Initiative - GRI Global sustainability report.</p> |
|  | <p>Guías Colombia (Colombia Guidelines) Human rights and international humanitarian law.</p> |
|  | <p>Transparencia por Colombia (Transparency for Colombia) Transparency indicator in public utility companies.</p> |
|  | <p>AA1000 Stakeholder Engagement Standard Stakeholders engagement.</p> |
|  | <p>ISO 26000 – International Standard on Social Responsibility Governance, human rights, labor practices, environment, fair operating practices, consumer issues, and community involvement and development.</p> |

| | |
|---|--|
|  | Ethos indicators Values, transparency, and corporate governance; internal audience, environment, suppliers, consumers, community, government, and society. |
|  | ISO 14001 – Environmental Management Pollution and environmental management. |
|  | Equator Principles Environmental and social management. |

Participation in guilds and associations

| Type | Guild or association |
|---|---|
| National and international guilds and associations | Collective Agreement of the Colombian Electricity Sector |
| | Agency for Cooperation and Investment of Medellín and the Metropolitan Area - ACI |
| | Center for Tax Studies of Antioquia - CETA |
| | Colombian Association of Finance Executives - ACEF |
| | Colombian Association of Electricity Generators - Acolgen |
| | Latin American Association of Water and Sanitation Operators - ALOAS |
| | National Association of Utilities and Communication Companies - Andesco |
| | National Business Association of Colombia - ANDI |
| | Colombian Association of Labor Relations - Ascort |
| | Association of Corporate Foundations - AFE |
| | Colombian Association of Electricity Distributors - Asocodis |
| | Colombian Association of Natural Gas - Naturgas |
| | Colombian Association of Conformity Assessment Bodies - ASOCEC |
| | Cátedra del Agua |
| | Center for Research and Technological Development - CIDET |
| | Medellín Electric Energy Cluster |
| | Colombia Inteligente |
| | Regional Energy Integration Commission - CIER |
| | National Commission for Health and Safety at Work of the Electricity Sector - Ministry of Labor |
| | Marketing Advisory Committee - MAC |
| Transmission Planning Advisory Committee - CAPT | |
| Colombian Member Committee of the Regional Energy Integration Commission - COCIER | |
| Committee of Coffee Growers of Caldas | |
| Committee of Coffee Growers of Risaralda | |
| Committee of Employees and Compliance Officers of the Real Sector | |

| Type | Guild or association |
|--|--|
| National and international guilds and associations | Security Committee - CEA-OSAC |
| | Inter-institutional Committee of Libraries |
| | Inter-institutional Committee for Environmental Education of Antioquia - CIDEA |
| | Inter-institutional Committee for Environmental Education of Medellín - CIDEAM |
| | Reading Plan Sectoral Committee |
| | Inter-institutional Thematic Committee on Climate Change of the Municipality of Medellín |
| | University - Industry - Government Committee - UIGC |
| | Metropolitan Environmental Council |
| | Colombian Council for Sustainable Constructions - CCCS |
| | Colombian Council for Security |
| | Metropolitan Council for Planning |
| | World Energy Council - WEC |
| | CNO - National Operation Council of Gas - CNO-Gas |
| | National Operation Council - CNO |
| | Ruta N Medellín Corporation |
| | High Cost Account |
| | Global Movement of High-Impact Entrepreneurs - Endeavor |
| | Group of University Libraries - G8 |
| | Guías Colombia |
| | Colombian Institute of Tax Law - ICDT |
| | Colombian Institute of Technical Standards and Certification - ICONTEC |
| | Colombian Institute for Subterranean Infrastructure Technologies - ICTIS |
| | International Hydropower Association – IHA |
| | Colombian Institute of Internal Auditors - IIA |
| | National Institute of Metrology |
| | Institute for Social Housing and Urban Reform of Bucaramanga - INVISBU |
| | Information Systems Audit and Control Association - ISACA |
| | International Water Association - IWA |
| | Committee on Critical Infrastructure, Operational Risk, and National Cyber Defense of the Ministry of National Defense |
| | Committee of Medellín's Museums - MMM |
| | Committee of the Electricity Sector (SENA) |
| | National Committee for Adaptation to Climate Change |
| | Regional Hub for Adaptation to Climate Change |
| Colombian Accreditation Organism - ONAC | |

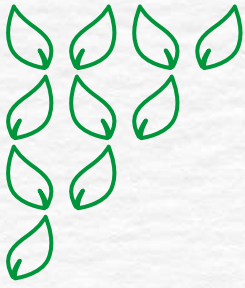
| Type | Guild or association |
|--|--|
| National and international guilds and associations | Regional Platform of the Global Water Operators' Partnerships Alliance (GWOPA) for Latin America and the Caribbean - WOP-LAC |
| | Program for integrity - Initiative by the UNODC |
| | Network of Antioquia's Museums - RMA |
| | Latin American and Caribbean Network for the Popularization of Science and Technology - RedPop |
| | Network for Transparency and Citizen Participation |
| | Global Compact Network - Colombia |
| | Risk and Insurance Management Society - RIMS |
| Trade guilds and associations | Fenalco |
| | Camacol |
| | Colombian Chilean Chamber of Commerce |
| | Medellin-Antioquia Chamber of Commerce |
| | Colombian Mexican Chamber of Commerce |
| | Camacol Caldas |
| | Camacol Risaralda |
| | La Dorada Chamber of Commerce |
| | Chinchiná Chamber of Commerce |
| | Dos Quebradas Chamber of Commerce |
| | Pereira Chamber of Commerce |

Most substantial subscriptions and affiliations

| Subscriptions and affiliations in 2018 - Grupo EPM (million COP) | | | | | | | |
|--|-----|------|------|------|------|----------|-----------------|
| Entity | EPM | ESSA | CENS | CHEC | EDEQ | Emvarias | Total Grupo EPM |
| Acolgen - Colombian Association of Electricity Generators. | 584 | 0 | 0 | 0 | 0 | 0 | 584 |
| Asocodis - Colombian Association of Electricity Distributors. | 283 | 134 | 88 | 52 | 16 | 0 | 574 |
| Andesco - National Association of Utilities and Communication Companies. | 82 | 90 | 74 | 55 | 13 | 30 | 344 |

| Subscriptions and affiliations in 2018 - Grupo EPM (million COP) | | | | | | | |
|--|--------------|------------|------------|------------|-----------|-----------|-----------------|
| Entity | EPM | ESSA | CENS | CHEC | EDEQ | Emvarias | Total Grupo EPM |
| ANDI - National Business Association of Colombia. | 172 | 37 | 37 | 52 | 0 | 0 | 298 |
| Center for Research and Technological Development of the Electricity Sector - CIDET. | 77 | 39 | 22 | 0 | 9 | 0 | 147 |
| Colombian Association of Natural Gas - Naturgas. | 109 | 0 | 0 | 0 | 0 | 0 | 109 |
| COCIER - Colombian Member Committee of the Regional Energy Integration Commission. | 38 | 26 | 21 | 21 | 0 | 0 | 107 |
| Total (million COP) | 1,346 | 326 | 243 | 181 | 37 | 30 | 2,162 |

Source: Executive Vice Presidency of Corporate Finance and Investment Management / Vice Presidency of Corporate Communications and Relations.



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**Joint
responsibility for
the environment**

Joint responsibility for the environment

Grupo EPM is committed to the environment in the territories where it operates, and establishes synergies through agreements, inter-administrative contracts, working groups, and other strategic alliances that seek to develop actions for the protection of the natural resources and the improvement of the living conditions of the surrounding communities.

In 2018, Grupo EPM maintained its commitments and alliances with different institutions to promote compliance with its environmental policy and the strategic objectives in this matter. It included regional environmental entities such as Corantioquia, Cornare, Corpourabá, Corpocaldas, Carder, Corporation for the Development of Caldas (CDC), and Metropolitan Area of Valle de Aburrá. The company signed different inter-institutional agreements related to protection of watersheds and reservoirs, protection and promotion of biodiversity, environmental education, ecotourism, air quality and sustainable mobility, emission reduction, and appropriate management of ordinary, special, and hazardous waste.

It is important to highlight EPM's efforts to mitigate the environmental and social impacts arising from the contingency in the Ituango hydroelectric project, which were supported by institutions such as the National Unit for Disaster Risk Management (abbreviated UNGRD in Spanish), the Ministry of Environment and Sustainable Development, among other entities. The human and economic resources allocated for the primary attention to the affected communities and ecosystems, as well as for the recovery of the living conditions, represent a milestone for EPM and a benchmark for events of this type in the world.

Grupo EPM continues working with unions and national government institutions, such as the Ministry of Environment and Sustainable Development, in order to contribute to the generation, review, and analysis of public environmental policies (including the dumping standard for non-residential users); the improvement of the process for obtaining tax incentives in environmental matters and the existing regulations to identify impacts on stakeholders, natural resources, and the environment. In 2018, EPM continued participating in the analysis of standards, taking part in working groups, and promoting initiatives in favor of an adequate institutional framework for all the groups involved.

Similarly, EPM reaffirms its alliances with Metro de Medellín, the municipality of Medellín, the municipalities of the Metropolitan Area, Prodepaz, Isagen, WWF, the Alexander von Humboldt Institute, the Parque Arví Corporation, Masbosques, the Technology Center of Antioquia, Universidad Nacional de Colombia, several municipalities of Eastern Antioquia, and, especially, the municipalities located in the Porce and Cauca basins, where the company focused its efforts to deal with the environmental and social contingency of the Ituango hydroelectric project.

Within the context of this contingency, it is worth highlighting the support of the Ministry of Environment, the National Environmental Licensing Authority, the National Unit for Disaster Risk Management, among other institutions. It is also important mentioning the alliance with the Wildlife Conservation Society (WCS) for the implementation of a program for the conservation of the silvery-brown tamarin in the area of influence of the Porce III power plant (assessment of the health status of the populations, genetic characterization, and ecological study).

CHEC remains committed to the conservation and protection of watersheds and strategic ecosystems. The affiliated company signed agreements with Corpocaldas, Aguas de Manizales, Espumar, Ascundesarrollo, Carder, Fundación Ecológica Cafetera, and some municipalities in its area of influence, such as Villa María, Chinchiná, and Marsella. For the protection of the Chinchiná river pier, it also signed an alliance with the Tucunare Club, achieving results that surpassed tourism expectations. Similarly, along with the Corporation for the Development of Caldas, the company promotes business and community strengthening initiatives through the articulation of sustainable business processes with environmental and social approach in the communities of the Claro and San Julián rivers basins. In addition, in the area of influence of the power generation business, CHEC has an alliance with the community to strengthen its business capabilities in the design of the El Cóndor ecotourism route. Finally, the company joined efforts with Carder and Corpocaldas to implement the BanCO2 project, which engaged 26 families in Caldas and 17 in Risaralda.

Aguas Regionales, for its part, has developed the strategic goal of strengthening its relationships with external stakeholders; particularly, with those directly related to the environment. In consequence, it has been working, along with entities such as Augura, in initiatives for the protection of the La Cristalina basin, in Apartadó, as well as in environmental working groups organized by the same entity. With Corpourabá, the company is performing activities covered by the Inter-administrative Framework Agreement for the conservation of 534 ha under the BanCO2 platform. In addition, it created a working group for the development of the management plan for the aquifer of the gulf of Urabá. The company also engaged in processes for the planning of basins, Pomcas, and in committees for the management of the Turbo-Currulao and León rivers basins. Finally, the affiliated company has been carrying out an important environmental education work and has conducted more than 100 workshops and lectures in which nearly 2,000 children and young people have participated.

Adasa, in Chile, led an alliance with companies of the industrial neighborhood Pedro Aguirre Cerda, in Antofagasta, in order to implement clean production measures and technologies with measurable results. In this way, it has managed to improve competitiveness, engagement with the community, and environmental performance.

EPRio, the new Grupo EPM's affiliated company, based on the municipality of Rionegro, in Antioquia, has committed itself to offset its CO₂ emissions through an alliance with the Masbosques corporation. With this purpose, it makes use of the payment instrument for environmental services called BanCO2.

Joint environmental initiatives

| Company | Others actors involved | Engagement mechanism | Goal | Management in 2018 |
|---------|--|----------------------|---|--|
| EPM | Recyclers' Multi-purpose Cooperative of Medellín - Recimed | Agreement | Manage the recyclable materials generated in EPM's offices and facilities located in the Metropolitan Area of Valle de Aburrá during the 12 months of the year. | Delivery of 235,796 kg of recyclable material to Recimed, which represented an income of COP 81.2 million for this entity. |
| | Wildlife Conservation Society - WCS | Agreement | Implement a silvery-brown tamarin conservation strategy in the area of influence of the Porce III reservoir. | Control of habitat occupation, genetic characterizations, and assessment of the health status of the populations. Installation of 14 canopy bridges between the Porce II, Porce III, and Playas hydroelectric plants. Environmental education campaigns and ecological study of the silvery-brown tamarin populations. |
| CHEC | Corporación de Aguas de Manizales | Agreement | Consolidate the Agreements for the Chinchiná River Basin initiative as a platform to manage, support, and encourage territorial development. | Hydrological monitoring, strengthening of the participation and dialog processes among institutional and community actors, design of the offset mechanism for environmental services, and tracking and monitoring system for the project's action plan. CHEC's contributions: COP 170 million. Other entities' contributions: COP 160 million. |
| | Corporación for the Development of Caldas - CDC | Agreements | Perform business and community strengthening activities aimed at generating sustainable business processes with environmental and social approach in rural settlements and areas surrounding the Claro river basin and the San Julián stream. | Business and community strengthening initiatives aimed at creating sustainable business processes with environmental and social approach. Definition of routes, guide notes, gastronomic offer, handicrafts, tourism products, tour operators, and activities. |

Joint environmental initiatives

| Company | Others actors involved | Engagement mechanism | Goal | Management in 2018 |
|---------|---|----------------------|--|--|
| CHEC | Corporation for the Development of Caldas - CDC | Agreements | Join forces to design, implement, and execute training and participation strategies for the rural communities that are part of the social and environmental support to the generation business. | School of rural environmental leaders, agroecological fair, training in use and reuse, strengthening of citizen oversight committees, Jóvenes del campo y para el campo (Youth from the countryside and for the countryside) rural meetings, and strengthening of Asomultisanfrancisco. |
| | Tucunare Club | Agreement | Direct the operation and integral management of the Cameduadua pier. | Consolidation of the Cameduadua pier as a reference point in the municipality of Chinchiná and the region in general. It surpassed the expectations in terms of visitors and tourism activities. |
| | Municipality of Villamaría and Ascondesarrollo | Agreement | Carry out actions to recover and restore impacted areas in ecosystems of strategic interest for the conservation of natural and water resources in the basins of the Chinchiná and Claro rivers. | Activities for the recovery of strategic micro-basins of environmental interest. Intervention of 47.2 ha. Environmental awareness-raising workshops. Construction of 15 km of inert fence and 441 m ² of bioengineering. Assessment by qualified experts and classification as environmentally important. |
| | Municipality of Chinchiná and Ascondesarrollo | Agreement | Carry out actions to recover and restore impacted areas in ecosystems of strategic interest for the conservation of natural and water resources in the basins of the Chinchiná and Campoalegre rivers. | Prioritization of areas to be intervened. Intervention of prioritized areas. |

Joint environmental initiatives

| Company | Others actors involved | Engagement mechanism | Goal | Management in 2018 |
|---------|---|----------------------|---|--|
| CHEC | Empresas Públicas de Marsella – Empumar and Regional Autonomous Corporation of Risaralda – Carder | Agreement | Implement actions for the recovery, protection, and conservation of the forest cover in basins of the municipality of Marsella. | Prioritization of areas to be intervened. Definition of the executing entity. Intervention of prioritized areas with fence in wood or guadua. Establishment and preservation of plantations. |
| | Fundación Ecológica Cafetera - FEC | Other | Administer the conservation lands and those related to the electricity generation infrastructure, and perform social and environmental actions in the basins that supply the hydroelectric generation system and the new electricity generation projects under study. | Management and administration of the lands allocated for conservation. Support to achieve the goal of the water protection indicator contained in the Grupo EPM's BHAG. |
| | Municipality of Villamaría and Corfuturo | Agreement | Carry out actions to recover and restore impacted areas in strategic ecosystems for the conservation in the basins of the Claro and Chinchiná rivers. | Installation of yellow wooden fences, environmental awareness-raising activities, reforestation, bioengineering, appraisal of lands of environmental interest, acquisition of lands of environmental interest, and establishment of endoergic forests. |
| | Municipality of Marsella | Agreement | Join forces to develop activities in areas affected by natural events in the area of influence of the San Francisco river basin, jurisdiction of the municipality of Marsella. | The agreement had to be suspended due to the rainy season that the region is going through since the first half of 2018. |

Joint environmental initiatives

| Company | Others actors involved | Engagement mechanism | Goal | Management in 2018 |
|------------------|--|----------------------|---|---|
| CHEC | Municipality of Chinchiná and Corpocaldas | Agreement | Join forces to implement the phase VI of Guardianas de la Quebrada Cameduadua (Guardians of the Cameduadua stream); an strategy for prevention of disaster risk, environmental recovery, and improvement of the environment in the areas surrounding the Cameduadua stream and reservoir. | Inspection of the stream conditions, environmental awareness-raising activities, extraction of waste from the stream, field trips, and training of the guardians. |
| Aguas Regionales | Association of Banana Producers of Colombia - Augura | Agreement | Create working groups for the comprehensive management of water resources in the water supply sources. | Articulated efforts in the Apartadó basin, La Cristalina sub-basin. |
| | Corpourabá | Agreement | Join economic, technical, and operational efforts in order to continue with the implementation of the strategy for the conservation and restoration of forests under the BanCO2 modality, community environmental services located in the Abibe mountain range. | 534 ha of conservation area. |

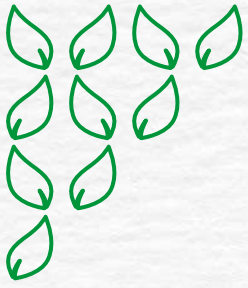
Joint environmental initiatives

| Company | Others actors involved | Engagement mechanism | Goal | Management in 2018 |
|--|--|----------------------|--|---|
| Aguas Regionales | Corpourabá | Other | The purpose of the working group for the development of the management plan for the aquifer of the gulf of Urabá is to support, manage, replicate, oversee, and monitor the approval and execution of the environmental management plan for the gulf aquifer system. | Participation in the formulation of the management plan for the Urabá aquifer and creation of the working group. |
| | Technical Inter-institutional Committee for Environmental Education - Cideam | Other | Execute environmental education programs in the institutions of each municipality in order to coordinate efforts and keep students at their schools. | Presentation of the programs conducted by Aguas de Urabá, and execution in the municipalities of Carepa and Apartadó. |
| | Working group for the aquifer of the gulf of Urabá – Macura | Other | Create an space for making contributions and asking questions in order to support, manage, replicate, oversee, and monitor the plan. | Forum held in Urabá, which summoned the businessmen of the region to talk about the groundwater. Presentations were made in all municipal councils of the region. |
| | Municipal mayor's offices | Other | Provide the rural settlements of Apartadó, Chigorodó, Carepa, and Turbo with drinking water during the dry season. | Water supply during the first three months of the year. |
| Encourage water care among the different entities involved, secretariats of agriculture and environment, and Aguas Regionales. | | | Meetings to coordinate activities with different institutions. | |

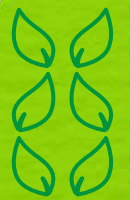
Joint environmental initiatives

| Company | Others actors involved | Engagement mechanism | Goal | Management in 2018 |
|------------------|--|----------------------|--|---|
| Aguas Regionales | Educational institutions | Other | Encourage children to care for the natural resources. | Workshops carried out with 287 children. |
| | San Jerónimo Mayor's Office | Other | Support the environmental working group of the municipality. | Participation in meetings and activities carried out. |
| | Municipal Council for Disaster Risk Management - CMGRD | Other | Conduct, along with the CMGRD, the activities necessary to deal with the contingencies occurring during the year. | Development of meetings and support in the campaigns conducted throughout the year. |
| | Educational institutions | Other | Encourage children to care for the natural resources. | 79 workshops with the participation of 1,765 children. |
| | Educational institutions and community | Other | Guide stakeholders during their visits to the water purification plants, explain the processes and campaigns developed by Aguas Regionales, such as Recopila and Ecoladrillos, and raise awareness about the importance of protecting this resource. | 23 visits scheduled. |

Source: Executive Vice Presidency of Business Management / Vice Presidency of Communications and Corporate Relations.



Grupo·epm[®]



Precautionary
principle

Precautionary principle

According to the precautionary principle¹, the lack of full scientific certainty is not an excuse to postpone the adoption of effective and early measures to prevent environmental and human health degradation.

In Grupo EPM, a cautious approach to protect the environment and the human health is incorporated from its strategic planning. The purpose is based on the precepts of sustainable human development, suggesting a business performance that harmonizes financial, social, and environmental results. The strategy considers corporate social responsibility as the compass for growth and optimization of operations **GRI disclosure 102-11.**

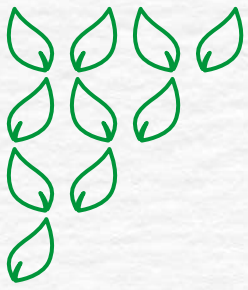
Grupo EPM has undertaken actions based on national environmental and risk-management policies related to loss of biodiversity, climate change, and risks for people.

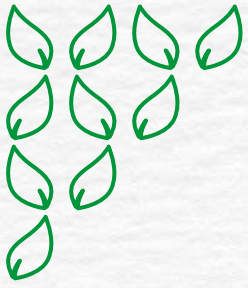
Therefore, during 2018, given the risk situation in the Ituango hydroelectric project, decisions were made based on a scale that prioritizes the preservation of people's lives, followed by the protection of the environment and the recovery of the project. All the actions undertaken in the project followed strict safety and control procedures. [See the Ituango hydroelectric project report.](#)

Other EPM's actions consistent with the precautionary principle are mentioned in [Climate strategy](#) and [Water and biodiversity](#).

In view of the risk situation in the Ituango hydroelectric project, the priority was safeguarding people's lives, followed by the protection of the environment and the recovery of the project in technical terms.

¹ Rio Declaration, UN Conference on Environment and Development, 1992.





Grupo·epm[®]



Access and
purchasability



Access and purchasability

Higher availability of public utilities through solutions that promote human and territorial development. Access involves providing the service to populations living in areas with technical or legal restrictions for its provision, as well as offers for customers and users to permanently enjoy residential public utilities.

Availability of public utilities through conventional and non-conventional solutions that promote human and territorial development.

In compliance with regulations and standards, access involves service availability through infrastructure solutions that also aim at providing the service to populations living in areas with technical or legal restrictions for its provision, that is, unserved population.

Purchasability refers to the options and solutions available for users and customers to permanently enjoy residential public utilities, meeting their tastes, preferences, and needs and taking into account their ability and willingness to pay.

Relevance

Universalization, understood as purchasability and access solutions, is a focus of the CSR policy. It is also present at the core of the business, is the essential contribution of Grupo EPM to the development of territories, and represents high social value for the organization and its stakeholders.

The lack of access to public utilities is a determining aspect of poverty with ethical, reputational, and economic implications directly related to Grupo EPM's businesses.

Main achievements

| Program / Action | Challenge | Company | Achievements in 2018 | Accomplishment |
|--|---|---------|--|------------------|
| Rural electrification | Connect 4,000 customers and users to the service. | EPM | 4,807 users were connected to the service, accomplishing 120% of the annual goal. | Total |
| | Connect 358 customers and users to the service. | CENS | 81 users were connected to the service, accomplishing 23% of the annual goal. | Not accomplished |
| | Carry out the rural electrification of 525 homes through the construction of traditional networks and of 23 homes through the solar panel solution, which are part of Grupo EPM's coverage project. | CHEC | 126 users were connected to the service, accomplishing 24% of the annual goal. Due to the suspension of the Kingo project, the goal of the 23 homes with a solar panel solution was postponed. | Not accomplished |
| | Carry out the rural electrification of 127 homes through the construction of traditional networks and of 23 homes through the solar panel solution, which are part of Grupo EPM's coverage project. | EDEQ | There were no connections to the Rural Electrification program. | Not accomplished |
| | Achieve 95.70% rural coverage in the area where the electrical energy service is provided. | ESSA | A 98.77% of rural coverage was achieved. | Total |
| Habilitación Viviendas (Habitable homes) | Connect 667 users to the water supply service or regularize it. | EPM | As of December 2018, 656 users were connected to the service, accomplishing 98% of the goal. | Partial |
| | Connect 667 users to the sewerage service or regularize it. | | As of December 2018, 762 users were connected to the sewerage service, accomplishing 114% of the goal. | Total |
| | Connect 27,400 customers to the energy service. | | 20,564 customers were connected to the service, accomplishing 75% of the goal, due to the fact that the demand was lower than expected. | Not accomplished |
| | Connect 42,079 customers from strata 1, 2, and 3 to the gas service. | | In 2018, a total of 48,560 customers from strata 1, 2, and 3 were connected to the service, accomplishing 115% of the goal. | Total |
| | Connect 250 customers to the energy service. | CENS | 6,979 customers were connected to the service. | Total |
| | Connect 1,235 customers to the energy service. | CHEC | 1,253 customers were connected to the service, accomplishing 101% of the goal. | Total |
| | Connect 400 customers to the energy service. | EDEQ | 1,015 customers were connected to the service, accomplishing 253% of the goal. | Total |
| | Increase by 104.45% the coverage of the Habilitación Viviendas (Habitable homes) program. | ESSA | 7,706 new customers were connected to the program, which corresponds to 210% of execution. | Total |

| Program / Action | Challenge | Company | Achievements in 2018 | Accomplishment |
|--|---|---------|---|------------------|
| Paga a tu medida (Pay according to your needs) | Connect 40,000 customers of the homes segment to this offer. | EPM | 42,375 customers joined the Paga a tu medida (Pay according to your needs) offer, accomplishing 106% of the annual goal. This result is due to the great acceptance of the offer in the market due to the flexibility it offers for paying the bill in up to 5 installments, which has positively impacted the cash collection results. | Total |
| | Connect 3,743 customers of the homes segment to this offer. | CENS | 4,419 customers joined the Paga a tu medida (Pay according to your needs) offer, accomplishing 118% of the annual goal. This result is due to the fact that, in the customer service channels, they have an incentive plan for the fulfillment of the goal, and this offer is also promoted through various media. | Total |
| | Connect 10,000 customers of the homes segment to this offer. | ESSA | 1,638 customers joined the Paga a tu medida (Pay according to your needs) offer, accomplishing 16% of the annual goal. The offer was launched into the market one month later than planned, and there have been difficulties in terms of communication channels and cash collection allies. | Not accomplished |
| Unserved population | Achieve 11,650 connections to the water supply service in existing homes that do not have access to this service. | EPM | 10,519 customers were connected to the service, accomplishing 90% of the annual goal. There were delays in connections, contingencies in the distribution network, and delay in road-breaking permits by the municipal administrations. | Partial |
| | Achieve 11,650 connections to the sewerage service in existing homes that do not have access to this service. | | 9,455 customers were connected to the service. Accomplishment of 81% of the annual goal due to a reduction of 3,500 connections in the Versalles second stage, La Cruz, Honda, and Bello Oriente sectors, which will be carried out in 2019. | Partial |
| | Achieve 1,000 connections to the energy service in existing homes that do not have access to this service. | | 2,349 homes were connected to the service, accomplishing 234% of the goal. | Total |
| | Achieve 1,900 connections to the gas service in existing homes that do not have access to this service. | | 2,945 homes were connected to the service, accomplishing 155% of the goal. | Total |

| Program / Action | Challenge | Company | Achievements in 2018 | Accomplishment |
|------------------|---|---------|---|----------------|
| Prepaid services | Connect 17,502 customers of EPM's homes segment to this service. | EPM | 15,550 customers were connected to the service, accomplishing 88% of the goal. Factors that are essential for the installation of the service such as exhaustion of the potential market, termination of the meter installation contract, and delay in the permits granted by the municipal entities were reported. | Partial |
| | Connect 2,000 customers of EPM's homes segment to the water and sanitation offer. | | 2,168 customers were connected to the offer, accomplishing 108% of the goal. | Total |
| | Connect 3,680 customers of the homes segment to this offer. | CENS | 5,630 customers were connected to the offer, accomplishing 153% of the goal. | Total |
| | Connect 4,000 customers of the homes segment to the prepaid energy offer. | ESSA | 7,826 customers were connected to the offer, accomplishing 196% of the goal. | Total |

| Program / Action | Challenge | Company | Achievements in 2018 | Accomplishment |
|------------------|---|--------------------------------|--------------------------------|-------------------------------|
| Universalization | Achieve 96.72% universalization in Grupo EPM's water supply service in Colombia. | Grupo EPM | Universalization rate: 96.66%. | Partial |
| | Achieve 93.41% universalization in Grupo EPM's wastewater management service in Colombia. | | Universalization rate: 93.3%. | Partial |
| | Achieve 97.20% universalization in EPM's water supply service. | EPM | Universalization rate: 97.15%. | Partial |
| | Achieve 95.22% universalization in EPM's wastewater management service. | | Universalization rate: 95.15%. | Partial |
| | Achieve 99.4% universalization in solid waste management. | | Universalization rate: 99.2%. | Partial |
| | Achieve 97.60% universalization in the energy service. | | Universalization rate: 96.42%. | Partial |
| | Achieve 86.18% universalization in the gas service. | | Universalization rate: 84.63%. | Partial |
| | Achieve 92.18% universalization in the water supply service. | | Aguas de Malambo | Universalization rate: 91.5%. |
| | Achieve 78.64% universalization in the wastewater management service. | Universalization rate: 76.18%. | | Partial |
| | Achieve 100% universalization in the water supply service. | Aguas del Oriente | Universalization rate: 100%. | Total |
| | Achieve 100% universalization in the wastewater management service. | | Universalization rate: 100%. | Total |
| | Achieve 91.64% universalization in the water supply service. | Aguas Regionales | Universalization rate: 91.5%. | Partial |
| | Achieve 74.59% universalization in the wastewater management service. | | Universalization rate: 73.19%. | Partial |

| Program / Action | Challenge | Company | Achievements in 2018 | Accomplishment |
|--|--|--|---|---|
| Universalization | Achieve 97.93% universalization in the energy service. | CENS | Universalization rate: 91.92%. | Partial |
| | Achieve 99.16% universalization in the energy service. | CHEC | Universalization rate: 98.73%. | Partial |
| | Achieve 98.81% universalization in the energy service. | EDEQ | Universalization rate: 98.88%. | Total |
| | Achieve 97.67% universalization in the energy service. | ESSA | Universalization rate: 95.89%. | Partial |
| Capturing customers | Connect 78,023 new customers to the energy service. | EPM | 92,040 new customers were connected to the service (accomplishing 118% of the goal). Customers include all the connections made through the Habilitación Viviendas (Habitable Homes) program, Rural Electrification, and unserved homes, as well as those that are addressed in connection projects (spread and massive). | Total |
| | Connect 53,722 new customers to the gas system. | | A total of 63,856 new homes were connected to the system, accomplishing 119% of the goal. | Total |
| | Connect 7,096 customers outside of Valle de Aburrá to the gas service. | | 12,621 new homes outside of Valle de Aburrá were connected to the system, accomplishing 177% of the goal. | Total |
| | Connect 2,284 new customers to the energy service. | CENS | 12,928 homes were connected to the service, accomplishing 566% of the goal. | Total |
| | Connect 11,500 new customers to the energy service. | CHEC | 13,459 homes were connected to the service, accomplishing 117% of the goal. | Total |
| | Connect 3,562 new customers to the energy service. | EDEQ | 6,887 homes were connected to the service, accomplishing 193% of the goal. | Total |
| | Connect 11,455 new customers to the energy service. | ESSA | 35,367 homes were connected to the service, accomplishing 309% of the goal. | Total |
| | Network expansion | Build 217 km of natural gas pipeline network. | EPM | In 2018, 138 km of network were built in the regional market and 77 km in the metropolitan region, for a total of 215 km. A 99% execution of the goal was achieved. |
| Build 137 km of natural gas pipeline network outside of Valle de Aburrá. | | The construction of 138 km of network outside Valle de Aburrá was achieved, accomplishing 101% of the annual goal. | | Total |

| Program / Action | Challenge | Company | Achievements in 2018 | Accomplishment |
|-------------------|--|---------|---|----------------|
| Network expansion | Entry into operation of: <ul style="list-style-type: none"> • Buturama – Ayacucho 115-kV transmission line. • Buturama 115-/34.5 /13.8 kV substation. • Gramalote 34.5-/13.8-kV substation. | CENS | In 2018, the works were completed at 100%, complying with the construction of the Gramalote and Buturama substations, as well as the Buturama - Ayacucho 115-kV line. On November 29, CENS put into operation the new Buturama substation, a modern electrical complex that will supply energy to current users and will provide service to new projects coming to this area. It also modernized the Ayacucho substation, in the municipality of La Gloria, and built a new 115-kV line between Buturama and Ayacucho. The investment in these works amounted to COP 67 billion and generated 394 jobs. On October 1, CENS started operations at the new Gramalote substation, which features a 6-MVA transformer to provide energy to all the families in that population, 600 users in Villa Caro, and 7 thousand users from the municipality of Lourdes, for a total of 8,200 users benefited with a better provision of the energy service. COP 2,236 million was invested in the construction of the electrical complex, while COP 1,150 million was invested in the construction of the power supply line of the substation that starts in Cúcuta and COP 2,360 million, in the urban networks. In total, CENS allocated COP 6,572 million in this big project. | Total |
| | Environmental licensing and permits for the Variante Belén – Ínsula 115-kV transmission lines and the Gamarra and Campo Dos substations. | | In 2018, environmental licenses and permits were obtained from the respective corporations for the following projects: <ul style="list-style-type: none"> • Variante Belén – Ínsula 115-kV transmission lines: Ruling No. 278 of March 2, 2018, environmental license granted by Corponor. • Gamarra substation: Ruling No. 0489 of May 28, 2018, unique forest harvesting permit granted by Corpocecar. • Campo Dos substation: Ruling No. 1173 of August 15, 2018, unique forest harvesting authorization granted by Corponor. | Total |

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|--|------------------------------|-----------------------------|-----------------------------|---------|--|
| | | Territory | Business | Company | |
| Provide access to drinking water and sanitation services for 17,225 new families in the Unidos por el agua program (United for water). | 2019 | Colombia-Antioquia | Water supply and sanitation | EPM | New families in the Unidos por el agua program (United for water). |
| Achieve a target of 95.73% coverage of electricity service in rural areas. | | | | | Percentage of coverage. |
| Pecor (Coverage expansion plan of the network operator): 3,184 homes by conventional network and 846 homes by isolated solution (micro-network, solar, diesel, etc.). | | | Power – T&D | | Number of connections made / Number of connections budgeted. |
| Connect the energy service in unserved homes. It corresponds to the goals of the energy loss control and management project. Facilities located in difficult-to-manage areas (invasions, high-risk areas, etc.) to legalize and enable energy service in 2,000 facilities. | | | | | |
| Create alliances with the government for the legalization of users in human settlements. | 2019 | Colombia-Norte de Santander | Power – T&D | CENS | Regularization of 6,000 users in human settlements. |
| Strengthen the education process in the service of energy, considering that migrants do not know the Colombian pricing system and promote social protest. | | | | | 50,000 people served. |
| Connect 6,000 new users in human settlements. | | | | | Number of people connected to the service in human settlements. |
| Paga a tu medida (Pay according to your needs): 4,232 users. | | | | | Number of users connected to the Paga a tu medida offer (Pay according to your needs). |
| Prepaid energy: 3,000 users. | | | | | Number of users connected to the prepaid energy offer. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|---|------------------------------|----------------------|-----------------------------|-------------------|---|
| | | Territory | Business | Company | |
| Regularize 1,159 users located in 17 settlements and high loss transformers. | 2019 | Colombia - Santander | Power – T&D | ESSA | Regularized users located in below average settlements. |
| Electrify 2,400 homes with EPM's own resources by 2019, with a percentage of 96.3% of total rural coverage. | | | | | Number of electrified homes. |
| Usuarios desconectados program (Users disconnected): 63 customers connected. | 2019 | Colombia - Quindío | Power – T&D | EDEQ | Number of customers connected. |
| Reach 97.27% universalization in water supply. | 2019 | Colombia - Antioquia | Water supply and sanitation | EPM | Universalization %. |
| Reach 91.79% universalization in water supply. | | | | Aguas regionales | |
| Reach 100% universalization in water supply. | | | | Aguas del Oriente | |
| Reach 91.76% universalization in water supply. | 2019 | Colombia - Malambo | Water supply and sanitation | Aguas de Malambo | |
| Reach 77.17% universalization in wastewater management. | | | | | |
| Reach 95.37% universalization in wastewater management. | 2019 | Colombia - Antioquia | Water supply and sanitation | EPM | |
| Reach 75.17% universalization in wastewater management. | | | | Aguas Regionales | |
| Reach 100% universalization in wastewater management. | | | | Aguas del Oriente | |
| Reach 99.4% universalization in solid waste management. | | | | Emvarias | |
| Provide 17,225 solutions for unserved homes. Number of customers and users – Water supply. | | | | EPM | |
| Provide 18,779 solutions for unserved homes. Number of customers and users – Wastewater management. | | | | | |

Related stakeholders

Customers and users
Community
Owner
State
Partners

Actions

- Universalization and expansion of the service
- Rural electrification
- Account financing and default
- Gas without borders
- Habilitación viviendas (Habitable homes)
- Paga a tu medida (Pay according to your needs)
- Community meters
- Unserved population
- Prepaid services

GRI standards disclosures and EPM indicators

103-1 Explanation of the material topic and its boundary.

103-2 The management approach and its components.

103-3 Evaluation of the management approach.

203-2 Significant indirect economic impacts.

EU 26 Percentage of population unserved in licensed distribution areas.

EPM-12 Solutions for unserved homes.

Scope and coverage

Businesses

Water supply

Sanitation

Electrical energy

Gas

Territory

Colombia - Antioquia

Colombia - Caldas

Colombia - Quindío

Colombia - Risaralda

Colombia - Santander

Colombia - Norte de Santander

Colombia - Malambo, Atlántico

Chile

El Salvador

Guatemala

Mexico

Panama

Empresas

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Empresa de Aguas del Oriente Antioqueño
Aguas de Malambo
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
EPM Chile
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa

Sustainable development goals



Universalization and expansion of the service

The social purpose of Grupo EPM is to improve the universalization of its services in the territories where it operates. This is achieved through a joint and coordinated work with variables such as the connection of new customers and the connection of unserved populations, because they are located in places with technical or legal limitations for the provision of services.

Management in 2018

In 2018, Grupo EPM reported a favorable growth in the number of customers in all the services provided, thanks to programs such as *Habilitación viviendas* (Habitable homes), Rural electrification and the expansion of water supply, energy and gas networks.

In EPM, the percentage of universalization of water supply and sewerage showed an increase of 1% with respect to the previous year: 97.15% and 95.15% respectively. In the gas utility, growth was 2.3% due to the expansion of the service in new territories: a total of 84.63% of the territory where it operates.

With the universalization of residential public utilities, Grupo EPM contributed to the improvement of the quality of life of more than 6,570,000 customers and users.

In EPM, 1,228,667 customers and users benefit from the water supply service and 1,192,580 from the sewerage service, which represents a growth of around 3.5% in both with respect to the previous year. It is worth noting the management of the *Unidos por el Agua* program (United for water) developed in the municipality of Medellín, which seeks to improve the quality of life of the community by delivering these two utilities to their homes. During this year, the company successfully connected 11,742 homes, reaching a total of 23,068.

In energy service, the universalization process reached 96.42% in Antioquia, representing 2,437,797 customers and users. At national level, the number of customers and users reaches 4,460,912. The Loss management program, the electrification of rural houses, the strengthening of purchasability commercial offers, the purchase of assets under the modality of future asset, and the expansion of primary and secondary networks were strategies that leveraged the universalization of the service.

The year growth, which represents 2.3% in the universalization of gas service, resulted largely from the start of service provision in five other populations, for a total of 115 localities in Antioquia and 1,196,467 customers and users.

As for Emvarias, this affiliate disposed of 1,140,198 tons of solid waste in 2018, which represents an increase of 0.58% compared to the previous year. In this way, La Pradera landfill became the second largest in Colombia in terms of the amount of solid waste disposal. Furthermore, the provision of the service increased in areas of difficult access, with a positive impact on the inhabitants of nearly 2,600 homes.

Universalization of water supply and sanitation services – Grupo EPM

| Companies | Water supply | | | Sanitation | | |
|-------------------|--------------|---------|---------|------------|---------|---------|
| | 2016 | 2017 | 2018 | 2016 | 2017 | 2018 |
| EPM | 95.09% | 96.13% | 97.15% | 93.00% | 94.08% | 95.15% |
| Aguas del Oriente | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Aguas Regionales | N.D. | N.D. | 91.41% | N.D. | N.D. | 73.19% |
| Región Occidente | 100.00% | 98.10% | N.D. | 89.61% | 87.80% | N.D. |
| Región Urabá | 89.00% | 87.70% | N.D. | 68.04% | 68.10% | N.D. |
| EPRio | N.D. | N.D. | 98.00% | N.D. | N.D. | 97.49% |
| Aguas de Malambo | 90.19% | 91.00% | 91.49% | 74.13% | 73.80% | 76.18% |
| Adasa | 100.00% | 100.00% | 100.00% | 99.80% | 99.80% | 99.86% |

The results of the affiliate Adasa (Chile) correspond to the percentage of service coverage.

Universalization of the energy service – Grupo EPM

| Companies | 2016 | 2017 | 2018 |
|-----------|--------|--------|--------|
| EPM | 99.00% | 96.56% | 96.42% |
| CHEC | 99.83% | 99.12% | 98.73% |
| ESSA | 98.16% | 96.15% | 95.89% |
| CENS | 97.84% | 93.09% | 91.92% |
| EDEQ | 99.00% | 98.74% | 98.88% |
| Delsur | 87.00% | 87.00% | 97.00% |
| Eegsa | 99.25% | 99.20% | 99.32% |
| ENSA | 94.74% | 96.30% | 95.10% |

Universalization results for 2017 and 2018 were adjusted due to the definition of hard-to-reach areas and their delimitation (CREG 037 of 2018). As a result, a wider universe of unserved housing was identified. The results of the companies Delsur (El Salvador), Eegsa (Guatemala), and ENSA (Panama) correspond to the percentage of service coverage.

Universalization of the gas service – EPM

| Company | 2016 | 2017 | 2018 |
|---------|--------|--------|--------|
| EPM | 77.20% | 82.75% | 84.63% |

Water supply and sewerage network expansion – Grupo EPM

| Company / Indicator | sewerage | | | Water supply | | |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| | 2016 | 2017 | 2018 | 2016 | 2017 | 2018 |
| EPM | | | | | | |
| Total primary distribution networks (km) | 263 | 283 | 283 | 384 | 388 | 392 |
| Total secondary distribution networks (km) | 3,513 | 3,583 | 3,627 | 4,179 | 4,228 | 4,261 |
| Aguas del Oriente | | | | | | |
| Total primary distribution networks (km) | 2 | 2 | 2 | 16 | 16 | 16 |
| Total secondary distribution networks (km) | 29 | 30 | 30 | 4 | 4 | 4 |
| Aguas Regionales | | | | | | |
| Total primary distribution networks (km) | 73 | 74 | 144 | 78 | 81 | 81 |
| Total secondary distribution networks (km) | 594 | 600 | 601 | 373 | 375 | 410 |
| Aguas de Malambo | | | | | | |
| Total primary distribution networks (km) | 10 | 14 | 15 | 32 | 32 | 23 |
| Total secondary distribution networks (km) | 166 | 167 | 162 | 84 | 84 | 93 |
| EPRio | | | | | | |
| Total primary distribution networks (km) | N.D. | N.D. | 10 | N.D. | N.D. | 20 |
| Total secondary distribution networks (km) | N.D. | N.D. | 348 | N.D. | N.D. | 133 |
| Adasa | | | | | | |
| Total primary distribution networks (km) | 143 | 161 | 164 | 161 | 178 | 181 |
| Total secondary distribution networks (km) | 1,148 | 1,119 | 1,126 | 921 | 896 | 899 |
| Total networks – Water supply companies of Grupo EPM | | | | | | |
| Total primary distribution networks (km) | 491 | 534 | 618 | 671 | 695 | 714 |
| Total secondary distribution networks (km) | 7,466 | 7,516 | 7,911 | 7,577 | 7,604 | 7,818 |

A primary distribution network or matrix is a pipeline system that makes up the main service grid of a population and distributes water from the pipeline, treatment plant, or compensation tanks to the secondary networks. It also maintains basic service pressures for the proper functioning of the entire system and generally does not distribute water en route.

A secondary distribution network is the part of the distribution network derived from the primary network. It distributes water to the neighborhoods and urbanizations of the city, and can distribute water en route.

| Energy network expansion – Grupo EPM | | | |
|---|--------------|--------------|--------------|
| Company / Indicator | 2016 | 2017 | 2018 |
| EPM | | | |
| Total primary distribution networks (km) | 1,320 | 1,031 | 839 |
| Total secondary distribution networks (km) | 478 | 1,051 | 2,438 |
| CHEC | | | |
| Total primary distribution networks (km) | 27 | 22 | 38 |
| Total secondary distribution networks (km) | 45 | 62 | 71 |
| ESSA | | | |
| Total primary distribution networks (km) | 740 | 1,036 | 1,861 |
| Total secondary distribution networks (km) | 782 | 711 | 984 |
| CENS | | | |
| Total primary distribution networks (km) | 47 | 58 | 52 |
| Total secondary distribution networks (km) | 22 | 105 | 15 |
| EDEQ | | | |
| Total primary distribution networks (km) | 27 | 13 | 8 |
| Total secondary distribution networks (km) | 41 | 36 | 10 |
| Delsur | | | |
| Total primary distribution networks (km) | 38 | 48 | 40 |
| Total secondary distribution networks (km) | -48 | -14 | -16 |
| Eegsa | | | |
| Total primary distribution networks (km) | 115 | 144 | 138 |
| Total secondary distribution networks (km) | 162 | 176 | 192 |
| ENSA | | | |
| Total primary distribution networks (km) | 195 | 129 | 66 |
| Total secondary distribution networks (km) | 280 | 188 | 170 |
| Total networks – Energy companies of Grupo EPM | | | |
| Total primary distribution networks (km) | 2,509 | 2,482 | 3,042 |
| Total secondary distribution networks (km) | 1,762 | 2,315 | 3,864 |

The value corresponds to the length of the networks built each year.

| Energy network expansion – Grupo EPM | | | |
|---|-------|-------|-------|
| Business | 2016 | 2017 | 2018 |
| Gas | | | |
| Steel line (km) | 87 | 88 | 88 |
| Polyethylene pipe networks built in the year (km) | 226 | 150 | 215 |
| Total polyethylene pipe networks (km) | 7,378 | 7,939 | 8,154 |

GRI standards disclosures and EPM indicators

203-2 Significant indirect economic impacts.

Scope and coverage

Businesses

Water supply
Sanitation
Electrical energy
Gas

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Risaralda
Colombia - Norte de Santander
Colombia - Malambo, Atlántico
Chile
El Salvador
Panama
Guatemala
Mexico

Companies

Empresas Públicas de Medellín - EPM
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
EPM Chile
Elektra Noreste - ENSA
Empresas Varias de Medellín - Emvarias
Aguas de Antofagasta - Adasa
Tecnología Intercontinental -Ticsa
Hidroecológica del Teribe - HET

Rural electrification

The Rural electrification program is developed within every Grupo EPM's Colombian company in order to expand the electrical energy service coverage to rural areas. Investments are made with resources from the company and the participation of public institutions, the Fund for the Electrification of Interconnected Rural Areas (abbreviated FAER in Spanish), and private institutions.

Management in 2018

In 2018, Grupo EPM accomplished the connection of 15,246 installations in rural areas, benefiting approximately 61,110 people, with an investment of COP 79,149 million.

All the Grupo EPM's national affiliated companies achieved the approval of the Mining and Energy Planning Unit (abbreviated UPME in Spanish) for the Coverage Expansion Plan of the Network Operator (abbreviated PECOR in Spanish), the purchase of third-party assets, the agreements with state entities, and the management to obtain resources that favor the connections and internal installations, with the help of the municipal entities.

The Rural electrification program generates a high social impact on the communities where Grupo EPM is present.

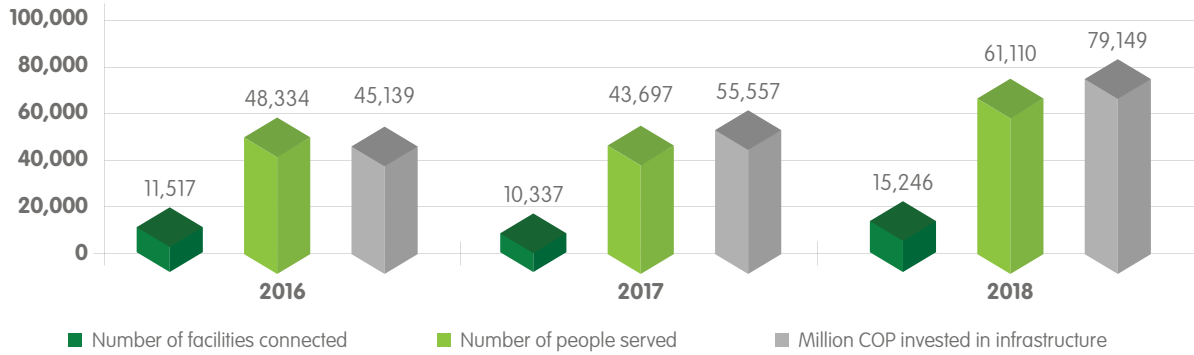
| Rural electrification - Grupo EPM's affiliates | | | |
|--|--------|--------|--------|
| Company / Sector | 2016 | 2017 | 2018 |
| EPM | | | |
| Number of facilities connected | 2,184 | 2,292 | 4,807 |
| Number of people served | 9,348 | 9,168 | 19,228 |
| Million COP invested in infrastructure | 17,165 | 20,205 | 30,900 |
| Million COP financed | 1,365 | 2,015 | 5,339 |
| CHEC | | | |
| Number of facilities connected | 61 | 174 | 126 |
| Number of people served | 244 | 696 | 504 |
| Million COP invested in infrastructure | 205 | 1,158 | 775 |
| Million COP financed | 57 | 163 | 151 |
| ESSA | | | |
| Number of facilities connected | 6,803 | 5,033 | 6,472 |
| Number of people served | 27,212 | 20,132 | 25,888 |
| Million COP invested in infrastructure | 22,280 | 29,410 | 44,310 |
| Million COP financed | 4,550 | 3,792 | 2,419 |

| Rural electrification - Grupo EPM's affiliates | | | |
|--|--------|--------|--------|
| Company / Sector | 2016 | 2017 | 2018 |
| CENS | | | |
| Number of facilities connected | 825 | 258 | 81 |
| Number of people served | 3,300 | 1,032 | 324 |
| Million COP invested in infrastructure | 837 | 2,863 | 1,361 |
| Million COP financed | 2,513 | 857 | 84 |
| EDEQ | | | |
| Number of facilities connected | 11 | 0 | 0 |
| Number of people served | 53 | 0 | 0 |
| Million COP invested in infrastructure | 185 | 0 | 0 |
| Million COP financed | N.D. | N.D. | 0 |
| Delsur | | | |
| Number of facilities connected | 739 | 1,307 | 3,152 |
| Number of people served | 3,827 | 4,725 | 12,608 |
| Million COP invested in infrastructure | 421 | 407 | 471 |
| Million COP financed | N.D. | N.D. | N.D. |
| Egsa | | | |
| Number of facilities connected | 774 | 1,042 | 126 |
| Number of people served | 3,870 | 7,020 | 630 |
| Million COP invested in infrastructure | 3,000 | N.D. | 413 |
| Million COP financed | N.D. | N.D. | N.D. |
| ENSA | | | |
| Number of facilities connected | 120 | 231 | 482 |
| Number of people served | 480 | 924 | 1,928 |
| Million COP invested in infrastructure | 1,045 | 1,515 | 919 |
| Million COP financed | N.D. | N.D. | N.D. |
| Total customers - Energy companies | | | |
| Number of facilities connected | 11,517 | 10,337 | 15,246 |
| Number of people served | 48,334 | 43,697 | 61,110 |
| Million COP invested in infrastructure | 45,139 | 55,557 | 79,149 |
| Million COP financed | 8,485 | 6,827 | 7,993 |

Source: Vice Presidency of Power Transmission and Distribution.

The estimate of the people served corresponds to the selection of urban areas against the number of facilities and the population benefited in rural areas, with an average of four people per facility. This only applies to the Colombian affiliated companies.

Rural electrification - Grupo EPM's affiliates



Source: Vice Presidency of Power Transmission and Distribution.

GRI standards disclosures and EPM indicators

203-2 Significant indirect economic impacts.

Scope and coverage

Businesses

Electrical energy

Territory

- Colombia - Antioquia
- Colombia - Caldas
- Colombia - Quindío
- Colombia - Risaralda
- Colombia - Santander
- Colombia - Norte de Santander
- Colombia - Malambo, Atlántico
- El Salvador
- Guatemala
- Panama

Companies

Empresas Públicas de Medellín - EPM

Aguas Regionales EPM

Empresa de Aguas del Oriente Antioqueño

Aguas de Malambo

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

Centrales Eléctricas del Norte de Santander - CENS

Distribuidora de Electricidad del Sur - Delsur

Empresa Eléctrica de Guatemala - Eegsa

Elektra Noreste - ENSA

Account financing and default

The account financing service aims at regularizing defaulting customers by means of financing payable items at low interest rates in the long term.

Customers delay the payment of the bills and, due to regulations and system fairness, their services are disconnected until they regularize their situation. Once they have paid or have made a payment agreement, the service is reconnected within 24 business hours. Default is more likely to appear in low-income populations (socio-economic strata 1, 2, and 3) with safety problems, due to structural issues of the country.

Management in 2018

Despite having experienced a beginning of year in a highly uncertain economic environment, with deteriorating macroeconomic indicators and fee increases in residential public utilities, recovery was finally achieved thanks to positive performance in most economic activities. This behavior was evident in EPM's defaulting indicator which, at the end of 2018, remained at 4.01%, which represented a decrease of 6.3% compared with the previous year.

Through commercial offers, financing plans, and the development of tools to focus management on recovery and portfolio retention, positive results were achieved on defaulting at EPM and the group's affiliated companies.

The use of predictive models to prioritize suspension orders in the field, taking into account the customer's payment habits, allowed 11,000 customers and users to extend payment terms, of which close to 84% used an extended term to get caught up on late payments without causing the suspension of the service.

Furthermore, the linking to prepaid offers allowed customers to have a way to normalize their debt and access the service according to their ability to pay; the offer of account financing and the granting of terms for payment allowed users to adjust the payment of public utilities to their cash flow and, in this way, stay connected to the service.

The analysis of results allowed the international affiliated companies to focus collection actions on customers with higher defaulting rates and thus achieve the reduction of the indicators of all the companies. Such is the case of ENSA, the affiliated company of Panama, which achieved an 8% decrease in defaulting with respect to the previous year.

| Defaulting in water companies - Grupo EPM | | | |
|---|------------------|------------------|------------------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| EPM | | | |
| Residential | 17,548 | 18,210 | 20,448 |
| Non-residential | 2,873 | 3,453 | 3,621 |
| Total | 20,421 | 21,663 | 24,069 |
| Defaulting % | 1.78% | 1.83% | 1.96% |
| Aguas Regionales | | | |
| Residential | 5,263 | 6,038 | 6,724 |
| Non-residential | 767 | 915 | 915 |
| Total | 6,030 | 6,953 | 7,639 |
| Defaulting % | 7.07% | 7.78% | 8.18% |
| Aguas del Oriente | | | |
| Residential | 50 | 41 | 67 |
| Non-residential | 30 | 13 | 15 |
| Total | 80 | 54 | 82 |
| Defaulting % | 1.71% | 1.11% | 1.51% |
| Aguas de Malambo | | | |
| Residential | 2,385 | 3,981 | 10,377 |
| Non-residential | 43 | 53 | 297 |
| Total | 2,428 | 4,034 | 10,674 |
| Defaulting % | 10.9% | 17.5% | 44.9% |
| EPRio | | | |
| Residential | N.A | N.A | 566 |
| Non-residential | N.A | N.A | 204 |
| Total | N.A | N.A | 770 |
| Defaulting % | N.A | N.A | 2.35% |
| Adasa | | | |
| Residential | 9,621 | 7,025 | 7,401 |
| Non-residential | 425 | 355 | 385 |
| Total | 10,046 | 7,380 | 7,786 |
| Defaulting % | 5.85% | 4.19% | 4.39% |
| Total for water companies - Grupo EPM | | | |
| Residential | 34,867 | 35,292 | 45,583 |
| Non-residential | 4,138 | 4,789 | 5,437 |
| Total | 39,005 | 40,081 | 51,020 |
| Total residential and non-residential services | 1,429,193 | 1,480,058 | 1,561,480 |

Source: Commercial Vice Presidency.

The number of total services includes installations with active services, as well as those with suspended or disconnected services. For EPM, Aguas Regionales, and Aguas de Oriente, the values reported at the end of 2017 were adjusted, including all customers who are more than 60 days in default in the concepts associated with the consumption of public utilities, regardless of their service suspension status.

| Defaulting percentage in water supply - Grupo EPM | | | |
|--|-------------|-------------|-------------|
| Company | 2016 | 2017 | 2018 |
| EPM | 1.78% | 1.83% | 1.96% |
| Aguas Regionales | 7.07% | 7.78% | 8.18% |
| Aguas del Oriente | 1.71% | 1.11% | 1.51% |
| Aguas de Malambo | 10.95% | 17.55% | 44.86% |
| EPRio | 0.00% | 0.00% | 2.35% |
| Adasa | 5.85% | 4.19% | 4.39% |

Source: Commercial Vice Presidency.

| Account financing - Grupo EPM's water affiliates | | | |
|---|-------------|-------------|-------------|
| Company / Indicator | 2016 | 2017 | 2018 |
| Aguas del Oriente | | | |
| Customers financed | N.D. | 30 | 21 |
| Million COP financed | N.D. | 5 | 5 |
| Aguas Regionales | | | |
| Customers financed | 8,641 | 8,644 | 9,727 |
| Million COP financed | 2,519 | 2,502 | 2,887 |
| Aguas de Malambo | | | |
| Customers financed | N.D. | 2,723 | 4,365 |
| Million COP financed | N.D. | 2,538 | 2,767 |
| EPRio | | | |
| Customers financed | N.A. | N.A. | 26 |
| Million COP financed | N.A. | N.A. | 6 |
| Emvarias | | | |
| Customers financed | 25,758 | 19,543 | 17,281 |
| Million COP financed | 595 | 601 | 619 |
| Adasa | | | |
| Customers financed | N.A. | 4,348 | 3,894 |
| Million COP financed | N.A. | 38,890 | 35,830 |
| Total for water supply affiliates | | | |
| Customers financed | 34,399 | 35,288 | 35,314 |
| Million COP financed | 3,114 | 44,536 | 42,114 |

Source: Commercial Vice Presidency.

Defaulting in energy - Grupo EPM

| Concept / Indicator | 2016 | 2017 | 2018 |
|---------------------|---------------|---------------|---------------|
| EPM | | | |
| Residential | 50,001 | 63,684 | 60,869 |
| Non-residential | 7,566 | 9,475 | 8,664 |
| Total | 57,567 | 73,159 | 69,533 |
| Defaulting % | 2.5% | 3.09% | 2.85% |
| CHEC | | | |
| Residential | 3,484 | 7,928 | 6,654 |
| Non-residential | 739 | 1,422 | 1,554 |
| Defaulting % | 0.91% | 1.96% | 1.68% |
| ESSA | | | |
| Residential | 14,507 | 40,367 | 35,134 |
| Non-residential | 2,321 | 5,121 | 5,368 |
| Total | 16,828 | 45,488 | 40,502 |
| Defaulting % | 2.24% | 5.84% | 4.97% |
| CENS | | | |
| Residential | 15,416 | 35,668 | 34,730 |
| Non-residential | 1,942 | 4,075 | 4,005 |
| Total | 17,358 | 39,743 | 38,735 |
| Defaulting % | 3.66% | 7.98% | 7.46% |
| EDEQ | | | |
| Residential | 1,367 | 1,588 | 2,059 |
| Non-residential | 803 | 866 | 570 |
| Total | 2,170 | 2,454 | 2,629 |
| Defaulting % | 1.21% | 1.32% | 1.36% |
| Delsur | | | |
| Residential | 3,110 | 4,220 | 3,540 |
| Non-residential | 1,012 | 1,850 | 470 |
| Total | 4,122 | 6,070 | 4,010 |
| Defaulting % | 1.09% | 1.58% | 1.02% |
| Eegsa | | | |
| Residential | 5,138 | 12,628 | 12,461 |
| Non-residential | 960 | 2,741 | 2,108 |
| Total | 6,098 | 15,369 | 14,569 |
| Defaulting % | 0.51% | 1.00% | 0.91% |

| Defaulting in energy - Grupo EPM | | | |
|-----------------------------------|----------------|----------------|----------------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| ENSA | | | |
| Residential | 71,514 | 67,739 | 62,238 |
| Non-residential | 5,603 | 3,696 | 4,633 |
| Total | 77,117 | 71,435 | 66,871 |
| Defaulting % | 17.58% | 13.84% | 12.71% |
| Total for energy companies | | | |
| Residential | 164,537 | 233,822 | 217,685 |
| Non-residential | 20,946 | 29,246 | 27,372 |
| Total | 185,483 | 263,068 | 245,057 |

Source: Commercial Vice Presidency.

For EPM, CHEC, CENS, EDEQ, ESSA, and Delsur, the values reported at the end of 2017 were adjusted, including all customers who are more than 60 days in default in the concepts associated with the consumption of public utilities, regardless of their service suspension status.

| Defaulting percentage in energy companies - Grupo EPM | | | |
|---|--------|--------|--------|
| Company | 2016 | 2017 | 2018 |
| EPM | 2.51% | 3.09% | 2.85% |
| CHEC | 0.91% | 1.96% | 1.68% |
| ESSA | 2.24% | 5.84% | 4.97% |
| CENS | 3.66% | 7.98% | 7.46% |
| EDEQ | 1.21% | 1.32% | 1.36% |
| Delsur | 1.09% | 1.58% | 1.02% |
| Eegsa | 0.51% | 1.00% | 0.91% |
| ENSA | 17.58% | 13.84% | 12.71% |

Source: Commercial Vice Presidency.

| Account financing - Grupo EPM's energy affiliates | | | |
|---|---------|---------|---------|
| Company / Indicator | 2016 | 2017 | 2018 |
| EPM | | | |
| Customers financed | 87,620 | 74,721 | 69,663 |
| Million COP financed | 37,943 | 34,588 | 26,154 |
| CHEC | | | |
| Customers financed | 13,124 | 3,438 | 3,534 |
| Million COP financed | 2,241 | 1,903 | 1,893 |
| ESSA | | | |
| Customers financed | 11,788 | 12,887 | 11,527 |
| Million COP financed | 7,793 | 13,348 | 11,863 |
| CENS | | | |
| Customers financed | 21,827 | 27,895 | 32,544 |
| Million COP financed | 24,572 | 15,552 | 20,819 |
| EDEQ | | | |
| Customers financed | 21,575 | 18,733 | 18,278 |
| Million COP financed | 2,599 | 2,411 | 3,380 |
| Delsur | | | |
| Customers financed | 1,746 | 1,315 | 1,806 |
| Million COP financed | 2,463 | 1,905 | 4,437 |
| Eegsa | | | |
| Customers financed | 108 | 575 | 503 |
| Million COP financed | 946 | 1,176 | 887 |
| ENSA | | | |
| Customers financed | 18,111 | 1,753 | 2,282 |
| Million COP financed | 7 | 3 | 2 |
| Total for Grupo EPM's energy companies | | | |
| Customers financed | 175,899 | 141,317 | 140,137 |
| Million COP financed | 78,564 | 70,887 | 69,435 |

Source: Commercial Vice Presidency.

GRI standards disclosures and EPM indicators

203-2 Significant indirect economic impacts.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Risaralda
Colombia - Santander
Colombia - Norte de Santander
Colombia - Malambo, Atlántico
Chile
El Salvador
Guatemala
Mexico
Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Empresa de Aguas del Oriente Antioqueño
Aguas de Malambo
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
Elektra Noreste - ENSA

Gas without borders

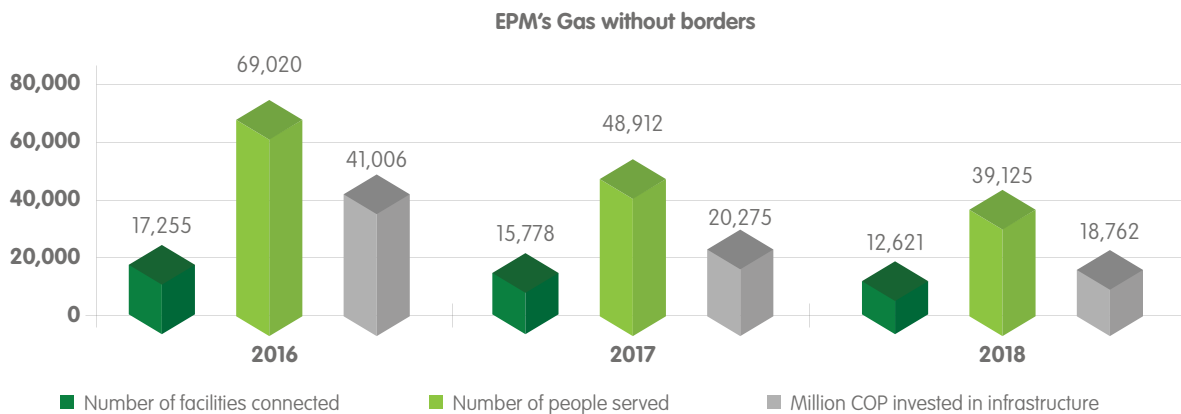
EPM's Gas without borders program takes the pipeline natural gas service to the municipalities in Antioquia located outside of the Medellín's metropolitan area, through compressed natural gas. From pressure reducing stations, the gas is distributed through pipelines to the homes, commercial establishments, and other consumption places.

Management in 2018

EPM was able to take natural gas to five more populations. In total, 115 populations in Antioquia have access to the service. In the year, 12,621 connections were performed and 39,125 people were benefited.

Municipalities such as Yalí and Vegachí and the small town of Palermo in the municipality of Tâmesis have access to the natural gas service. In addition, infrastructure was built to adapt pipelines in the municipality of Remedios and in the small town of Versalles in the municipality of Santa Bárbara.

Thanks to this accomplishment, the number of customers had a 6% growth compared with that of the previous year, represented by 1,196,467 customers and users.



Source: Vice Presidency of Gas.

GRI standards disclosures and EPM indicators

203-2 Significant indirect economic impacts.

Scope and coverage

Businesses

Gas

Territory

Colombia – Antioquia

Companies

Empresas Públicas de Medellín - EPM

Habitable homes

Grupo EPM's *Habilitación viviendas* (Habitable homes) program is a social commitment of the organization to fund the basic infrastructure of the energy, gas, and water services for the most vulnerable homes, with the purpose of improving their life conditions. It started in the 60s and is one of the programs with the higher coverage rates registered today by public utilities in Valle de Aburrá. CHEC, CENS, ESSA, and EDEQ also have this social responsibility program.

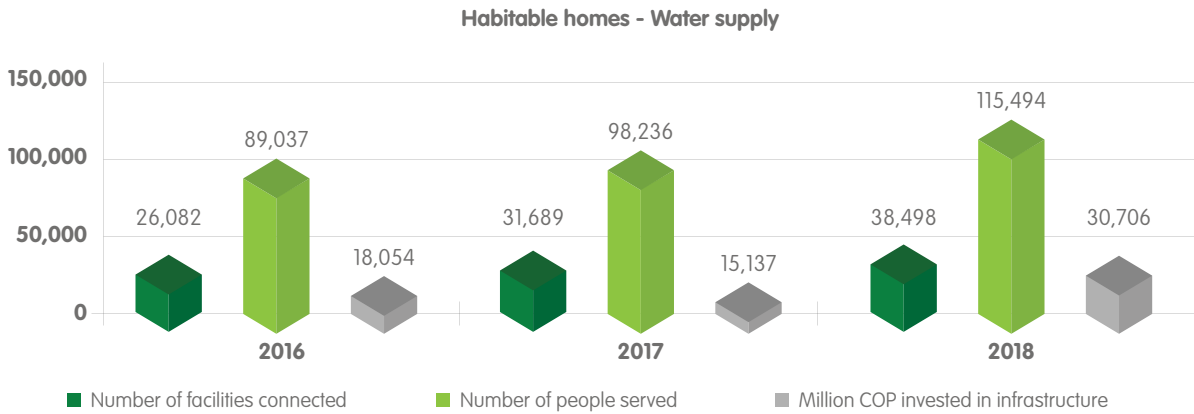
Management in 2018

In 2018, Grupo EPM connected 139,871 homes to the water supply, sewerage, energy, and gas services. Thus the organization transformed the life of 481,900 people, with an investment of approximately COP 77,979 million.

38,498 homes were connected to the water supply and sewerage services to reach 115,494 people, with an investment of COP 30,706 million. The construction works are carried out through the community action boards of the impacted sectors, which generates jobs at the local level and financial surpluses that are invested in the very community.

Likewise, 37,517 homes were connected to the energy service, with an investment of COP 28,511 million and benefiting 168,452 people. The company emphasizes the positive impact generated by the expansion of the energy service coverage with the program known as *Habilitación vivienda interna* (Internal habitable home in English and abbreviated HVI in Spanish), aimed at subnormal sectors in the area of influence of all Grupo EPM's Colombian companies. Investments were made with resources from the company and the participation of public institutions, the Fund for the Electrification of Interconnected Rural Areas (abbreviated FAER in Spanish), and private institutions. In addition, ESSA highlights the intervention of 85 settlements for the normalization of 3,252 users (as the goal was 51 settlements and 2,287 users).

63,856 homes were connected to the gas service, with an investment of COP 18,672 million and improving the quality of life of 197,957 people.



Source: Vice Presidency of Water and Sanitation.

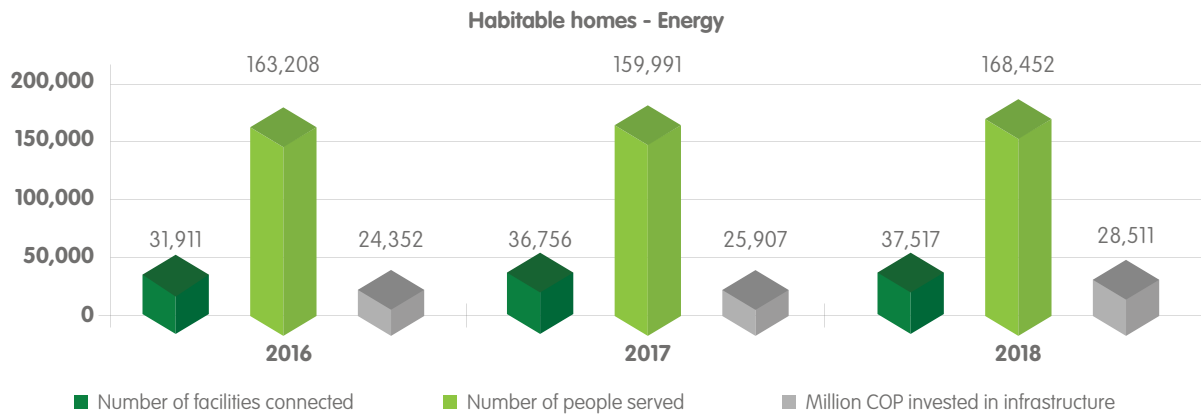
Individual customers connected by EPM contractors, either by means of public or social contacting, were included, since in both cases, the works are paid through the Habitable homes funding program.

The number of people served during 2017 was modified, using the average factor of 3.1 inhabitants per home, taken from the Great Integrated Household Survey (abbreviated GEIH in Spanish) of the Housing and Household Area of the National Administrative Department of Statistics (abbreviated DANE in Spanish).

| Habitable homes - Energy | | | |
|---------------------------------------|---------------|---------------|---------------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| EPM | | | |
| Number of facilities connected | 24,783 | 24,374 | 20,564 |
| Number of people served | 99,132 | 97,496 | 82,256 |
| Million COP invested | 21,935 | 21,573 | 21,309 |
| CHEC | | | |
| Number of facilities connected | 1,696 | 1,632 | 1,253 |
| Number of people served | 6,784 | 6,528 | 5,012 |
| Million COP invested | 694 | 1,023 | 723 |
| ESSA | | | |
| Number of facilities connected | 4,348 | 3,329 | 7,706 |
| Number of people served | 52,956 | 26,283 | 49,208 |
| Million COP invested | 2,504 | 1,917 | 4,437 |
| CENS | | | |
| Number of facilities connected | 137 | 7,073 | 6,979 |
| Number of people served | 548 | 28,292 | 27,916 |
| Million COP invested | 45 | 1,313 | 1,534 |

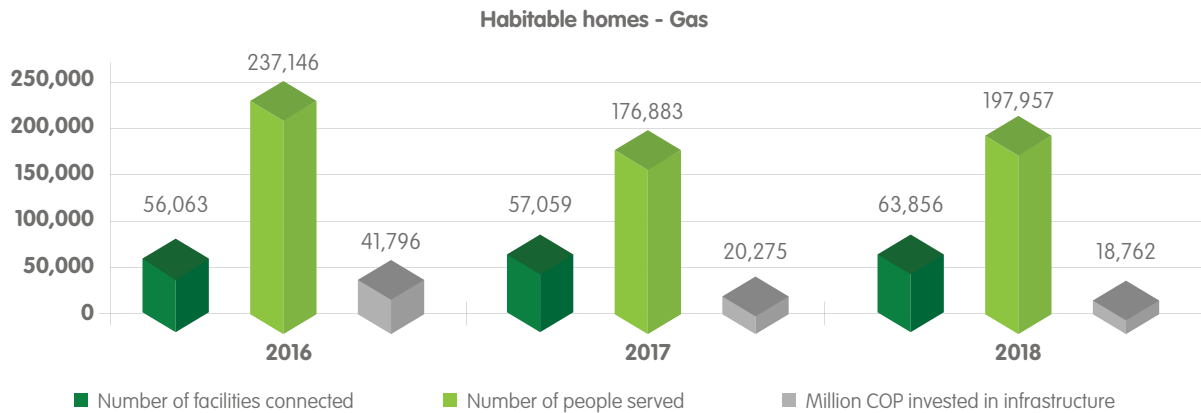
| Habitable homes - Energy | | | |
|--------------------------------|-------|-------|-------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| EDEQ | | | |
| Number of facilities connected | 947 | 348 | 1.015 |
| Number of people served | 3,788 | 1,392 | 4,060 |
| Million COP invested | 174 | 81 | 508 |

Source: Vice Presidency of Power Transmission and Distribution.



Source: Vice Presidency of Power Transmission and Distribution.

The estimate of the people served corresponds to the selection of urban areas against the number of facilities and the population benefited in rural areas, with an average of four people per facility. This only applies to the Colombian affiliated companies.



Source: Vice Presidency of Gas.

The number of people served during 2017 was modified, using the factor of 3.3 inhabitants per home.

GRI standards disclosures and EPM indicators

203-2 Significant indirect economic impacts.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Santander
Colombia - Norte de Santander

Companies

Empresas Públicas de Medellín - EPM
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS

Community meters

The use of community water meters is a non-conventional way of providing the service to sectors where, due to restrictions to install pipelines, it is not possible to have individual meters. These collective meters allow the service to be extended to the homes; the users have to pay the average consumption of the stratum to which they belong.

Management in 2018

Through the Unidos por el agua (United for water) program, the company completed the procedures to build water distribution network during the year, benefiting nearly 4,000 families in the municipality of Medellín.

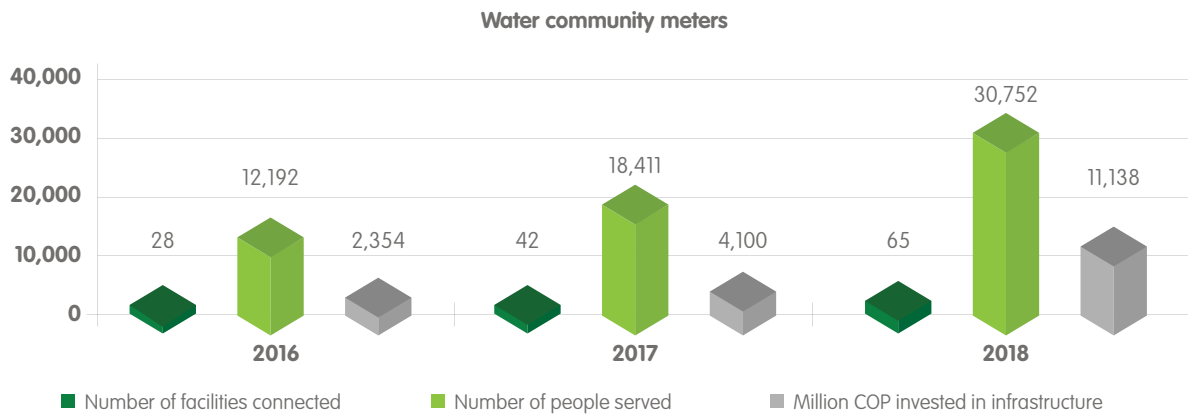
Thanks to the availability of water networks, 23 community drinking water meters in the municipality of Medellín were served; they provide the service to 3,944 families located in the sectors of La Honda, La Cruz, Bello Oriente, and Versalles II. In the Urabá region, nine community meters were connected, benefiting 1,856 families, and the construction of the wastewater collector began, which will favor the comprehensive care of both services in 2019.

As for the group, new meters were installed in camps in Antofagasta, Chilean territory of Adasa, which favored the monitoring and control of the drinking water consumption.

| Water community meters | | | |
|----------------------------|-------|-------|--------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| EPM | | | |
| Number of meters connected | 18 | 7 | 23 |
| Number of people served | 8,832 | 5,512 | 15,776 |
| Million COP invested | 2,335 | 4,100 | 11,138 |
| Number of homes connected | 2,208 | 1,110 | 3,944 |
| Aguas Regionales | | | |
| Urabá region | | | |
| Number of meters connected | 10 | 10 | 9 |
| Number of people served | 3,360 | 3,771 | 5,568 |
| Million COP invested | 19 | N.D. | N.D. |
| Number of homes connected | 1,120 | 1,257 | 1,856 |

| Water community meters | | | |
|----------------------------|------|-------|-------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Adasa | | | |
| Number of meters connected | N.A. | 25 | 33 |
| Number of people served | N.A. | 9,128 | 9,408 |
| Million COP invested | N.A. | 0 | 0 |
| Number of homes connected | N.A. | 2,282 | 2,352 |

Source: Vice Presidency of Water and Sanitation.



Source: Vice Presidency of Water and Sanitation.

GRI standards disclosures and EPM indicators

203-2 Significant indirect economic impacts.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy

Territory

Colombia – Antioquia
Colombia – Santander
Chile

Companies

Empresas Públicas de Medellín - EPM

Electrificadora de Santander - ESSA

Aguas de Antofagasta - Adasa

Pay according to your needs

Paga a tu medida (Pay according to your needs) is a program that allows users to pay the EPM bill up to five installments or partial payments each month, each with a minimum amount depending on the territory. The user must go to one of the payment points and indicate the citizen ID number or the EPM contract number; it is not necessary to present the bill. With this alternative, EPM seeks to improve the quality of life of users, providing them with the possibility of making the payment of public utilities in the way that best fits the family budget. For its part, EPM seeks to reduce portfolio rates and reduce operating costs of suspension and reconnection.

Management in 2018

During 2018, EPM connected 42,375 customers and users by giving them the option to pay their bills in a fractioned way according to their income possibilities. In total, the accumulated is 163,083 participating in the offer. Likewise, the organization implemented this alternative in CENS and ESSA during the year, with the connection to the offer of 6,057 customers and users in total.

The Paga a tu medida offer was consolidated as a solution to the payment difficulties, to continue enjoying the services and avoid their suspension. The statistics show that the customers who are part of this program have fewer days of suspension, in contrast to those who are not.

| Pay according to your needs - Number of customers registered | | | |
|--|---------------|---------------|---------------|
| Indicator | 2016 | 2017 | 2018 |
| EPM | 41,954 | 51,070 | 42,375 |
| ESSA | N.A. | N.A. | 1,638 |
| CENS | N.A. | N.A. | 4,419 |
| Total | 41,954 | 51,070 | 48,432 |

Source: Commercial Vice Presidency.

GRI standards disclosures and EPM indicators

203-2 Significant indirect economic impacts.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia - Antioquia
Colombia - Santander
Colombia - Norte de Santander

Companies

Empresas Públicas de Medellín - EPM
Electrificadora de Santander - ESSA
Centrales Eléctricas del Norte de Santander - CENS

Unserviced population

Unserviced populations are those settled down in places with technical or legal limitations for providing the service, such as those located in high-risk areas or outside the perimeters of the land use plans. The solutions often exceed the exclusive scope of the companies providing the service; therefore, the involvement of multiple stakeholders becomes necessary.

Management in 2018

In the municipality of Medellín, the company improved the quality of life of 11,742 homes with the water supply and sewerage services, 2,349 with the energy service, and 2,945 with the gas service. Thanks to the procedures conducted with the municipal administrations and other entities, EPM solved the technical and legal difficulties that these families had to have access to residential public utilities.

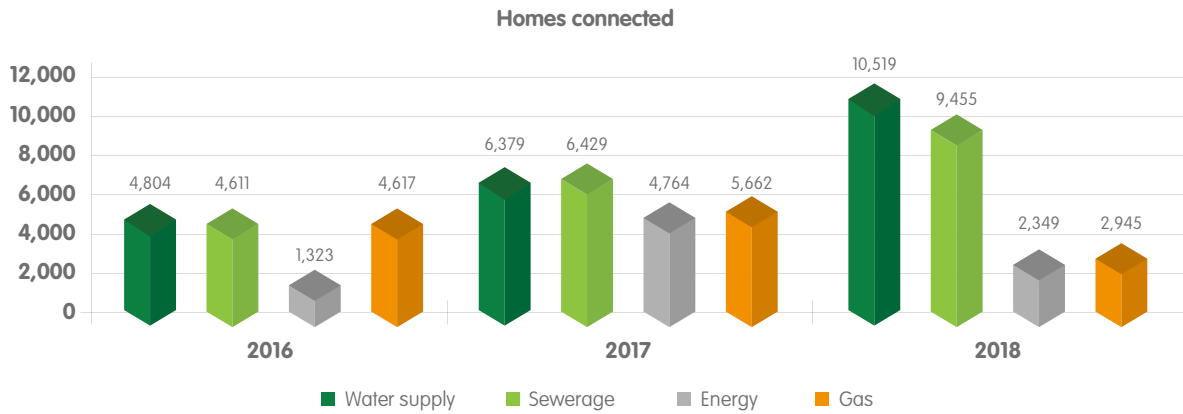
The Unidos por el agua (United for water) program achieved an accumulated of 23,068 families benefited, thanks to the joint work of EPM with the municipality of Medellín, the Social Institute for Housing and Habitat of Medellín (abbreviated Isvimed in Spanish), Empresa de Desarrollo Urbano (EDU), among other organizations. These homes did not have the service as a result of technical or legal limitations that prevented the provision of the service.

Periodic reviews in sectors already served stands out in the energy service. New properties built that require the service were identified and meetings were held with local administrators and community leaders to streamline procedures, authorizations, and interventions on lands to mitigate risks. With this management, the accumulated achievement is close to 8,500 homes with the service.

The management of the municipality of Medellín with its intervention has favored the connection to the gas service of 14,100 homes in total. In 2018, the organization highlights the management carried out in the Blanquizar and Olaya Herrera neighborhoods, as well as in the Paloblanco and La Florida sectors, in the small town of San Antonio de Prado.

| Homes connected | | | |
|-----------------|---------------|---------------|---------------|
| Business | 2016 | 2017 | 2018 |
| Water supply | 4,804 | 6,379 | 10,519 |
| Sewerage | 4,611 | 6,429 | 9,455 |
| Energy | 1,323 | 4,764 | 2,349 |
| Gas | 4,617 | 5,662 | 2,945 |
| Total | 15,355 | 23,234 | 25,268 |

Source: Commercial Vice Presidency.



Source: Commercial Vice Presidency.

GRI standards disclosures and EPM indicators

EPM-12 Solutions for unserved homes.

EU 26 Percentage of unserved population in areas with distribution license.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia

Companies

Empresas Públicas de Medellín - EPM

Prepaid services

Prepayment is a method for purchasing public utilities that seeks to avoid disconnecting users due to payment difficulties. This method enables users to control consumption according to their income and to use public utilities more efficiently and consciously. The prepaid offer includes the delivery of a consumption meter on free lease, the installation at no cost, social advice, among other conveniences that allow customers and users to continue enjoying the service.

Management in 2018

EPM connected 2,168 customers and users to prepaid water, for a total of 22,070 with this service. As for prepaid energy, EPM connected 15,550 during the year, for an accumulated of 258,506, representing 10% of EPM's total energy customers and users. Group's energy affiliated companies, such as ESSA and CENS, show growth in customers connected to this service method compared with the previous year, of 57% and 23% respectively.

Prepaid offers are highly used by the customers and users stakeholders. According to their ability to pay, the prepaid offers have allowed them to top-up about four times a month on average to enjoy the water service. As for the energy service, 2,687 families made use of 73,690 small top-ups from COP 1,500 during the year through channels provided, such as UNE's pay phone network. Likewise, 13,835 families on average made use of around 478,000 top-ups in advance, which allowed them to advance a COP 2,000 balance in moments of emergency, when they did not have the money to have access to the service.

For their part, CENS and ESSA achieved the connection of 13,456 customers and users in the year, for an accumulated of 32,365, benefiting 60,000 people in total.

| EPM's prepaid water | | | |
|--|--------|--------|-------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Number of facilities connected | 8,923 | 3,934 | 2,168 |
| Number of people served | 40,153 | 17,703 | 9,756 |
| Million COP invested | 9,896 | 2,939 | 6,279 |
| Average m ³ consumption per prepayment installation | 8.6 | 8.3 | 7.65 |
| Average m ³ consumption per contracted installation | 12 | 12.1 | 12.8 |

Source: Commercial Vice Presidency.

| EPM's prepaid energy | | | |
|---|---------|--------|--------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Number of facilities connected | 25,400 | 22,084 | 15,550 |
| Number of people served | 101,600 | 88,336 | 62,200 |
| Million COP invested | 16,164 | 15,617 | 8,271 |
| Average kWh consumption per prepayment installation | 118 | 116 | 115 |
| Average kWh consumption per contracted installation | 172 | 132 | 132 |

The figures of the amount of people served were adjusted because the factor used to estimate the amount of people served is four inhabitants per house, taken from the selection of urban areas against the number of facilities and the population benefited in rural areas. This factor only applies to the Colombian affiliated companies.

| ESSA's prepaid energy | | | |
|---|--------|--------|--------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Number of facilities connected | 3,770 | 4,970 | 7,826 |
| Number of people served | 15,080 | 22,365 | 35,217 |
| Million COP invested | 2,528 | 3,379 | 1,620 |
| Average kWh consumption per prepayment installation | 132 | 180 | 182 |
| Average kWh consumption per contracted installation | 142 | 191 | 184 |

| CENS's prepaid energy | | | |
|---|-------|--------|--------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Number of facilities connected | 461 | 4,570 | 5,630 |
| Number of people served | 2,305 | 22,850 | 25,335 |
| Million COP invested | 168 | 450 | 522 |
| Average kWh consumption per prepayment installation | 90 | 90 | 90 |
| Average kWh consumption per contracted installation | 120 | 120 | 120 |

Source: Commercial Vice Presidency.

GRI standards disclosures and EPM indicators

203-2 Significant indirect economic impacts.

Scope and coverage

Businesses

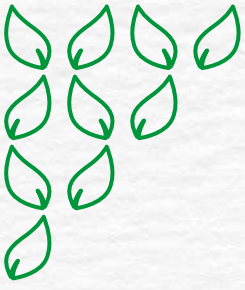
Water
Sanitation
Electrical energy

Territory

Colombia - Antioquia
Colombia - Santander
Colombia - Norte de Santander

Companies

Empresas Públicas de Medellín - EPM
Electrificadora de Santander - ESSA
Centrales Eléctricas del Norte de Santander - CENS



Grupo·epm[®]



Water and biodiversity



Water and biodiversity

Integrated water resources and biodiversity management, based on Grupo EPM's interdependence in said resources and through activities in the supplying watersheds that are of interest for the group's companies and in the areas of influence of their businesses, both through their own actions and in partnership with other stakeholders.

Grupo EPM is aware of its interdependence with water and biodiversity, and is committed to contribute to its care in the watersheds supplying its systems and reservoirs, in its direct operations, in the ecosystems located in the areas of influence of the projects, works, and activities of its businesses, and in its relationship with its stakeholders.

Moreover, carrying out an integrated water resources and biodiversity management contributes to the sustainability of Grupo EPM itself and the territories where it operates, through joint activities with different stakeholders and taking into account the land use plan, the characteristics of the territories, the conservation of ecosystems, the supply and demand, and the risks related to water and biodiversity.

Relevance

The economic, social, and environmental value is influenced by water deficit which leads to water availability, shortage, and rationing, along with their consequent harmful effects on the quality of life of the population, their economic activities, and ecosystems. The most critical aspects regarding availability are associated with the supply of water for the population, the industrial processes, the power generation, and the maintenance of ecosystem functions.

The economic, social, and environmental value is also affected when there is water excess and alterations in water quality. In general, supply and distribution systems can be affected, while impacts on availability, continuity, and quality of the water to be supplied are generated, as well as economic costs due to water losses, recovery works, rehabilitation, reconstruction of systems, and protection of ecosystems.

In terms of biodiversity, which has value in itself, it generates high economic, environmental, and social value for Grupo EPM because it is the functional basis for the maintenance of ecosystem services, necessary for climate regulation, the water cycle, the rainfall regime, soil protection and erosion control, among others, while guaranteeing the availability of water resources.

Main achievements

| Goals | Achievements | Accomplishment |
|---|--|----------------|
| Water Protection Indicator (WPI): implement watershed protection initiatives in priority areas for conservation, in such a way that the annual goal set for Grupo EPM is achieved. Goal for 2018: 17,455 hectares. | In 2018, initiatives that had an impact in the protection of 21,282 hectares in watersheds supplying the organization's systems and reservoirs were developed. | Total |
| Define WPI goals for energy transmission and distribution (T&D): define activities and goals for the T&D business that will contribute to accomplishing the WPI and that are aligned with the Integrated Water Resources and Biodiversity Management Strategy (EGIRHB). | The goals for 2019 for the T&D business were defined to contribute to accomplishing the WPI of Grupo EPM. See goals in this report in the challenges for 2019. | Total |
| Sanitation and Wastewater Management Plan (SWMP): start operations, after the stabilization of the biological processes, at the wastewater treatment plants in the municipalities of Apartadó, Carepa, Chigorodó, Turbo, and Mutatá, in order to achieve a reduction in the pollutant load discharged into the watersheds of the Urabá region, guaranteeing compliance with the standards established in Ruling No. 631 of 2015. (Compliance with this challenge depends on the management of resources to make the investment, either through contributions under condition or under the figure of works through taxes). | In progress: accomplishment of the goal is projected for 2022. Progress was made in the purchase of properties in the areas where the plants will be located. | Total |
| Leachate load at La Pradera landfill: reduce the pollutant load discharged into the water sources. Increase by 60% the quality of the downstream discharges of the plant as of December, as long as the second phase of the leachate treatment plant is operating and stabilized. | In progress. 52% progress in the physical works component of Phase 2. | Total |

| Goals | Achievements | Accomplishment |
|--|---|----------------|
| Drinking water treatment plants (DWTP): Having sludge treatment systems in nine of the plants located in Valle de Aburrá. | These nine DWTPs already have sludge treatment systems. In 2018, the evaluation of the operation of the treatment systems of La Ayurá, Manantiales, and Caldas plants began. | Total |
| SWMP: start operations at the Aguas Claras wastewater treatment plant (WWTP) in the second half of 2018 to make progress in the reduction of the pollutant load discharged into Medellín River, and start the projects of modernization and expansion of the San Fernando WWTP in 2019, after the stabilization of the biological processes, ensuring quality of the treated effluents of 70 mg/l of BOD5 and 70 mg/l of TSS, in accordance with the maximum permissible limits defined in Ruling No. 00631 of 2015. | The San Fernando WWTP modernization project was completed, and progress is made in the expansion project. The Aguas Claras WWTP started tests in the second quarter of 2018, and it is expected to be stabilized in the first quarter of 2019. | Total |
| Valle de San Nicolás sanitation project: modernize the El Retiro WWTP to allow for the tertiary treatment of wastewater, thus protecting the use of Negro River as a water source for water supply systems, and build the El Escobero and Don Diego WWTPs so as to ensure compliance with Ruling 631 of 2015, after the stabilization of the biological processes. | The investments in the Escobero and Don Diego WWTPs were postponed due to the contingency of the Ituango project. The construction of the El Retiro WWTP modernization project began in December 2018. | Partial |

| Goals | Achievements | Accomplishment |
|---|--|---------------------|
| <p>Efficient use and saving of water: make progress in the implementation of initiatives and programs that lead to the efficient use and saving of water in the facilities of the companies of Grupo EPM.</p> | <p>Water consumption in EPM's facilities showed a 28% decrease compared to the previous period, which is mainly explained by the development of the following activities:</p> <ul style="list-style-type: none"> • Purchase of pressure washers for washing vehicles. • Control of water leaks. • Training sessions on efficient use and saving of water aimed at operational and administrative staff. • Preparation and implementation of the Pueyra in the facilities. • Installation of water saving devices. • Progress was made in the implementation of actions for the efficient use and saving of water in the facilities of the T&D national and international affiliates and at Emvarias. | <p>Total</p> |
| <p>Conduct a study of fauna and flora and update coverages in the areas of the Peñol-Guatapé reservoir, Playas, and Termosierra.</p> | <p>An agreement was signed with Universidad de Antioquia for the integrated biodiversity management, as well as a contract with Universidad Nacional de Colombia for update of coverages and land use.</p> | <p>Total</p> |
| <p>Implement the EGIRHB and the action and monitoring plans for 2018 and 2019.</p> | <p>The strategy was approved in 2018, and progress was made in consolidating, monitoring, and advancing in the road map and the initiatives defined - Integrated Water Resources and Biodiversity Management. Progress continues to be made in the road map.</p> | <p>Total</p> |

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|--|------------------------------|--------------------|--------------------|-----------|--|-----------------------------------|
| | | Territory | Business | Company | | |
| <p>Implement watershed protection initiatives in priority areas for conservation, in order to accomplish the annual goal set for the Water Protection Indicator (WPI) for Grupo EPM in 2019: 14,376 hectares.</p> <p>It includes (grouped) the Cauca, Porce, Nare, Aburrá, Chinchina watersheds and others watersheds, as well as some supplying Aguas Regionales.</p> | 2019 | Colombia | All the businesses | Grupo EPM | No. of ha with protection initiatives implemented. | Cumulative WPI 2016-2018: 57,321. |
| <p>Contribute to the accomplishment of the Water Protection Indicator (WPI) for Grupo EPM, through the implementation of protection initiatives in other watersheds in areas of interest:</p> <p>EPM: 1,488 ha CENS: 1,032 ha ESSA: 611.4 ha EDEQ: 235.15 ha CHEC: 904 ha</p> | 2019 | Colombia | Power – T&D | Grupo EPM | No of ha with protection initiatives implemented. | Cumulative WPI 2016-2018: 57,321. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|---|------------------------------|----------------------|----------------------|------------------|--|--------------------------------|
| | | Territory | Business | Company | | |
| <p>Conduct a study of fauna and flora in the areas of the Peñol-Guatapé reservoir, Playas, Guadalupe, and Porce:</p> <ul style="list-style-type: none"> • Baseline survey of fish species in the Guadalupe river watershed (2019). • Monitoring of biodiversity in Miraflores and Riogrande I, and inventory of fauna and flora in La Sierra. • Define the viability of fish repopulation in Porce 3. • Verify the importance of the lower watershed of Porce River as a possible migratory route for fish species. | 2020 | Colombia - Antioquia | Power – Generation | Grupo EPM | Result of the study per challenge. | |
| <p>Stabilization of the Aguas Claras WWTP in 2019 and continue with the expansion of the San Fernando WWTP to guarantee the quality of the effluents, in accordance with the limits established by the discharge regulations, after achieving the stabilization of the biological processes.</p> | 2019 | Colombia - Antioquia | Water and sanitation | EPM | <ul style="list-style-type: none"> • Stabilization of the Aguas Claras WWTP. • Expansion of the San Fernando WWTP. | |
| <p>Receive for operation the Aguas de Malambo WWTP in 2019 and achieve its stabilization in 2020.</p> | 2020 | Colombia - Malambo | Water and sanitation | Aguas de Malambo | <ul style="list-style-type: none"> • Compliance with the protocol for receiving the PTAR. • Stabilization of the WWTP. | |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|--|------------------------------|----------------------|----------------------|----------|--|--|
| | | Territory | Business | Company | | |
| Modernization of the El Retiro WWTP to allow for the tertiary treatment of wastewater in 2019, and compliance with the parameters established by the discharge regulations in 2020, thus protecting the use of Negro River as a water source for water supply systems. | 2020 | Colombia - Antioquia | Water and sanitation | EPM | <ul style="list-style-type: none"> Modernization of the WWTP. Compliance with the parameters established by the discharge regulations. | |
| Reduce the pollutant load discharged into the water sources as a result of the leachate generated in the La Pradera landfill, by assembling the equipment corresponding to the second phase of treatment in 2019, in order to improve the quality of the discharge by 60% once the second phase of the leachate treatment plant is operating and stabilized in 2020. | 2020 | Colombia - Antioquia | Water and sanitation | Emvarias | <ul style="list-style-type: none"> Assembly of equipment in the second phase. Improvement of the quality of the discharge (60% increase), in accordance with Ruling No. 631 of 2015. | 52% progress in the physical works component of Phase 2. |
| Save 7,170.09 m ³ on water consumption at Emvarias' operations facilities between the years 2017 and 2021. | 2021 | Colombia - Antioquia | Water and sanitation | Emvarias | Volume of water savings in m ³ . | |

In order to define the indicators and goals associated with water and biodiversity, Grupo EPM's strategic planning, the BHAG, the CSR and Environmental policies, the Integrated Water Resources and Biodiversity Management Strategy, territorial studies and analysis, stakeholders in said territories, historical information, progress made in meeting indicators and challenges are taken into account. These inputs are considered to define goals in the short, medium, and long terms. As an example, the goals for the Water Protection Indicator were defined taking into account Grupo EPM's strategic planning, the above-mentioned policies, and the characteristics of each watershed (land uses, problems, water models, possibilities of alliances with other stakeholders, etc.). The goals associated with efficient use and saving of water at the facilities are defined taking into account the historical data of water consumption, its variations, the infrastructure conditions, technological possibilities for its improvement, and cultural matters. Some facilities have already reached very good levels on efficient use and saving of water thanks to the management carried out in recent years. However, this is still being monitored, and, if necessary, improvement plans are established. In those facilities where improvements have not yet been achieved, plans have been designed in order to make progress in the matter, based on the technological and economic possibilities. The group has indicators and goals associated with water and biodiversity in the Balanced Scorecard (BSC) and in its different plans, which are regularly monitored at different levels of the organization.

Related stakeholders

Customers and users
Colleagues
Community
State
Grupo EPM people
Investors
Suppliers and contractors

Actions

- Water conservation and biodiversity
- Water consumption and effluents
- Management of impacts related to water and biodiversity
- Conservation of threatened species

GRI standards disclosures and EPM indicators

103-1 Explanation of the material topic and its boundary.
103-2 The management approach and its components.
103-3 Evaluation of the management approach.
303-1 Water withdrawal by source.
303-2 Management of water discharge related impacts.
303-3 Water recycled and reused.
303-4 Water discharge.
303-5 Water consumption.
304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.
304-2 Significant impacts of activities, products, and services on biodiversity.
304-3 Habitats protected or restored.
304-4 Red List species and national conservation list species with habitats in areas affected by operations.
EU13 Biodiversity of offset habitats compared to the biodiversity of the affected areas.
306-1 Water discharge by quality and destination.
EPM-01 Conservation areas.
EPM-10 Water protection.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Malambo, Atlántico
Colombia – Norte de Santander
Colombia – Quindío
Colombia – Santander
Chile
El Salvador
Guatemala
Panama
Mexico

Companies

Empresas Públicas de Medellín – EPM
Aguas Regionales EPM
Empresa de Aguas del Oriente Antioqueño
Empresas Públicas de Rionegro - EPRio
Aguas de Malambo
Empresas Varias de Medellín – Emvarias
EPM Chile
Aguas de Antofagasta - Adasa
Aguas Nacionales EPM
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
Hidroeléctrica del Teribe - HET

Sustainable development goals



Water conservation and biodiversity

The protection and improvement of the watersheds as well as the environmental services they provide are crucial to ensure availability of the water resource, the diversity of flora and fauna, the sustainability of the territories, and quality of life of the communities.

The significant environmental impacts related to water and biodiversity of Grupo EPM's projects are mainly generated during the construction phase. They are managed in compliance with current environmental regulations, and then, in other phases, such as operations, the activities defined in the Environmental Management Plans (EMPs) continue to be executed.

The environmental conditions of the watersheds have a direct impact on the water sources supplying our reservoirs and other systems. To help improve these conditions and prevent risks associated with availability of the water resource in its operations and in the populations served, Grupo EPM undertakes, directly and with other stakeholders, programs and projects for the integrated water resources and biodiversity management, by developing initiatives associated with support to the system of protected areas, restoration and reforestation, promotion of sustainable practices and uses, environmental offset, payment for environmental services, environmental awareness, and continuity of the environmental services that they provide.

Management in 2018

In 2018, the integrated water resources and biodiversity management strategy of Grupo EPM was approved, the main actions were prioritized, and its road map was established for 2025.

Grupo EPM undertook, directly and with other stakeholders, initiatives to accomplish, by 2025, the BHAG in relation to water protection and contribution to the protection of 137,000 hectares (1,370 km²) in watersheds that supply its systems and reservoirs. To this end, strategies were developed such as forest conservation, restoration and reforestation, sustainable practices and uses, environmental offset, and acquisition of new protected areas.

- In 2018, it was possible to contribute to the protection of 21,282 hectares (212.82 km²) in the watersheds supplying the group's systems and reservoirs, for an accumulated of 57,321 hectares (537.21 km²) in the 2016- 2018 period.
- Among these strategies, it is worth highlighting the support to 756 families for protecting more than 9,000 hectares (90 km²) of the organization's properties in natural forests through the payment for environmental services in schemes such as BanCO2 projects and others.

Moreover, the properties of EPM and its affiliates have a total area of 796.9 km², of which 697.19 km² are located within declared protected areas, buffer zones, or zones with high biodiversity value that have not yet been declared as protected areas. It is noted that 640.4 km² correspond to forest covers (forests and natural ecosystems, 569.1 km²; and forest plantations, 71.3 km²), of which 221.42 km² are located in areas dedicated to preservation, while 414.61 km² are under active, passive, and functional ecological restoration.

In compliance with the water protection goal established in the BHAG of Grupo EPM, various strategies are developed for the protection of water resources in the watersheds of the Porce, Grande, Aburrá, Porce-Alto Nechí, and Nare rivers (including La Fe and Negro-Nare rivers), as well as the Cuca (including areas of influence of the Ituango project) and the Chinchiná watersheds, and others in areas of influence of CHEC, and some watersheds supplying Aguas Regionales in Urabá and other watersheds in the areas of influence of EPM and the following transmission and distribution affiliates: CENS, ESSA, CHEC, and EDEQ. The strategies implemented to accomplish Grupo EPM's water protection goal include:

- Forest conservation (public and private protected areas, BanCO2): 6,775 hectares (67.75 km²).
- Restoration and reforestation: 7,192 hectares (71.92 km²).
- Sustainable practices and uses (silvopastoral and agroforestry systems, live fences and barriers, isolated trees, good agro-environmental practices, erosion control, rural basic sanitation systems): 2,639 hectares (26.39 km²).
- Environmental offset and new protected areas (purchase of lands for offset and new areas for the protection of reservoirs): 2,797 hectares (27.97 km²).
- Moreover, in other watersheds, schemes such as payment for environmental services (PES) and restoration and purchase of properties were implemented: 1,879 hectares (18.79 km²).

Likewise, in its properties, Grupo EPM preserves natural forests and favors the recovery of vegetation cover through ecological restoration activities (active and passive), enrichment with native species, and establishment of forest plantations. Additionally, in these areas, biological information is collected, and applied studies are conducted, in order to make progress in the implementation of the integrated water resources and biodiversity management strategy.

Within its environmental and social management actions in the territories, during 2018, Grupo EPM remained committed to the actions of preservation of natural ecosystems (forests, wetlands, paramos, deserts, and others) and of ecological (active and passive) and functional restoration to mitigate, compensate, and manage impacts, as well as to operate and maintain its operational infrastructure (reservoirs, treatment plants, hydroelectric power stations, camps, landfills, and substations, among others). A total of 221.4 km² of natural ecosystems were preserved through property control and surveillance, which also contributes to the successional advance of 330.27 m². Moreover, through forestry activities with native species, 13.04 km² has been restored, while, in 71.29 km² (11.21%), ecological rehabilitation activities are being carried out through forest plantations.

The following are some of the main programs and initiatives developed by Grupo EPM's companies, directly and with other stakeholders, to protect the watersheds that supply their reservoirs or systems, as well as water and biodiversity:

- Support to the BanCO2 program and other PES schemes: initiative to voluntarily compensate farmer families for environmental services. Grupo EPM is involved in the program by supporting farmers so that they take care of the forests, and thus protect the fauna and contribute to the conservation of the environmental services they provide. In recent years, agreements have been signed between EPM, CHEC, EDEQ, ESSA, CENS, and Aguas Regionales and environmental authorities to support approximately 756 families for taking care of 9,000 hectares (90 km²) of forests.
- Surveillance of the prioritized watersheds in Valle de Aburrá in order to identify and update the most relevant environmental aspects and impacts that affect them and to be able to manage the appropriate actions with the responsible entities.
- Monitoring of water flows and water quality in the reservoirs on a monthly basis and in the water sources supplying EPM's water supply systems twice yearly.
- Forestry development program through which over 2.8 million seedlings are provided to the communities and owners of properties located in the watersheds supplying the organization's reservoirs. This plant material is used in the protection of riverbanks, live fences, and restoration and improvement of forests. For this, the organization has the La Montaña, Robledales, Guayacanes, and Guadales plant nurseries which are located in Eastern and Northern Antioquia. Likewise, support is provided to 12 municipal plant nurseries in the watershed of the Porce River.
- Participation in basin councils, a consultative mechanism that allows using the knowledge, experiences, and perspectives of the different stakeholders present in the territory for a better management. EPM participates in the basin councils of the Aburrá, Negro, Grande, Nare, and Samaná Norte rivers; CHEC, in the Chinchiná River Basin Council; and Aguas Regionales, in the Turbo and León River Basin Councils.
- Agreements and alliances with environmental authorities, municipalities, and other public and private entities to develop environmental protection projects and initiatives: publication of a document with the results of the updating and monitoring of water resource conditions in Antioquia (through the Fundación EPM-Antioquia Governor's Office agreement), support to projects of the Cuencaverde corporation for the protection and improvement of the watersheds of the Riogrande II and La Fe reservoirs, establishment of the Chinchiná River Basin corporation for the sustainable development management of the watershed of this river, strengthening of sustainable business processes with an environmental and social focus in the Claro and San Julián watersheds, recovery and restoration of areas intervened in ecosystems of strategic interest for the conservation of natural and water resources in the watersheds of the Chinchiná and Claro rivers, and community projects for sustainable production and ecological tourism in the watershed of the Porce River. For more information on partnerships and agreements, refer to the [Joint responsibility for the environment](#) section.

- Participation in the formulation and implementation of some actions of the Plans for Land Use and Management of Watersheds, plans for management of protected areas, and working groups, among which the following stand out: working group for the implementation of an EMP, support to the Camélias Regional Integrated Management District (abbreviated DRMI in Spanish) in conjunction with EPM-Cornare, development of recovery and restoration initiatives of intervened areas in ecosystems of strategic interest in the Chinchiná and Campoalegre watersheds (with the support of CHEC and other stakeholders), and identification of flora and fauna species in the Ramsar site, "Complejo de Jaltepeque", within the area of action of Delsur in El Salvador, Central America.
- Implementation of rural basic sanitation programs through the installation of wastewater treatment systems (WWTSs), in order to reduce environmental impacts and impacts on the health by residential wastewater in rural areas. 108 systems were installed in areas of influence of the La Pradera landfill.
- EPM participated in the joint work with Colciencias, the Mesa de Reincorporación de Antioquia, two universities (Universidad de Antioquia and Eafit), the Office of the High Commissioner for Peace, the United Nations Development Program, the UN Verification Mission, Corantioquia, and ISA in the Colombia Bio Anorí Expedition. Fourteen new species are part of the natural wealth found in the expedition: two beetles, ten plants, an arboreal mouse, and a lizard.
- Implementation of a silvery-brown tamarin (*Saguinus leucopus*) conservation strategy in the area of influence of the Porce III reservoir, by monitoring their populations. Activities such as control of habitat occupation, genetic characterizations, and assessment of the health status of the populations were carried out. Moreover, seven canopy bridges were installed in areas of influence of the Porce II, Porce III, and Playas reservoirs, and environmental education campaigns were developed with neighboring communities.
- Integrated biodiversity management in areas of influence of EPM's power generation plants: continuity in the execution of an agreement with the Universidad de Antioquia, through which the conditions of the otter population in Porce III is analyzed. Fauna and flora inventories were conducted in Playas and Peñol-Guatapé, and fish in the Porce II and Porce III reservoirs, and main tributaries; cyanobacteria in Peñol-Guatapé and Riogrande II; and presence of disease vectors in surveillance in public health were monitored. The management of the fishery product was diagnosed, and an environmental education strategy was developed.
- Promotion and registration of La Ruta del Cóndor: a tour that highlights the culture, customs, and traditions of the coffee town to foster community tourism. This initiative supports environmental, business, and social matters in the 8 rural settlements that make up the route located in the municipality of Villamaría.
- Repopulation with native species and fish monitoring of the northern lake of the Camaguadua reservoir.

- Awareness programs were held, and the culture of environmental protection aimed at the communities of the areas of influence of the projects and operations of EPM, Emvarias, EPRio, CHEC, Aguas Regionales, and HET was strengthened. The following programs and activities are highlighted: awareness and training sessions on environmental matters, good agricultural practices, home gardens and productive units for communities in the area of direct and indirect influence of the La Pradera landfill owned by Emvarias; Guardianas de la Quebrada Cameguadua (Guardians of the Cameguadua stream) program; workshops and guided visits to the water purification plants aimed at students from educational institutions in Urabá (Aguas Regionales affiliate); environmental care training and awareness program within the framework of the agreement with the UNDP for the development of sustainable production projects in 12 municipalities of the Porce watershed; training plan for teachers on watershed management, biodiversity and climate change, supported by the Ministry of Environment and HET Panama; and permanent agenda at Fundación EPM in the “Water Museum”, where visitors are taught to protect water and enjoy it with every sense.

| Main watersheds supplying reservoirs Water supply and power generation | | | | | | |
|---|-----------------|---|--|--|---------|---|
| Watershed | Reservoir | Main tributaries | Max. technical volume in Mm ³ | Power stations/ DWTP | Company | Use |
| Piedras Blancas stream | Piedras Blancas | Piedras Blancas stream- Chorrillos stream. | *0.5 | Villa Hermosa and La Montaña DWTPs. | EPM | Water supply. |
| Las Palmas stream | La Fe | Las Palmas stream - Pantanillo and El Buey rivers. | 11.33 | La Ayurá DWTP. | EPM | Water supply. |
| Grande River | Riogrande II | Chico River - Grande River. | 185.87 | <ul style="list-style-type: none"> • Manantiales DWTP. • La Tasajera hydroelectric power station. • Niquía power station. | EPM | Multiple uses: <ul style="list-style-type: none"> • Water supply. • Power generation. |
| Tenche River | Miraflores | Tenche River. | 102.22 | Troneras, Guadalupe III and IV. | EPM | Power generation. |
| Guadalupe River | Troneras | Nechí, Pajarito, Dolores, Concepción, Tenche, and Guadalupe rivers. | 28.92 | Troneras, Guadalupe III and IV. | EPM | Power generation. |

| Main watersheds supplying reservoirs Water supply and power generation | | | | | | |
|---|-----------------|--|--|--------------------------|---------------------------|-------------------|
| Watershed | Reservoir | Main tributaries | Max. technical volume in Mm ³ | Power stations/ DWTP | Company | Use |
| Grande River | Quebradona | Grande River. | 1.93 | Mocorongo power station. | EPM | Power generation. |
| Nare River | Peñol - Guatapé | Pantaniillo - Negro - Nare rivers. | 1,071.69 | Guatapé | EPM | Power generation. |
| Guatapé River | Playas | Nare and Guatapé rivers. | 69.57 | Playas | EPM | Power generation. |
| Porce River | Porce II | Porce River. | 142.71 | Porce II | EPM | Power generation. |
| Porce River | Porce III | Guadalupe and Porce rivers. | 155.9 | Porce III | EPM | Power generation. |
| Chinchiná River | Cameguadua | Chinchiná River and Campo Alegre River and downstream for the entire La Estrella stream. | N.R. | Ínsula y la Esmeralda | CHEC | Power generation. |
| San Francisco River | San Francisco | San Francisco River. | N.R. | San Francisco | CHEC | Power generation. |
| Lebrija River | Linderos | Lebrija River. | N.R. | Palmas | ESSA | Power generation. |
| Teribe River | Bonyic | Bonyic stream. | N.R. | Bonyic | Hidroecológica del Teribe | Power generation. |

This table does not include the reservoir of the Ituango hydroelectric project, as it is in the construction stage, nor the catchment sources of the small power stations and the minor water purification plants.

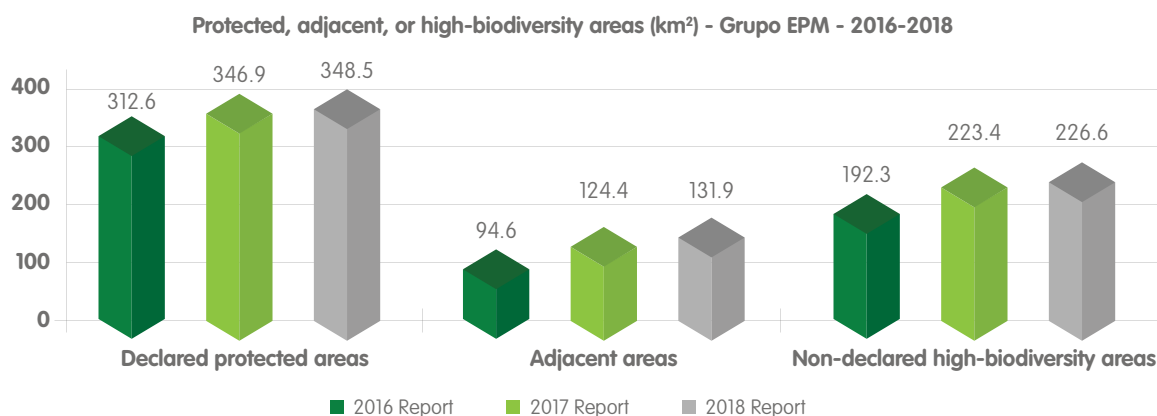
() The usable volume of the Piedras Blancas reservoir for operation was established at 0.5 million m³ due to the age of the infrastructure and due to security reasons.*

| Protected, adjacent, or high-biodiversity areas (km ²) - Grupo EPM - 2018 | | | | | | | |
|---|--------------------------|----------------|--------------------------------------|---------------|--------------|---------------|---|
| Protected, adjacent, or high-biodiversity areas | | | | | | | |
| Company / Business | Declared protected areas | Adjacent areas | Non-declared high-biodiversity areas | Total | Other areas | Total General | Reference protected area |
| CHEC - Power generation | 42.74 | 17.74 | 5.27 | 65.75 | 1.21 | 66.97 | Bosques De La CHEC Forest Reserve, buffer zone Los Nevados National Natural Park (abbreviated PNNLN in Spanish). |
| Emvarias - Water and sanitation | 0.00 | 0.00 | 0.52 | 0.52 | 3.30 | 3.82 | |
| EPRio - Water and sanitation | 0.00 | 0.00 | 0.00 | 0.00 | 0.19 | 0.19 | |
| EPM - Water and sanitation | 26.95 | 2.69 | 0.00 | 29.63 | 0.68 | 30.31 | Nare Forest Reserve. |
| EPM - Power generation | 180.66 | 33.74 | 120.47 | 334.86 | 47.87 | 382.73 | Peñol-Guatapé reservoir and upper basin of the Guatapé DRMI, Cacica Noria DRMI, Playas Regional Forest Reserve, and some municipal forest reserves. |
| EPM - Ituango project | 86.10 | 61.10 | 100.38 | 247.58 | 46.41 | 293.99 | Peque DMRI. |
| EPM Chile - Power generation | 0.11 | 16.60 | 0.00 | 16.71 | 0.00 | 16.71 | |
| HET - Power generation | 11.99 | 0.00 | 0.00 | 11.99 | 0.00 | 11.99 | Palo Seco Protected Forest. |
| Total | 348.55 | 131.87 | 226.64 | 707.04 | 99.66 | 806.71 | |

Source: IDSOS 2018 (CHEC, Emvarias EPM, EPRio, EPM Chile, and HET).

Note: Only protected areas with statute established by competent environmental authorities are referenced.

For EPM and its affiliates, 796.9 km² were reported in operational areas. However, protected areas are larger (806.7 km²) because HET reports that they have a concession for the administration of 11.99 km² of the Palo Seco Protected Forest, where 2.14 km² of their property are included. Thus, of the total area, 43.2% is within any statute of protection. With respect to the buffer zones (adjacent) to the protected areas, the rate is 16.3%, while 28.1% of the total are considered as important ecosystems for biodiversity, but are not declared. Grupo EPM continued working in coordination with the environmental authorities and other stakeholders to expand and strengthen the system of protected areas.



Source: IDSOS 2016, 2017, and 2018.

For the 2018 report, the analysis was carried out with information from EPM and its power generation and water and sanitation affiliates, which resulted in a slight decrease in the history of contribution to protected areas. However, areas in buffer zones and in strategic ecosystems, which are not yet declared, have been increasing. The operational zones have remained to be constant over time.

GRI standards disclosures and EPM indicators

EPM-01 Conservation areas.

EPM-10 Water protection (WPI).

303-1 Interactions with water as a shared resource.

304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.

304-3 Habitats protected or restored.

Scope and coverage

Businesses

Water

Sanitation

Electrical energy

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Caldas
Colombia – Santander
Colombia – Norte de Santander
Guatemala
Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Empresa de Aguas del Oriente Antioqueño
Empresas Públicas de Rionegro - EPRio
Empresas Varias de Medellín – Emvarias
Central Hidroeléctrica de Caldas – CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala – Eegsa
Hidroecológica del Teribe - HET
Aguas de Antofagasta - Adasa

Use of water and effluents

The water consumed by the Grupo EPM's companies comes mainly from surface sources and supply systems, and it is used in production processes such as water supply, sanitation, and hydroelectric power generation, as well as for cooling systems and domestic uses in their facilities.

The Grupo EPM's companies analyze their use of water in production processes and facilities, as well as the type of supply sources, in order to implement initiatives and projects that allow them to use it in a more efficient way and contribute to its sustainability.

Moreover, the Grupo EPM's companies manage their effluents such as the discharges of water used in the hydroelectric power generation, as well as wastewater produced in their own facilities and that collected from its users through the sanitation service, thus avoiding the direct discharge, without treatment, of million m³ of wastewater to water sources and soils.

**In Colombia, Decree 1076 of 2015 defines effluent as the final discharge, into a body of water, a sewerage, or the soil, of elements, substances, or compounds contained in a liquid medium.*

Management in 2018

The total volume of water used for production activities, cooling, and domestic use by Grupo EPM in 2018 was 23,697 million m³, which are distributed as follows:

- 92% of this value was used by EPM.
- 8% by the affiliates.

It was possible to save 1.9 million m³ of the water used in the water purification process, thanks to the use of recirculated water from the backwashing of filters. This value is comparable to the amount of water used to supply water to Adasa customers (in Chile) for more than two months. Likewise, in the hydroelectric power generation process, 24.5 million m³ of water were reused, which optimized the use of water in this process.

Moreover, in the wastewater treatment plants of Grupo EPM, the volume of water treated and discharged was 43.4 million m³.

Both EPM and its affiliates are making progress in the execution of the sanitation and wastewater management plans (PSMV's) in the municipalities where the sanitation service is provided, by carrying out construction, maintenance, modernization, and resource management activities for the sewerage systems or wastewater treatment plants. In this way, the organization contributes to a better quality of life for the population and to the protection of the environment.

After generating hydroelectric power, water is reincorporated into the water sources. In this process, there is no water consumption.

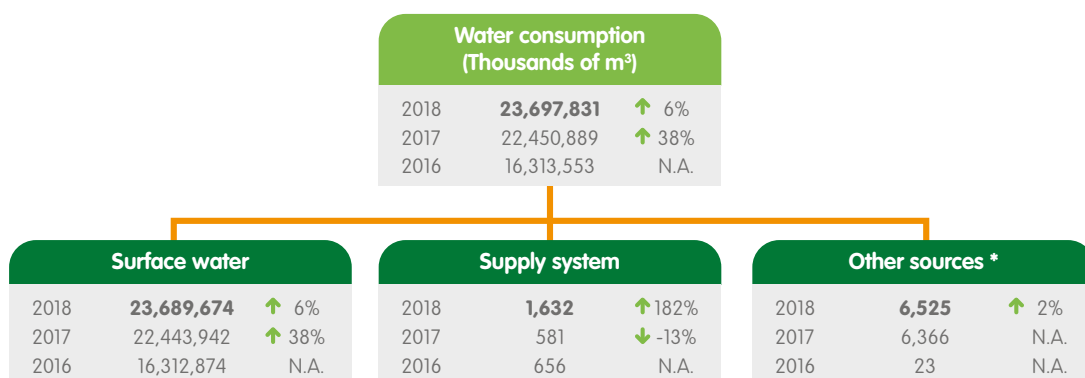
The generation of power from renewable sources not only contributes to the development of the society's activities using clean energy, but also to the protection of the environment.

During 2018, progress was made in each of the Grupo EPM's companies through the development of projects and initiatives associated with the efficient use and saving of water and wastewater management. The following stands out:

- Recirculation of water for the dehydration of sludge in the San Fernando wastewater treatment plant.
- Start of operations of the sludge treatment systems of the Caldas, La Ayurá, and Villa Hermosa water purification plants, in order to properly manage their effluents.
- Implementation of efficient water and energy use plans in EPM's power transmission and distribution facilities, through activities such as leakage control in 16 substations and awareness and training sessions for staff on water use and care.
- Non-revenue water management through the control of technical losses (pressure control, modernization, replacement of networks and connection pipes, systematic detection of leaks), activities for the control of commercial losses (standardization of fraud, improvement of micro-metering and linking of customers), and engagement and communication activities (social management in substandard sectors and informal car washes).
- Recirculation, monitoring, and permanent registration of the water used for cleaning the filters of the La Ayurá, La Cascada, La Montaña, Manantiales, San Antonio de Prado, San Cristóbal, Villa Hermosa, and Aguas Frías water purification plants, in order to reduce the discharges generated in the process and contribute to the efficient use of water in the water purification process.
- Monthly monitoring of the environmental performance of water consumption at the EPM building, periodic review of the operation of the drip irrigation systems, entry into operation of two additional tanks to the current two for the storage of water in the basement of the EPM building, and installation of an automated meter for water consumption in tower 4 of the EPM building.

- Implementation of the Sanitation and Wastewater Management Plan of Valle de Aburrá through the construction and beginning of the stabilization of the Aguas Claras wastewater treatment plant, the design of the Southern Interceptor, the completion of the modernization project at the San Fernando wastewater treatment plant, and the start of its expansion project. Likewise, the execution of the Otras Cuencas project (Centro Parrilla- La Iguañá and La Garcia) continues, in order to reduce the pollutant load discharged by the sewerage system into the Aburrá watershed.
- Implementation of the necessary procedures and activities for neutralizing the liquid waste resulting from the laboratory analyses at the water purification plants before their discharge into the industrial wastewater network.
- Selection of properties for the construction of wastewater treatment plants in all the municipalities where Aguas Regionales operates in the Urabá region, and negotiation and purchase of properties, except for that of Mutatá.
- Annual characterization of the most representative discharges from the sewerage systems operated by Aguas Regionales, Aguas de Malambo, and EPM.
- Construction of trenches and oil traps in existing power substations. 21 trenches and 16 traps were built in seven power substations, thus avoiding the impact that the discharge of oils can generate in the soils and in the water sources.
- Implementation of the five-year efficient use and saving of water plan in Malambo. Among other programs, the following stand out: control of losses (installation of micro-meters for 81% of the total users), monitoring in the catchment phase, and educational and awareness campaigns on efficient use and saving of water.
- Implementation of the efficient use and saving of water plan in Emvarias' operations headquarters.
- EPRio is carrying out the program to identify wrong connections in the rainwater and wastewater collection systems of the municipalities it serves, while making the necessary arrangements for correcting them. Moreover, this affiliate in Eastern Antioquia is carrying out a program to reduce non-commercial water losses through the identification of illegal connections and the installation of anti-fraud devices, as well as the management for the standardization and installation of meters.
- Implementation of rational and efficient water use projects to reduce its annual consumption per capita in each of Delsur's offices, without affecting the operations and quality of life of people in their work environment.

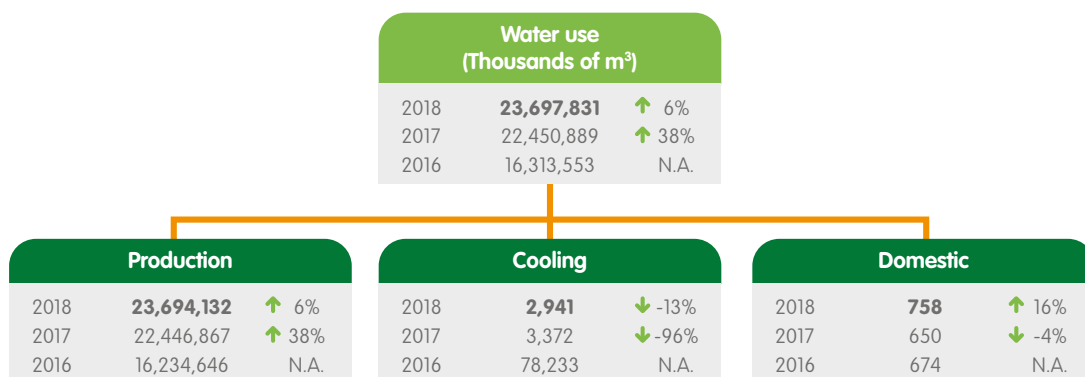
Note: Ticsa water consumption and discharges are not reported because it operates wastewater treatment systems that belong to other companies. The company is not the owner of these systems.



99.96% of the total volume of water used by the Grupo EPM's companies corresponds to surface sources. The 6% increase in the use of this type of water source is mainly due to hydroelectric power generation. Moreover, the increase in the consumption of water from water supply systems during the last year is mainly due to the inclusion of EPRio information in the report and the entry of staff to perform preventive and corrective maintenance in some small power stations.

The variation in other sources from 2016 to 2017 is not reflected and is classified as N/A because there were no records of groundwaters by Aguas Regionales, nor of seawater by Aguas de Antofagasta, and, therefore, the variation that it generates is a not real number.

* Other sources: Groundwater, sea/ocean, tank car, atmosphere (rainwater), and bottled water.



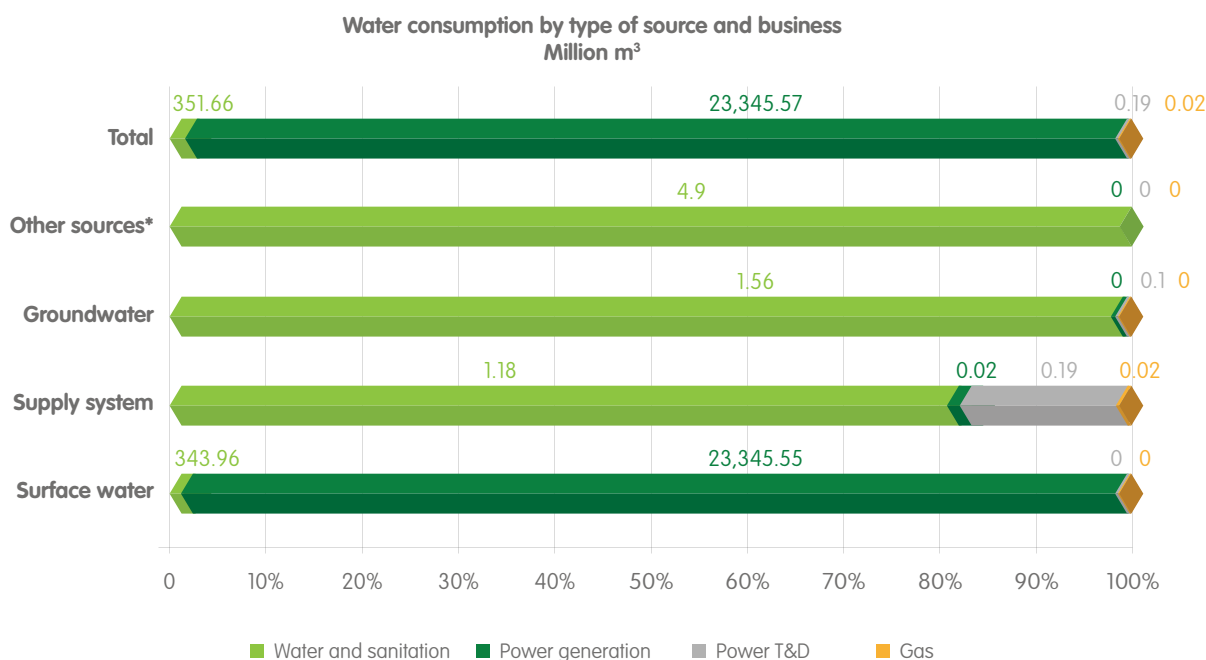
Of the total volume of water used by the Grupo EPM's companies, 99.98% was used for their production processes in 2018 (98.5% was used for power generation and 1.48% was used for water supply).

The Guatapé power station and La Sierra thermal power station are the only ones that use water for cooling. The decrease in the volume of water for cooling was due to the lower generation of power in the Guatapé power station and to a lower recirculation of water in the La Sierra thermal power station because for generation natural gas was used, and it requires less water than fuel oil combustion.

| Water recirculated or reused in processes Thousands of m ³ | | | |
|--|---------------|---------------|---------------|
| Process | 2016 | 2017 | 2018 |
| Hydroelectric power generation | 31,161 | 29,588 | 24,561 |
| Thermal power generation | 18 | 1 | 1 |
| Water supply | 1,541 | 2,032 | 1,926 |
| Administrative and customer service facilities | 15 | 73 | 72 |
| Total | 32,735 | 31,694 | 26,560 |

Source: Idsos application.

The decrease in water reuse / recirculation is mainly due to lower power generation and a decrease in recirculated water in the water purification plants, as it depends on the quality of the sources. Water is recirculated as long as it does not affect the quality of the drinking water produced in the plant.



The most important water source for Grupo EPM is surface water. It is used in greater proportion by the power generation business, followed by the water supply business which is also the business with the highest consumption of groundwater and other sources such as seawater.

To manage risks associated with water shortage in the places where the company has reservoirs or supply systems for its operations, the group's companies carry out studies, use indicators and hydrometeorological models of their own and of government entities such as the Institute of Hydrology, Meteorology and Environmental Studies (abbreviated Ideam in Spanish) and environmental authorities, among which the following stand out:

The National Study of Water (abbreviated ENA in Spanish), versions 2014 and 2018, presents the aridity index for Colombia and its different regions, which shows that the Department of Antioquia—where the majority of EPM's power stations / production sites are located (power generation and drinking water supply)—has a moderate aridity index or surplus surface water. Moreover, in areas such as La Guajira, there is a moderate to high aridity index, but in this region, EPM generates power in a wind farm, which does not require water for production.

Regarding water supply service, EPM has 10 water purification plants for which no significant impact is identified. However, the La Iguana, La Valeria, and Piedras Blancas lower supply watersheds showed a medium water vulnerability index (WVI) in dry year, according to the update of the 2018 Pomca for the Aburrá River. The same happens with the Pantanillo River, according to the Pomca for the Negro River. For its part, Aguas Regionales, in the Turbo watershed, shows a high water use index (WUI), according to the 2018 report on the status of the water resource in Antioquia, and some supply sources in the Western region show medium to high values for this index. It is important to note that in Colombian regulations, the use of water resources for human consumption has priority over any other use, so there is no competition over this resource for water supply.

Moreover, Adasa is located in the Antofagasta region in Chile, which is associated with a scenario of extreme aridity determined by geography and climate. However, 45% of the total water consumed for its water purification processes comes from seawater, an abundant resource compared to other types of water sources.

In addition, EPM has a hydrometeorological information system that seeks to support the planning, construction, and operation of drinking water supply and power generation projects. This system features approximately 200 hydrometeorological stations installed in the watersheds and tributaries of all its reservoirs and projects, located in the departments of Antioquia and La Guajira. These stations capture the information of various hydrometeorological variables in real time, using sensors, and transmitting them through several systems such as GOES, Skada, among others.

Another relevant issue in this matter has to do with the definition of Grupo EPM's climate strategy and the studies being carried out with the Universidad Nacional de Colombia for climate modeling in the areas where we have our systems and reservoirs.

Finally, studies, indicators, and models are an important input for the definition, among other aspects, of strategies, goals, infrastructure needs (modernization, expansion, interconnection, new projects), or new studies.

| Power generation – Grupo EPM | |
|--|-------------------|
| Water discharge | |
| Thousands of m ³ | |
| EPM - Hydroelectric power generation stations | 21,524,726 |
| HET - Hydroelectric power generation station | 395 |
| CHEC - Hydroelectric power generation stations | 1,817,391 |
| EPM - Thermal power generation station (*) | 2,919 |
| Total | 23,345,430 |

The largest volume of effluents results from the discharges from power generation, which corresponds to the same volume of water used for the hydroelectric power generation production process. These discharges are not reported as effluents due to the fact that their quality is not affected in the process; on the contrary, it generally helps to improve the quality of the receiving sources.

| Origin of effluents (Thousands of m ³) | | | |
|---|---------------|--|------|
| 2018 | 53,703 | | 3% |
| 2017 | 52,158 | | -64% |
| 2016 | 143,916 | | N.A. |

| Production | | Cooling | | Domestic | |
|------------|---------------|--------------|------------|----------|--------|
| 2018 | 50,315 | 2,941 | 447 | ↑ 6% | ↓ -65% |
| 2017 | 47,519 | 3,369 | 1,270 | ↓ -27% | ↑ 125% |
| 2016 | 65,076 | 78,274 | 566 | N.A. | N.A. |

The largest volumes of effluents come from the wastewater treatment plants of Grupo EPM, where wastewater from users of sanitation services is treated. In these plants, the volume of water treated and discharged was 43.4 million m³. 81% of the effluents receive secondary treatment; 10%, primary treatment; and 8%, no treatment because the projects for the construction of these plants in Aguas Regionales and Aguas de Malambo are in different stages, according to what was stated in the respective SWMP.

| Source receiving effluents (Thousands of m ³) | | | |
|--|---------------|--|------|
| 2018 | 53,703 | | 3% |
| 2017 | 52,158 | | -64% |
| 2016 | 143,916 | | N.A. |

| Surface | | Sewerage | | Soil | | Other sources | |
|---------|---------------|--------------|------------|------|--------|---------------|--------|
| 2018 | 50,100 | 3,487 | 115 | 0 | ↑ 6% | ↓ -31% | ↑ 330% |
| 2017 | 47,047 | 5,085 | 27 | 0 | ↓ -66% | ↑ 4% | ↑ 4% |
| 2016 | 138,989 | 4,901 | 26 | 0 | N.A. | N.A. | N.A. |

93% of the effluents come from the WWTPs and are discharged into surface water sources after receiving the treatments in these plants to improve their quality, except for those of Aguas Regionales and Aguas de Malambo due to the fact that the WWTP projects are in different stages of design, property purchase, construction, etc., in accordance with the SWMPs timelines.

The facilities of the group's companies discharge their wastewater into the sewerage systems of the territories where they are located, and those that do not have access to these services treat their effluents in their own WWTPs, which after being treated can be discharged into the soil.

Moreover, there are also discharges into surface water sources, which come from the cooling process of the Guatapé and La Sierra power stations.

GRI standards disclosures and EPM indicators

- 303-1** Interactions with water as a shared resource.
- 303-2** Management of water discharge related impacts.
- 303-3** Water withdrawal.
- 303-4** Water discharge.
- 303-5** Water consumption.
- 306-1** Water discharge by quality and destination.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Malambo, Atlántico
Chile

Companies

Empresas Públicas de Medellín – EPM
Aguas Regionales EPM
Empresa de Aguas del Oriente Antioqueño
Empresas Públicas de Rionegro - EPRio
Aguas de Malambo
Empresas Varias de Medellín – Emvarias
EPM Chile
Aguas de Antofagasta - Adasa

Management of impacts related to water and biodiversity

Grupo EPM, in the development, construction, and operation of its projects, seeks to minimize negative effects and maximize positive impacts. To this end, environmental restriction analyses (ERA), environmental diagnoses of alternatives (EDA), feasibility studies, and environmental impact assessments (EIA) are conducted since the early stages of the projects aiming, among other things, to cause the lowest possible impact on natural ecosystems. The license or permit granted by the respective environmental authority establishes the environmental management plan (EMP) of the projects, which defines the impacted areas and their corresponding mitigation or offset actions, depending on the type of ecosystem and its vulnerability.

Management in 2018

Grupo EPM protects 569.1 km² of forests and natural ecosystems, 135.7 km² of reservoirs, and 71.3 km² of forest plantations, the sum of these areas represents a contribution to the conservation of biodiversity.

The anticipated offset for managing impacts by Grupo EPM in 2018 was aimed at: 23.98 km², of which 12.8 km² was from the Ituango hydroelectric project. Regarding the cumulative goal of 184.9 km², a 92.3% progress (accumulated offset) was achieved. Moreover, during 2018, the power transmission and distribution projects reported 17,030 epiphytes rescued and transplanted.

First, it should be noted that the significant environmental impacts related to water and biodiversity of Grupo EPM's projects are mainly generated during the construction phase. For the hydroelectric power generation and water supply businesses, the significant impacts have to do with the loss of vegetation cover, effects on habitats, and fauna displacement in the reservoir's flood zone and in the infrastructure construction sites. As for the power transmission and distribution projects, the significant impacts are associated with the loss of vegetation cover in the corridors of the transmission lines and effects on wildlife, especially birds, where electrocution or collision caused by the power lines may occur. For said impacts, the companies implement the management measures defined in the EMPs, among which we highlight the implementation of offset measures for conservation and the not net loss of biodiversity, as shown in the Areas impacted and offset table in this chapter. Likewise, with respect to fauna, rescue, relocation, repopulation, and monitoring activities are carried out in the relevant cases or protection measures are implemented, such as the use of covered cables and underground lines when these alternatives are viable.

Regarding the impacts associated with water, it is important to emphasize the management carried out by the companies of the Grupo EPM for the management of effluents, which includes:

- In places where there is no access to sewerage systems, the management of discharges from companies' facilities is carried out in their own Wastewater Treatment Systems (abbreviated STAR in Spanish).
- Management of wastewater, which is collected from users for the provision of sanitation services. This prevents millions of m³ of untreated wastewater from being discharged directly into water sources and the soil.
- Turbined water discharge for power generation is caught directly from water sources of the reservoirs. The force of the water passing through the headrace is used to move the generators and is discharged back to the same river where it was caught or to another river in the same basin. During the process, water movement provides greater oxygenation when it is discharged to the receiving water sources and helps to improve its conditions. Plans and protocols are established for the management of discharges, including, where appropriate, warning systems for winter flooding and monitoring of quality parameters, including the temperature for cooling discharges of some thermoelectric power stations. See more details on effluent discharges in the chapter [Water use and effluents](#).

It is also worth noting some of the programs and initiatives developed by the group's companies to manage impacts associated with water and biodiversity:

In 2018 Grupo EPM reported that 80% of the total area is home to some type of forest cover and only 1.3% of the total area corresponds to infrastructure required for the activities of the different businesses. Strategies for the protection of natural ecosystems and the recovery of other areas intervened by the construction or operation of projects, as well as by the previous activities carried out on these lands, continue to be a powerful strategy for the management of impacts and the contribution to the conservation of biodiversity and ecosystem services with benefits for the territories.

In power generation, EPM carried out the cartographic update of the areas of influence of the Peñól-Guatapé and Playas reservoirs. In addition, EPM conducted fauna and flora studies in these areas to gather baseline information on the state of their diversity. At the same time, the company continued with the integral management of reservoirs through actions aimed at controlling invasive aquatic plants, monitoring the presence of cyanobacteria, managing the solid waste that reaches the reservoirs, and controlling erosion in order to improve environmental conditions. In addition, ichthyofauna was monitored in some reservoirs and tributary streams.

Also, in the own lands, progress was made in natural succession processes in 20.68 km² through passive restoration. In this regard, the Ituango Hydroelectric Project increased its offset area by 12.77 km², for an accumulated offset of 167.24 km² (90% progress) by 2018.

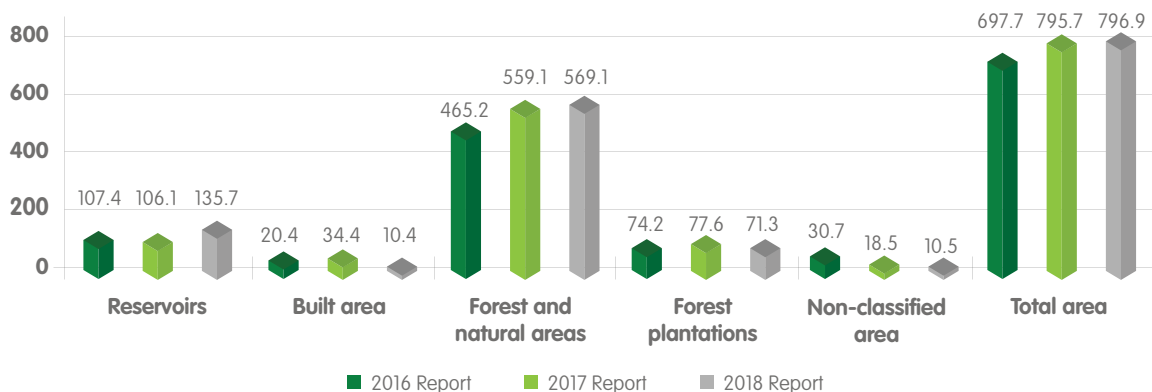
In energy transmission and distribution projects, there are 110,254 linear km equivalent to 94.04 km² of easements located within or next to protected areas or areas of great value for biodiversity outside protected areas. Among the reported areas, only 20.4 km² pass through protected areas. In their construction and maintenance, impacts on forests, natural ecosystems, and communities were minimized by ending the closed season for endangered species, subtracting protected areas, and forest offset. In 2018, 17,030 individuals of epiphytic species such as orchids, bromeliads, and ferns were rescued and transplanted.

| Areas and uses of the soil (km ²) – Grupo EPM | | | | | | | |
|---|--------------|-------------|---------------------------|--------------------|---------------------|--------------|---------------------|
| Company / Business | Reservoirs | Built area | Forests and natural areas | Forest plantations | Non-classified Area | Total area | Geographic location |
| CHEC – Power generation | 1.0 | 1.1 | 64.9 | 0.0 | 0.0 | 67.0 | Caldas, Colombia |
| Emvarias – Water supply and sanitation | 0.0 | 0.5 | 3.3 | 0.0 | 0.1 | 3.8 | Antioquia, Colombia |
| EPRio – Water supply and sanitation | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.2 | Antioquia, Colombia |
| EPM – Water supply and sanitation | 1.5 | 0.3 | 13.1 | 14.5 | 0.9 | 30.3 | Antioquia, Colombia |
| EPM – Power generation | 107.4 | 5.9 | 210.8 | 56.7 | 1.9 | 382.7 | Antioquia, Colombia |
| EPM – Ituango Project | 25.6 | 2.3 | 258.5 | 0.0 | 7.6 | 294.0 | Antioquia, Colombia |
| EPM Chile – Power generation | 0.0 | 0.3 | 16.4 | 0.1 | 0.0 | 16.7 | Chile |
| HET – Power generation | 0.1 | 0.0 | 2.0 | 0.0 | 0.0 | 2.1 | Panamá |
| Overall total | 135.7 | 10.4 | 569.1 | 71.3 | 10.5 | 796.9 | |

Source: Application for Capturing Information on Sustainability Indicators in Grupo EPM 2018 (abbreviated IDSOS in Spanish) (CHEC, Emvarias, EPRio, EPM, EPM Chile, and HET), Génesis Geographic Information System, (EPM).

In 2018, Grupo EPM reports a total area of 796.9 km² on its own land, 80% of which corresponds to areas with some type of forest cover (forests and natural ecosystems: 569.1 km² and forest plantations: 71.3 km²), 17% of the area corresponds to reservoirs, 1.3% are pending classification areas, and only 1.3% of the total area corresponds to infrastructure. Thus, EPM Power Generation contributes 41% of the total forest cover area in protection areas; the Ituango Hydroelectric Project, still under construction, has consolidated a protection area corresponding to 40.4% of the total area, and CHEC is next in contributions with 10% of the total area.

Classification of areas (km²) and type of coverage 2018 – Grupo EPM



Source: IDSOS 2016, 2017 and 2018.

In 2018, Grupo EPM increased the area of its own land with the incorporation of other affiliates in the reports, as well as through the purchase of land mainly for the Ituango Hydroelectric Project. From the update of the bathymetries, the information of the total area of the reservoirs has been varied. Also, the update in land cover has implied variations in the classification of use.

| Impacted and offset areas (km ²) – Grupo EPM – 2018 | | | | | |
|---|---------------|--------------|---------------------|-------------------------|---------------------------|
| Company / Business | Impacted area | Offset goal | Offset area in 2018 | Accumulated offset area | Total offset progress (%) |
| CENS – Power transmission and distribution | 8.72 | 1.94 | 2.29 | 2.29 | 118% |
| Emvarias – Water supply and sanitation | 0.4 | 0.80 | 0.02 | 0.22 | 28% |
| EPM – Ituango Project | 54.3 | 179.20 | 12.77 | 167.24 | 93% |
| EPM – Power transmission and distribution | 10.44 | 0.87 | 0.78 | 0.78 | 90% |
| EPM – Projects and engineering | 0.87 | 1.90 | 0.26 | 0.26 | 14% |
| ESSA – Power transmission and distribution | 0.01 | 0.05 | 0.00 | 0.00 | 0% |
| Overall total | 74.7 | 182.8 | 15.1 | 170.8 | 93% |

Source: IDSOS 2018 (CENS, Emvarias, EPM and ESSA).

For the management of impacts in 74.7 km², Grupo EPM offset 182.8 km² (more than 2.4 times the impacted area), which represented a progress of 8.2% and a cumulative amount of 93% by 2018. The above refers to management measures introduced by the environmental authorities in the previous phases of the projects, during the construction phase, and even in the operation phase.

On the other hand, it is evident that CENS's progress exceeds 100%; this value is justified due to the execution of the offset for the Conexión Tibú project, which has direct effects on the progress of CENS's total offset.

| Areas impacted by transmission and distribution projects (km ²) – Grupo EPM – 2018 | | | | | |
|--|-----------------------------------|---|--|---|--|
| Company / Business | Total length line or network (km) | Built area – Easements (km ²) | Length of line or network within protected area (km) | Built area within protected area (km ²) | Reference protected area |
| CENS – VP Power transmission and distribution. | 431.35 | 8.72 | 125.03 | 2.62 | <ul style="list-style-type: none"> Natural Reserve of the Gualanday Civil Society. Natural Reserve of the San Antonio Civil Society. Management district of water resource reserve areas and protective forest areas. |
| CHEC – Power transmission and distribution. | 4,425.64 | 0.00 | 525.07 | 3.67 | Selva de Florencia National Natural Park, Los Nevados National Natural Park, Tatama National Natural Park, Verdum Regional Natural Park, Selva de Florencia Regional Natural Park, Rionegro Regional Natural Park, CHEC Forest Reserve, and Rio Blanco Forest Reserve. |
| Egsa – Power distribution. | 88,597.50 | 0.00 | 396.54 | 2.39 | <ul style="list-style-type: none"> United Nations National Park. Volcán de Pacaya y Laguna de Calderas National Park. |
| Egsa – Power transmission. | 2,175.86 | 0.00 | 9.86 | 0.10 | <ul style="list-style-type: none"> United Nations National Park. Chuya Regional. Municipal Park. |

| Areas impacted by transmission and distribution projects (km ²) – Grupo EPM – 2018 | | | | | |
|--|-----------------------------------|---|--|---|--|
| Company / Business | Total length line or network (km) | Built area – Easements (km ²) | Length of line or network within protected area (km) | Built area within protected area (km ²) | Reference protected area |
| EPM – VPE Projects and engineering. | 318.64 | 10.25 | 47.45 | 1.53 | <ul style="list-style-type: none"> • Integrated Management District (abbreviated DMI in Spanish) to Alto de Manjui-Salto de Tequendama sector. • Páramo Grande Protective Forest Reserve. • Protective Forest Reserve of the Nare River. • Regional Protective Forest Reserve of the Canyons of the Melcocho and Santo Domingo Rivers. |
| EPM – VP Power transmission and distribution. | 14,310.14 | 75.07 | 1,919.07 | 10.12 | DMI Peñol-Guatapé, buffer zone of Paramillo National Natural Park. |
| Overall total | 110,259.14 | 94.05 | 3,023.02 | 20.42 | |

Source: IDSOS 2018 (ICENS, CHEC, Egsa and EPM).

In transmission and distribution project activities, Grupo EPM impacts vegetation cover with the construction and maintenance of easements. However, offset and impact management actions are implemented. Lines that are effectively within or adjacent to protected areas or zones of high biodiversity value are reported.

GRI standards disclosures and EPM indicators

303-1 Interactions with water as a shared resource.

303-2 Management of impacts related to water discharge.

304-2 Significant impacts of activities, products, and services on biodiversity.

EU13 Biodiversity of offset habitats compared to the biodiversity of the affected areas.

Scope and coverage

Businesses

Water supply
Sanitation
Electrical energy

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Norte de Santander
Colombia – Santander

Companies

Empresas Públicas de Medellín – EPM
Empresas Varias de Medellín – Emvarias
Central Hidroeléctrica de Caldas – CHEC
Electrificadora de Santander – ESSA
Centrales Eléctricas del Norte de Santander – CENS

Conservation of threatened species

The operational areas owned, leased, or managed by the Grupo EPM's companies are located in different biogeographic regions from Mexico to Chile. These areas include different ecosystems that contribute to the conservation of biodiversity, provide ecosystem services, generate regional biological corridors, and provide shelter for flora and fauna species that are considered threatened, mainly due to the loss or alteration of their habitats, pollution of the environment, or overexploitation.

Grupo EPM's companies are committed to the integrated management for the conservation of biodiversity and ecosystem services through programs, projects, and initiatives, either mandatory or voluntary, developed by the group itself or along with other stakeholders. It includes threatened species listed nationally, on the IUCN Red List, in CITES, and closed by national or regional resolutions, whose habitats are in areas where operations are carried out.

Management in 2018

In 2018, Grupo EPM expanded its knowledge of threatened species that are protected on its land. There are reports from EPM and ten affiliates located in four countries (Colombia, Chile, Guatemala, and Panama) that comprise a total of 299 species. These include 196 threatened species, 29 closed species, 129 species registered in CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), and two new species for science.

Progress was made in updating species inventories, support was provided for the declaration of new protected areas, and work was carried out on the design and implementation of conservation strategies and population studies for endangered species.

Grupo EPM's companies contribute to the conservation of flora and fauna, especially of 298 species that are classified in some threat status in the national lists or in the IUCN (International Union for Conservation of Nature). Likewise, they contribute to those that have some type of closure (national or regional) or belong to the CITES list. For this report, 195 threatened species were reported, 129 species were included in CITES, and 29 species were listed in regional or national closures. Two new species for science were also discovered in the department of Antioquia (Colombia), one in Sonsón belonging to the genus *Caryodaphnopsis*, and the other in the municipalities of Medellín and Guarne belonging to the genus *Magnolia*.

EPM conducted a study to know the fauna and flora in the protection area of Playas reservoir and the fauna associated with forest plantations in the protection areas of the Peñol-Guatapé reservoir. Efforts were also made to manage impacts on groups of gray titi (*Saguinus leucopus*) in the protection areas of Porce II, Porce III, and Playas reservoirs. In the same way, monitoring of the neotropical otter (*Lontra longicaudis*) continued in Porce III. Progress is also being made in the study of the sabaleta (*Brycon henni*) and the alternatives for its restocking, as well as a study of migrations; both studies for Porce III. For the Ituango Hydroelectric Project, it should be noted the population study carried out on six bird species: citron-throated toucan (*Ramphastos vitellinus citreolaemus*), flame-rumped tanager (*Ramphocelus flammigerus*), red-bellied grackle (*Hypopyrrhus pyrohypogaster*), military macaw (*Ara militaris*), recurve-billed bushbird (*Clytoctantes alixii*), and sooty ant-tanager (*Habia gutturalis*). It was possible to observe the presence of the Antioquia wren (*Thryophilus sernai*), an endemic species of which little is known. Furthermore, a study was conducted on the status of feline populations and identified the main conservation strategies: jaguar (*Panthera onca*), puma (*Puma concolor*), jaguarundi (*Puma yagouaroundi*), ocelot (*Leopardus pardalis*), oncilla (*Leopardus tigrinus*), and margay (*Leopardus wiedii*). Finally, it is worth highlighting the participation of EPM in the alliance with UNDP for the development of the Anorí BioExpedition, an activity articulated with Colciencias, Universidad EAFIT, Universidad CES, Universidad de Antioquia, and Corantioquia, among others. It resulted in the report of 1,022 species, including 14 new species for science, two beetles, a lizard, a tree rat, and eight plants.

CHEC emphasizes the conservation of fauna and flora species associated with the ecosystems found on its land, through initiatives such as participation in El Condor Route project, the fish restocking of the Cauca River, and the Norte Lake of the Camaguadua reservoir through the release of juvenile native and endangered species such as the striped catfish (*Pseudoplatystoma magdaleniatium*), bocachico (*Prochilodus magdalenae*), and dorada (*Brycon moorei*), and with environmental education programs through trails for the sighting of endemic and migratory birds in the protected area of Bosques CHEC.

| Number of threatened species by country, company, and business ² | | | | | | | | | | | | | | | | |
|---|--|----------------|-----------|-----------|-----------|------------|-----------|-----------|----------|-----------|-----------|------------|-------------|------------|-----------|------------|
| Country | Company / Business | National lists | | | | | UICN | | | | | Cites | | | Closed | Total |
| | | NT | VU | CR | EN | Total | NT | VU | CR | EN | Total | Appendix I | Appendix II | Total | | |
| Colombia | EPM – Water supply and sanitation | 0 | 7 | 3 | 7 | 17 | 1 | 2 | 0 | 0 | 3 | 0 | 3 | 3 | 1 | 24 |
| | EPM – Power generation | 0 | 17 | 4 | 10 | 31 | 1 | 5 | 0 | 3 | 9 | 2 | 5 | 7 | 1 | 48 |
| | EPM – Projects | 1 | 35 | 5 | 11 | 52 | 5 | 9 | 0 | 0 | 14 | 8 | 68 | 76 | 25 | 167 |
| | Water supply and sanitation affiliates | 0 | 7 | 0 | 2 | 9 | 7 | 5 | 1 | 0 | 13 | 3 | 28 | 31 | 1 | 54 |
| | Power generation affiliates | 3 | 17 | 0 | 7 | 27 | 6 | 3 | 1 | 8 | 18 | 5 | 11 | 16 | 2 | 63 |
| | Power transmission and distribution affiliates | 0 | 4 | 1 | 4 | 9 | 0 | 1 | 1 | 0 | 2 | 1 | 1 | 2 | 1 | 14 |
| Subtotal Colombia | | 4 | 87 | 13 | 41 | 145 | 20 | 25 | 3 | 11 | 59 | 19 | 116 | 135 | 31 | 370 |
| Chile | Adasa – Water supply and sanitation | 0 | 1 | 1 | 5 | 7 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 5 | 0 | 13 |
| Guatemala ¹ | Eegsa – Power transmission and distribution | 0 | 0 | 0 | 0 | 37 | 1 | 0 | 0 | 1 | 2 | 0 | 13 | 13 | 0 | 52 |
| Panama | ENSA– Power transmission and distribution | 1 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 14 | 0 | 18 |
| | HET – Power generation | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| Subtotal Panama | | 1 | 0 | 0 | 5 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 14 | 14 | 0 | 21 |
| Total Grupo EPM | | 5 | 88 | 14 | 51 | 195 | 22 | 25 | 3 | 13 | 63 | 21 | 146 | 167 | 31 | 456 |

Source: IDSOS (EPM, CHEC, CENS, ESSA, Aguas Nacionales EPM, Emvarias, EPM Chile, Adasa, Eegsa, ENSA and HET).

¹ The species reported in the national list for Eegsa in Guatemala are not standardized according to the conservation categories of the IUCN and have their own numerical categories ranging from 1 to 3.

² Categories: Critically Endangered (CR), Endangered (EN), Vulnerable (VU), and Near Threatened (NT).

Conservation status (IUCN: <https://www.iucnredlist.org/>; CITES: <http://checklist.cites.org/>; Colombia: Ruling 1912 of 2017; Chile: National Species Inventory <http://especies.mma.gob.cl/>; Guatemala: List of Threatened Species, LEA, 2008; Panama: Ruling DM-0657 of 2016).

The main reports of threatened species were observed in EPM projects (167 species), followed by power generation affiliates (63), water supply and sanitation affiliates (54), and Eegsa (52). It is noteworthy the report of 21 species in Appendix I of CITES and the report of 17 species in the critically endangered (CR) category. Some species included condor, Andean bear, mountain tapir, wax palm, neotropical otter, blue-billed curassow, cumin, mahogany, cedar, American crocodile, yellow-eared parrot, and Humboldt penguin, among others.

| Number of species by biological group – Total species reported, closed, threatened, and CITES | | | | | | | | | | |
|---|---------------------------------------|----------------|--|-----------|-----------|-----------|------------|----------------------------|-------------|------------|
| Biological group | Reported species in 2018 ¹ | Closed species | Threatened species – Categories ² | | | | | CITES species ³ | | |
| | | | CR | EN | VU | NT | Total | Appendix I | Appendix II | Total |
| Fish | 17 | 0 | 3 | 1 | 0 | 13 | 17 | 0 | 0 | 0 |
| Amphibians | 17 | 0 | 1 | 4 | 3 | 6 | 14 | 0 | 3 | 3 |
| Reptiles | 41 | 0 | 0 | 29 | 0 | 5 | 34 | 1 | 5 | 6 |
| Birds | 152 | 0 | 2 | 12 | 19 | 25 | 58 | 5 | 79 | 84 |
| Mammals | 33 | 0 | 1 | 5 | 0 | 13 | 19 | 8 | 6 | 14 |
| Fauna | 260 | 0 | 7 | 51 | 22 | 62 | 142 | 14 | 93 | 107 |
| Trees | 65 | 6 | 5 | 12 | 1 | 19 | 37 | 0 | 3 | 3 |
| Palms | 12 | 1 | 0 | 4 | 0 | 7 | 11 | 0 | 0 | 0 |
| Ferns | 14 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 |
| Epiphytes | 36 | 15 | 1 | 0 | 1 | 2 | 4 | 0 | 11 | 11 |
| Others ⁴ | 3 | 1 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 |
| Flora | 130 | 29 | 6 | 16 | 2 | 30 | 54 | 0 | 22 | 22 |
| Total | 390 | 29 | 13 | 67 | 24 | 92 | 196 | 14 | 115 | 129 |

Source: IDSOS (EPM, CHEC, CENS, ESSA, Aguas Nacionales EPM, Emvarias, EPM Chile, Adasa, Eegsa, ENSA and HET).

¹ Eegsa reports 36 threatened species under a standard not comparable to that of IUCN. Nonetheless, they are included for the total.

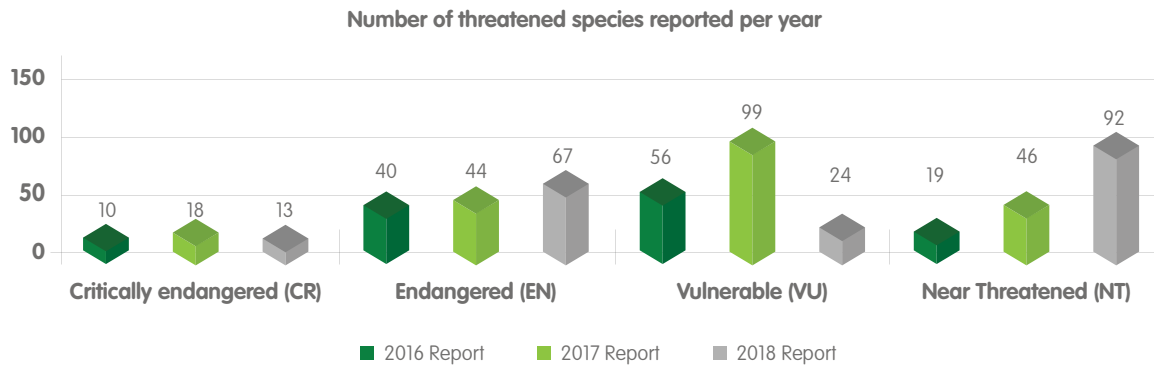
² This report includes the sum of the species protected by national regulations of the countries that are part of Grupo EPM, as well as those reported in IUCN.

Categories: Critically Endangered (CR), Endangered (EN), Vulnerable (VU), and Near Threatened (NT).

³ For this report, species included in Appendix III of CITES were excluded.

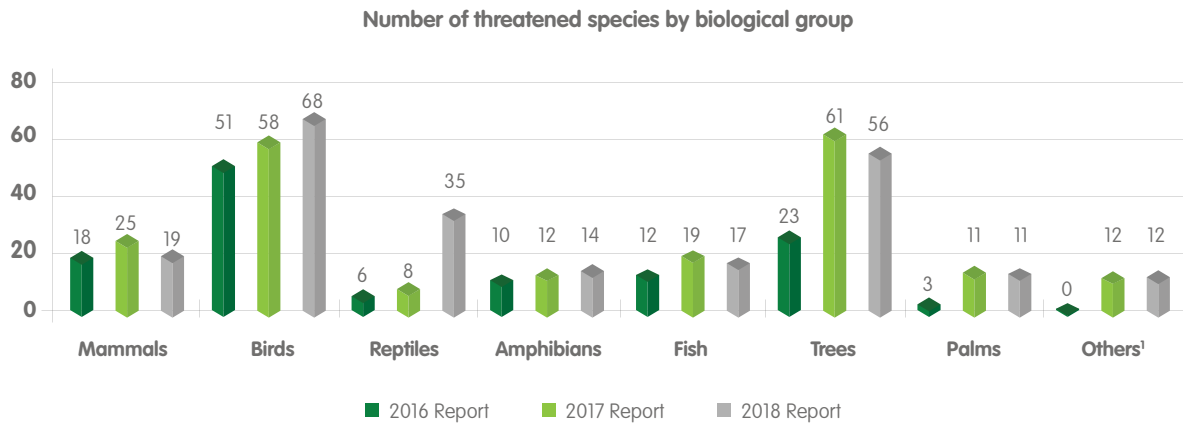
⁴ Some herbaceous species are included here.

Due to their diversity of ecosystems, Grupo EPM's affiliates protect species from different biological groups. A total of 390 records were obtained of fauna and flora species. 196 of them show a threat status, 129 are included in CITES Appendices I and II, and 29 closed species are reported. An increase in the number of records compared to 2017 was observed in all groups, except fish (which decreased). Likewise, reptiles and birds increased from 10 and 124 records to 41 and 152, respectively.



Source: IDSOS (EPM, CHEC, CENS, ESSA, Aguas Nacionales EPM, Emvarias, EPM Chile, Adasa, Eegsa, ENSA and HET).

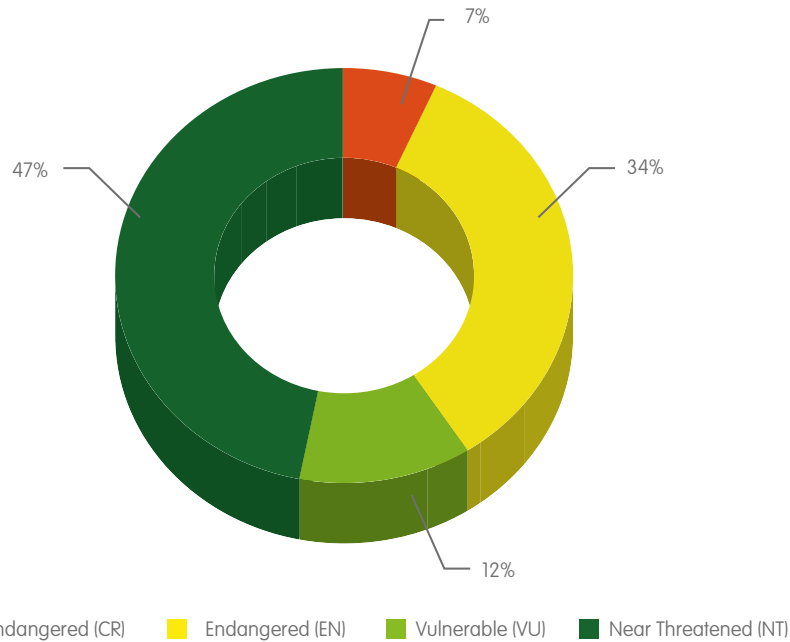
As a result of updating the information reported in the affiliates, 196 endangered species were found by 2018. They are being protected and supported for their conservation in forests, reservoirs and other ecosystems; they decreased with respect to the 2017 report (125 species) and surpassed the figure for 2016 (125 species). These changes are associated with the increase in the number of records and their refinement, including only species whose presence was verified in properties owned, leased, or managed by Grupo EPM companies, as well as duly supported in studies.



Source: IDSOS (EPM, CHEC, CENS, ESSA, Aguas Nacionales EPM, Emvarias, Adasa, Eegsa, ENSA and HET).

By 2018, reports of threatened species in birds, reptiles, and amphibians increased; and mammals, fish, and trees decreased compared to the 2016 and 2017 sustainability reports. This is due to the change in the threat category of some species such as the coruro (*Spalacopus cyanus*) in Chile, which went from Endangered (EN) to Least Concern (LC); this is also explained by the increase in the number of records and their refinement, which includes only species whose presence was verified in properties owned, leased, or managed by companies of the Grupo EPM.

Percentage distribution of threatened species in conservation categories



Source: IDSOS (EPM, CHEC, CENS, ESSA, Aguas Nacionales EPM, Emvarias, EPM Chile, Adasa, Eegsa, ENSA and HET).

This report includes the sum of the species protected by national regulations of the countries that are part of Grupo EPM, as well as those reported in the IUCN, except Eegsa, whose species are catalogued under a non-accredited standard.

The consolidated report of Grupo EPM affiliates for 2018 shows an increase in the number of species in the Near Threatened (NT) category, passing from 22% to 47%, as well as the Endangered (EN) category, which passed from 21% to 34%, with respect to 2017. For the Vulnerable category (VU), the number of species listed decreased from 48% to 12%, while the Critically Endangered (CR) category decreased by two percentage units compared to 2017.

GRI standards disclosures and EPM indicators

304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations.

EPM-01 Conservation areas.

EPM-10 Water protection.

Scope and coverage

Businesses

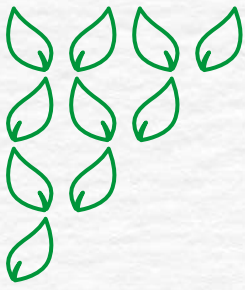
Water supply
Sanitation
Electrical energy

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Santander
Colombia – Norte de Santander
Chile
Guatemala
Panama

Companies

Empresas Públicas de Medellín – EPM
Aguas Nacionales EPM
Empresas Varias de Medellín – Emvarias
Central Hidroeléctrica de Caldas – CHEC
Electrificadora de Santander – ESSA
Centrales Eléctricas del Norte de Santander – CENS
Empresa Eléctrica de Guatemala – Eegsa
Aguas de Antofagasta – Adasa
Hidroecológica del Teribe – HET
Elektra Noreste – ENSA
EPM Chile



Grupo·epm[®]



Quality and safety
of products
and services



Quality and safety of products and services

It involves meeting the expectations of customers and users, as well as the quality-oriented regulatory and control requirements, the service continuity and safety, and other aspects related to the commercial offer.

It refers to the technical and commercial characteristics necessary to meet the expectations of customers and users, as well as the regulatory and control requirements. This topic includes service quality, continuity, and safety, as well as aspects related to assistance, education, communication, customer satisfaction, and corporate reputation.

Relevance

Economic value is associated with the objective of process optimization - basis of the competitiveness of the group's businesses - and quality to satisfy customers and users requirements. Regarding social value, product quality has an impact on quality of life and human development, while safety protects the life and health of the individuals that make up the stakeholders.

Main achievements

| Matter | Goals | Company | Achievements | Accomplishment |
|----------------|--|------------------------------|-----------------------------|----------------|
| Water quality. | Keep the Water Quality Risk Index (WQRI) below 5%, in order to preserve users' health. | EPM | The WQRI was 0.12% in 2018. | Total |
| | | Aguas de Malambo | The WQRI was 0.5% in 2018. | |
| | | Aguas Regionales | The WQRI was 0.07% in 2018. | |
| | | Aguas del Oriente Antioqueño | The WQRI was 0.2% in 2018. | |

| Matter | Goals | Company | Achievements | Accomplishment |
|--|---|--|--|------------------|
| Continuity of the water service. | Achieve an index of continuity of the water service based on the expected percentage indicated for each company: | EPM: 99.70%. | The service continuity index in 2018 was 99.89%. | Total |
| | | Aguas de Malambo: 52%. | The service continuity index in 2018 was 38.77%. | Not accomplished |
| | | Aguas Regionales - Urabá region: 99.22%. | The service continuity index in 2018 was 89.1%. | Not accomplished |
| | | Aguas del Oriente Antioqueño: 99.7%. | The service continuity index in 2018 was 99.94%. | Total |
| | Increase the amount of hours of the water supply to 18 hours in the sectors supplied by the El Tesoro plant. | Aguas de Malambo. | An average of 9.39 hours of water supply was reached, with 5 subcircuits in 24 hours and 6 subcircuits in 12 hours, in the sectors supplied by the plant. A loss control program was implemented, micrometers were installed, and a new operating plan was started by macrosectors, in order to manage the increase in continuity and the reduction of losses. | Not accomplished |
| Water loss management. | Reduce the Water Loss Rate per Billed User (LRBU) (m ³ /billed user) to the following values for each company: | EPM: 6.1. | The LRBU was 6.05% in 2018. | Total |
| | | Aguas de Malambo: 16.33. | The LRBU was 17.22% in 2018. | Not accomplished |
| | | Aguas Regionales - Urabá region: 12.32. | The LRBU was 10.89% in 2018. | Total |
| | | Aguas del Oriente Antioqueño: 4. | The LRBU was 2.87% in 2018. | Total |
| Quality and continuity of the electricity service. | Reach the following values in the indicators of quality and continuity of the energy service: | EPM: SAIDI 14.71 / SAIFI 10.80. | The SAIDI target changed to 15.42. A value of 14.72 was reached as of December. The SAIFI target changed to 8.0. A value of 6.67 was reached as of December. | Total |
| | | CENS: SAIDI 31.25 / SAIFI 14.28. | The SAIDI target changed to 33.6. A value of 26.95 was reached as of December. The SAIFI target changed to 9.6. A value of 10.53 was reached as of December. | |

| Matter | Goals | Company | Achievements | Accomplishment |
|--|---|--|--|----------------|
| Quality and continuity of the electricity service. | Reach the following values in the indicators of quality and continuity of the energy service: | ESSA: SAIDI 30.97 / SAIFI 20.50. | The SAIDI target changed to 27.99. A value of 25.34 was reached as of December. The SAIFI target changed to 17.45. A value of 16.80 was reached as of December. | Total |
| | | EDEQ: SAIDI 8.94 / SAIFI 21.79. | The SAIDI target changed to 8.46. Implementation of the SAIDI target as of July: 7.59. The SAIFI target changed to 10.69. Implementation of the SAIFI target as of July: 6.63. | |
| | | CHEC: SAIDI 26.13 / SAIFI 26.85. | The SAIDI target changed to 8.46. A value of 8.12 was reached as of December. The SAIFI target changed to 10.69. A value of 5.73 was reached as of December. | |
| | | ENSA: SAIDI 13.97 / SAIFI 6.49. | A SAIDI value of 12.70 was reached as of December. A SAIFI value of 7.42 was reached as of December. | |
| | | Delsur: SAIDI 16.49 / SAIFI 8.41. | A SAIDI value of 12.70 was reached as of December. A SAIFI value of 7.42 was reached as of December. | |
| | | Eegsa: SAIDI 3.75 / SAIFI 2.43. | A SAIDI value of 3.97 was reached as of December. A SAIFI value of 2.70 was reached as of December. | |
| | Replacement projects: 55 km of network. | CENS | During 2018, networks were changed due to replacement projects, implementing 30.58 km of primary distribution networks and 51.95 km of secondary distribution networks, for a total of 82.53 km. | Total |
| Reduce FMIK (average interruption frequency per KV) and TTIK (total interruption time per KVA) quality indicators by 1%. | Eegsa | 2018 goal: TTIK: 3,077 hours, FMIK: 2,187 times. 2018 result: TTIK: 3,159 hours, FMIK: 2,440 times. | Partial | |

| Matter | Goals | Company | Achievements | Accomplishment |
|---------------------------------|--|---------------------------|---|-------------------------|
| Gas and energy loss management. | Achieve the targets defined for the energy loss (%) and recovery (GWh) rate of the network operator: | EPM: 7.31% - 90.96 GWh. | The target changed to 6.98. A value of 7.35% was reached as of December. Accumulated recovered energy from 2015 to August 2018 target: 207.64 GWh. Accumulated recovered energy from 2015 to August 2018 implementation: 296.59 GWh. | Not accomplished |
| | | CENS: 12.46% - 15.69 GWh. | The target changed to 12.8. A value of 12.83% was reached as of December, accomplishing 99.74% of the target. Accumulated recovered energy from 2015 to August 2018 target: 83.26 GWh. Accumulated recovered energy from 2015 to August 2018 implementation: 103.40 GWh. | |
| | | ESSA: 11.28% - 30.0 GWh. | A value of 11.65% was reached as of December. Accumulated recovered energy from 2015 to August 2018 target: 105.63 GWh. Accumulated recovered energy from 2015 to August 2018 implementation: 149.31 GWh. | Total |
| | | EDEQ: 8.43% - 1.33 GWh. | The target changed to 8.46. A value of 8.12 was reached as of December. The target changed to 10.69. A value of 5.73 was reached as of December. | |

| Matter | Goals | Company | Achievements | Accomplishment |
|---------------------------------|--|--------------------------|--|----------------|
| Gas and energy loss management. | Achieve the targets defined for the energy loss (%) and recovery (GWh) rate of the network operator: | CHEC: 8.35% - 10.45 GWh. | A value of 8.71% was reached as of December, accomplishing 96% of the target. Accumulated recovered energy from 2015 to August 2018 target: 22.34 GWh. Accumulated recovered energy from 2015 to August 2018 implementation: 24.63 GWh. | Total |
| | | ENSA: 10.85% - 15.7 GWh. | A value of 11.37% was reached as of December. | |
| | | Delsur: 8.46%. | A value of 8.65% was reached as of December. | |
| | | Eegsa: 4.68%. | A value of 4.52% was reached as of December. | |
| | Establishment of working groups for substandard human settlements. | EDEQ | 44 working groups were held between EDEQ and the municipal administrations, exceeding the proposed target. This led to a closer relationship with the municipal administrations of La Tebaida, Montenegro, Quimbaya, Calarcá, and Armenia, in order to implement the Working groups program and jointly validate the information related to substandard human settlements. | Total |
| | Implement the EDEQ te visita (EDEQ visits you) program to legalize the service of users in substandard settlements: 2,500 customers visited. | EDEQ | The EDEQ te visita (EDEQ visits you) program was taken to the following substandard settlements: Altos de Monserrate (Armenia), La Olla (Quimbaya), and El Golfo (Montenegro), as well as the Habitación Viviendas (Habitable Homes) program, legalizing the energy service in 2 settlements. 100% of the proposed target was met (2 settlements with the legalized energy service, and 3 were executed). | |

| Matter | Goals | Company | Achievements | Accomplishment |
|---|---|----------|--|-------------------------|
| Gas and energy loss management. | Maintain the gas loss rate below 3.3. | EPM | <p>The result was 4.7%, given the sustained increase in the level of losses in the first months of the year, giving the indicator an effect of inertia, since it is a 12-month moving average.</p> <p>It was inferred that losses occur at the level of the polyethylene network, where control is difficult due to the number of exit points and the lack of concentration meters.</p> <p>As a strategy, it was defined to strengthen the control of fraud and anomalies, especially in addressing activities through the Ri-Hana tool.</p> | Not accomplished |
| Continuity of the sanitation service. | Achieve a solid waste compaction density rate above 1.05 t/m ³ . | Emvarias | A compaction density average rate of 1.10 t/m ³ was achieved, exceeding the target set. | Total |
| | Increase the secondary treatment capacity of the leachate treatment plant from 4l/s to 8 l/s. | Emvarias | The percentage of progress of the physical work was 76%. It is estimated that, in April 2019, the operation of Phase I and Phase II will be achieved, reaching the 8 l/s established as the target. | Partial |
| Safety in the provision of the service. | Develop awareness workshops on electrical accident prevention in 35 public schools and 20 public or private institutions, emphasizing the importance of respecting the minimum distances. | Eegsa | More than 6,774 children; 20 municipalities; construction companies and their suppliers; educational centers; and public entities were reached. Target achieved: 1,314 people. | Total |

| Matter | Goals | Company | Achievements | Accomplishment |
|---|---|---------|--|----------------|
| Education for and communication with customers, users, and the community. | Ensure that the families in the community supply line of the Unidos por el Agua (United for Water) program have a maximum consumption of 20 m ³ of water per month. | EPM | An average maximum consumption of 19.6 m ³ of water was achieved. | Partial |
| | Educational strategies in responsible consumption: <ol style="list-style-type: none"> Home visits. Educational events. Leadership school. Cuidamundos (World's protector) project. Education in localities. Education with the business segment. Education with the government segment. Social support in energy losses. <ul style="list-style-type: none"> 60,000 people reached. | CENS | In 2018, educational strategies were implemented such as: Conoce tu consumo (Calculate your consumption), educational events, leadership school, leaders meeting, encouragement of citizen participation through control spokespersons, allies for Progress seminars, user training via CENS locations, institutional closeness, education for businesses, trainings for the new bill, social support to the energy losses program, and energy tournament. Results 75,058 people reached. | Total |
| | Iluminando mi Comunidad (Illuminating my Community) program: Raise awareness and educate 5,000 people, and carry out 100 annual visits to the communities of the concession area on issues of electric energy efficiency, meter reading, service billing, and customer service channels. | Eegsa | 100% compliance. 100 visits and 75,058 people reached through the program. | Total |

Note: For some 2018 targets such as SAIDI and SAIFI, the target was adjusted due to regulatory reasons.

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|---|------------------------------|--------------------|----------------------|-----------|--|
| | | Territory | Business | Company | |
| Achieve a maximum water consumption of 18 m ³ per month for families in the Unidos por el agua (United for water) community supply line. | 2019 | Colombia-Antioquia | Water and sanitation | EPM | m ³ of water consumed per month. |
| Reduce the loss rate per billed user (m ³ per billed user) to the following values for each company: EPM: 6.72 Aguas de Malambo: 14.95 Aguas del Oriente: 4 Aguas Regionales – Urabá: 12.92 | 2019 | Colombia-Antioquia | Water and sanitation | Grupo EPM | IPUF (Loss Rate per Billed User m ³ / billed user). |
| Achieve a Water Supply Continuity Index (abbreviated ICTAC in Spanish) for each affiliate according to the established values: EPM: 99.7% Aguas de Malambo: 68% Aguas del Oriente: 99.7% Aguas Regionales – Urabá: 95.19% | 2019 | Colombia | Water and sanitation | Grupo EPM | ICTAC |
| 100% continuity in sweeping and cleaning. | 2019 | Colombia-Antioquia | Water and sanitation | Emvarias | Continuity in sweeping and cleaning. |
| Reach the goals set for the network operator's loss (%) and energy recovery (GWh) indicator: EPM: 6.97% CENS: 12.20% – 15 GWh ESSA: 11.63% – 86.78 GWh CHEC: 8.27% – 12.97 GWh | 2019 | Colombia | Power - T&D | Grupo EPM | Index of losses of the network operator and recovered energy. |
| Achieve the following values in the indicators of quality and continuity of the energy service: EPM: SAIDI 13.75 / SAIFI 8 ESSA: SAIDI 25.75 / SAIFI 16.06 CENS: SAIDI 30.6 / SAIFI 9.3 | 2019 | Colombia | Power - T&D | Grupo EPM | SAIDI and SAIFI indicators. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|--|------------------------------|------------------------------------|--------------------|---------|---|
| | | Territory | Business | Company | |
| Replacement projects: Build 267.6 km of network. 6,448 poles. | 2019 | Colombia- Norte de Santander | Power - T&D | CENS | <ul style="list-style-type: none"> km of network per expansion. Number of poles per expansion. |
| Commissioning of: <ul style="list-style-type: none"> Campo Dos substation at 34.5 / 13.8 kV. Gamarra substation at 34.5 / 13.8 kV. Completion of the 115 kV Ocaña - Convención transmission line. | 2019 | Colombia- Norte de Santander | Power - T&D | CENS | Commissioning of substations and lines. |
| Transfer of 100% of the families to the lines of Ocaña – Convención and Variante Belén – Ínsula. | 2019 | Colombia- Norte de Santander | Power - T&D | CENS | No. of families transferred / No. of families to be transferred. |
| Implement the electronic billing. | 2019 | Panamá | Power - T&D | ENSA | Number of customers who choose to adhere to the electronic billing system. |
| Educational talks to more than 500 rural users on theft of home networks. | 2019 | Panamá | Power - T&D | ENSA | Number of trained users / Number of scheduled users. |
| Continue educational strategies, including educational activities in customer service rooms: People served: 70,000. | 2019 | Colombia- Norte de Santander | Power - T&D | CENS | <ul style="list-style-type: none"> Number of educational strategies implemented. Number of people served. |
| Develop 20 intensive engagement programs with territorially cohesive customer communities to discuss issues related to residential public utilities. | 2019 | Colombia- Antioquia | All the businesses | EPM | Number of programs implemented. |
| Raise awareness of safe use of utilities among 10,000 people. | 2019 | Colombia- Antioquia | All the businesses | EPM | Number of people trained. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|--|------------------------------|--------------------|-------------|---------|--|
| | | Territory | Business | Company | |
| Install six theftproof networks in the company's area of operation in high-risk communities. | 2019 | El Salvador | Power - T&D | Delsur | Number of networks installed / number of networks. |

Related stakeholders

Customers and users
Community

Actions

- Quality and continuity of service
- Training and communication to customers, users, and community
- Loss management
- Customer satisfaction
- Safety in the provision of service
- Customer service

GRI standards disclosures and EPM indicators

103-1 Explanation of the material topic and its boundary.

103-2 Management approach and its components.

103-3 Evaluation of the management approach.

416-2 Incidents of non-compliance concerning the health and safety impacts of products and services.

417-3 Incidents of non-compliance concerning marketing communications.

418-1 Substantiated complaints concerning breaches of customer privacy and loss of customer data.

419-1 Non-compliance with laws and regulations in the social and economic areas.

EU25 Number of injuries and deaths involving the organization's assets, including legal sentences, settlements, and pending legal cases of diseases.

EU28 Power outage frequency.

EU29 Average power outage duration.

EPM-03 Loss rate.

EPM-04 Customer service channels.

EPM-05 Complaints.

Scope and coverage

Businesses

Water supply
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Risaralda
Colombia – Santander
Colombia – Norte de Santander
Colombia – Malambo, Atlántico
Chile
El Salvador
Guatemala
Mexico
Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Empresa de Aguas del Oriente Antioqueño
Empresas Públicas de Rionegro - EPRio
Aguas de Malambo
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa
Tecnología Intercontinental -Ticsa
Empresas Varias de Medellín - Emvarias

Sustainable development goals



Quality and continuity of service

Service quality comprises technical and commercial characteristics inherent to its provision. They must meet the expectations of users and the requirements of regulatory and control entities.

Continuity refers to how long the user has had the service.

Management in 2018

Providing a service of quality and continuity is fundamental for EPM. For this reason, the actions implemented during 2018 achieved the following results:

Grupo EPM reported a decrease of nearly 11% with respect to the previous year in the average Water Quality Risk Index (abbreviated IRCA in Spanish). Thus, it stood at 0.17%, which is significantly lower than the legal maximum of 5%; this guarantees that water supply is safe for human consumption. Similarly, the organization achieved decreases close to 8% and 7% in the SAIDI and SAIFI indicators, in which the companies EPM, CHEC, ESSA and Delsur were notable.

Committed to delivering water, energy, and gas utilities based on the pillars of quality and continuity, Grupo EPM carried out the following initiatives in 2018:

In the western region of the department, in the municipality of Santa Fe de Antioquia, an on-site chlorine generator was installed to improve water treatment and disinfection processes. In the eastern region, EPM supported and monitored the group's new affiliate, EPRio, during the year regarding the fulfillment of water quality goals: color, odor, and taste parameters were achieved in drinking water.

In the Emvarias affiliate, 100% continuity was maintained in the provision of final waste disposal service. In addition, compaction densities of 1.10 t/m³ were obtained in La Pradera landfill, which is higher than the 1.00 t/m³ stipulated. Furthermore, 13,673 tons of CO₂ were avoided thanks to the use of gas-powered vehicles. The construction of phase II of the leachate treatment plant is noteworthy. It has removals over 90% in terms of physicochemical and biological parameters.

Moreover, Aguas de Malambo affiliate (department of Atlántico) implemented the new operational plan that seeks to increase service continuity and reduce the level of losses.

With respect to the energy utility, a national quality plan was launched with the purpose of meeting service quality standards. This plan involves additional pruning and maintenance activities for critical circuits, as well as improving the substation maintenance indicator through a continuity, contingency, and recovery plan.

EPM's gas utility recorded 100% fulfillment of the Equivalent Length of Service Interruption indicator (abbreviated DES in Spanish), Index of Delivery Pressure in Individual Pipelines (abbreviated IPLI in Spanish), and Odorization Index (abbreviated IO in Spanish).

| Continuity of water supply service – Grupo EPM | | | |
|--|--------|--------|--------|
| Company | 2016 | 2017 | 2018 |
| National companies | | | |
| EPM | 99.9% | 99.94% | 99.89% |
| Aguas del Oriente | 99.8% | 99.8% | 99.94% |
| Aguas Regionales* | 92.00% | 93.66% | 89.1% |
| Aguas de Malambo | 26.9% | 30.7% | 38.77% |
| EPRio | ND | 98% | 99.92% |
| Emvarias – Continuity in collection and sweeping | 100% | 100% | 100% |
| International companies | | | |
| Ticsa | 99.53% | 99.47% | 97.30% |
| Adasa | 97.64% | 98.13% | 98.99% |

Source: Vice Presidency of Water and Sanitation.

*Aguas Regionales includes the western and Urabá regions.

| Water Quality Risk Index (abbreviated IRCA in Spanish) | | | |
|--|-------|-------|-------|
| Company | 2016 | 2017 | 2018 |
| EPM | | | |
| Medellín | 0.07% | 0.07% | 0.08% |
| Copacabana | 0.09% | 0.05% | 0.17% |
| Girardota | 0.00% | 0.02% | 0.15% |
| La Estrella | 0.09% | 0.12% | 0.11% |
| Caldas | 0.20% | 0.47% | 0.29% |
| Barbosa | 0.23% | 0.40% | 0.33% |
| Sabaneta | 0.33% | 0.27% | 0.27% |
| Envigado | 0.07% | 0.14% | 0.13% |
| Bello | 0.05% | 0.06% | 0.10% |
| Itagüí | 0.04% | 0.07% | 0.10% |
| Aguas del Oriente | | | |
| El Retiro | 0.64% | 1.04% | 0.20% |

| IRCA | | | |
|-----------------------|-------|-------|-------|
| Company | 2016 | 2017 | 2018 |
| Aguas Regionales | | | |
| Sopetrán | 0.31% | 0.00% | 0.22% |
| San Jerónimo | 0.00% | 0.00% | 0.31% |
| Santa Fe de Antioquia | 0.15% | 0.00% | 0.18% |
| Olaya | 0.50% | 0.00% | 0.00% |
| Apartadó | 0.00% | 0.00% | 0.00% |
| Turbo | 0.60% | 0.16% | 0.08% |
| Chigorodó | 0.00% | 0.00% | 0.04% |
| Carepa | 0.00% | 0.00% | 0.05% |
| Mutatá | 0.00% | 0.00% | 0.00% |
| El Reposo | 0.00% | 0.00% | 0.00% |
| Bajirá | 0.00% | 0.00% | 0.32% |
| Aguas de Malambo | | | |
| Malambo | 0.00% | 0.00% | 0.50% |
| EPRio | 0.06% | 1.57% | 0.34% |

Source: Vice Presidency of Water and Sanitation.

| Quality and continuity of energy – Grupo EPM | | | |
|--|-------|-------|-------|
| Company | 2016 | 2017* | 2018 |
| National companies | | | |
| EPM distribution | | | |
| SAIDI | 14.71 | 17.08 | 14.72 |
| SAIFI | 7.59 | 7.21 | 6.67 |
| CHEC | | | |
| SAIDI | 31.73 | 33.74 | 29.57 |
| SAIFI | 26.47 | 27.29 | 24.61 |
| ESSA | | | |
| SAIDI | 32.85 | 28.82 | 25.34 |
| SAIFI | 21.17 | 18.69 | 16.80 |
| CENS | | | |
| SAIDI | 40.02 | 28.65 | 26.96 |
| SAIFI | 10.57 | 9.76 | 10.53 |
| EDEQ | | | |
| SAIDI | 8.89 | 8.67 | 8.12 |
| SAIFI | 12.62 | 11.97 | 5.73 |

| Quality and continuity of energy – Grupo EPM | | | |
|--|-------|-------|-------|
| Company | 2016 | 2017* | 2018 |
| International companies | | | |
| Delsur | | | |
| SAIDI | 22.93 | 18.22 | 15.60 |
| SAIFI | 11.50 | 9.04 | 7.96 |
| Eegsa | | | |
| SAIDI | 3.59 | 3.75 | 3.97 |
| SAIFI | 2.46 | 2.43 | 2.70 |
| ENSA | | | |
| SAIDI | 15.44 | 13.23 | 12.70 |
| SAIFI | 7.36 | 6.21 | 7.42 |

Source: Vice Presidency of Power Transmission and Distribution.

* For Colombian companies, the 2017 figures were updated due to the fact that the indicator had been calculated excluding interruptions less than or equal to 1 minute, as foreseen in the project of CREG Resolution 176 of 2016. Since that resolution was not definitive, the figures were recalculated excluding interruptions less than or equal to 3 minutes, according to CREG Resolution 015 of 2018.

System Average Interruption Duration Index (SAIDI) (total interruption time –in hours– that the average system user was deprived of electricity supply in the evaluated period).

System Average Interruption Frequency Index (SAIFI) (number of times an average system user experiences an interruption in electrical service in the evaluated period).

| Continuity of gas service – EPM | | | |
|--|------|------|------|
| Indicator | 2016 | 2017 | 2018 |
| Index of Delivery Pressure in Individual Pipelines (abbreviated IPLI in Spanish) | 100% | 100% | 100% |
| Odorization index (abbreviated IO in Spanish) | 100% | 100% | 100% |
| DES | 0 | 0 | 0 |

Source: Vice Presidency of Gas.

GRI standards disclosures and EPM indicators

EU28 Power outage frequency.

EU29 Average power outage duration.

Scope and coverage

Businesses

Water supply
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Risaralda
Colombia – Santander
Colombia – Norte de Santander
Colombia – Malambo, Atlántico
Chile
El Salvador
Guatemala
Panama
Mexico

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Empresa de Aguas del Oriente Antioqueño
Empresas Públicas de Rionegro - EPRio
Aguas de Malambo
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
EPM Chile
Tecnología Intercontinental -Ticsa
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa

Education for and communication with customers, users, and the community

As part of corporate social responsibility, communication with customers is handled through educational communication, marketing communication, and communication due to scheduled suspensions. Educational communication regarding residential public utilities is developed by Grupo EPM through awareness-raising, information, and training activities, using engagement tools based on knowledge of, recognition of, and respect for our communities, their cultural aspects, and everyday spaces, establishing the necessary partnerships with external entities as well as institutional and community leaders. Communication due to suspensions aims at minimizing inconveniences as a result of scheduled disconnections of services. Marketing communication includes different strategies such as advertising, sponsorship, sales promotion, public relations, among others, seeking to position Grupo EPM's brand, its services, and the different offers concerning purchasability and access.

Management in 2018

Concerning the activities of engagement and education, with which the group seeks to strengthen the relationship of trust with the customers and users stakeholders through close work with the community, Grupo EPM established contact with more than 601,000 people in the country during the year.

The Por ti estamos ahí (We are there for you) program allowed EPM to have a conversation with 159,000 people at the national level about the provision of residential public utilities. 42 of these programs were advanced in the territories of the group's affiliated companies, benefiting more than 110,000 people. Through the Lectura a tu medida (Reading at your measure) program, the group made progress in conversations with 250,000 people to help them achieve a better understanding of the bill and the fees. In the affiliated companies, through the Conoce tus consumos (Calculate your consumption) program, 28,000 people were benefited.

As support to the social and educational work of the Unidos por el agua (United for water) program, the group established bonds of trust with the leaders and communities of the benefited territories in Medellín and interacted with more than 9,000 people. This management leveraged the fulfillment of the program goals for this year.

Through the Cuidamundos en tu colegio (World's protector in your school) program, the organization has more than 72,000 students, 43,000 of them in the regions where the group's affiliated companies operate. This program seeks to encourage care for the environment and promote the proper use of public utilities, which implies inspiring closeness and trust with future customers and users.

With the business segments of the market, strategies were also developed to support commercial offers and consolidate strategic alliances. During the year, the group held 29 seminars in Colombia addressed to the government segment, with the participation of more than 1,000 public servants from 45 administrations or government institutions. Likewise, the group completed 36 business approach programs—academic and regulatory meetings and events among them (with the participation of 27 companies)—academic advice to 300 industrial customers, awareness campaigns on energy efficiency with 586 small businesses, and 15 visits to plants. ESSA, EDEQ, and CENS stand out for the business approach activities that they conducted in their regions, fulfilling, by more than 100%, their engagement plans.

In the construction sector, 1,841 projects were supported at the national level and 23,117 new homes were connected to the public utilities. Similarly, the organization conducted 31 informative events and 43 training sessions on the acquisition and use of public utilities.

Emvarias carried out different activities as part of the Civic Culture on Cleaning program: the Linda Calle project and the play called Un día en el corazón de mi ciudad (One day in the heart of my city) with the institutional characters, Linda Calle and Pepe; they were in various stages with 100 performances and 30 workshops in 70 educational institutions, 16 companies, six hospitals, and approximately 39 neighborhoods (community action boards, parks, and residential units). Social projects were also executed, with the participation of 23,000 people, including children and adults.

As part of the community interventions, 25,000 people were benefited with door-to-door visits to raise awareness, environmental fairs, and institutional integrations, without leaving aside the city beautification activities with the recovery of 50 critical points where the communities were empowered and integrated to care for the environment, protect it, and keep it clean.

The Festival Buen Comienzo (Good Start Festival) registered the participation of more than 15,000 children in the ludic and educational experience offered by Emvarias in this city event that brought together nearly 100,000 people, including adults and children.

In the Civic Culture on Cleaning component, the affiliated company has different strategies that seek to promote the proper management of solid waste by citizens in Medellín, specifically to encourage waste reclamation with the Ruta recicla (Recycling road). This project operates in the comuna 14, El Poblado, since November 2017 with residents, storekeepers, industries, and schools to deliver the reclaimable material to Ruta recicla that runs from Monday to Saturday.

Scope and coverage

Businesses

- Water
- Sanitation
- Electrical energy
- Gas

Territory

Colombia – Antioquia

Colombia – Caldas

Colombia – Quindío

Colombia – Risaralda

Colombia – Santander

Colombia – Norte de Santander

Companies

Empresas Públicas de Medellín - EPM

Aguas Regionales EPM

Empresa de Aguas del Oriente Antioqueño

Empresas Públicas de Rionegro - EPRio

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

Centrales Eléctricas del Norte de Santander - CENS

Loss management

Loss control and reduction programs in the water supply service are aimed at reducing water waste by controlling and preventing leaks and through commercial activities and social interventions to promote a responsible use by users and the community.

In the energy and gas services, programs include education, access and purchasability value propositions, and technologies to minimize the vulnerability of the infrastructure concerning illegal actions.

Management in 2018

In 2018 the group reduced the water loss rate per user bill, with outstanding results from EPM, Aguas de Oriente, EPRio, and the international affiliate Adasa. EPM achieved a reduction of 3.4%, compared with the previous year, that corresponds to 6.05 m³ per user per month, a satisfactory result in terms of efficiency in the water supply system. In energy, most of the affiliated companies maintained the level of losses, with notable decreases compared with the previous year in ESSA, CENS, and EDEQ, by 3.4%, 5%, and 4.2% respectively.

Grupo EPM monitors and manages losses by means of the non-revenue water (NRW) comprehensive management, with activities that aim at the reduction and control of technical and commercial losses, through pressure control, modernization, replacement of networks and connection pipes, systematic detection of leaks, fraud standardization, improvement of metering, and connection of customers. In 2018, the group obtained as a result a volume of losses in the expected range, with a value of 86.8 million m³, which means an accomplishment of the established goal for the economic level of water losses in EPM's system estimated between 85 and 90 million m³. In the Urabá region, in the municipality of Turbo, 53 km of networks that represent 50% of the total networks of the municipality were optimized; also, contracting procedures were started to acquire macrometering equipment for the Chigorodó, Bajirá, and Mutatá water supply systems. In Malambo, meanwhile, 3,010 meters were installed during the year, for a total of 18,484, achieving a 79% in the affiliated company; besides guaranteeing a real consumption billing, the macrometers allow the company to estimate losses by sector. In addition, illegal connections were intervened and networks were normalized in sectors where paving works are being executed by the municipality.

As for the energy service, the organization also conducted loss reduction and control activities, aimed at legalizing services located in areas of difficult management. However, the difficult socioeconomic situation in the (Colombia-Venezuela) border territory, as a result of massive displacements of Venezuelan citizens, and some climate factors prevented access to some sectors that present high losses, which hampered the activities aimed at improving the management of commercial actions and social interventions in the area to promote the responsible use of the service by users and the community in general. During the year, operational teams were strengthened to increase field actions aimed at detecting and normalizing gas service frauds, while formalizing the gas loss control process.

| Non-revenue water rate | | | |
|--------------------------------|-------------|-------------|-------------|
| Company | 2016 | 2017 | 2018 |
| National companies | | | |
| EPM | 31.53% | 30.79% | 30.51% |
| Aguas del Oriente | 41.05% | 18.00% | 21.70% |
| Aguas Regionales | 41.66% | 41.99% | 46.06% |
| Aguas de Malambo | 59.59% | 51.70% | 55.44% |
| EPRio | 29.30% | 28.17% | 16.90% |
| International companies | | | |
| Adasa | 24.28% | 27.07% | 26.42% |

Source: Vice Presidency of Water and Sanitation.

| Loss rate per water supply user bill* Company | | | |
|--|-------------|-------------|-------------|
| Company | 2016 | 2017 | 2018 |
| National companies | | | |
| EPM | 6.63 | 6.26 | 6.05 |
| Aguas del Oriente | 7.30 | 2.29 | 2.87 |
| Aguas Regionales | 10.49 | 10.10 | 10.89 |
| Aguas de Malambo | 19.54 | 15.67 | 17.22 |
| EPRio | 5.10 | 4.90 | 2.58 |
| International companies | | | |
| Adasa | 6.90 | 7.12 | 6.79 |

Source: Vice Presidency of Water and Sanitation.

**Expressed in m³/user bill.*

| Energy loss management - Grupo EPM | | | |
|---------------------------------------|-------|-------|-------|
| Companies | 2016 | 2017 | 2018 |
| National companies | | | |
| EPM distribution | | | |
| Loss rate of network operator (LRRNO) | 7.58 | 7.00 | 7.22 |
| Commercial loss rate (CLR) | 11.36 | 11.44 | 11.93 |
| Loss rate in transmission | 1.43 | 1.46 | 1.47 |
| CHEC | | | |
| Loss rate of network operator (LRRNO) | 8.47 | 8.45 | 8.71 |
| Commercial loss rate (CLR) | 12.82 | 12.99 | 13.30 |
| ESSA | | | |
| Loss rate of network operator (LRRNO) | 12.19 | 12.06 | 11.65 |
| Commercial loss rate (CLR) | 14.37 | 15.05 | 14.81 |
| CENS | | | |
| Loss rate of network operator (LRRNO) | 13.59 | 13.51 | 12.83 |
| Commercial loss rate (CLR) | 17.10 | 17.05 | 16.55 |
| EDEQ | | | |
| Loss rate of network operator (LRRNO) | 8.17 | 8.38 | 8.03 |
| Commercial loss rate (CLR) | 10.84 | 11.35 | 10.86 |
| Delsur | | | |
| Delsur loss rate | 9.26 | 8.64 | 8.81 |
| Commercial loss rate (CLR) | 9.33 | 8.71 | 8.88 |
| Eegsa | | | |
| Loss rate of network operator (LRRNO) | 5.04 | 4.68 | 4.52 |
| Commercial loss rate (CLR) | 6.23 | 5.78 | 5.62 |
| ENSA | | | |
| ENSA loss rate | 11.12 | 10.36 | 11.37 |
| Commercial loss rate (CLR) | N.A. | N.A. | N.A. |

Source: Vice Presidency of Power Transmission and Distribution.

The methodology may vary in each country in accordance with its regulation.

LRRNO: loss rate of the regulated network operator. (%)

CLR: commercial loss rate (regulated market). (%)

| Gas loss management - EPM | | | |
|---------------------------|-------|-------|-------|
| Indicator | 2016 | 2017 | 2018 |
| Gas loss indicator (%) | 2.85% | 2.93% | 4.70% |

Source: Vice Presidency of Gas.

Losses in the gas service are attributed to several aspects that impact the distribution system: network breaks, pipeline porosity, technical maneuvers, fraud, lack of accuracy in the metrology of the polyethylene network users, among others. A loss characterization study will be conducted to determine with a higher level of certainty the proportion of each of these aspects, in order to establish effective management measures.

GRI standards disclosures and EPM indicators

EPM-03 Loss rate.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Risaralda
Colombia – Santander
Colombia – Norte de Santander
Colombia – Malambo, Atlántico
Chile
El Salvador
Guatemala
Mexico
Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Aguas de Malambo
Empresa de Aguas del Oriente Antioqueño
Empresas Públicas de Rionegro - EPRio
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
EPM Chile
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa

Customer satisfaction

In Colombia, Grupo EPM evaluates the relationship status with customers in terms of grievances. Based on last-year results, action plans aimed at improving the value proposition were implemented by adjusting it to the needs of each segment and optimizing the processes, relationships, and bonds with customers.

Management in 2018

Considering the results obtained and the analyzes conducted in 2017, the business group drew up, executed, and monitored in 2018 a work plan leveraged on digital solutions, self-management tools, and reduced requirements to install services. The main initiative focused on enhancing loyalty and satisfaction and improving the customers and users stakeholder's experience. In 2018, EPM's grievance indicator result was 5.62, showing a 10% improvement compared with the previous year. Of the eight national affiliates, five complied satisfactorily with the grievance results and three did not achieve the goal.

During 2018, the focus was on enhancing self-management solutions and digital channels that allow the organization to provide more options to process the needs and requirements of customers and users, while achieving efficiencies in internal processes.

The organization implemented a new community service channel with the adjustment of spaces located in strategic areas of the city, known as Puntos Fáciles (Easy Points), which are aimed at integrating different equipment and technological devices so that customers and users can conduct procedures themselves using new technologies that improve their experience when interacting with the company. Through this new channel, they can generate certificates, pay the public utilities bill, top-up prepaid energy, and perform quick transactions using the customer service hotline. Likewise, 18 transactions and other functionalities were implemented in the website channel, achieving a 23% increase in transactions compared with the previous year.

With the purpose of making the lives of customers and users easier, EPM developed initiatives aimed at reducing people's efforts to carry out procedures with the company. For energy and water service connection requests, the document requirements that must be submitted were reduced by more than 40%. Similarly, the alternatives for applicants to demonstrate a relation to the property to which the service bill is attached were increased from two to ten. Following the paper-free policy and in line with the reduction of efforts, the company made progress in the formalization of several interoperability agreements, which will favor online consultation of customers and users information; thus they will not have to submit printed documents. For this purpose, there are agreements in force with the National Registrar's Office of Civil Status and the National Directorate of Taxes and Customs and others in the process of formalization with the Superintendence of Notary Publics and Registrars and the Medellín-Antioquia Chamber of Commerce.

The Colombian affiliated companies CHEC, EDEQ, ESSA, Aguas Regionales, and Emvarias achieved satisfactorily the grievance indicator result; the other affiliates, including CENS, Aguas de Oriente, and Aguas de Malambo, failed to accomplish the goal set for the year, as a result of failures in service provision due to continuity, delay in damage repairs, and delays in service connections.

| Grievance indicator of affiliates in Colombia | | | |
|---|-------|-------|-------|
| Company | 2016 | 2017 | 2018 |
| EPM | 6.53 | 6.25 | 5.62 |
| CHEC | 1.03 | 1.51 | 1.06 |
| EDEQ | N.D. | 0.57 | 0.46 |
| ESSA | 2.47 | 1.28 | 1.03 |
| CENS | 0.76 | 1.24 | 1.53 |
| Aguas Regionales | N.D. | 2.21 | 1.61 |
| Aguas de Oriente | N.D. | 4.22 | 3.92 |
| Aguas de Malambo | 23.69 | 21.94 | 35.45 |
| Emvarias | N.D. | N.D. | 2.55 |

Source: Commercial Vice Presidency.

GRI standards disclosures and EPM indicators

EPM-05 Grievances.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Risaralda
Colombia – Santander
Colombia – Norte de Santander
Colombia – Malambo, Atlántico

Companies

Empresas Públicas de Medellín - EPM

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

Centrales Eléctricas del Norte de Santander - CENS

Aguas Regionales EPM

Empresa de Aguas del Oriente Antioqueño

Aguas de Malambo

Empresas Varias de Medellín - Emvarias

Safety in the service provision

Operational excellence is one of Grupo EPM's strategic focuses in the provision of services. To achieve this purpose, the organization develops risk prevention, mitigation, and control plans, as well as contingency plans to deal with events, methods and technologies with quality standards, and educational actions to ensure the adoption of practices that ensure the integrity of infrastructure and the safety of employees, users, and the community.

Management in 2018

EPM developed campaigns and specific activities to raise people's and families' awareness about the electrical risk and the legal service connection. With these messages and actions, the company contacted directly 11,565 people during the year.

For Grupo EPM, it is important to establish relationships with contractors through awareness-raising spaces, promotion activities, and follow-up on compliance with the safety and health system in field work, where positive changes and reduction of damages and accidents are evident as a result of compliance with safety standards.

During 2018, EPM updated the risk maps of Aguas de Malambo, Aguas Regionales, Aguas de Oriente, and Emvarias, while monitoring the status of risks, controls, and improvement actions. Emvarias stands out for updating the Road Safety Strategic Plan that, besides the training and continuous monitoring between the areas, showed positive results compared with the previous year in the reduction of accident indicators. The following are among the most representative: zero fatal accidents, 61% reduction in minor damages, 13% reduction in accidents with major damages, 14% reduction in accidents with injuries, and 23% reduction in damages to third parties.

At the different levels of management, work plans for risk management were drawn up with the identification of responsibilities for existing controls and improvement actions, defined for the management of risks associated with companies, processes, and projects. The fulfillment of these milestones strengthened the knowledge and response capacity of the people responsible for the processes, which contributed to the improvement in the provision of the water and sewerage services.

The national water affiliated companies, which have their respective contingency plans for the water supply and sewerage services, carried out safety inspections to guarantee the adequate use of personal protective equipment.

For their part, the international affiliates Ticsa and Adasa complied with the applicable regulations for occupational health and safety; the latter had emergency, production, distribution, and repair committees, which act immediately and in a coordinated manner.

Regarding the energy service, safety in the intervention of electrical infrastructure was promoted during 2018, both for the group's workers and customers and users.

As for fines and penalties, the group received a total of 82 during the year for a total value of COP 2,710 million and for concepts of untimely payment of public utilities, service continuity deficiency, accidents at work, positive administrative silence, among others.

| Incidents in the service provision | | | | | | |
|--|------|------|------|------------------|------|------|
| Indicator | EPM | | | Grupo EPM energy | | |
| | 2016 | 2017 | 2018 | 2016 | 2017 | 2018 |
| Number of people injured* | 20 | 22 | 20 | 287 | 140 | 152 |
| Number of deaths by electrical accidents | 6 | 5 | 9 | 22 | 18 | 34 |
| Number of fire victims by electrical accidents | 13 | 12 | 11 | 45 | 44 | 34 |

Source: Vice Presidency of Power Transmission and Distribution.

The figures reported include contractors, employees, and the community.

In the water and sewerage business, 12 complaint cases were filed in 2018: 11 for personal injuries and 1 for death.

**The amount of people injured corresponds to the total of people injured by injuries such as burns, deaths, and other types of injuries.*

| Incidents and grievances due to service provision | | | | | | |
|---|------|------|------|-----------|-------|-------|
| Indicator | EPM | | | Grupo EPM | | |
| | 2016 | 2017 | 2018 | 2016 | 2017 | 2018 |
| Incidents or grievances due to damages or injuries to individuals, filed in the year. | 54 | 41 | 37 | 222 | 97 | 109 |
| Incidents or grievances due to damages or injuries to individuals, closed in the year in favor of the company. | 17 | 20 | 21 | 36 | 67 | 47 |
| Incidents or grievances due to damages or injuries to individuals, closed in the year in favor of the claimant. | 5 | 8 | 4 | 11 | 12 | 7 |
| Incidents due to deaths in the year in favor of the claimant. | - | - | 3 | 2 | 2 | 9 |
| Incidents or grievances due to damage to tangible property, filed in the year. | 300 | 273 | 310 | 5,892 | 4,745 | 5,008 |

| Incidents and grievances due to service provision | | | | | | |
|--|------|------|------|-----------|-------|-------|
| Indicator | EPM | | | Grupo EPM | | |
| | 2016 | 2017 | 2018 | 2016 | 2017 | 2018 |
| Incidents or grievances due to damage to tangible property, closed in the year in favor of the company. | 151 | 151 | 104 | 3,827 | 3,131 | 2,974 |
| Incidents or grievances due to damage to tangible property, closed in the year in favor of the claimant. | 96 | 186 | 161 | 1,823 | 1,277 | 1,575 |
| Number of appeals related to the service provision, filed by customers. | - | - | - | 2,713 | 2,329 | 4,989 |
| Number of fines due to regulatory non-compliances. | - | 7 | 8 | 152 | 72 | 82 |
| Amount of fines due to regulatory non-compliances (million COP). | - | 66 | 448 | 792 | 3,068 | 2,710 |
| Number of incidents due to regulatory non-compliances in advertising and marketing communication. | - | - | - | - | - | - |

Source: Grupo EPM Legal Management, Businesses and Investments Management.

GRI standards disclosures and EPM indicators

417-3 Incidents of non-compliance concerning marketing communications.

419-1 Non-compliance with laws and regulations in the social and economic areas.

EU25 Number of injuries and deaths involving the organization's assets, including legal sentences, settlements, and pending legal cases of diseases.

Scope and coverage

Businesses

Water

Sanitation

Electrical energy

Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Risaralda
Colombia – Santander
Colombia – Norte de Santander
Colombia – Malambo, Atlántico
Chile
El Salvador
Guatemala
Mexico
Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Empresa de Aguas del Oriente Antioqueño
Empresas Públicas de Rionegro - EPRio
Aguas de Malambo
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
EPM Chile
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa
Tecnología Intercontinental -Ticsa

Customer service

Customer service at Grupo EPM is based on providing customers with satisfying experiences when interacting with the company. To do this, the group has different service systems to address all the requests, such as customer service offices, online representatives, free customer service hotline, written assistance via mail, digital channels, and specialized assistance to constructors and property administrators.

Management in 2018

For EPM and its affiliates, the management during 2018 stands out by the excellent results achieved. This allowed the group to continue consolidating relationships with customers and users through the development of digital offers that facilitate and improve their experience.

Aiming to be closer to customers and users and to continue generating memorable experiences, EPM focused during 2018 on enhancing self-management solutions and digital channels that allow the organization to provide more options to process the needs and requirements of customers and users, while achieving efficiencies in internal processes.

The organization implemented a new community service channel with the adjustment of spaces located in strategic areas of the city, known as Puntos Fáciles (Easy Points). The purpose is to integrate different equipment and technological devices so that customers and users can conduct company-related procedures themselves using new technologies. Through this new channel, which improves people's experience when interacting with EPM, they can generate certificates, pay the public utilities bill, top-up prepaid energy, and perform quick transactions using the customer service hotline.

Likewise, the implementation and consolidation of 45 self-service modules located in different offices favored, in an agile way, the operation of more than 311,000 transactions during 2018, an additional 18% compared with the previous year.

During the year, EPM achieved 18 transactions and functionalities in the website channel, achieving a 23% increase in transactions compared with the previous year. The mobile application continues to strengthen: during 2018 it reached 26,500 active customers, 65% more than the previous year. In addition, during this year, more than 75,000 customers and users received their bill only via e-mail, and about 320,000 coupons were paid electronically, that is, 16.25% of the total coupons collected in the year.

Through the contact center, the organization implemented the submission of cell phone messages to customers and users, seeking to economize and optimize resources: nearly 5,000 customers received the balance of their bill through a message on their mobile device.

Grupo EPM has 327 national service offices, 151 located in Antioquia, of which nine were refurbished and two were adjusted during 2018.

To continue strengthening and improving the interaction with customers and users during their transactions with the company through the service channels, 15 customer journey maps were created during 2018 with the purpose of diagnosing and redesigning the customer experience. Based on this, the company collected ideas for improvement; it also designed the experience indicator, which showed in its first measurement (last quarter of 2018) that 76% of the customers surveyed had an experience between neutral and positive.

During the year, EPM received and processed two customers' requests to withdraw their names from the company's information systems, since they no longer have commercial links with the company.

In 2018, the company did not receive substantiated complaints concerning breaches of customer privacy and losses of customer data.

GRI standards disclosures and EPM indicators

418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data.

EPM-04 Customer service channels.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Risaralda
Colombia – Santander
Colombia – Norte de Santander
Colombia – Malambo, Atlántico

Companies

Empresas Públicas de Medellín - EPM

Aguas Regionales EPM

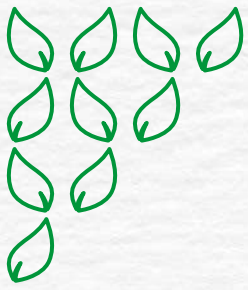
Empresa de Aguas del Oriente Antioqueño

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

Centrales Eléctricas del Norte de Santander - CENS



Grupo·epm[®]



Organizational
climate



Organizational climate

It refers to the collective perception of the employees regarding the company's practices, policies, structure, processes, and systems, impacting the human environment in which daily work takes place.

Relevance

It directly influences employees' satisfaction, commitment, and productivity and, therefore, the achievement of the company's goals. It creates social value between Grupo EPM people and Grupo EPM companies and extends it to the other stakeholders in terms of trust and legitimacy.

Management in 2018

The management of the organizational climate is a practice that Grupo EPM continues strengthening through the support to work teams with the commitment of leaders.

EPM continued improving its working environment by fostering an environment of respect and closeness inside the organization based on a new leadership style that allows employees to have a satisfactory experience in the development of their activities in the company, as well as emotional well-being, balance between family and work life, and balance between professional contribution and recognition—all in line with the strategic goals.

In response to the measures adopted internally due to the contingency of the Ituango project, the company did not conduct the organizational climate measurement that was scheduled for November 2018. However, this practice was strengthened by building and managing plans to improve the working environment among heads and work teams. During 2019, EPM will focus on further developing the concept of working environment, for which it will take into account the results of the Quality of Life and Psychosocial Risk study in the variable of Leadership as a replacement for the organizational climate study. A lot of emphasis was placed on these matters and the satisfactory results of this year are highlighted.

In addition, during 2018, 76 work teams were assisted in the improvement of their working environment, with the purpose of learning about best practices and continuing its strengthening.

Consistent with the decision made by EPM, the water and energy affiliated companies in Colombia also chose not to assess the organizational climate this year. Instead, they developed actions aimed at managing the organizational climate in each one of them and, in this way, the organizational climate management focused on supporting the work teams with emphasis on variables of Support from the Head, Organizational Clarity, and Interpersonal Treatment.

To continue the practice of previous years, the Colombian water affiliated companies focused their management on the results of the assessments of Quality of Life and Psychosocial Risk.

EPM designed and implemented the Corporate Action Plan to maintain a favorable organizational climate. Not being able to conduct the assessment means that it is not possible to know the advances in management and the opportunities for improvement.

| Grupo EPM organizational climate assessment results | | | |
|--|-------------|-------------|-------------|
| Company | 2016 | 2017 | 2018 |
| EPM | 54.2 | 59 | N.A. |
| Adasa | 71 | 72 | N.A. |
| CHEC | N.A. | 54 | N.A. |
| ESSA | 49.3 | 54 | N.A. |
| EDEQ | N.A. | 62 | N.A. |
| CENS | 56 | 55 | N.A. |
| Delsur | 86 | N.A. | 80 |
| Eegsa | 85 | 89 | 86 |
| ENSA | 75 | N.A. | 74 |
| Ticsa | N.A. | N.A. | 75 |

Source: Vice Presidency of Human Resources and Technology.

The assessment tool and the frequency of implementation are not the same for all the group's companies. In 2018, most of the group's companies did not conducted the assessment; however, there was assessment in Eegsa, Ticsa, Delsur, and ENSA. Delsur changed its supplier and dimensions; therefore, its assessment cannot be compared with that of 2016. On its part, ENSA conducts the Great Place to Work survey (GPTW Institute). In the group's water companies in Colombia, the organizational climate is not assessed. Its management lies in the assessment of Quality of Life and Psychosocial Risk.

Main achievements

| Goals | Achievements | Accomplishment |
|---|--|-------------------------|
| EPM: Achieve a result of 59.9 in the organizational climate assessment. | The working environment plans between heads and work teams were built and managed, which has strengthened the practice. In addition, 76 work teams were assisted in the improvement of their working environment, with the purpose of learning about best practices and continuing strengthening the working environment. Assessment was not conducted. | Not accomplished |
| EPM: Define and implement a corporate action plan based on the organizational climate survey results. | EPM designed and implemented the corporate action plan to maintain a favorable organizational climate, based on the support provided by Cincel. | Total |
| CENS: Disclose and deliver the assessment results to the executive team, ten departments, and four regions. | During January and February 2018, the results of organizational climate and work commitment assessment were delivered. The results of 2017 were analyzed by categories of gender, position, and seniority, which favored the demonstration of important premises to identify cross-sectional actions in the organizational climate management and to include them in a work plan for 2018. | Total |

| Goals | Achievements | Accomplishment |
|---|---|------------------|
| CHEC: Manage the results of the 2017 assessment through cross-cutting actions and by work teams. | The company achieved that all work teams had an action plan for the management of organizational climate variables and, in an integrated way, the dimensions of the psychosocial risk survey. Cross-cutting actions were performed for organizational climate management, such as the CHEC Fair in all areas of influence of CHEC, in the generation stations, and in the Uribe station. The company established agreements and processes with other teams to develop the actions included in the plans, such as: performance workshops, group assistance to development, the Oikos program, Escuela de familia (Family school), Mente y cuerpo (Mind and body), and Acércate (Get closer). | Total |
| ESSA: Increase the indicator in the items approved by the steering committee in January 2018. | Assessment was not conducted. | Not accomplished |
| EDEQ: Define and execute activities in an 80% at the organizational level together with the well-being and quality of life program. | According to the established plan, the goal was 100% executed. The activities implemented aimed at covering the entire population (see management highlights). | Total |
| Emvarias: Assess the organizational climate. | Assessment was not conducted. | Not accomplished |
| Emvarias: Keep internal communication mechanisms active to ensure a good organizational climate. | Emvarias continued strengthening the internal communication mechanisms (in terms of options to communicate). | Total |
| HET: Draw up the human resource management plan. | The process of human resource standardization with ENSA began in May 2018. | Partial |
| HET: Implement strategies of the human resource program. | A diagnosis of the organizational climate was conducted. | Partial |
| Eegsa: Implement the permanent organizational organizational climate management plan and maintain the results. | The assessment was conducted in May. The action plans established are currently in execution. | Total |

| Goals | Achievements | Accomplishment |
|--|--|-------------------------|
| Adasa: Reach a score equal to or greater than 72 in the organizational climate survey of 2018. | The organizational climate survey was not conducted. | Not accomplished |
| Aguas Nacionales: Design and implement strategies to face situations that may alter well-being, generate threatening changes in at-work and outside-work conditions, or increase the levels of stress in the employees of the company. | The intervention plan of quality of life defined by the company had a 94% of fulfillment. | Total |
| Ticsa: Assess the organizational climate. | The organizational climate survey was designed and applied, its results were shared, and the action plan was prepared. | Total |

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|---|------------------------------|----------------------|--------------------|-------------------------------------|----------------------------------|
| | | Territory | Business | Company | |
| Develop the Cultural Transformation module in the Leadership School. Perform "conversation circles" with public servants from the entire organization and all levels. Perform individual conversations (recognition of oneself). Train in prioritized topics to mobilize cultural transformation. | 2019 | Colombia – Antioquia | All the businesses | Empresas Públicas de Medellín - EPM | Achievement of 100% of the plan. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|--|------------------------------|-------------------------------|--------------------|--|---|
| | | Territory | Business | Company | |
| Run the Quality of Life program through the identification, assessment, prevention, intervention, and constant monitoring of exposure to psychosocial risk factors, at work and outside work, to prevent diseases associated with occupational stress. | 2019 | Colombia – Antioquia | All the businesses | Empresas Públicas de Medellín - EPM | Achievement of 100% of the plan. |
| Manage the organizational culture in 2019. | 2019 | Colombia - Norte de Santander | Electrical energy | Centrales Eléctricas del Norte de Santander - CENS | Achievement of 90% of the activities proposed. Monitoring to the plan of change named Juntos transformamos nuestra historia (Together we change our story). |
| Implement the strategy of nominal groups with all the CHEC work teams, to obtain information on advances regarding organizational climate. | 2019 | Colombia – Caldas | Electrical energy | Central Hidroeléctrica de Caldas - CHEC | (Nominal groups implemented / Nominal groups planned) * 100 |
| Build organizational climate and psychosocial risk management plans in 38 ESSA work teams. | 2019 | Colombia – Santander | Electrical energy | Electrificadora de Santander - ESSA | 100% |
| Support the execution of 90% of psychosocial risk intervention plans with the work teams, emphasizing on the dimensions that scored a higher risk. | 2019 | Colombia – Quindío | Electrical energy | Empresa de Energía del Quindío - EDEQ | Actions implemented/ actions designed. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|--|------------------------------|----------------------|----------|------------------------------------|---|
| | | Territory | Business | Company | |
| Define and implement the improvement plan, based on the results obtained from the assessment of the quality of life survey 2018: goal of achievement of the plan $\geq 90\%$. | 2019 | Colombia – Antioquia | Water | Aguas Nacionales EPM | Achievement of $\geq 90\%$ of the intervention plan of the quality of life results. |
| Implement the action plan derived from the organizational climate survey. | 2020 | México | Water | Tecnología Intercontinental -Ticsa | 100% |

Related stakeholders

Customers and users
Community
Grupo EPM people
Suppliers and contractors

GRI standards disclosures and EPM indicators

103-1 Explanation of the material topic and its boundary.
103-2 The management approach and its components.
103-3 Evaluation of the management approach.
EPM-02 Results of the organizational climate assessment.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Santander
Colombia - Norte de Santander
Colombia - Malambo, Atlántico

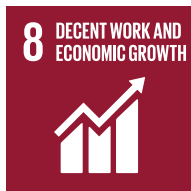
Chile
Panamá
Guatemala
El Salvador
México

Company

Empresas Públicas de Medellín - EPM
Aguas Nacionales EPM
Empresas Públicas de Rionegro - EPRio
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Distribuidora de Electricidad del Sur - Delsur

Empresa Eléctrica de Guatemala - Eegsa
Tecnología Intercontinental -Ticsa
Hidroecológica del Teribe - HET
Aguas de Antofagasta - Adasa

Sustainable Development Goals





Grupo·epm[®]



Responsible procurement
for local development



Responsible procurement for local development

Procurement criteria and practices that promote sustainable development and competitiveness of the territories where Grupo EPM operates.

Develop local capacities and foster sustainability through practices that promote the local business networking.

Relevance

It is a fundamental tool to leverage sustainability and competitiveness of the territories. It potentially strengthens economic dynamics with income for the community and promotes local business networking. It contributes to improving the trust and reputation of Grupo EPM vis-à-vis its stakeholders, as well as avoiding pressure from demands outside its business area that generate less value in terms of development.

Main achievements

| Goals | Achievements | Accomplishment |
|---|--|----------------|
| Local and regional procurement: Implement new local and regional procurement procedures in EPM and the Group's national companies. | With the introduction of Guideline 26, the local and regional procurement procedure was formalized and discussed, both in EPM and in the national affiliates. | Total |
| Social procurement: Consolidate the implementation of the social procurement procedure at EPM and implement it in the national companies. | Manuals and procedures associated with social procurement were documented, including social merchandising in national affiliates. It is worth noting that, in July 2018, the Organization received the Accenture Innovation Award, in its 4th edition in Colombia, for this initiative in the category of Corporate Social Responsibility. | Total |

| Goals | Achievements | Accomplishment |
|--|--|---------------------|
| <p>Sustainable ecosystem for suppliers and contractors development (abbreviated ESDP in Spanish): Apply the defined model through the formalization of alliances and initiatives that promote the development of capacities in suppliers and contractors.</p> | <p>The ESDP was consolidated and continues to be positioned. This is achieved through the implementation of different initiatives, stakeholders and existing work spaces with suppliers, in order to enhance their development and fulfill the purpose of seeking competitiveness and sustainability of the organization with allies such as Causa & Efecto, Innpulsa and Grupo Pares, among others.</p> | <p>Total</p> |

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|---|------------------------------|----------------------|--------------------|---------|---|
| | | Territory | Business | Company | |
| Identify the regional procurement potential for EPM in 2019 according to the annual purchasing and procurement plan. | 2019 | Colombia – Antioquia | All the businesses | EPM | (Regional procurement / total planning 2019) * 100 |
| Implement a supplier development initiative through allies identified in the ESDP. | 2019 | Colombia – Antioquia | All the businesses | EPM | (No. of initiatives completed through ESDP / 1)*100 |
| Participate in the survey of Guías Colombia (Colombia Guidelines) to identify human rights gaps in the supply chain and define a work plan. | 2019 | Colombia – Antioquia | All the businesses | EPM | Milestone achievement |

Related stakeholders

Community
 Status
 Suppliers and contractors

Actions

- Engagement with suppliers and contractors
- Strengthening and development of suppliers
- Purchasing and procurement

GRI standards disclosures and EPM indicators

102-9 Supply chain.

103-1 Explanation of the material topic and its boundary.

103-2 The management approach and its components.

103-3 Evaluation of the management approach.

204-1 Proportion of expenditure on local suppliers.

EPM-06 Number and value of social procurement contracts.

EPM-07 Number, value, and type of contracts in Grupo EPM.

EPM-09 Suppliers' satisfaction.

Scope and coverage

Businesses

Water supply

Sanitation

Electrical energy

Gas

Territory

Colombia – Antioquia

Colombia – Caldas

Colombia – Quindío

Colombia – Santander

Colombia – Norte de Santander

Colombia – Malambo, Atlántico

Chile

Mexico

Guatemala

El Salvador

Panama

Companies

Empresas Públicas de Medellín - EPM

Aguas de Malambo

Aguas Nacionales EPM

Aguas Regionales EPM

Centrales Eléctricas del Norte de Santander - CENS

Central Hidroeléctrica de Caldas - CHEC

Empresa de Energía del Quindío - EDEQ

Empresa de Aguas del Oriente Antioqueño

Electrificadora de Santander - ESSA

Aguas de Antofagasta - Adasa

Distribuidora de Electricidad del Sur - Delsur

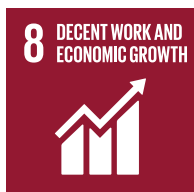
Empresa Eléctrica de Guatemala - Eegsa

Elektra Noreste - ENSA

EPM Chile

Tecnología Intercontinental -Ticsa

Sustainable development goals



Engagement with suppliers and contractors

The engagement plan with suppliers and contractors, previously known as Recyproco, promotes the interaction, communication, and implementation of different mechanisms of discussion, consultation, and participation of suppliers and contractors with Grupo EPM.

Management in 2018

Work was carried out on different actions aimed at continuing to strengthen the relationship with suppliers and contractors based on the engagement, clear and timely communication and closeness with this stakeholder. With this objective, the following topics were incorporated: procurement, human rights, code of conduct, fraud prevention to EPM, permanent information on the contingency of the Ituango Hydroelectric Project, and the sale of assets, occupational health and safety, registration in the Ariba information system and Global Compact Lecture, among others. These topics have been communicated and shared with all the affiliates in Colombia.

The Transparencia por Colombia (Transparency for Colombia) assessments, the contractor satisfaction and loyalty assessment, and the reputation assessment (EPM's own assessments) were carried out. The purpose was to show that the actions implemented through the engagement plan are aimed at meeting the reputation and engagement goals with the suppliers and contractors stakeholder.

The following is a list of the events held in 2018 both at EPM and its energy, water supply, Empresas Varias de Medellín (Emvarias) and Fundación EPM national affiliates, as dialogue, engagement and communication spaces to inform about various topics of interest and feedback with the suppliers and contractors stakeholder.



A score of 100 out of 100 was achieved in the transparency assessment (2018 assessment) for the contractual management topic within the information disclosure component.

A score of **930 points** out of a 2018 goal of **880 points** was obtained in the contractor reputation assessment. The goal was exceeded by **5.7%**.

The organization obtained **52.1 points** out of a goal of **49.7 points** in the contractor satisfaction and loyalty assessment. This reflects the impact of the actions carried out within the engagement plan on the indicators outcome.



During 2018, the engagement plan with suppliers and contractors was developed. It involves various actions that seek to strengthen the relationship, communication and closeness with the suppliers and contractors stakeholder.

- In the area of **health and safety of contractors' workers**, within the agenda of Grupo Pares, a workshop was held to reinforce this topic and present the latest regulations in force. Representatives of the Ministry of Labor and two suppliers participated and shared with a group of workers from 23 large companies in the region.
- **The second meeting of technical and administrative managers** was held at EPM with the participation of the company's staff. Topics covered included: moments of truth in contract management (emphasis on "zero hour" for procurement), occupational health and safety (how to manage it?), and updating corporate safety manuals.
- **Human rights grievance mechanisms for contractors' employees:** 14 cases were received and managed in 2018. In response to these complaints, a solution was recommended for cases involving actions that contravene the code of conduct for suppliers and contractors.
- Work was carried out to **strengthen the different communication channels with suppliers and contractors:** the national hotline 18000515552 was enabled and the line 3807070 was unified with the line 3805556, option 4. Both lines offer support to suppliers and contractors for the cycle of supply of goods and services, nationally and locally. In addition, 30 mass messages were sent to the suppliers and contractors stakeholder to inform about various topics of general interest related to this management area.

- A **workshop was held with design and construction contractors for water supply and sewerage works.** Its purpose was to have feedback from them regarding the designs received by the builders, and to collect observations and opportunities for improvement to implement them in this procedure.
- **Annual event with suppliers and contractors:** more than 340 suppliers and contractors participated in Medellín to discuss issues of interest in contracting and participate in feedback and conversation workshops about opportunities for improvement by EPM in the procurement process. The company also presented its contractor **recognition program**, focused on promoting initiatives associated with sustainability and the new strategic planning of Grupo EPM.

GRI standards disclosures and EPM indicators

102-9 Supply chain.

102-17 Mechanisms for advice and concerns about ethics.

EPM-09 Suppliers' satisfaction.

Scope and coverage

Businesses

Water supply

Sanitation

Electrical energy

Gas

Territory

Colombia – Antioquia

Colombia – Caldas

Colombia – Quindío

Colombia – Risaralda

Colombia – Santander

Colombia – Norte de Santander

Colombia – Malambo, Atlántico

Companies

Empresas Públicas de Medellín - EPM

Aguas de Malambo

Aguas Nacionales EPM

Aguas Regionales EPM

Centrales Eléctricas del Norte de Santander - CENS

Central Hidroeléctrica de Caldas - CHEC

Empresa de Energía del Quindío - EDEQ

Empresa de Aguas del Oriente Antioqueño

Electrificadora de Santander - ESSA

Strengthening and development of suppliers and contractors

Grupo EPM fosters the local business networking in the regions where it operates, through procurement and the development of capacities in its suppliers and contractors. In this regard, for EPM, the strengthening and development of suppliers and contractors aims to increase the competitiveness and sustainability of production chains in the short, medium and long term, through the creation and consolidation of relationships between Grupo EPM and this stakeholder. Thus, it generates bonds of trust to create processes of specialization and complementation that benefit the parties, articulating the strategic planning of Grupo EPM and that of its suppliers and contractors to improve economic, social and environmental conditions.

Management in 2018

The ESDP was consolidated and continues to be positioned. This is achieved through the implementation of different initiatives, connection with allies and creation of work spaces with suppliers to enhance their development of capacities and fulfill the purpose of seeking competitiveness and sustainability of the organization with allies such as Causa & Efecto, Innpulsa and Grupo Pares, among others.

Training school for transmission linemen

- This year the project ended with the graduation of 12 groups comprising a total of 281 technicians from the training school for transmission linemen. There were 136 apprentices in the internship and tutoring stage in the contractor companies, plus 39 in training at the Instituto MIES (La Ceja headquarters), for a total of 456 people trained and in the process of being trained.

Alliance with the energy cluster, the Korea International Cooperation Agency (KOICA), and the United Nations Office for Project Services (UNOPS)

- The alliance with UNOPS, the Municipality of Medellín, and KOICA, among others, ended in May 2018. Work was carried out on the collaborative business networks component, technical assistance to 51 SMEs, transfer of the methodology to anchor companies and feedback from experts who visited the companies.

Development and innovation

- In a collaborative work with the EPM Development and Innovation Management, a supplier development project was identified. It was sponsored by the Mayor's Office of Medellín and executed by the Center for Science and Technology of Antioquia (abbreviated CTA in Spanish) to implement innovation management systems for three EPM suppliers.

Programa propicio (Propicio program)

- Work to support a supplier was completed with the implementation of the Advanced Product Quality Planning (APQP) methodology for a renewable energy project.

Skills Training School

- Contacts were established with directors and technicians of the water business, with the director of the National Training Service of Pedregal (abbreviated SENA in Spanish) and with the consulting firm Causa & Efecto, to implement the methodology of the Water Skills School (abbreviated EDA in Spanish) for the training of operating staff and contractors of EPM in this sector. The purpose is to improve technical training in skills and abilities, and to increase the supply of skilled labor for officers and assistants of maintenance contracts for the water supply and sewerage networks.

Supplier development program with Grupo Pares

- It is worth noting the management carried out with Grupo Pares, which aims to promote external collaboration networks with companies from different economic sectors. The program is led by Isagen as a collaborative work initiative for the recognition of companies that have active programs oriented to the development and strengthening of suppliers, which seek to improve productivity and competitiveness of sectors and the country. Measures were implemented aimed at developing common suppliers, joint projects and the creation of a knowledge bank with experience in supplier management and supply. During 2018, four general meetings were held, attended by 275 people representing 257 companies.
- Four working committees were established consisting of Grupo Pares companies: (1) Ethics and compliance, (2) Innovation and quality, (3) Occupational health and safety, and (4) Sustainability. During 2018, these committees carried out different activities. One of them was an occupational health and safety event attended by 252 supplier companies and 304 attendees.
- The group carried out a joint supplier development project on energy efficiency with Grupo Éxito; it was sponsored by the Municipality of Medellín. 15 SMEs participated.

Supplier development program with Causa & Efecto

- The supplier development program continued through Innpulsa and Causa & Efecto to develop 30 suppliers. By December 2018, the project was 70% complete, as planned with Causa & Efecto, and 41% complete with Innpulsa's suppliers.

Grupo Pares: periodic sessions are held to work on initiatives aimed at developing suppliers that seek to improve the productivity and competitiveness of participating companies.

GRI standards disclosures and EPM indicators

102-9 Supply chain.

Scope and coverage

Businesses

Water supply
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Santander
Colombia – Norte de Santander
Colombia – Malambo, Atlántico

Companies

Empresas Públicas de Medellín - EPM
Aguas de Malambo
Aguas Nacionales EPM
Aguas Regionales EPM
Centrales Eléctricas del Norte de Santander - CENS
Central Hidroeléctrica de Caldas - CHEC
Empresa de Energía del Quindío - EDEQ
Empresa de Aguas del Oriente Antioqueño
Electrificadora de Santander - ESSA

Purchasing and procurement

The purpose of contracting goods and services is to meet the operational and administrative needs of the organization. It also supports social and environmental policies to contribute to the development of sustainable and competitive territories in the areas where Grupo EPM operates.

Through a deep knowledge of market opportunities, a new category management model was developed. It seeks to guarantee adequate attention to business needs, implementing long-term sustainability models at the environmental, economic and social levels.

In the contingency that occurred in the Ituango Hydroelectric Project, support was provided from the supply chain in structuring the agreement with the National Unit for Disaster Risk Management, as well as in making urgent purchases to support the emergency and adequate assistance to the people sheltered.

Grupo EPM total procurement



The number and values correspond to the contracts signed in each year. Figures include both Colombian and international Grupo EPM companies.

| Grupo EPM total procurement | | | | |
|--|---------------------|----------------------------------|---------------------|----------------------------------|
| Company | 2017 | | 2018 | |
| | Number of contracts | Value of contracts (million COP) | Number of contracts | Value of contracts (million COP) |
| EPM | 35,474 | 2,701,567 | 27,551 | 4,251,922 |
| ENSA – Panamá | 124 | 140,119 | 83 | 66,156 |
| Electrificadora de Santander – ESSA | 455 | 248,002 | 531 | 528,674 |
| Centrales Eléctricas del Norte de Santander – CENS | 543 | 33,982 | 411 | 212,711 |
| Empresas Varias de Medellín | 220 | 984,288 | 190 | 178,667 |
| Aguas de Antofagasta – Adasa | 100 | 101,035 | 109 | 123,581 |
| Central Hidroeléctrica de Caldas – CHEC | 1,413 | 111,358 | 1,472 | 114,830 |
| Ticsa – Mexico | 74 | 31,474 | 75 | 83,277 |
| Aguas de Malambo | 48 | 3,577 | 109 | 39,335 |
| Empresa de Energía del Quindío – EDEQ | 379 | 38,446 | 240 | 31,680 |
| Aguas Regionales | 182 | 22,564 | 100 | 25,253 |
| Eegsa – Guatemala | 1,009 | 123,298 | 651 | 24,797 |
| Empresas Públicas de Rionegro – EPRio | 0 | 0 | 52 | 14,627 |
| Delsur – El Salvador | 36 | 5,651 | 46 | 14,022 |
| Aguas Nacionales EPM | 41 | 32,635 | 35 | 13,415 |
| Empresa de Aguas de Oriente Antioqueño | 53 | 753 | 31 | 1,006 |
| EPM Chile – Chile | 4 | 633 | 8 | 729 |
| HET – Panamá | 3 | 344 | 0 | 0 |
| Grupo EPM total procurement | 40,158 | 4,579,725 | 31,694 | 5,724,682 |

Source: Vice Presidency of Shared Services and Supplies.

Through the management of the supply chain, efficient practices have been incorporated. They allow adding greater value to the different areas of the company with specialized purchasing methodologies, management by category, eligibility lists, strategic allies, supply contracts, operative purchases (with greater participation of local suppliers) and joint purchases (Group companies). Thus, the capacities of different local, regional and national stakeholders were involved. The final purpose was to obtain goods and services in the required time, at a fair price, in efficient quantities and with compliance with the requested technical specifications. This is how the Organization seeks the integration of economic, social, ethical and environmental criteria in the awarding of our contracts.

Classification detail of Grupo EPM procurement in Colombia



- **Type of procurement:** classification by the most common types: public works, provision of services and supply, among others.
- **Procurement modality:** classification by contractor selection: single application, private application or public application.
- **Social procurement and merchandising:** classification of social procurement (community action boards and community associations).
- **Local, national y foreign procurement:** classification by the location of the contractor with whom the contract is signed.

The amount and values correspond to what was signed in each of the years by Grupo EPM's companies located in Colombia. The values are stated in millions of Colombian pesos.

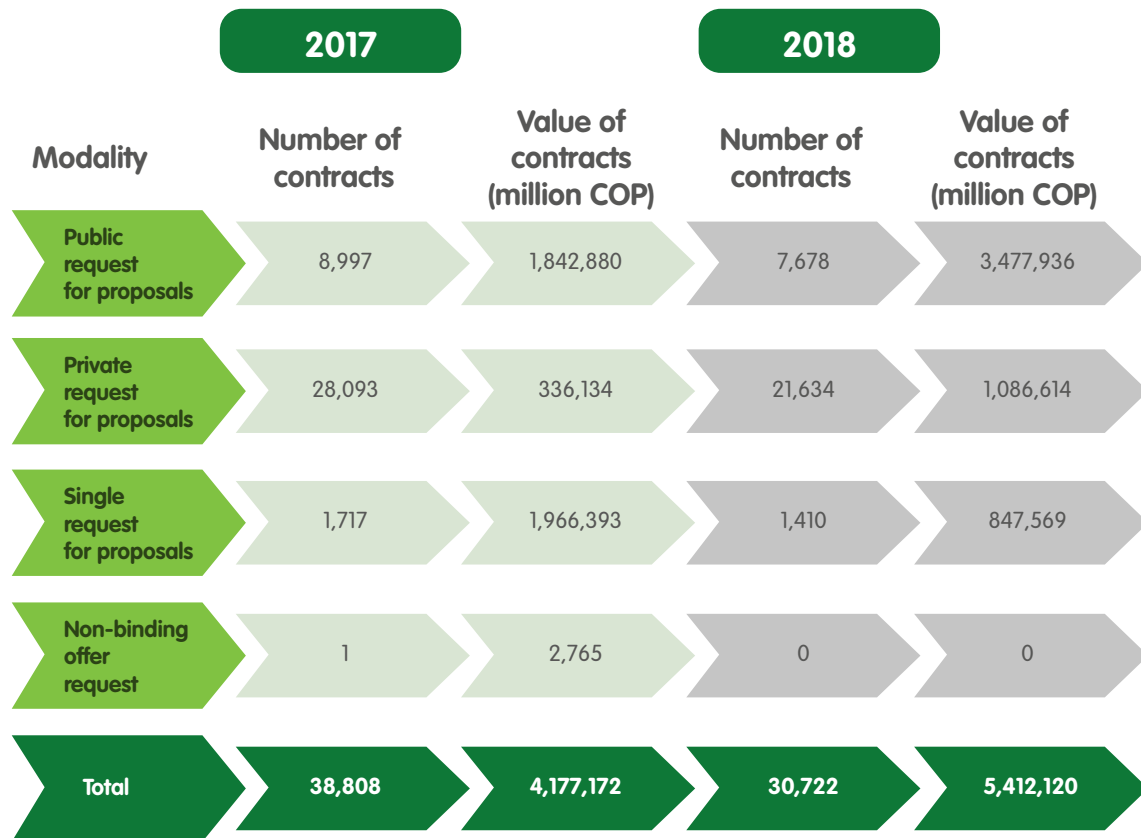
Type of procurement

| Type of procurement in Colombian companies of Grupo EPM | | | | |
|---|---------------------|----------------------------------|---------------------|----------------------------------|
| Type of contract | 2017 | | 2018 | |
| | Number of contracts | Value of contracts (million COP) | Number of contracts | Value of contracts (million COP) |
| Supply of goods and services | 21,517 | 756,635 | 28,204 | 2,589,588 |
| Provision of services | 1,421 | 1,361,377 | 1,325 | 1,077,302 |
| Others | 15,367 | 875,195 | 672 | 756,779 |
| Construction contracts | 136 | 743,438 | 134 | 722,129 |
| Movables and small purchases | 225 | 205,467 | 251 | 164,656 |
| Consultancy | 69 | 173,601 | 102 | 81,405 |
| Agreements and advertising connections | 73 | 61,459 | 34 | 20,261 |
| Total type of procurement | 38,808 | 4,177,172 | 30,722 | 5,412,120 |

Source: Vice Presidency of Shared Services and Supplies.

The amount and values correspond to what was signed in each of the years of Grupo EPM companies located in Colombia.

Procurement by modality



The amount and values correspond to what was signed in each of the years of Grupo EPM companies located in Colombia. The values are stated in millions of Colombian pesos.

Grupo EPM has three procurement modalities for the acquisition of its goods and services: public request for proposals (64.3%), private request for proposals (20.1%), and single request for proposal (15.7%).

The modalities are combined with other purchases that, due to their characteristics, are not processed directly through the supply chain but directly with specialized areas, such as: energy purchase, gas transportation, real estate and special projects, among others. Procurement is a fundamental lever that seeks to promote sustainable development and competitiveness in the territories where Grupo EPM operates, improving economic dynamics and the generation of local capacities.

Social procurement

It is a strategy through which EPM contracts works and services with community action boards and other community associations, with the purpose of contributing to the strengthening and sustainable development of the communities where it operates.

It relies on regulatory, procedural and management resources which, without prejudice to transparency, economic expediency and technical and legal rigor, favor the inclusion of suppliers and contractors from the base of the pyramid, which otherwise could not be considered. Social procurement aims at:

- Concentric action for the generation of employment, i. e., in the influence area of the project or service to be required by EPM, in a way that effectively contributes to the leverage of the development of the communities in the influence areas in which the company operates.
- Reinvesting surpluses in the community impacted by the project or service required to improve its quality of life and development.

Manuals and procedures associated with social procurement were documented, including social merchandising in national affiliates.

It is worth noting that the Organization received the Accenture Innovation Award, in its 4th edition in Colombia, for this initiative in the category of Corporate Social Responsibility 2018.

| Company | 2017 | | 2018 | |
|------------------|---------------------|---------------------|---------------------|---------------------|
| | Number of contracts | Value (million COP) | Number of contracts | Value (million COP) |
| EPM | 62 | 22,967 | 60 | 40,204 |
| Emvarias | 44 | 2,030 | 36 | 3,251 |
| Aguas de Oriente | 0 | 0 | 1 | 1,565 |
| CENS | 1 | 31 | 0 | 0 |
| Total | 106 | 24,997 | 97 | 45,019 |

Source: Vice Presidency of Shared Services and Supplies.

The amounts and values correspond to the signed value of the contracts in Colombian pesos.

- The social merchandising procedure was suspended due to the fact that the estimated budgets were released for the contingency of the Ituango Hydroelectric Project. Similarly, work was carried out with the affiliates in Colombia to standardize these procedures, resolve doubts and make adjustments so that they are incorporated into the processes of each affiliate.

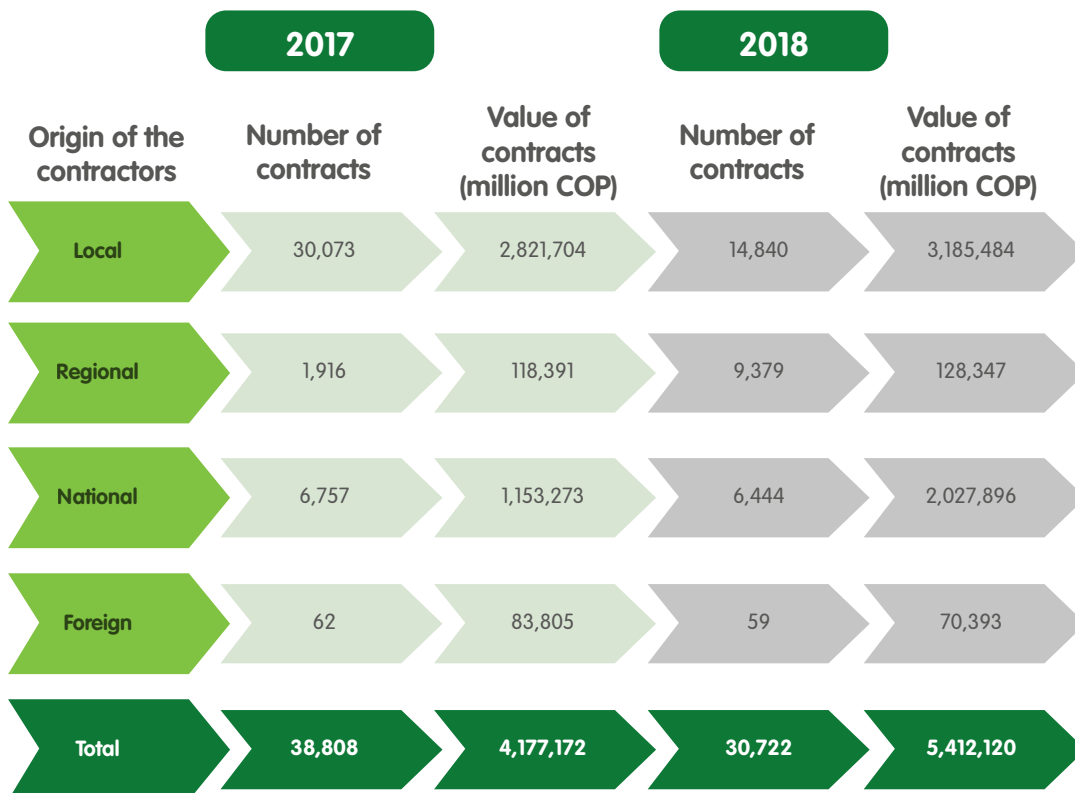
- Through the Social procurement program, Grupo EPM signed 97 contracts in 2018 for a total of COP 45,019 million. On the other hand, EPM executed 87 contracts for a total of COP 49,255 million compared to COP 24,382 million in 2017, representing an increase of 102%. The execution of EPM in this type of procurement exceeds the value signed by Grupo EPM because the execution takes into account the contracts signed in previous years, but that were still in execution during 2018.

Local, national, and foreign procurement

The origin refers to the place where contracted suppliers are located. It indicates whether the supplier is local, regional, national or foreign.

For Grupo EPM, a **local** supplier is the one located in the municipalities, small towns, and rural settlements covered by the metropolitan area of the company under evaluation. A **regional** supplier is understood as the supplier based in the same region of the company that supplies, but outside the metropolitan area. The **national** supplier is the one operating in several departments of Colombia. The **foreign** supplier is the one outside of Colombia.

In 2018, Grupo EPM entered into contracts worth COP 5.41 trillion. 58.85% of these contracts were awarded to local suppliers, 2.37% to regional suppliers, 37.46% to national suppliers and the remaining 1.3% corresponded to foreign suppliers with respect to the value signed in the contracts. In other words, the procurement of Grupo EPM in the region, the city and the country amounted to COP 5.34 trillion and had an increase of 29.56% compared to 2017.



The amount and values of the contracts correspond to those signed during 2018 in Colombia by Grupo EPM. The values are stated in millions of Colombian pesos.

An increase of 75.83% was reported in the value of national contracts compared to 2017, which contrasts with a decrease of 4.63% in the number of contracts. In local procurement, an increase in procurement value of 12.89% was recorded, compared to a significant decrease in the number of contracts (51.85%) with respect to the previous year.

In foreign procurement, a decrease of 16% in terms of value was observed; likewise, there was a decrease in the number of contracts (4.83%).

EPM established an outsourcing manual for all the procurement processes developed by the company. It contains the fundamentals and tools to properly outsource an activity, in compliance with the legal provisions for this purpose.

The manual contains:

- Policy analysis and foundations of outsourcing.
- General provisions (guidelines for outsourcing).
- Guide for the implementation of tools in outsourcing.

GRI standards disclosures and EPM indicators

102-9 Supply chain.

204-1 Proportion of expenditure on local suppliers.

EPM-06 Number and value of social procurement contracts.

EPM-07 Number, value, and type of contracts in Grupo EPM.

Scope and coverage

Businesses

Water supply

Sanitation

Electrical energy

Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Santander
Colombia – Norte de Santander
Colombia – Malambo, Atlántico
Chile
Mexico
Guatemala
El Salvador
Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas de Malambo
Aguas Nacionales EPM
Aguas Regionales EPM
Centrales Eléctricas del Norte de Santander - CENS
Central Hidroeléctrica de Caldas - CHEC
Empresa de Energía del Quindío - EDEQ
Empresa de Aguas del Oriente Antioqueño
Electrificadora de Santander - ESSA
Aguas de Antofagasta - Adasa
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
Elektra Noreste - ENSA
EPM Chile
Tecnología Intercontinental -Ticsa
Empresas Públicas de Rionegro - EPRio



Grupo·epm[®]



Human rights



Human rights

Commitment to respect human rights in the engagement with stakeholders, both during the operations of the company and during those carried out by third parties in the development of activities derived from an agreement signed with the organization.

By proclaiming its human rights institutional policy, Grupo EPM announces its commitment to adopt, in its own operations, and to promote, in the operations with third parties, compliance with the provisions of the Universal Declaration of Human Rights and its protocols, conventions, and binding agreements, including the international humanitarian law, and the constitution and the legal framework of each country where it operates.

For the organization, it is a challenge in terms of its own sustainability and assumes it with the conviction that respect for human dignity is a fundamental commitment on the sustainable human development agenda.

Relevance

The practices of respect and promotion of human rights are a corporate imperative based on the recognition of people's dignity. From the point of view of the business practice, this approach may lead to positive effects on the viability of operations and the reputation.

In terms of risk management, it favors the management of matters related to reputation, operation, finances, and the law.

Main achievements

| Goals | Achievements | Accomplishment |
|---|---|------------------|
| Identify risks regarding human rights, define treatment plans, and adopt the institutional policy at Adasa, HET, Delsur, EPM Chile, and ENSA. | <p>In Delsur, the human rights management system was implemented (mapping of risks regarding human rights, definition of the treatment plan, adoption of the human rights institutional policy, and configuration of the human rights training plan).</p> <p>As a result of the contingency of the Ituango hydroelectric project, the company rescheduled the milestones that had been defined for 2018 in several companies with the businesses of power generation, power transmission and distribution, and water and sanitation; only the goals set in Delsur were maintained, considering that at the moment of the decision there was already an advance in this respect. The milestones were rescheduled for 2020 and 2021.</p> | Partial |
| Design and implement the strategies to manage the extreme-level risks in human rights identified for EPM in 2017. | <p>The Design Unit of Commercial Operations adjusted the instructions to execute the work orders in the field, including the suspension procedures for facilities with the presence of specially protected people. The instructions to receive and refer the cases and incidents concerning the human rights and the international humanitarian law in the provision of the safety service at EPM were prepared and formalized with the Safety Directorate. The guide that establishes an institutional framework for the relationship with the indigenous, African-descent, and Romani communities was prepared.</p> <p>There are plans to incorporate due diligence criteria in human rights for the EPM property management, aligned with the Guide for the Purchase and Acquisition of Rights on the Land and Rights of Use, defined by Guías Colombia (Colombia Guidelines).</p> | Total |
| Develop a proposal to implement grievance mechanisms attentive to human rights at CHEC, EDEQ, CENS, ESSA, Aguas de Malambo, Aguas Regionales, and Emvarias. | <p>As a result of the contingency of the Ituango hydroelectric project, and considering the financial guidelines that were defined for Grupo EPM, it was agreed with the Vice Presidencies of Power Transmission and Distribution, Power Generation, and Water and Sanitation to reschedule the milestones that had been defined for 2018 in relation to this goal.</p> | Not accomplished |

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | Achievement indicator | Progress in management in 2018 | Achievement indicator | Progress in management in 2018 |
|---|------------------------------|----------------------|-----------------------|-------------------------------------|---|--|
| | | Territory | Business | Company | | |
| Establish a management system for gender equity. | 2019 | Colombia – Antioquia | All the businesses | Empresas Públicas de Medellín - EPM | Management system for gender equity. | An information survey was conducted considering the national and international background and context on gender equity. |
| Incorporate the guide for the relationship with ethnic communities. | 2019 | Colombia – Antioquia | All the businesses | Empresas Públicas de Medellín - EPM | Guide for the relationship with ethnic communities. | Progress was made in the design and drawing up of the guide to establish the relationship with the indigenous, African-descent, and Romani communities in Grupo EPM. |
| Hire 20 people with disabilities. | 2019 | Colombia – Antioquia | All the businesses | Empresas Públicas de Medellín - EPM | People hired. | |

| Challenge | Year in which it is achieved | Scope and coverage | | Progress in management in 2018 | | |
|--|------------------------------|-------------------------------|--------------------|--|--|--|
| | | Territory | Business | Company | Achievement indicator | Progress in management in 2018 |
| Incorporate due diligence criteria in human rights for the property management. | 2019 | Colombia – Antioquia | All the businesses | Empresas Públicas de Medellín - EPM | Procedure for the due diligence of property management. | Work was carried out in the application of recommendations in the Guide for the Purchase and Acquisition of Rights on the Land and Rights of Use by Guías Colombia (Colombia Guidelines) in the property management of the Ituango, Nueva Esperanza, Aguas Claras WWTP, Bello-Ancón, Santo Domingo, Porce III, and Gas sin fronteras (Gas without borders) projects and the affiliates of Grupo EPM. |
| Develop a human rights grievance mechanism. | 2019 | Colombia – Norte de Santander | Electrical energy | Centrales Eléctricas del Norte de Santander - CENS | Design of a grievance mechanism attentive to human rights to be implemented. | |
| Develop the diagnosis and identification of human rights gaps in the supply chain promoted by Guías Colombia (Colombia Guidelines) and define a work plan. | 2019 | Colombia – Antioquia | All the businesses | Empresas Públicas de Medellín - EPM | Diagnosis completed and work plan defined on human rights gaps identified in the supply chain. | The group agreed to use the self-diagnosis instrument designed by Guías Colombia (Colombia Guidelines). |

Related stakeholders

Customers and users
Community
Grupo EPM people
Suppliers and contractors

Actions

Human rights in the supply chain
Human rights management in projects under construction
Institutional management in human rights
Security and human rights

GRI standards disclosures and EPM indicators

- 103-1** Explanation of the material topic and its boundary.
- 103-2** The management approach and its components.
- 103-3** Evaluation of the management approach.
- 406-1** Incidents of discrimination and corrective actions taken.
- 407-1** Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk.
- 408-1** Operations and suppliers at significant risk for incidents of child labor.
- 409-1** Operations and suppliers at significant risk for incidents of forced or compulsory labor.
- 410-1** Security personnel trained in human rights policies or procedures.
- 411-1** Incidents of violations involving rights of indigenous peoples.
- 412-1** Operations that have been subject to human rights reviews or impact assessments.
- 412-2** Employee training on human rights policies or procedures.
- 412-3** Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening.
- 414-1** New suppliers that were screened using social criteria.
- 414-2** Negative social impacts in the supply chain and actions taken.
- 413-1** Operations with local community engagement, impact assessments, and development programs.
- EU22** Number of physically or economically displaced people and the compensation granted, detailed by type of project.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Santander
Colombia - Norte de Santander
Colombia – Risaralda
Colombia - Malambo, Atlántico
Chile
El Salvador
Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Aguas de Malambo
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur

Sustainable Development Goals



Human rights in the supply chain

Since human rights started to be addressed institutionally in 2011, EPM has concentrated much of its efforts to promote their management throughout its supply chain, with the purpose of having all the companies with which the organization has contractual relations aligned with the commitment to respect and promote human rights, recognizing the risks that the operations carried out by third parties in the development of commercial agreements with the organization may entail.

In line with this approach and considering that it is important to strengthen this management in the corporate practice, EPM has been gradually working on the conceptual approach, the insertion of practices, and the adoption of instruments consistent with the respect for human rights along with the contractors of the group's companies.

Management in 2018

For the organization it is essential to keep a permanent work of dissemination, communication, and promotion of respect for human rights in the operations with its commercial allies, in response to the risk situations that have been identified and that can take place, generally, in any outsourcing practice. Therefore, in 2018 Grupo EPM worked hard and steady to prevent and mitigate the impacts on human rights in the operation of its suppliers and contractors.

EPM develops exercises to evaluate risks and impacts on human rights, following the recommendations of the United Nations Guiding Principles. Based on the findings, the organization prioritizes by applying the institutional risk methodology and, from that prioritization, treatment plans are defined with specific actions, people in charge, schedule, and associated resources.

Although, due to the considerable amount of contracts, Grupo EPM has not conducted an individual supplier analysis, it has conducted a cross-cutting analysis of risks associated with the operation of the companies that are part of the supply chain; different risks have been identified such as lack of freedom of association, discrimination due to various reasons, poor health and safety at work, and, in general, conditions regarding decent work and child labor, which are two of the explicit commitments of the human rights institutional policy. In this way, it is considered that the evaluation coverage is 100% in the operation through third parties.

The Code of Conduct for Suppliers and Contractors of Grupo EPM is included among the actions taken to promote an approach concerning human rights in the development of contracts with suppliers; this code is included in the contract documents to urge each company to communicate, among its employees, the institutional guidelines related to different topics, including human rights. At the time of formalizing the contractual relationship, each contracting firm agrees to accept and apply what is established in the documents. Nowadays all the contracts that are formalized in EPM contain a clause related to the compliance with the code of conduct, which in turn contains a chapter associated with human rights.

In this sense, to monitor that the contracting firms behave according to the commitments contained in the code of conduct, an integration and coordination meeting (abbreviated RIC in Spanish) was established internally; it functions as a control mechanism to deal with the cases involving the suppliers and contractors stakeholder in practices that affect third parties. The RIC receives alerts through the transparent contact hotline or through notification by the organization's compliance unit. To respond to each case, different areas of the company and, if necessary, the contractor's representatives, contribute to resolve and close each case.

Similarly, as a resource to identify early warnings, besides detecting and addressing probable real violations of human rights, EPM keeps the institutional mechanism for human rights incidents for workers of contracting companies under operation. This tool was designed to facilitate the relationship with this stakeholder and identify actions to strengthen processes related to contractual management and respect for human rights among contracting companies and their workforce. It is coordinated by the Supplier Diversity and Development Unit, an area that, based on the particular features of each incident, makes up a team with representatives from different areas of the company, collects the information, and gives a final recommendation.

The energy affiliated companies in Colombia keep working on raising the suppliers and contractors stakeholder's awareness and training them to formally incorporate human rights in the operations, the performance assessment, the labor practices, the social repercussion, and the environmental impact.

| Indicators of the grievance mechanism for employees of suppliers and contractors | | | |
|---|-------------|-------------|-------------|
| | 2016 | 2017 | 2018 |
| Received | 5 | 10 | 14 |
| Solved | 4 | 8 | 14 |
| Under analysis | 1 | 2 | 0 |

Source: Vice Presidency of Shared Services and Supplies.

Cases addressed during the integration and coordination meeting for non-compliance with the code of conduct

| | 2018 |
|----------------|------|
| Received | 14 |
| Solved | 14 |
| Under analysis | 0 |

Source: Vice Presidency of Shared Services and Supplies.

GRI standards disclosures and EPM indicators

103-2 The management approach and its components.

406-1 Incidents of discrimination and corrective actions taken.

407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk.

408-1 Operations and suppliers at significant risk for incidents of child labor.

409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor.

412-3 Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening.

413-1 Operations with local community engagement, impact assessments, and development programs.

414-1 New suppliers that were screened using social criteria.

414-2 Negative social impacts in the supply chain and actions taken.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Risaralda
Colombia – Santander
Colombia – Norte de Santander

Companies

Empresas Públicas de Medellín - EPM
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS

Human rights management in projects under construction

The commitment to respect and promote human rights is a business activity premise in the development of all the projects conducted by the organization. The institutional approach to the subject, whose framework is the institutional procedure of due diligence, the human rights policy, and the guidelines that complement it, provides a basis on which the departments responsible for implementing a project define priorities and lines of action, according to the needs identified in the environment through the engagement with stakeholders.

To this end, every time the organization starts the construction of an infrastructure project that involves an intervention with significant impacts, it carries out an assessment to define specific strategies to deal with the risks identified in the territories. In the projects whose construction time is considerably extended, assessments are conducted periodically in order to keep findings up-to-date. In this type of projects, human rights grievance mechanisms are also available, so that the communities can inform the organization of situations of current or potential violation in the matter.

Management in 2018

In the development of the Ituango hydroelectric project, the organization requested the Directorate of Prior Consultation of the Ministry of the Interior to start the consultation process in the construction phase, as a result of the recognition granted in 2017 to the Nutabe de Orobajo council and the certification of its presence in the project area in 2018.

Ituango hydroelectric project

The Ituango hydroelectric project, which is being built by EPM in northern Antioquia, is currently the largest project in terms of power generation in Colombia. Once it is fully operational, it will provide 2,400 MW to the national electricity system; this, plus its contribution in reliability, competitiveness, and safety to meet the demand for electricity, makes its development of utmost importance for the country.

On April 28, 2018, a contingency situation took place in the project as a result of the obstruction and subsequent natural unblocking of a diversion tunnel of the Cauca River. From the beginning of this event, EPM guided its decisions and actions prioritizing the protection of the communities that could be affected by the development of the situation. In this sense, the company deployed the activities contained in both the environmental management plan and the contingency plan, approved in the environmental license of the project. Moreover, in conjunction with the Colombian Red Cross, the organization activated the Downstream Response Plan for Eventual Failure of the Dam and Extreme Flow of Emptying of the Reservoir of the Ituango Hydroelectric Project. Along with the national, departmental, and local authorities, Act 1523 of April 24, 2012, which adopts the National Policy on Disaster Risk Management, and Decree 2157 of December 20, 2017, were implemented. As the company responsible for the project, EPM activated the Protocol for Addressing Events and Crises (abbreviated PADEC in Spanish), participating in the attention of the emergency as any other entity of the national system. Likewise, EPM launched a Technical Monitoring Center (abbreviated CMT in Spanish), which operates 24 hours a day to track technical information in real time.

These actions, together with others associated with the attention of the civilian population, communication, and engagement with the affected communities, as well as the coordination with the local authorities of the municipalities downstream the project, can be consulted in the special chapter on the Ituango hydroelectric project that is included in this report.

Apart from this situation and in order to integrate the project into the region and responsibly manage environmental and social impacts, the company continued the implementation of various strategies, such as involvement in development initiatives with a gender perspective, with the aim of contributing to the prevention of gender violence; training in sexual health and sexual and reproductive health rights; and, in general, strengthening gender equity in the area of direct influence of the project.

In terms of physical displacement caused by the development of the project and as part of the work of comprehensive restitution of living conditions, the organization and 100% of the families with property and economic impact—in total 278 families belonging to the groups of Orobajo, Barbacoas, Dispersas, Valdivia, and San Andrés de Cuerquia—agreed on the compensation measure. These families make progress in the implementation of their new living conditions, either with support from the project or separately, according to the decision of the family groups. Similarly, in terms of economic displacement, the organization and 1,473 people agreed on the compensation measure, with an impact on the economic activities of mining, gold purchase, drovers, river transport, dump truck drivers, and shovel workers. 25 cases have been reported with no impact and the remaining 5% corresponds to cases that include legal procedures (inheritances and interdictions, among others) that the family groups are advancing. Only seven people (one miner and six muleteers) are in the process of analysis to define the compensation measure that may take place.

In the cultural core, the company conducted several cultural memory recovery activities, including the preparation of a document that consolidates the cultural memory recovery exercises with all the communities of the municipalities and rural settlements of the area of influence of the project. Furthermore, EPM signed an agreement with the Institute of Culture and Heritage of Antioquia; as part of this agreement, compensation measures were advanced for the cultural and symbolic impact generated by the loss of the Juan de la Cruz Posada bridge, between the municipalities of Ituango and Toledo.

In the context of due diligence in human rights and as part of a proper management of the cultural impact generated by the reservoir, the organization conducted during 2018 the prospection, exhumation, and transfer of buried bodies in the cemeteries of the localities of Orobajo (municipality of Sabanalarga), Barbacoas (municipality of Peque), and Fortuna (municipality of Buriticá). This work had the participation of an interdisciplinary team of experts from Universidad de Antioquia and the communities involved. As a result, different burial ceremonies were held with the participation of the communities for the final disposition of the bodies. Only the case of Orobajo is pending, which is currently in the process of prior consultation with EPM to reach an agreement with the Nutabe indigenous community.

Since 2015, the project has had a human rights grievance mechanism that serves the population of the 12 municipalities in the area of influence and the population located downstream the project, through the community service offices of EPM. This mechanism receives grievances through email, EPM's building service offices in Medellín, and rural visits by field professionals. It groups the following lines of service:

- Inclusion in the census.
- Agreement and negotiation.
- Negative impact on infrastructure and labor claims.
- Environmental and sociocultural impacts.
- Relationship of employees and contractors with stakeholders.
- Public safety, private safety, and international humanitarian law.
- Sustainable territories.
- Claims for compensation due to the contingency of the Ituango project (created from the event on April 28, 2018).

Nutabe community

As part of the work on human rights and in line with the provisions of the institutional policy of EPM on the matter, when the appropriate authority certifies the presence of ethnic communities in the areas where projects are being developed, EPM initiates a protocol that is regulated by law to ensure the respect for their customs and cultures.

A special case regarding this matter occurred with the Ituango hydroelectric project. Before starting the construction phase, a notice was received from the competent authorities certifying that there were no ethnic communities in the area. Under this scenario and within the framework of the Colombian regulations, the respective communication and negotiation processes were carried out with the communities that would be impacted, without including a prior consultation process, as there was no a collective subject to which apply it.

In 2014, when the project was already under construction, the Orobajo community in the municipality of Sabanalarga recognized itself as the Nutabe Indigenous Council and requested recognition as such from the Directorate of Indigenous Affairs, Roma community, and Minorities of the Ministry of the Interior (abbreviated DAIRM in Spanish). This community is directly impacted by the project because it is located in the reservoir filling area and consequently, it was necessary to relocate it.

In 2017 the authorities recognized the existence of the Nutabe de Orobajo Council and in 2018 they certified their presence in the area of the project. As a result and in the context of the beginning of the prior consultation process, EPM conducted with the Ministry of the Interior the stages of preconsultation, installation, opening, and association agreement to ensure an advisory team for the Nutabe Council.

Similarly, and taking into account the stages established in Directive 10 of 2013, the preconsultation and opening session of the prior consultation process was conducted by the Ministry of the Interior, with the participation of the National and Regional Ombudsman's Office, the Antioquia Governor's Office, and representatives of the municipality and the municipal council of Ituango. As a result, the respective methodological route for the process was defined and then, developing the consultation, different work sessions were held to arrange the execution of the phases of the route and the necessary resources for it.

Today the process of prior consultation with the Nutabe de Orobajo indigenous community is at the stage of identification of impacts and management measures, which includes the development of joint working groups, preworkshops, and a workshop with the Ministry of the Interior to identify impacts.

| Grievances concerning human rights - Ituango hydroelectric project | | | | | | |
|--|--------------|--------------|--------------|------------|--------------|--------------|
| Indicator | 2016 | | 2017 | | 2018 | |
| | Received | Cleared | Received | Cleared | Received | Cleared |
| Inclusion in the census. | 2,017 | 2,017 | 202 | 202 | 105 | 105 |
| Negotiation and agreement. | 127 | 127 | 70 | 70 | 77 | 77 |
| Negative impact on infrastructure and labor claims. | 47 | 47 | 17 | 17 | 407 | 405 |
| Environmental and sociocultural impacts. | 245 | 245 | 4 | 4 | 7 | 7 |
| Relationship of employees and contractors with stakeholders. | 1 | 1 | 3 | 3 | - | - |
| Public safety, private safety, and international humanitarian law. | - | - | 2 | 2 | - | - |
| Sustainable territories. | 151 | 151 | 134 | 134 | 83 | 83 |
| Social management team. | 839 | 839 | 591 | 553 | 828 | 828 |
| Total | 3,427 | 3,427 | 1,023 | 985 | 1,507 | 1,505 |

Source: Ituango hydroelectric project.

Legal actions filed in the Ituango hydroelectric project

| Indicator | 2016 | | 2017 | | 2018 | |
|--|-----------|--------|-----------|--------|-----------|--------|
| | Addressed | Solved | Addressed | Solved | Addressed | Solved |
| Official letters. | 865 | 865 | 548 | 527 | 828 | 828 |
| Rights to petition. | 2,874 | 2,863 | 948 | 916 | 679 | 679 |
| Writs for protection of constitutional rights. | 8 | 8 | 7 | 5 | 24 | 13 |
| Lawsuits addressed. | 7 | 2 | 31 | 6 | 40 | 30 |

Source: Ituango hydroelectric project.

The total requests of 2016 and 2017 have already been resolved and cleared from the Mercurio system.

The difference between the writs and lawsuits addressed and those resolved is due to the fact that those in effect as of December 31 of each year are reported. By the end of the year some actions are in the analysis stage.

Employment generated in the Ituango hydroelectric project

| Indicator | 2016 | 2017 | 2018 | Variación |
|-------------------------------|--------|--------|-------|-----------|
| Total jobs generated. | 10,307 | 11,210 | 7,871 | -29.8% |
| People from the region hired. | 2,593 | 2,457 | 1,735 | -29.4% |
| Percentage of total. | 25% | 22% | 22% | 0.2% |

Source: Vice Presidency of Projects and Engineering.

The reduction is caused by the completion of works that, before the contingency, had a progress of 84%. It was not as a result of the contingency, but of the normal dynamics of project construction.

GRI standards disclosures and EPM indicators

103-2 The management approach and its components.

EU22 Number of physically or economically displaced people and the compensation granted, detailed by type of project.

411-1 Incidents of violations involving rights of indigenous peoples.

412-1 Operations that have been subject to human rights reviews or impact assessments.

413-1 Operations with local community engagement, impact assessments, and development programs.

414-1 New suppliers that were screened using social criteria.

414-2 Negative social impacts in the supply chain and actions taken.

Scope and coverage

Businesses

Electrical energy

Territory

Colombia – Antioquia

Colombia – Caldas

Colombia – Risaralda

Colombia – Santander

Companies

Empresas Públicas de Medellín - EPM

Central Hidroeléctrica de Caldas - CHEC

Institutional management in human rights

Although since its adhesion to the United Nations Global Compact in 2006, EPM has been committed to incorporate, in its practices, the respect for human rights, the organization has undertaken, since 2011, the task of implementing a specific work scheme on the subject, as a fundamental step towards the strengthening of its relationships with all its stakeholders. With this endeavor, the company formally assumed the transversal management of this topic in all its business operations.

By proclaiming its institutional human rights policy in 2012, the Grupo EPM ratified, announced, and made explicit its commitment to the respect for human rights in its business activities and laid the formal foundations for its implementation in the entire business group.

Grupo EPM is currently making gradual progress in the implementation process regarding human rights, with the aim of achieving, by 2021, the development of the due diligence procedure in all the national and international companies that comprise it. To this end and based on the UN Guiding Principles, it identified the following aspects as elements of management for each affiliate company: identification and prioritization of risks in human rights, design and development of a management plan, internal and external training in human rights, adoption of the institutional policy, implementation of a human rights grievance mechanism, and a communication plan for stakeholders on the commitment and management in this regard.

The institutional management on this subject comprises the development of actions regarding respect for human rights in the operations and the adoption of instruments and tools to strengthen the company's management, promote respect, and account for the progress in its implementation. In this work, the organization makes a permanent reference to the progresses made in terms of human rights and the companies worldwide and, in particular, it embraces and applies the UN Guiding Principles as a guideline in the internal approach of this matter.

Management in 2018

EPM developed a guide for intercultural social dialogue with the communities of ethnic peoples, considering the importance of promoting dialogue as a mechanism of recognition, understanding, and mutual respect in the enforcement and guarantee of rights.

From its institutional policy of human rights, EPM establishes the commitment to respect the uses, customs, and culture of the ethnic communities settled in the environments where the company is present. Loyal to this commitment, the organization developed during 2018 an institutional guide that establishes the principles under which the dialogue with the indigenous, African-descent, and Roma communities is related and fostered, taking into account its declared commitments in terms of corporate social responsibility, human rights, and relationship with stakeholders.

This process was developed by an interdisciplinary group from different areas of the organization and had the support from the Office of the United Nations High Commissioner for Human Rights in Colombia. As one of its premises, this process established the necessary integration with the United Nations framework and the constitutional and legal norms in the matter, in order to ensure respect for the rights of these communities, within the context of the evolution that it has had internationally.

The next steps include the validation of the guide in a dialogue with organizations representing ethnic groups, its official presentation to society, and its incorporation into the practices of all the companies of Grupo EPM.

During 2018 EPM did not receive any claim associated with events of possible violation of human rights to members of ethnic, African-descent, or Roma communities located in its areas of operation. A special case of approach has to do with the Nutabe community in the Ituango hydroelectric project, which can be consulted in the human rights action in Projects under Construction.

CHEC highlights the work carried out with the community of the Suratena indigenous reservation, in the municipality of Marsella, Risaralda, focusing on safety and electrical risk in these communities. To implement the strategy, the company and the council of the indigenous community agreed to produce teaching material in Embera language; the governor of the reservation took part in this work. Likewise, with Universidad de Manizales, the company worked for the development of capacities in interpersonal communication, media communication, and content production, for the recovery of the traditional memory and the promotion of the cultural identity of the Embera Chamí communities belonging to the San Lorenzo reservation (municipality of Riosucio, Caldas), the unified reservation of San Juan River, the African-Descent Community Council of the Santa Cecilia small town (municipality of Pueblo Rico, Risaralda), and the African-descent community of the municipality of La Dorada.

Risk approach in human rights

As a response to the identification of risks in human rights during 2017, in which representatives of the community, customers and users, and suppliers and contractors of EPM participated, the Design Unit of Commercial Operations adjusted the instructions to execute the work orders in the field, including the suspension procedures for defaulting facilities with the presence of specially protected people.

In terms of property management, the analysis on land restitution was formally incorporated for projects in the formulation phase during the purchase and acquisition procedure of land rights and rights of use. This management works with an approach of respect for human rights and the international humanitarian law, which is materialized in the development of direct and voluntary negotiations, in line with the rights of the owners and the communities settled in the territory, with the objective of adequately compensating the impacts caused.

EPM incorporated in its property management the application of measures that seek to mitigate the risks contemplated in Act 1448 of 2011 - Law of Victims and Land Restitution. The organization included the recommendations of the Guide for the Purchase and Acquisition of Rights on the Land and Rights of Use, by Guías Colombia, in the property management of the Ituango, Nueva Esperanza, Aguas Claras WWTP, Bello-Ancón, Santo Domingo, Porce III, and Gas sin fronteras (Gas without borders) projects and the affiliates of Grupo EPM.

As a result of the situation that the country has been experiencing for some time and that has claimed the lives of a considerable number of leaders, the organization made public its recognition to the work carried out in Colombia by social leaders, as a legitimate, necessary, and highly valuable activity within the dynamics of strengthening democracy, peaceful coexistence, and, in general, the construction of a better society for all. In this statement, EPM strongly rejected any type of violence or stigmatization against those who lead social causes and processes and, in a respectful manner, urged the Colombian state to conduct the corresponding actions to ensure the rights of individuals and communities, particularly the leaders of the country.

Human rights in human resource management

There is freedom of association at EPM. A total of 99.8% of the employees are members, directly or by extension, of one or more than one of the five existing union organizations. At the national affiliated companies of Grupo EPM, the percentage of union affiliation is 93.9%, taking into account that some of the affiliates, such as Aguas del Oriente, EPRio, and Aguas Nacionales, do not have union organizations. In 2018, no claims associated with discrimination by the collaborators took place at the organization; however, there was one case with a contractor, which was verified and reconciled.

During the year reported, the company started working in the inclusion of people with disabilities, with training actions, adjustments in working environments, legal frameworks, and hiring of apprentices and interns with disabilities. Currently, the company prepares a pilot program to temporarily hire up to 20 technicians, technologists, or professionals with physical, sensory, or cognitive disabilities. This program will serve to assess all the variables that should be considered before making public the access of people with disabilities to all the selection processes.

The organization is taking actions before the Ministry of Labor and Social Security to engage in the Equipares gender equity certification program. This engagement will favor a diagnosis of eight minimum conditions necessary to access the certification as a company that cares about and respects gender equity parameters.

In accordance with its concern for developing business practices that promote respect for human rights in Colombia, EPM maintained an active participation in different national initiatives related to this subject. Guías Colombia is highlighted in this regard, which is an initiative consisting of companies, members of the civil population, and the government and focused on the promotion and guidance of company-environment relationships, under minimal criteria of observance and respect for human rights and the international humanitarian law in Colombia. The preparation of the due diligence guide for the relationship with communities began in 2018. The company is also an active member of the Global Compact Colombian Network with its working groups on human rights and businesses for peace.

In the road map for the implementation of the work system on human rights in all the companies of Grupo EPM, Delsur—which operates in El Salvador—started the process during 2018: the risks were identified, the treatment plans for the prioritized risks were prepared, and the institutional human rights policy was adopted. Additionally, a conceptual standardization plan was developed on the subject, with the areas involved in the management of risks in this company.

Although the implementation of the institutional work on human rights was planned to start in other affiliated companies, such as Adasa, EPM Chile, ENSA, and HET, it was not conducted as a result of the Ituango hydroelectric project contingency. The milestones defined for 2018 were rescheduled for 2020 and 2021.

The work with the companies that operate in Colombia was focused on developing management plans, considering the risks prioritized in each affiliated company.

| Training on human rights - Grupo EPM | | | | | |
|--------------------------------------|--------------|-------------------|--------------|-------------------|-------------------------|
| Companies | 2017 | | 2018 | | |
| | Participants | Hours of training | Participants | Hours of training | Percentage of employees |
| EPM | N.A. | N.A. | 71 | 142 | 1% |
| CHEC | 315 | 43 | 117 | 303 | 12% |
| EDEQ | N.A. | N.A. | 106 | 212 | 26% |
| CENS | 65 | 87 | 165 | 543 | 30% |
| ESSA | 246 | 41 | 44 | 176 | 5% |
| Eegsa | 866 | 39 | 568 | 568 | 72% |

Source: Vice Presidencies of Power Transmission and Distribution, Human Resources and Technology, and Water and Sanitation.

GRI standards disclosures and EPM indicators

103-2 The management approach and its components.

406-1 Incidents of discrimination and corrective actions taken.

407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk.

411-1 Incidents of violations involving rights of indigenous peoples.

412-1 Operations that have been subject to human rights reviews or impact assessments.

412-2 Employee training on human rights policies or procedures.

Scope and coverage

Businesses

Water

Sanitation

Electrical energy

Gas

Territory

Colombia – Antioquia

Colombia – Caldas

Colombia – Quindío

Colombia – Risaralda

Colombia – Santander

Colombia - Norte de Santander

El Salvador

Guatemala

Companies

Empresas Públicas de Medellín - EPM

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

Distribuidora de Electricidad del Sur - Delsur

Empresa Eléctrica de Guatemala - Eegsa

Security and human rights

Grupo EPM is aware of the importance of conducting a preventive approach in human rights as part of the development of its security strategies. Therefore and as a business principle, management actions aimed at ensuring the protection of its operations, employees, and assets are carefully developed both, in the operations carried out by private security agencies and in those operations derived from the fulfillment of agreements with public security forces in the cases in which these are established, in accordance with the regulations of the country in which the operation is carried out.

Based on its institutional human rights policy, the organization is committed to “include, in the security service contracts and agreements signed with private firms and official security organisms, explicit commitments to respect and promote human rights. In no case will the company accept the provision of these services by social actors that are outside the constitutional and legal framework.”

In the development of its security operations, EPM embraces the recommendations included in the Voluntary Principles that propose a set of guiding principles for the companies regarding public security forces, private security organizations, and civil society. It also incorporates the guidelines of the security guide, published by the Guías Colombia initiative, which provides guidelines for action on human rights and international humanitarian law when security activities are implemented in the companies.

With the purpose of continuously monitoring the operations in its areas of influence, the company has implemented mechanisms to address complaints and claims from the communities, through which the management of the security contractors, among other matters, is monitored.

Management in 2018

Consistent with the declaration of the importance of respect for human rights in the development of security activities, the EPM security policy was approved in 2018, which explicitly declares respect for human rights in the exercise of security activities in the territory.

As part of the Ituango hydroelectric project contingency, it was necessary, from the security operations, to carry out actions with the army, the police, the air force, and the navy, as well as with several authorities of the different levels: local, regional, and national, all with the aim of serving those affected by the contingency. With that purpose and seeking to ensure that the security actions developed in the context of the contingency of the project were coherent with the respect for human rights and the Colombian regulations, the Inter-American Development Bank commissioned an independent assurance by the Fund For Peace institution. The study showed a positive rating to the security practices and resulted in the formalization of an institutional security policy, which was approved in 2018 by the Board of Directors of EPM, the highest governing body of the organization.

The policy explicitly establishes compliance with the current legal framework and respect for human rights in the development of security actions, in coordination with the state security systems; to this end, agreements are made with the national army and police. In this regard, EPM signed agreements with these institutions in 2018 to strengthen, with their technical-operative assistance, the protection and security conditions required in the facilities, infrastructure, and activities related to the operation of the organization. As an important aspect in the structure of the agreements with the public security force, it is stipulated that, for their development, the institutions must act under the parameters of the Constitution, the international human rights treaties, and the international humanitarian law signed by the Colombian state.

It is important to highlight that the agreements with the public security force are cooperation agreements and that EPM has no authority or responsibility to give operational instructions to the members of the police or the army. However, by embracing the national and international recommendations in this regard, the organization has placed an explicit emphasis on framing the operations derived from these agreements within the permanent respect for human rights. To this end, besides including specific recommendations in the agreements, the organization fosters permanent monitoring and analysis spaces with the security personnel, the police district commanders, and the army commanders in the areas where the company operates. The structure of the agreements also includes the decision of providing permanent face-to-face training in human rights to the personnel from the national army and the police, besides their training in the institutions to which they belong.

In 2018 the Grupo EPM security guideline was institutionally formalized; it frames the security exercise for all the affiliated companies in and outside of Colombia. Similar to the institutional policy, this guideline explicitly includes the commitment to respect human rights in the security activities.

From this year, the organization implemented the Protocol for Addressing Events and Crises (abbreviated PADEC in Spanish), which establishes a framework for the institutional response actions regarding social protest events that involve de facto proceedings. In this way, the purpose is to provide a framework of action to the national companies of Grupo EPM for the comprehensive and timely response to these situations, articulating the actions based on the different levels of the organization, within a framework of respect for human rights.

The protocol takes up concepts of the United Nations Guiding Principles for the implementation of the “protect, respect, and remedy” framework, as well as the voluntary principles that guide the business security practices in a manner that respects human rights.

Surveillance and private security contracts with Colviseg and G4S continued in force during the year. Furthermore, Interglobal and Visan provided their services during the first and second semester respectively. For the formalization of these contracts, it is required that the firm guarantees that its personnel receives training in human rights and international humanitarian law, appropriate use of force, and application of voluntary principles. In these contracts 2,092 guards were employed, of which 67.3% received training in these subjects. The remaining percentage is made up of personnel from Visan, company that, by the end of the year, had not trained all the staff; to do so, it has, according to the service level agreements, until the end of the first semester of 2019.

With regard to the private security companies, EPM demands from the service providers the strict fulfillment of the legal provisions currently in force in Colombia and, specially, of the regulation issued by the Superintendency of Private Surveillance and Security, including the background check to the personnel hired by contractors.

A relevant decision in terms of security has to do with the disarmament of the security contractor personnel. As an organizational policy, the optimal scheme is determined based on the threat identified in terms of physical security and security of facilities. With this analysis, it is determined which facilities should have armed security guards. Today, 80% of security guards do not use firearms in their operations.

In the territories affected by the armed conflict, it is recommended to have unarmed security guards, in order to avoid situations that may entail impacts on the human rights of private security personnel and the community regarding the use of said elements.

With the purpose of continuously monitoring the operations in its areas of influence, the company has implemented mechanisms to address complaints and claims regarding human rights to monitor the management of the security contractor employees. There were no complaints related to this service over the reported period.

Likewise, the procedure was defined to deal with, analyze, and refer the cases of possible violation of human rights in the provision of security services; it came into operation in December and, therefore, a tool is available to monitor and follow-up the complaints and claims filed against the company in this matter.

| Security personnel training - Grupo EPM | | | | | |
|---|--------------|-------------------|--------------|-------------------|--|
| Company | 2017 | | 2018 | | Percentage of security personnel trained |
| | Participants | Hours of training | Participants | Hours of training | |
| EPM | 1,460 | 9 | 1,409 | 3 | 67% |
| CHEC | 109 | 304 | 103 | 5 | 82% |
| EDEQ | 50 | 8 | 57 | 2 | 100% |
| CENS | N.D. | N.D. | 101 | 2 | 100% |
| ESSA | 68 | 12 | 102 | 4 | 67% |
| Emvarias | N.D. | N.D. | 83 | 10 | 100% |

Source: Vice Presidencies of Shared Services and Supplies, Transmission and Distribution, and Water and Sanitation.

GRI standards disclosures and EPM indicators

103-2 The management approach and its components.

EU22 Number of physically or economically displaced people and the compensation granted, detailed by type of project.

410-1 Security personnel trained in human rights policies or procedures.

412-2 Employee training on human rights policies or procedures.

413-1 Operations with local community engagement, impact assessments, and development programs.

414-1 New suppliers that were screened using social criteria.

414-2 Negative social impacts in the supply chain and actions taken.

Scope and coverage

Businesses

Water

Sanitation

Electrical energy

Gas

Territory

Colombia – Antioquia

Colombia – Caldas

Colombia – Quindío

Colombia – Risaralda

Colombia – Santander

Colombia – Norte de Santander

Guatemala

El Salvador

Companies

Empresas Públicas de Medellín - EPM

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

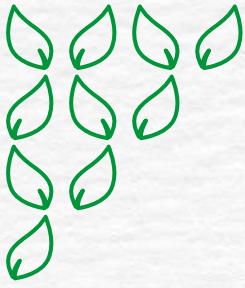
Aguas Regionales EPM

Aguas de Malambo

Empresas Varias de Medellín - Emvarias

Empresa Eléctrica de Guatemala - Eegsa

Distribuidora de Electricidad del Sur - Delsur



Grupo·epm[®]



Nonconventional
renewable energy



Nonconventional renewable energy

It is the offer of alternative, efficient, and clean renewable energy solutions to ensure full and timely energy supply, maintaining productivity, protecting the environment, ensuring the efficient use of energy, and preserving renewable natural resources.

Renewable energies come from inexhaustible natural resources. Considered as clean sources, they are alternative solutions to traditional energy production, which can contribute to the economic and social development. Solar, wind, hydraulic, geothermal, and tidal energies, as well as the biomass, belong to this group of energies.

It is necessary to ensure full and timely energy supply, maintaining productivity, protecting the environment, ensuring the efficient use of energy, and preserving renewable natural resources.

The stakeholders demand to move from exploration to the offer of these types of energy.

In Colombia, the issuance of Act 1715 of 2014 and the implementation of some regulatory decrees have further encouraged the use of this type of energy sources. Therefore, the use of this type of energy sources was increased to maintain productivity, protect the environment, ensure the efficient use of energy, preserve and conserve renewable natural resources, reduce greenhouse gas emissions, and ensure full and timely energy supply capacity.

Relevance

The offer of energy from efficient, sustainable, and renewable energy sources, different to the hydrological, creates a high economic value for Grupo EPM and its stakeholders because it prevents the increase of the costs of power caused by low competitiveness level, meets the new market demands, minimizes the risk of depending exclusively on water, and improves the coverage of unserved populations. For all of the above, its social value is high.

This energy generates high environmental value because it contributes to the reduction of greenhouse gas emissions.

The Colombian state ruled on the promotion, encouragement, and incentive to the development of activities of production and use of nonconventional energy sources, mainly renewable energy. This was declared as a matter useful to the public, of social interest, of national convenience, and fundamental to ensure full and timely energy supply, competitiveness and protection of the environment, efficient use of energy, and preservation and conservation of renewable natural resources.

Main achievements

| Goals | Achievements | Accomplishment |
|--|--|----------------|
| Develop the line of business in EPM for the sale of electrical energy produced by a photovoltaic solar system. | EPM developed its first project for the sale of electrical energy through a 423.36-kWp photovoltaic solar system to its customer El Tesoro shopping park in the city of Medellín. The project obtained all the tax benefits of Act 1715. EPM signed the contract to execute in 2019 the project for the sale of electrical energy through a 316.24-kWp photovoltaic solar system to its customer Plaza Mayor in the city of Medellín. | Total |
| In partnership with Comfama, implement a pilot project for the installation of solar kits in homes. | Eight solar kits were installed in rural houses of Antioquia. All the technical and financial variables were tested. It was verified with data and facts that social housing saves more than 20% in their energy consumption. EPM learnt about the basics of solar energy in the lower strata. Comfama found that escalating this type of solutions to its housing projects is feasible and achieved a differentiation in its value proposition. EPM tested a new process with small-scale self-generators to comply with CREG Ruling 030. | Total |
| Study and develop phase II of a smart microgrid. | EPM conducted the market study focusing on the financial and technical component of the system control and automation. This activity had two scenarios as scope: a system interconnected to the network of the San Fernando wastewater treatment plant and a system in a non-interconnected zone (NIZ). The objective of the study was to find companies that can offer services of detailed design and engineering, supply, construction, support, updating, and maintenance of a microgrid solution for EPM. | Partial |

| Goals | Achievements | Accomplishment |
|--|--|----------------|
| Conduct the feasibility study for the EDEQ solar microgrid. | The technical and financial feasibility study of the NT2 microgrid to provide solar generation was advanced with the Center for Research and Technological Development of the Electricity Sector (abbreviated CIDET in Spanish) in the small town of Quimbaya, with 100% compliance. | Total |
| Install solar panels at the technical school of the main campus. | Delsur installed a 29.1-kWp photovoltaic plant. | Total |

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|---|------------------------------|----------------------|-------------------|-------------------------------------|--|--|
| | | Territory | Business | Company | | |
| Develop a pilot project with floating solar panels in an EPM reservoir. | 2019 | Colombia - Antioquia | Electrical energy | Empresas Públicas de Medellín – EPM | Milestones in the achievement of each challenge. | A floating solar panel system of 100 kWp was installed in the El Peñol-Guatapé reservoir and another of 50 kWp on the Farallones camp coliseum roof, attached to the Guatapé hydroelectric plant. The objective is to compare the energy production of both systems for one year. |
| Develop cost-effective processes to obtain renewable fuels (2G ethanol, green diesel, green gasoline, and biojet fuel). | 2019 | Colombia - Antioquia | Electrical energy | Empresas Públicas de Medellín – EPM | Milestones in the achievement of each challenge. | EPM continues working on the use of biomass to obtain 2G ethanol and green diesel from agro-industrial waste (palm rachis and sugarcane bagasse). The term of the contract was extended by one year to favor the operation of the pilot plant in the working environment of the Ruta N complex. The company completed the construction, installation, and start-up of the plant to experiment on the entire production line of 2G ethanol. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|---|------------------------------|-----------------------------|-------------------|--|--|---|
| | | Territory | Business | Company | | |
| Perform the planning, design, and business model of the implementation of generation distributed in the CENS electrical system. | 2019 | Colombia-Norte de Santander | Electrical energy | Centrales Eléctricas del Norte de Santander - CENS | Customers served. | The technical and financial feasibility study of the business model was conducted. The progress was 20%. |
| Design, build, and launch a photovoltaic solar generation park in the upper plate of the administrative building of ESSA, El Parnaso, in the municipality of Barrancabermeja. | 2019 | Colombia - Santander | Electrical energy | Electrificadora de Santander - ESSA | Ruling of approval of income tax and accelerated depreciation incentives by the National Directorate of Taxes and Customs. | The project was set in motion, monitoring its operation. The park was legalized in accordance with CREG Ruling 030 of 2018, as well as the management before the Mining and Energy Planning Unit (abbreviated UPME in Spanish) to obtain the tax benefits pursuant to Act 1715. |
| Install photovoltaic systems at ENSA headquarters in Panama. | 2019 | Panama | Electrical energy | Elektra Noreste - ENSA | 100% installed and in operation. | The system of the Arcoiris offices was energized and, in this way, the project was completed. The business model was structured with the partner selected to venture into the photovoltaic business in Panama; in addition, information was collected and the offer for three other possible photovoltaic projects in ENSA facilities was structured. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|---|------------------------------|--------------------|-------------------|-------------------------------------|--|---|
| | | Territory | Business | Company | | |
| Create ENSA Servicios as an affiliated of ENSA for the provision of technical and commercial services related to the energy sector, including the installation of solar panels. | 2019 | Panama | Electrical energy | Elektra Noreste - ENSA | Signing of agreements 100% completed. Number of projects with contracts signed (there are 10 proposals pending to be settled in 2019). | Agreements were signed with allies and contractors and the commercialization of photovoltaic systems began. An agreement was signed with ERCO Energía S.A.S. |
| Reclaim biogas for cogeneration in the Colima wastewater treatment plant. | 2019 | Mexico | Electrical energy | Tecnología Intercontinental - Ticsa | Feasibility study. | Feasibility study: Reclamation of biogas for cogeneration in the Colima plant. The investment analysis to build the project is expected in 2019. |
| Renewable energy integration project. | 2020 | Colombia | Electrical energy | Empresas Públicas de Medellín - EPM | Milestones in the achievement of each challenge. | By means of an agreement with Universidad Pontificia Bolivariana, EPM obtained in this first stage of the project an engineering and cost model for the integration of renewable energies through an intelligent microgrid and the conceptual and basic design for a pilot project in the La Pradera landfill, using a portion of the biogas available in this location. Although the results show that there is potential in this place, the next stage will not be continued as a result of the contingency of the Ituango hydroelectric project. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|---|------------------------------|--------------------|-------------------|-------------------------------------|--|--|
| | | Territory | Business | Company | | |
| Develop a (large-scale) solar park in Colombia, in partnership with a strategic ally. | 2020 | Colombia | Electrical energy | Empresas Públicas de Medellín - EPM | Milestones in the achievement of each challenge. | The environmental impact assessment (EIA) is 50% completed. A resource measurement station was installed at the project site. The connection point was approved by the Mining and Energy Planning Unit (abbreviated UPME in Spanish) and the connection contract was signed. The project was registered in the bank of UPME generation projects, phase II, and training was concluded by the strategic partner. |
| Develop large-scale wind farms. | 2020 | Colombia | Electrical energy | Empresas Públicas de Medellín - EPM | Milestones in the achievement of each challenge. | Progress was made in the environmental impact assessment (EIA) of the EO200 park and the feasibility of the EO200i park was updated with larger wind turbines, including results of EIA environmental restrictions. The internal assessment of the project connection line to the Collector 1 substation was carried out and the physio-biotic and socioeconomic characterization of the project was conducted. After obtaining the certifications of the Ministry of the Interior, the process of prior consultation of the project was initiated, as well as the registration before the UPME. EPM managed the renewal of the policy for a 200-MW wind farm. Furthermore, four studies of wind farms, with capacities of approximately 200 MW, outside of indigenous reserves were conducted. A new model to secure territories was implemented (agreements with three owners), besides identifying four sites to install wind measurement stations, with design of measurement campaigns, and conducting five studies of forest use for study permits for the installation of the measuring towers. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|--|------------------------------|----------------------|-------------------|--|--|--|
| | | Territory | Business | Company | | |
| Geothermal energy. | 2020 | Colombia | Electrical energy | Empresas Públicas de Medellín - EPM | Milestones in the achievement of each challenge. | The environmental impact assessment (EIA) of the exploratory stage of the Macizo Volcánico del Ruiz geothermal project was delivered to Corporcaldas. The company supported the monitoring in the field and is addressing the requirements requested for its approval. The progress of the approval process of the EIA and the environmental management plan is 60%. A document was created to list the costs associated with the development of geothermal energy. It will be the input to draw up a financial model of greater scope that offers a tool for making decisions about the viability of the project. 50% progress. |
| Reclaim biogas as an alternative source of renewable energy at the San Fernando wastewater treatment plant. | 2022 | Colombia - Antioquia | Electrical energy | Empresas Públicas de Medellín - EPM | Budget approved / budget executed * 100 = 100%. | Technological monitoring was carried out and progress was made in the technical formulation document, including risk analysis and preliminary analysis of technical and financial feasibility. The company worked in the project formulation. |
| Stabilize the biogas treatment system. Conduct maintenance of the Hoffgas 2000 chimney ignition, with the connection of 91 chimneys of the Carrilera cell and the average burning of 1,100 m ³ /hour in the La Pradera sanitary landfill. | 2022 | Colombia - Antioquia | Electrical energy | Empresas Varias de Medellín - Emvarias | Yearly ignition hours / yearly hours. | It was possible to stabilize the biogas treatment system by going from 8 to 24 daily hours continuously. The necessary adjustments were made to improve the efficiency of the system, including the reduction of oxygen by sealing the leaks in the collection pipes, which increased the gas burning. The collection and reclamation of biogas in the Altair cell is expected to be implemented in 2022. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|--|------------------------------|----------------------|-------------------|---|--|---|
| | | Territory | Business | Company | | |
| Conduct the technical, financial, and environmental feasibility of the PGU5 project, corresponding to a small hydroelectric station. | 2023 | Colombia | Electrical energy | Central Hidroeléctrica de Caldas - CHEC | -EIA filed before Corpocaldas. -Relationship map approved within the company and implemented. | The Regional Autonomous Corporation of Caldas defined the environmental alternative. The terms of reference for the environmental impact assessment were obtained. The permit to study the natural resources and the collection permit to conduct the environmental assessments were obtained. COP 1,169 million has been earmarked so far. |
| Develop nanostructured solar cells with materials available in Antioquia. | 2024 | Colombia - Antioquia | Electrical energy | Empresas Públicas de Medellín - EPM | Milestones in the achievement of each challenge. | In partnership with the academia and the support of Colciencias, further progress was made in the development of a solar cell with materials available in the region: significant efficiencies were achieved compared with the current commercial cells. After closing the project, a proposal was prepared to be submitted to the second Colombia Científica call; the proposal was benefited. The contribution of EPM is COP 525 million materialized in equipment, the laboratory that is already available, and one hour a week of an EPM public servant. The result of the second Colombia Científica call was successful and resources amounting to COP 2,038 million were obtained, which were already legalized through the collaboration agreement signed by the CEO and the allies that participated in the call. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|---|------------------------------|--------------------|-------------------|---|--|--|
| | | Territory | Business | Company | | |
| Conduct the prefeasibility of the PGU6 project, corresponding to a small hydroelectric station. | 2025 | Colombia | Electrical energy | Central Hidroeléctrica de Caldas - CHEC | - Prefeasibility report evaluated. - Request for the exemption from the environmental diagnosis of alternatives (EDA) submitted to Coporcaldas. | Evaluation of the prefeasibility report. Report of request for the exemption from the EDA and respective procedure before Coporcaldas. |

Related stakeholders

- Customers and users
- Colleagues
- Community
- Owner
- State
- Suppliers and contractors
- Investors
- Partners

Actions

- Biomass
- Wind energy
- Geothermal energy
- Photovoltaic solar energy
- Biogas

GRI standards disclosures and EPM indicators

- 103-1** Explanation of the material topic and its boundary.
- 103-2** Management approach and its components.
- 103-3** Evaluation of the management approach.
- EPM-20** Implementation of nonconventional renewable energies.

Scope and coverage

Businesses

Electrical energy
Sanitation

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Santander
Colombia – Norte de Santander
Mexico
Guatemala
Panama
El Salvador

Companies

Empresas Públicas de Medellín – EPM
Central Hidroeléctrica de Caldas – CHEC
Empresa de Energía del Quindío – EDEQ
Electrificadora de Santander – ESSA
Centrales Eléctricas del Norte de Santander – CENS
Empresas Varias de Medellín – Emvarias
Distribuidora de Electricidad del Sur – Delsur
Empresa Eléctrica de Guatemala – Eegsa
Tecnología Intercontinental - Ticsa
Elektra Noreste - ENSA

Sustainable development goals



Biomass

Biomass is biological organic matter that can be used as an energy source. It is renewable because its energy content comes from the solar energy fixed by living organisms on chemical compounds during the photosynthesis process, in which CO₂, water, and minerals are transformed into oxygen and organic compounds of high-energy content, such as sucrose, starch, and cellulose.

The organic matter present in wastewater, in the sludge resulting from its treatment, and in the organic fraction of the municipal solid waste (MSW) is also considered biomass.

Colombia has great biomass resource potential and therefore EPM has conducted studies to possibly structure a business based on the use of forest biomass or on the production of biofuels using second generation raw materials such as, for instance, some types of grass that do not affect the food safety of human beings.

Management in 2018

At a laboratory scale, it was possible to obtain high quality diesel green with favorable financial prefeasibility results. In this way, the organization continues in the search of possible allies to negotiate the results obtained with this technology.

EPM continues working on the use of biomass to obtain 2G ethanol from agro-industrial waste (sugarcane bagasse).

In the execution of the research project to obtain 2G ethanol, in agreement with Universidad de Antioquia, the company completed the construction, installation, and commissioning of the plant to experiment on the entire production line; the term of the contract was also extended by one year to favor the operation of the pilot plant in the working environment of the Ruta N complex. During 2018, the company worked on the production of enzymes from different agro-industrial waste and on the optimization of the process energy. In 2019, work will be done on the evaluation of the financial feasibility results of the processes that were implemented to obtain 2G ethanol.

Moreover, in accordance with the results obtained with the project to obtain the green diesel, the company is looking for possible allies to exchange information and analyze the possibilities of commercialization of this technology.

| Investment in biomass projects (figures in million COP) | | | |
|--|--------------|--------------|------------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Production of bioethanol and biobutanol from lignocellulosic biomass and development of pilot plant. | 1,339 | 1,407 | 163 |
| Project to obtain green diesel through hydrotreating and hydrothermal liquefaction of biomass. | - | 142 | - |
| Total investment | 1,339 | 1,549 | 163 |

Source: Executive Vice Presidency of Strategy and Growth / Development and Innovation Management.

Investments (million COP): Projects for the production of liquid biohydrocarbon, production of bioethanol and biobutanol, and pilot plant for bioethanol



Source: Executive Vice Presidency of Strategy and Growth / Development and Innovation Management.

GRI standards disclosures and EPM indicators

EPM-20 Implementation of nonconventional renewable energies.

Scope and coverage

Businesses

Electrical energy

Territory

Colombia- Antioquia

Companies

Empresas Públicas de Medellín - EPM

Wind energy

Wind energy is the most mature and efficient renewable energy. It is considered as one of the energy sources with the greatest potential.

Aware of the quality of the wind resource and that there is a growing number of productive projects of this type in Latin America, Grupo EPM wants to continue betting on this energy source as a viable alternative that favors power generation and global warming mitigation.

Grupo EPM has the Jepírachi wind farm that uses the wind of an area of the department of La Guajira, in northern Colombia; the wind farm has a capacity of 18 megawatts and has been part of a research and learning program led by EPM for the development of this technology in the country.

Thanks to the knowledge acquired, the group also has Los Cururos, a 110-megawatt wind farm located in the region of Coquimbo, northern Chile.

Management in 2018

As part of the initiatives approved for the growth of Grupo EPM for 2025, the group is fully interested in developing projects in Colombia aimed at using wind energy; therefore, the Vice Presidency of Power Generation of EPM is analyzing different alternatives to develop large-scale wind farms.

EPM continues fostering the development of large-scale wind farms, as part of the portfolio of projects for the growth of the generation business in the short, medium, and long term. It has been studying several projects in Colombian territory (La Guajira and other regions), which are in different stages (recognition, prefeasibility, and feasibility).

During 2018, progress was made in the environmental impact assessment (EIA) of a 200-MW farm and the feasibility of the EO200i wind farm was updated with larger wind turbines and EIA environmental restrictions. For this same project, the internal assessment of the connection line to the Collector 1 substation was carried out, the physio-biotic and socioeconomic characterization of the project was conducted, certifications from the Ministry of the Interior were obtained, the process of prior consultation of the project was started, and the project was registered in the Mining and Energy Planning Unit (abbreviated UPME in Spanish).

Furthermore, four studies of wind farms, with capacities of approximately 200 MW, outside of indigenous reserves were conducted. A new model to secure territories was implemented; four sites to install wind measurement stations, with design of measurement campaigns, were identified; and five studies of forest use for study permits to install the measuring towers were conducted.

In addition, other nonconventional wind generation options are explored and two confidentiality agreements were signed, thereby activating the exchange of information that favors the future materialization of other projects.

As for the wind farms in operation, during 2018, the generation of Jepirachi and Los Cururos was 3.18 GWh and 230 GWh, respectively.

| Investment in wind projects (figures in million COP) | | |
|--|------|-------|
| Concept / Indicator | 2017 | 2018 |
| Development of large-scale wind farms - Studies | 834 | 3,457 |

Source: Vice Presidency of Power Generation.

GRI standards disclosures and EPM indicators

EPM-20 Implementation of nonconventional renewable energies.

Scope and coverage

Businesses

Electrical energy

Territory

Colombia – Antioquia

Chile

Companies

Empresas Públicas de Medellín – EPM

EPM Chile

Geothermal energy

Geothermal energy is produced thanks to the natural heat inside the Earth and it comes out in the forms of hot springs, steam emissions, and mud volcanos. It is used to generate electrical energy when water vapor is carried by pressure to the surface to a geothermal power station.

Besides coming from a renewable source, this energy does not require large extensions of land, has a low environmental impact, provides firm energy, is environmentally friendly, and poses a low risk for the neighboring communities since its operation is very safe and clean.

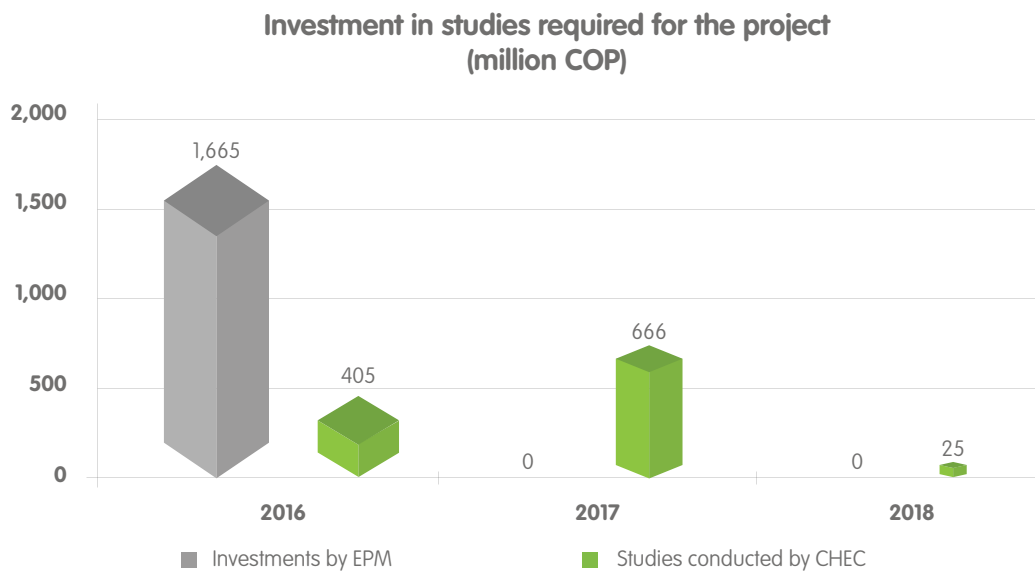
EPM, in cooperation with CHEC, is making progress in the studies and licenses to develop a project of a geothermal energy plant that would be located in central-western Colombia.

Management in 2018

EPM and its affiliated company CHEC submitted the environmental impact assessment (EIA), in its exploratory stage, to Corporacaldas. The requirements that came up are being addressed for the assessment approval and progress was made in a document with the costs associated with a geothermal project.

As part of the Macizo Volcánico del Ruiz geothermal project, the EIA, in the exploratory stage, was submitted to Corporacaldas and the field monitoring was supported. CHEC and EPM are meeting the requirements requested for the EIA approval; in this sense, a 50% progress can be considered in the approval of the EIA and the environmental management plan.

Additionally, a 50% progress was made in the preparation of a report with the costs associated with the development of geothermal energy, which will be input to draw up a financial model of greater scope that offers a tool for making decisions about the viability of the project.



Source: Executive Vice Presidency of Strategy and Growth and Power Generation Efficiency Management Unit.

GRI standards disclosures and EPM indicators

EPM-20 Implementation of nonconventional renewable energies.

Scope and coverage

Businesses

Electrical energy

Territory

Colombia – Antioquia
Colombia – Caldas

Companies

Empresas Públicas de Medellín – EPM
Central Hidroeléctrica de Caldas – CHEC

Photovoltaic solar energy

The capacity to generate photovoltaic solar energy has been increasing and the costs associated with its production are decreasing, which makes it an attractive and competitive technology.

For Grupo EPM, as an important agent of the power sector, photovoltaic solar energy is a matter of great interest. That is why the accomplishment of projects to take advantage of the available solar resource has gained strength within the organization. In this way, the formulation of initiatives and projects in non-interconnected and difficult-to-access areas, the installation of small-scale photovoltaic systems, and the development of large-scale projects are becoming more well-known.

In the specific case of Colombia, where Grupo EPM has a broad participation in the electricity market, a dynamic towards the use of this technology is observed, which has led this matter to become one of the main hopes for the future energy supply.

Management in 2018

Grupo EPM has been developing a wide variety and number of projects and initiatives with the use of photovoltaic solar energy, not only within the internal facilities to contribute to energy efficiency, but also to meet the needs of customers with attractive value offers for them.

The business group completed the formulation and execution of several projects with photovoltaic solar energy in 2018. That is how EPM developed the line of business for the sale of electrical energy produced through a photovoltaic solar system, offering solar energy to El Tesoro shopping park, in the city of Medellín, to meet part of its demand. In this case, a capacity of 423.36 kWp was installed and the tax benefits of Act 1715 were used.

In addition, EPM signed the contract, to be executed during 2019, for the project of photovoltaic solar energy sale to Plaza Mayor convention and exhibition center in the city of Medellín.

Furthermore, the pilot project of solar kits in rural homes of Antioquia was developed in agreement with Comfama (family compensation fund of Antioquia); it consisted in the installation of solar kits in eight different types of houses to test technical and financial variables to observe their behavior in terms of energy consumption. In this case, EPM could learn about the basics of photovoltaic solar energy in lower strata. Thanks to this initiative, Comfama found that escalating this type of solutions to its housing projects is feasible and achieved a differentiation in its value proposition.

In its search to be at the forefront in the development of innovative projects in Colombia, EPM implemented the pilot project of 100-kWp floating solar panels in the El Peñol-Guatapé reservoir in eastern Antioquia, department of Colombia, with the purpose of identifying the behavior, energy production, and operation and maintenance of this solution, to give the results to the power generation business of EPM in terms of a large-scale implementation.

For their part, the national and international affiliates are formulating initiatives that seek to improve the energy efficiency of the facilities and learning about the behavior and all the concepts involved in photovoltaic solar systems.

GRI standards disclosures and EPM indicators

EPM-20 Implementation of nonconventional renewable energies.

Scope and coverage

Businesses

Electrical energy

Territory

Colombia – Antioquia

Colombia – Quindío

Colombia - Caldas

Colombia - Santander

Colombia - Norte de Santander

Guatemala

Panama

Companies

Empresas Públicas de Medellín – EPM

Electrificadora de Santander – ESSA

Centrales Eléctricas del Norte de Santander – CENS

Empresa de Energía del Quindío – EDEQ

Central Hidroeléctrica de Caldas – CHEC

Elektra Noreste - ENSA

Empresa Eléctrica de Guatemala – Eegsa

Biogas

Biogas is a gas that is obtained from the breakdown of organic matter or waste in the absence of oxygen. Biogas is commonly generated in wastewater treatment plants (WWTP) and landfills.

For Grupo EPM, biogas is an energy source of interest and, therefore, analyses have been conducted to define the best use of biogas generated in the La Pradera landfill, located in the northern sub-region of the department of Antioquia, and of biogas generated in the San Fernando WWTP, located in the south of the metropolitan area of Valle de Aburrá. This biogas is used to generate electricity or heat or is purified and injected into the network; the latter is now possible in Colombia in accordance with Ruling 240 of 2016, issued by the Energy and Gas Regulatory Commission (abbreviated CREG in Spanish), which regulates that the biogas that is produced and used today for internal self-generation in these plants can be converted into biomethane from chemical processes and can be injected into the natural gas network.

Management in 2018

Emvarias, affiliated company of Grupo EPM, has achieved a greater use of the biogas generated in the La Pradera landfill; it went from 8 hours of biogas generation to a continuous generation of 24 hours a day, through the stabilization of the treatment system of this biogas in the Carrilera cell.

2018 was a very favorable year for the production of biogas in the San Fernando WWTP, with an increase of 9% compared with 2017, equivalent to 530,000 m³ more of biogas produced; this volume, added to the availability of the motor-generators during the year, contributed to a greater power self-generation, going from 43% in 2017 to 47% in 2018.

Aiming to a better use of biogas in EPM as an alternative source of renewable energy, the company conducted technological monitoring to obtain biomethane and created a project to evaluate the alternatives and make decisions about venturing or not into this process and injecting the energy source into the natural gas network. That is how EPM made progress in identifying the project and began the formulation considering the risk analyses, the technical and financial feasibility, and the environmental and regulatory assessments.

As for the reclamation of the biogas generated in the La Pradera landfill, managed by Emvarias, the company achieved the stabilization of the treatment system in the Carrilera cell and went from 8 to a continuous generation of 24 hours a day. Likewise, the necessary adjustments were made to improve the efficiency of the system and the reduction of oxygen by sealing the leaks in the collection pipes, which increased the gas burning from 600 m³/hour to an average of 1,100 m³/hour. The total volume of burning for 2018 was 4,520,984 Nm³.

Ticsa conducted a feasibility study to reclaim biogas in cogeneration for the Colima wastewater treatment plant.

Biogas production - San Fernando wastewater treatment plant

| Figures | 2017 | 2018 |
|-------------------------------------|-----------|-----------|
| Biogas production (m ³) | 5,269,181 | 5,794,305 |
| Power generated (kWh) | 6,849,086 | 7,618,798 |

Source: Vice Presidency of Water and Sanitation.

GRI standards disclosures and EPM indicators

EPM-20 Implementation of nonconventional renewable energies.

Scope and coverage

Businesses

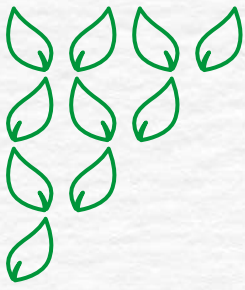
Sanitation
Electrical energy

Territory

Colombia - Antioquia
Mexico

Companies

Empresas Públicas de Medellín – EPM
Empresas Varias de Medellín – Emvarias
Tecnología Intercontinental - Ticsa



Grupo·epm[®]



Climate strategy



Climate strategy

Grupo EPM aims to achieve resilient and carbon-efficient businesses, through the integration of the climate variable in the different analyses and corporate decisions, to thus contribute to sustainability and competitiveness, minimizing vulnerability to climatic risks and developing low GHG (greenhouse gas) emission operations in all the regions where the group offers its businesses and services, under the principles of comprehensiveness, competitiveness, flexibility, and innovation.

Relevance

The bidirectional relationship between climate events and the Grupo EPM's businesses requires maintaining a business development compatible with the climate.

Considering climate variability and change and their influence in the ecosystems, in the territories, and in the availability of natural resources, Grupo EPM needs to have strategies to provide its services, restructure its products, leverage its competitive advantages, and establish risk management systems that enable the group itself and its environments to adapt, thus favoring more solid economies.

Main achievements

| Goals | Achievements | Accomplishment |
|---|--|----------------|
| Achieve approval of the group's climate strategy. | The strategy, its guidelines, challenges, and action plan were defined and structured. It was approved during the Core Committee on November 26, 2018. | Total |
| Perform the vulnerability analysis, design the adaptation plan, and take measures for its implementation. | The risks and controls associated with the climate issue in the group were identified, as well as the initiatives and internal and external plans. Vulnerability analyses were obtained from the regions and countries of interest to the group and the business risk methodology was used to analyze vulnerability and the adaptive capacity of the companies and businesses. The group plan, per business and company, is prepared. | Total |

| Goals | Achievements | Accomplishment |
|--|--|----------------|
| Estimate Grupo EPM's GHG inventory, scopes I and II, and standardize the calculation methodology for companies and businesses. | The external audit of the 2016 inventory was conducted, adjustments and improvements were made, the GHG inventory was obtained, and the knowledge transfer with the international affiliate companies started. | Total |
| Develop phase II of the study by Universidad Nacional with the water and energy businesses. Conduct climate modeling in areas of interest to these two businesses. | Climate models were obtained for the main areas of interest to the water and energy businesses. Horizons 2040 - 2070 and 2100. The servers and software were acquired to continue using the model in the company. | Total |
| Verify the reduction of GHG emissions caused by operation at the La Vuelta and La Herradura small hydroelectric power stations in 2017. | The appointed operating entity verified the reduction of 85,559 tCO ₂ e, for the operation at the small hydroelectric power stations in 2017. | Total |
| Renew the credit period of the Jepirachi wind farm and the La Vuelta and La Herradura small hydroelectric power stations before the carbon standard of clean development mechanism. | At the end of 2018, the appointed operating entity was reviewing the new design documents for each project and the calculation files of the emission factor and the annual reduced emissions. | Total |
| Obtain the certification of reduction of GHG emissions caused by the Los Cururos wind farm (Chile) operation in 2014 and 2015 and prepare the information for the 2019 verification (REDD+, Jepirachi, La Vuelta and La Herradura small hydroelectric power stations, Aguas Claras wastewater treatment plant, and Ituango hydroelectric project). | The group obtained the verification report of reduction of 266,814 tCO ₂ e in the Los Cururos wind farm operation in 2014 and 2015. The information necessary for the verification of the REDD+ EPM project was documented. This challenge was adjusted because the information for the 2018 verification of Jepirachi and the La Vuelta and La Herradura small hydroelectric power stations will be prepared in 2019; for the Aguas Claras plant, in 2020; and for the Ituango hydroelectric project, one year after its start-up. | Total |

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|---|------------------------------|----------------------|--------------------|-------------------------------------|---|
| | | Territory | Business | Company | |
| Update the 2017 inventory of GHG emissions of Grupo EPM, based on the adjustments made to the calculation methodology by external verification. | 2019 | All the territories | All the businesses | All the companies | 2017 inventory updated with the adjusted methodology. |
| Prepare and disclose the 2018 GHG inventory of the group with the adjusted methodology. | 2019 | All the territories | All the businesses | All the companies | 2018 GHG inventory. |
| Obtain the certification of reduction of emissions caused by the La Vuelta and La Herradura small hydroelectric power stations, the Jepirachi wind farm, and REDD+ EPM. | 2019 | Colombia – Antioquia | Electrical energy | Empresas Públicas de Medellín - EPM | Verification. |
| Obtain the certification of reduction of emissions caused by the Los Cururos wind farm operation during 2016, 2017, and 2018. | 2019 | Chile | Electrical energy | EPM Chile | Verification. |
| Integrate the results of Phase II of the climate study conducted with Universidad Nacional into the measures and actions defined in Grupo EPM's Adaptation Plan. | 2019 | All the territories | All the businesses | All the companies | Grupo EPM's adaptation plan to climate change adjusted. |
| Integrate the climate risk analysis into the methodological system of business risk management and the control and monitoring systems. | 2019 | All the territories | All the businesses | All the companies | Grupo EPM's climate risk model. |

Related stakeholders

Colleagues
Community
State

Actions

- Climate strategy management.
- Climate change mitigation.
- Adaptation to natural variability and climate change.

GRI standards disclosures and EPM indicators

- 103-1** Explanation of the material topic and its boundary.
- 103-2** The management approach and its components.
- 103-3** Evaluation of the management approach.
- 201-2** Financial implications and other risks and opportunities due to climate change.
- 305-1** Direct (Scope 1) GHG emissions.
- 305-2** Energy indirect (Scope 2) GHG emissions.
- 305-3** Other indirect (Scope 3) GHG emissions.
- 305-4** GHG emissions intensity.
- 305-5** Reduction of GHG emissions.
- 305-7** Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Chile
Colombia - Antioquia
Colombia - Caldas
Colombia - Malambo, Atlántico
Colombia - Norte de Santander
Colombia - Quindío
Colombia - Risaralda
Colombia - Santander
El Salvador
Guatemala
Mexico
Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Aguas de Malambo
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
EPM Chile
Elektra Noreste - ENSA

Sustainable Development Goals



Climate strategy management

Climate change poses important challenges for the human race and the global economy. It is considered as one of the main challenges in sustainable human development; therefore, it becomes a key aspect of study and comprehensive analysis from the environmental, social, political, economic, technological, regulatory, and cultural perspectives to define business stances.

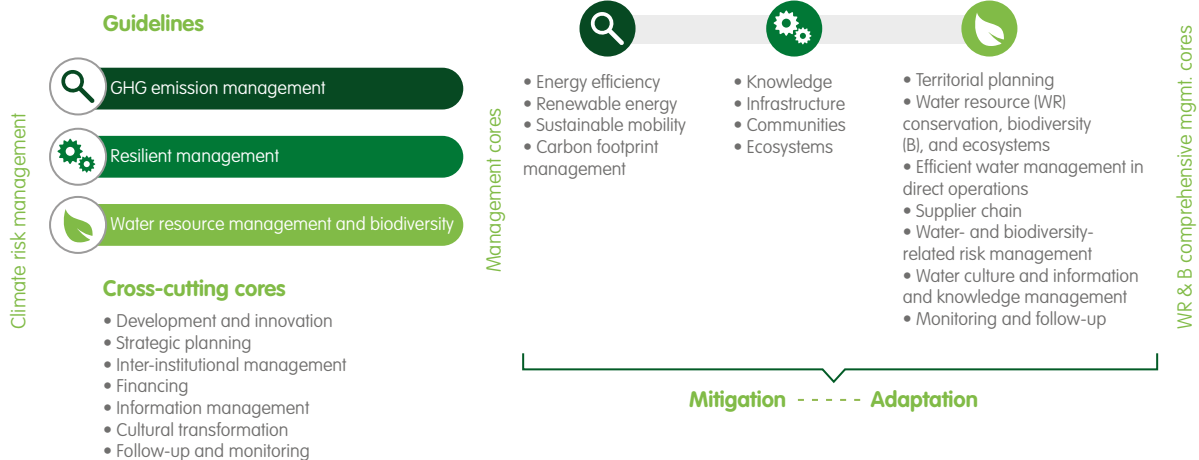
Fixing strategies based on the aforementioned perspectives enables the companies to face the challenge posed by their growth and development considering the climate impact.

Management in 2018

In 2018, the climate strategy for the business group was approved, and each company and business prioritized the main actions for 2021, seeking to contribute to the achievement of the carbon neutral operation by 2025, implement the necessary controls in the processes and operations for comprehensive management of climate risks, and strengthen the provision of services in the main regions of interest.

Grupo EPM's 2018 - 2030 climate strategy

Principles: Comprehensiveness, competitiveness, flexibility, innovation.



With the implementation of this strategy, Grupo EPM expects by 2030 to:

- Control GHG emissions and implement the necessary measures to reduce energy intensity and/or achieve compensation for these emissions.
- Improve the operational efficiency of the current infrastructure and manage and control climate risks.
- Include the analysis of climate variables and emission management in the feasibility analysis of new investments and projects.
- Offer low-carbon services and products.

Under the guidelines of:

- **Emission management**, which consists in quantifying, controlling, and reducing, as far as it is technically or economically feasible, GHG emissions in all the operations and businesses of Grupo EPM.
- **Resilient management**, to permanently assess climate risks and include the necessary measures to prevent and control the impact of climate events in Grupo EPM.
- **Water and biodiversity management**, to contribute to the water resource and biodiversity conservation, through the comprehensive management of ecosystems and their risks associated with climate change and variability.

Grupo EPM's 2025 carbon neutral operation

The advances of 2018 include:

Emissions inventory

Grupo EPM obtained the inventory calculation GHG emissions in 2018, corresponding to 582,644 tCO₂, including the national and international affiliated companies. The inventory showed a slight variation compared with 2017 (576,363 tCO₂), due to the increase in natural gas fugitive emissions and the total losses in the power transmission and distribution system.

Icontec verified the EPM emission inventory for 2016—base year for the carbon neutral operation of the group. It made some suggestions and adjustments that are being included in the calculation methodology.

The knowledge transfer in the inventory calculation methodology started with two of the national affiliated companies (CENS and EDEQ), with the purpose of advancing in the standardization of concepts and criteria and achieving standardization in the estimation of the group's GHG emissions.

EPM's emission factor for 2018 was 0.097 tCO₂e MW/year, while the national power emission factor was 0.1070 tCO₂e MW/year; this shows that EPM's emissions remain below Colombia's national interconnected system (abbreviated SIN in Spanish). EPM's highest energy consumption included electricity, natural gas, and self-supplied energy, respectively.

Carbon offset

- Grupo EPM obtained the certified reductions of 85,559 tCO₂e for the operation at the La Vuelta and La Herradura small hydroelectric power stations in 2017 and the certified reductions of 266,814 tCO₂e for the operation at Los Cururos wind farm in 2014 and 2015.
- Progress was made in the verification process for the reduction of emissions of the EPM REDD+ (Reducing Emissions from Deforestation and Forest Degradation) project.
- A working group was established within EPM to permanently monitor the financial opportunities derived from the carbon footprint management and the certified reductions of EPM projects' emissions, either to neutralize the group's footprint or to cover the carbon tax, establish agreements with other companies to neutralize their emissions, and establish a commercialization system of carbon credits in the country, among others. Based on these opportunities and the availability of the La Vuelta and La Herradura small hydroelectric power stations' certificates, progress was made in internal procedures to issue a commercial auction.

Internal carbon pricing

With the purpose of evaluating the possibility to commercialize certified emission reductions of some of the organization's projects registered before different standards (without affecting Grupo EPM's BHAG compliance in terms of "achieving carbon neutral operation by 2025"), EPM developed, in 2018, a proposal called "Pricing guidelines for climate change products: certified emission reductions (CERs), renewable energy certificates (RECs)," which aims to integrate an internal carbon pricing into Grupo EPM's investment and disinvestment decisions.

This proposal established a reference price for CERs and RECs. The latter are also known as green energy certificates and are part of the company's innovative solutions since 2017 to contribute to the care of the environment and the protection of natural resources, by commercializing energy to customers in the nonregulated market in Colombia.

Analysis of climate change risks and scenarios

During 2018 Grupo EPM identified the main risks associated with the occurrence of extreme climate events, climate variability, and climate change for the different operations, companies, businesses, and regions of interest to the group. The purpose was to advance in the proactive integration of the climate variable in the comprehensive business risk management and, therefore, in the strategic decision-making. Based on this, the group expects to design and implement the climate risk management model during 2019.

Aware of the impacts that climate change and variability will have during the 21st century on the regions, ecosystems, natural resources, and hydrographic basins, EPM has been making progress since 2016 in the study of climate modeling, seeking to learn future impacts of climate factors on coverage, land use, and water use mainly and to consider its results in the different mitigation and business adaptation efforts and plans.

It is expected that, with the analysis and determination of the degree of vulnerability, the company can design the most appropriate strategies.

Climate strategy monitoring and management

Each business and company of the group approved the action plan for the climate strategy. The plan implementation will be monitored under the guidelines defined by the organization, through the business group's climate strategy integration and coordination meeting and the corresponding agencies for decision-making purposes.

| EPM's emission factor / SIN's emission factor | | | |
|---|--------|--------|--------|
| Indicator tCO ₂ e / MWh year | 2016 | 2017 | 2018 |
| EPM's emission factor | 0.0513 | 0.0097 | 0.0096 |
| SIN's emission factor | 0.2100 | 0.1100 | 0.1070 |

Source: EPM.

The emission factor remains below the national power sector's emission factor, as a result of the minimal operation of the La Sierra thermal plant in 2017 and 2018. EPM's highest energy consumption included electricity, natural gas, and self-supplied energy.

The variations in values of data presented in previous years for EPM are the result of adjustments applied in the calculation methodology after the external verification of the 2016 inventory.

The values of the national power emission factor for 2016 and 2017 are updated, after the official publication for the country. Mining and Energy Planning Unit (abbreviated UPME in Spanish) Ruling 804 of December 26, 2017 (SIN's 2016 emission factor calculation document) and UPME Ruling 774 of December 28, 2018 (SIN's 2016 emission factor calculation document), respectively.

The values for 2018 correspond to the national factor value calculated by XM, as the only official source to date.

Green energy

| Certificates issued as of 2018 | | | |
|--------------------------------|-------------------|-------------------|-------------------|
| Station/Date | 2017/July | 2017/Dec | 2018/Oct |
| Jepírachi | 1,325.00 | | 28,219.00 |
| La Vuelta | 34,066.00 | | |
| La Herradura | 66,414.00 | | |
| Porce III | 398,198.00 | 880,000.00 | 621,781.00 |
| Total | 500,003.00 | 880,000.00 | 650,000.00 |

Source: EPM.

With the green energy certificate, EPM guarantees customers of the nonregulated market that the energy that it supplies comes from its 100% renewable-source power generation stations (to date, water and wind), whose construction is less than 14 years. 2,030,003 certificates have been issued from the Jepírachi, La Vuelta, La Herradura, and Porce III power plants by the end of 2018.

| Balance of certificates accumulated and redeemed | | | | | | |
|--|-------------------------------|--------------------------|--------------------------|--------------------------|---------------------------|-------------------|
| Plant/Date | Accumulated issued as of 2018 | Redeemed semester 2/2017 | Redeemed semester 1/2018 | Redeemed semester 2/2018 | total redeemed as of 2018 | Balance |
| Jepírachi | 29,544.00 | | 1,325.00 | 21,839.00 | 23,164.00 | 6,380.00 |
| La Vuelta | 34,066.00 | | 3,867.00 | 1,541.00 | 5,408.0000 | 28,658.00 |
| La Herradura | 66,414.00 | | 1,191.00 | | 1,191.0000 | 65,223.00 |
| Porce III | 1,899,979.00 | 461,000.00 | 555,192.00 | 576,726.00 | 1,592,918.00 | 307,061.00 |
| Total | 2,030,003.00 | 461,000.00 | 880,000.00 | 600,106.00 | 1,622,681.00 | 407,322.00 |

Source: EPM.

In 2018, EPM obtained revenue of COP 1,767 million from selling green energy. All this revenue will be reinvested in the development of new 100% renewable-source power generation projects.

Emission reduction projects

| Emission reduction projects | | | | | |
|---|--|--|-------------------------------------|-------------------------------------|-------------------------------------|
| Project / Standard | Credit period | Annual average according to PDP (tCO ₂ e) | tCO ₂ e verified in 2015 | tCO ₂ e verified in 2016 | tCO ₂ e verified in 2017 |
| Jepírachi / UNFCCC, sold to the World Bank until 2017 | Three 7-year credit periods 2004 - 2018 | 25,631 | 30,361 | 22,590 | 1,358 |
| La Vuelta and La Herradura / UNFCCC | Three 7-year credit periods 2005 - 2019 | 77,149 | 66,997 | 72,908 | 85,559 |
| Ituango / VCS. | Two 10-year credit periods 2018 - 2027 | 4,032,440 | 0 | 0 | 0 |
| REDD+/ CCB. | One 20-year credit period, 2014 - 2033 | 5,462 | 0 | 0 | 0 |
| Bello WWTP / UNFCCC | (Three 7-year credit periods) Under registration process | 72,875 | 0 | 0 | 0 |
| Los Cururos / Gold Standard | Three 7-year credit periods 2014 - 2035 | 197,424 | 176,019 | 0 | 0 |
| Total | | 4,410,981 | 273,377 | 95,498 | 86,917 |

Source: EPM.

Grupo EPM maintains its six emission reduction projects registered with different international standards. As of 2018 the organization has a certified verification of 455,792 tCO₂e for the 2015-2017 operation.

No verifications are reported for 2018 because this process is performed per expired year.

GRI standards disclosures and EPM indicators

201-2 Financial implications and other risks and opportunities due to climate change.

305-1 Direct (Scope 1) GHG emissions.

305-2 Energy indirect (Scope 2) GHG emissions.

305-3 Other indirect (Scope 3) GHG emissions.

305-4 GHG emissions intensity.

305-5 Reduction of GHG emissions.

305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Risaralda
Colombia - Santander
Colombia - Norte de Santander
Colombia - Malambo, Atlántico
Chile
El Salvador
Guatemala
Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Aguas Nacionales EPM
Aguas de Malambo
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
EPM Chile
Elektra Noreste - ENSA

Climate change mitigation

Set of actions, initiatives, projects, and programs developed by the company with the purpose of avoiding and reducing GHG emissions in its processes and operations.

Management in 2018

As part of its commitment to improve the air quality in Valle de Aburrá, the gas business signed agreements with the Medellín Mayor's Office, the Colombian Association of Natural Gas (Naturgas), and the environmental authority of Valle de Aburrá (Área Metropolitana del Valle de Aburrá), with the purpose of promoting actions to use sustainable, clean energy sources for mobility and to renew the fleet.

EDEQ offset its base year carbon footprint (2015) against forest plantation projects planted in the Chinchiná river basin and became the first company in the Colombian electricity sector to obtain carbon neutral certification for its 2018-2021 emissions.

EPM's power transmission and distribution business invested USD 1 million in the SF₆ insulation system, reducing the risk factors of GHG emissions and improving the environmental performance of its processes.

With respect to the energy losses in 2017, the affiliated company Eegsa achieved a reduction of 0.16% in its 2018 total loss index and 0.33% in the technical energy loss index. This represents a reduction of 4,606 tCO₂e thanks to such management.

With the purpose of generating clean and efficient energy, basic principle of its environmental task, Grupo EPM's affiliated company ENSA ventured into the photovoltaic business model in Panama with the installation of 450 solar panels of 325W each, to supply self-consumption in several of its facilities. Likewise, Delsur installed the photovoltaic generation system in the Technical Training School of this group's affiliated company in El Salvador, with a 29.1-kWp capacity; furthermore, with changes in lighting and technological adjustments, this company achieved 50% reduction of power consumption in its administrative offices.

CENS put into operation the photovoltaic generation system installed in 2017. It includes 156 panels with a 50-kWp capacity, which cover 60% of the energy required in one of its administrative offices.

Based on the definition of the business group's climate strategy, all the companies and businesses of Grupo EPM made progress in the formulation of their action plans regarding the mitigation and adaptation components.

EPM building's cold production plant achieved an efficiency of 0.54 KW/TR in 2018, which means that it exceeded the proposed goal of 0.58 with respect to the system design.

As part of the implementation of Grupo EPM's climate strategy, the management conducted by the different businesses and companies stands out in actions of energy efficiency, renewable energies, carbon footprint, and sustainable mobility. This management is reported below:

Energy efficiency

- EPM's La Alpujarra district cooling remained in operation; this system provides air conditioning services to the Medellín Mayor's Office, the Antioquia Governor's Office, and the National Directorate of Taxes and Customs (abbreviated DIAN in Spanish) office in Medellín. The significant emission of ozone-depleting substances and of less polluting refrigerants compared with the operation with conventional systems was avoided.
- ESSA continued with its maintenance work at the substations, seeking to increase its SF6 control index. For its part, to achieve the goal set for 2018, EPM replaced 160 SF6 isolator switches to vacuum isolation, continued the leak control program, and installed 6,941 Led bulbs in the public lighting system.
- Delsur achieved the development of the first part of the project to replace fluorescent lighting by Led technology. In its corporate building, it obtained a 55% decrease in installed power for lighting.

- EPM started implementing the regulation of sustainable construction in the projects, considering climate variables for the design of offices and facilities. Likewise, it implemented savings measures of power consumption in the administrative and operative areas (sensors, efficient lighting, and low-consumption air conditioners, among others). The company highlights the use of 3,936 Led bulbs in the renovation of floors 6, 7, and 8 of EPM's headquarters, the replacement of 1,312 lighting tubes with greater energy efficiency per floor, the installation of controls for local lighting, and the reduction of one hour per day in the air conditioning operation times (the plant achieved energy efficiency levels of 0.54 KW/TR). Also, the company started the stairs service between floors 3 and 1 to make the exit of the staff easier without using the elevator.
- Other alternate locations of the EPM building started using R410A and R134 refrigerants in air conditioning, refrigerators, and cooling equipment; besides, 114 35-W lamps were replaced.
- Following the NTC ISO 50001 (energy management systems) standard of 2011, CENS prepared the methodology to assess energy efficiency in its administrative offices; in this way, the company seeks to monitor and optimize its current consumption and to promote initiatives to leverage the development of photovoltaic system projects in its facilities.

Renewable energy

- Delsur achieved the installation of a power generation system using photovoltaic panels with a 29.1-kWp capacity in its Technical Training School. With this action, the company contributes to the reduction of emissions caused by the use of the electrical grid in its country and leverages the technical knowledge of its staff for the development of this type of projects.
- Eegsa made progress in the process before Guatemala's National Electrical Energy Commission (abbreviated CNEE in Spanish) to contract the purchase of renewable energy supply for 15 years.
- During the year, CHEC continued assessing the options of the geothermal energy project (Nereidas) as a generation source to make future decisions. The affiliated company advanced in the study of Guacaica basin's power potential and took important steps to install solar panels in its administrative offices.
- EPM maintained the portfolio of expansion projects offering conventional and nonconventional renewable energy generation options, with progress in the prefeasibility and feasibility studies for hydroelectric, photovoltaic, wind, and geothermal projects.
- Likewise, the company continued with the operation and assessment of the floating photovoltaic generation pilot project in the Peñol-Guatapé reservoir, located in eastern Antioquia; the project takes up 1,430 m² and is made up of 368 panels, for an installed capacity of 100 kW.
- In the water business, EPM continued and continues to reclaim biogas at the San Fernando wastewater treatment plant that generates, on average, close to 40% of the plant's energy requirements.

- EPM's area of Supplies and Corporate Services made progress in assessing different options to self-generate energy from nonconventional renewable energy sources. This is the specific case of the support structure in solar panels, of the Guatapé plant, used on the Farallones camp sports complex roof.

Carbon footprint management

During 2018, the affiliated company ENSA (Panama) made progress in measuring its fleet's emissions, conducted the entire preventive maintenance of the vehicles, performed the maintenance of the existing plantations, and reforested 3.5 new hectares.

All the companies contributed the necessary information to calculate Grupo EPM's 2018 carbon footprint; specifically, the EPM businesses participated in the process of external assurance of the inventory for 2016, base year defined for the group's carbon neutral operation goal for 2025. They also participated in the update and adjustment of the group's 2017 inventory.

From the process of the external audit to EPM's 2016 inventory, among other findings, the organization emphasizes on the need to improve the management and traceability of information; perform internal audits to ensure reliability and completeness; update reservoir mirror areas and CH₄ emission factors; prepare an inventory of air conditioning systems, refrigeration equipment, radiators, tanks for firefighting, and annual refill monitoring; build methods to bring emission reduction traceability to the targeted actions; and calculate the uncertainty associated with the inventory estimation.

Emission reduction projects

The final report of verification of (85,559 tCO₂e) emission reduction, corresponding to the 2017 operation of the La Vuelta and La Herradura small power stations, was reviewed and adjusted according to the Colombian Institute of Technical Standards and Certification (abbreviated Icontec in Spanish). In addition, the organization achieved the verification of the GHG emission reduction from Jepírachi (wind farm) for 2014-2017 with a designated operational entity, under a contract with the World Bank, which included a field visit. Likewise, the company started the preparation of the report on monitoring and compliance with the activities included in the project development plan (PDP) to perform the five-year verification (2013-2017) of the REDD+ project; furthermore, it achieved the renewal of the third and final credit period of Jepírachi (2018-2025) and La Vuelta and La Herradura small power stations (2019-2025).

Possibilities are assessed for the application of the ISO 14064-2 standard in the certification of emission reduction initiatives, different to the projects registered in international standards. However, experiences in the application of this standard in Colombia are still nonexistent.

Sustainable mobility

- Grupo EPM's national and international affiliated companies continued structuring the electric mobility business model, acquiring chargers for the cities, and participating in the air quality working groups.
- EDEQ acquired a 100% electric vehicle and put into operation the first eco-station of the Colombian coffee region. The company is testing two more stations that will begin operation in 2019. As for CHEC and ESSA, they put their 100% electric bus into circulation. Moreover, ESSA will open one fast-charging and two slow-charging stations in 2019.
- CENS put into operation the first electric vehicle with a fast-charging station. It is supplied by the photovoltaic generation system installed in its headquarters and serves the maintenance process.
- At the international level, both Eegsa and ENSA acquired their first electric vehicles to conduct tests, installed charging points in their administrative offices, and promoted the sustainable mobility project among their employees. Delsur achieved a 6% reduction in electrical energy in 2018 compared with 2017 and maintained the vehicle performance indicator for the fleet at 30 km/gal (which was 30.47 km/gal in 2017); meanwhile, the company made progress in the establishment of a strategic alliance with stakeholders (government, private enterprise, academia) to introduce the concept of sustainable mobility in El Salvador.
- EPM made progress in the implementation of initiatives that include vehicular natural gas (VNG), slow internal charging, and public charging eco-stations for electric vehicles.
- During 2018, 2,533 vehicles were converted to natural gas, for an accumulated total of 59,138. A total of 430 buses of the mass transit system and 62 Emvarias garbage compactor vehicles, used for waste management, started operating with natural gas.
- During the year, 17 VNG stations were operational: 15 in Valle de Aburrá, one in Apartadó, and one in Rionegro, department of Antioquia, Colombia. Of the 15 stations in Valle de Aburrá, one was exclusive to the Metroplús mass transit system and others to the Emvarias garbage compactor vehicles.
- 205 public servants of the company have natural gas vehicles. The company's fleet includes three biodiesel-natural gas trucks in operation, two dump trucks and one water pressure-suction equipment vehicle in tests, and one bus for the transport of staff in manufacturing.
- As for electricity, nine stations became operational, for a total of 19 functioning eco-stations: one quick charging and 14 slow charging. At the end of the year, there were 482 electric vehicles on the roads of Valle de Aburrá, 273 more than in 2017.

- Through public-private partnerships for mobility, VNG and electrical energy were promoted as key elements to mitigate air pollution in the region.
- The implementation of the Sustainable Corporate Mobility Plan, among other initiatives, achieved an accumulated of 128 executives and 279 teleworkers in the teleworking program and 525 in the En bici al trabajo (Bike-riding to work) program, of which 107 enrolled in 2018. EPM has 221 bike parking spaces in its main building, 24 in the Calle 30 offices, and 40 in the Colombia substation in the city of Medellín.
- As for the flexible schedule mode, the company continues with five staggered work schedules and the operation of the electric bus to transport staff from its headquarters to some Metro stations.

The following table details the results of the commitments assumed under this initiative for 2018.

| Challenge | Company | Achievement indicator | Results |
|--|---------------------------------------|--|---|
| Receive the electric articulated bus and conduct the purchase process of the standard electric bus as part of the agreement with the municipality of Medellín, Metroplús, Metro de Medellín, and Área Metropolitana del Valle de Aburrá. | Empresas Públicas de Medellín - EPM | Articulated bus in operation and awarding of the standard bus. | <p>There is an articulated bus operating with very good results and high reliability.</p> <p>Technical support was provided to the municipality of Medellín for the purchase of 64 electric standard buses for the city.</p> <p>The procurement of the electric standard bus was not considered convenient. The institutions signing the agreement decided to modify Minutes 3 to change the standard bus for a coach, acquired in partnership with a private party. The agreement was modified to be executed in 2019.</p> |
| Put into commercial operation one semi-quick and one quick charging eco-stations and define the internal charging offer. | Empresa de Energía del Quindío - EDEQ | Eco-stations in operation. | Three semi-quick charging eco-stations were put into commercial operation. Six charger were installed (three American standard and three European standard). |
| Acquire two electric vehicles that will be part of the fleet and install three public charging stations. | Electrificadora de Santander - ESSA | Public charging stations installed. | ESSA's first electric vehicle was acquired. Equipment was acquired to adjust three public charging points for electric vehicles. |

| Challenge | Company | Achievement indicator | Results |
|---|------------------------|---------------------------------------|---|
| Sustainable mobility: Install charging points in the city of Panama. | Elektra Noreste - ENSA | Charging points installed. | A strategic alliance was made with the Technological University of Panama and Build Your Dreams to install the charging points, which are in the implementation stage. |
| Renew five light gas trucks for waste collection. | Emvarias | Trucks purchased. | Trucks were not purchased as a result of revaluation of the feasibility of renting or direct purchase, by the financial area of this affiliated company. |
| Introduce electric mobility to El Salvador - May 2018. | Delsur | Strategic alliance with stakeholders. | A strategic alliance was made with stakeholders (government, private enterprise, academia) to introduce the concept in El Salvador. |
| Promote urban electric mobility in Guatemala and the use of electric vehicles in Eegsa. | Eegsa | Promotion of electric mobility. | The second stage of the project was executed. In 2018, the Environmental Management Unit supported the coordination, planning, and control of different internal and external activities. |

| Emission inventory - Grupo EPM (TCO ₂ e) | | | |
|---|----------------|----------------|----------------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Scope 1 | 590,694 | 59,889 | 57,303 |
| Scope 2 | 306,841 | 516,464 | 525,341 |
| Total | 897,535 | 576,353 | 582,644 |

Source: EPM.

The group's 2018 inventory includes the GHG emissions of: EPM, ESSA, CHEC, EDEQ, CENS, ENSA, Delsur, Eegsa, Aguas de Malambo, Aguas Regionales EPM, Aguas de Oriente, EP Rio, and Adasa. The GHG Protocol methodology is followed and the CO₂, CH₄, N₂O, SF₆, and HFC gases are included.

Compared with 2017, there is a slight increase in the total report of the 2018 emission inventory, mainly due to a slight increase in losses caused by fugitive sources of natural gas and in the total losses of the power transmission and distribution system.

The variations in values presented in the two previous years are the result of an adjustment applied in the calculation methodology after the external assurance of EPM's 2016 inventory. The total losses are presented in transmission and distribution (previously only technical losses were taken into account), the emissions of refrigerants and fire extinguishers are included, and the capture of emissions from EPM plantations are not discounted.

Direct (Scope 1) GHG emissions. They include the emissions from the sources owned or controlled by the company, as well as the emissions from vehicles of the company's fleet, the emissions from steam or boilers, and the fugitive emissions from the company's air conditioners, ducts, or systems.

Energy indirect (Scope 2) GHG emissions. They include the emissions from the electrical consumption and those from heat, steam, and refrigeration sources that are acquired externally.

Other indirect (Scope 3) GHG emissions. They include the rest of the indirect emissions as a result of the activities of the company that do not come from the company's sources or sources controlled by the company (production of acquired materials; work trips; transportation of raw materials, fuels, and products; and consumption of products or services offered by the company).

Note: As for total losses, it is worth mentioning that the company does not have much control over the national system losses, but it does work in the management of non-technical losses, which are caused mainly by third parties' frauds or thefts.

| Emission inventory - EPM (TCO ₂ e) | | | |
|---|----------------|----------------|----------------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Scope 1 | 514,664 | 45,480 | 48,566 |
| Scope 2 | 131,972 | 92,179 | 97,492 |
| Total | 646,636 | 137,659 | 146,057 |

Source: EPM.

EPM's 2018 inventory follows the GHG Protocol methodology and includes the CO₂, CH₄, N₂O, SF₆, and HFC gases. The variations in values presented in the two previous years are the result of an adjustment applied in the calculation methodology after the external assurance of EPM's 2016 inventory. The total losses are presented in transmission and distribution (previously only technical losses were taken into account), the emissions of refrigerants and fire extinguishers are included, and the capture of emissions from EPM plantations are not discounted.

The 2018 reduction compared with that of 2017 corresponds to a reduced report of losses in the natural gas system, in scope 1, and to the increase in losses of the power transmission and distribution, in scope 2.

Direct (Scope 1) GHG emissions. They include the emissions from the sources owned or controlled by the company, as well as the emissions from vehicles of the company's fleet, the emissions from steam or boilers, and the fugitive emissions from the company's air conditioners, ducts, or systems.

Energy indirect (Scope 2) GHG emissions. They include the emissions from the electrical consumption and those from heat, steam, and refrigeration sources that are acquired externally.

Other indirect (Scope 3) GHG emissions. They include the rest of the indirect emissions as a result of the activities of the company that do not come from the company's sources or sources controlled by the company (production of acquired materials; work trips; transportation of raw materials, fuels, and products; and consumption of products or services offered by the company).

| EPM's scope 3 emission inventory | | | | | | |
|----------------------------------|-----------------------|----------------|-----------------------|----------------|-----------------------|----------------|
| Concept / Indicator | 2016 | | 2017 | | 2018 | |
| | Ton CO ₂ e | % | Ton CO ₂ e | % | Ton CO ₂ e | % |
| Goods and services | * 16,118 | 0.64% | * 16,118 | 0.58% | * 16,118 | 0.70% |
| Capital assets | * 525 | 0.02% | * 525 | 0.02% | * 525 | 0.02% |
| Fuels | 67,355 | 2.67% | 2,049 | 0.07% | 2,218 | 0.10% |
| Waste | 42,143 | 1.67% | 51,767 | 1.85% | 59,224 | 2.58% |
| Land transport + air transport | 4,756 | 0.19% | 2,363 | 0.08% | 2,631 | 0.11% |
| Transportation of personnel | ** 3,260 | 0.05% | ** 3,260 | 0.12% | 3,124 | 0.14% |
| Use of products sold | 2,390,537 | 94.76% | 2,718,413 | 97.28% | 2,208,003 | 96.34% |
| Total | 2,524,694 | 100.00% | 2,794,494 | 100.00% | 2,291,843 | 100.00% |

Source: EPM.

* Values of 2012 are used.

** Values of 2015 are used.

2018 Scope 3 emission inventory uses the calculation baseline of 2012 and follows the GHG Protocol methodology and the Corporate Value Chain (Scope 3) Accounting and Reporting Standard, published by the WRI and the WBCSD.

The results show that the larger emissions (96%) are still associated with the end use of products sold by the company.

The main recommendations in this category are aimed at raising awareness and developing initiatives that encourage the company's extended chain to manage the risks and opportunities associated with its emissions.

There is a reduction in emissions caused by the transportation of employees, as a result of the actions implemented by the company such as the use of alternative means of transport (bicycle, car sharing, etc.) or the teleworking.

The category of waste taken to the sanitary landfill shows a slight increase because the calculation formula provided by the methodology considers the gradual increase of emissions as a result of the amount of total waste accumulated in the landfill.

| SOx and NOx emissions - Grupo EPM | | | | | | |
|--|---------------------|-------------|---------------------|-------------|---------------------|-------------|
| Concept / Indicator (ton/year) | 2016 ⁽¹⁾ | | 2017 ⁽²⁾ | | 2018 ⁽³⁾ | |
| | NOx | SOx | NOx | SOx | NOx | SOx |
| La Sierra thermal power station (isokinetic sampling) | 721.29 | 0.65 | 3.89 | 0.00 | 2.53 | 0.00 |
| Transportation of personnel, supplies, and products in vehicles of the group | 74.66 | 0.73 | 70.26 | 1.02 | 44.31 | 0.43 |
| Adasa | | | | | 60.45 | 3.21 |
| Total | 795.95 | 1.38 | 74.15 | 1.02 | 107.29 | 3.63 |

Source: EPM.

⁽¹⁾ Including EPM, Aguas de Malambo, Aguas del Oriente, Aguas Regionales, CHEC, Delsur, ENSA, and ESSA (308 automobiles and pickup trucks, 291 motorcycles, 94 trucks and buses).

⁽²⁾ Including EPM, Aguas de Malambo, Aguas del Oriente, Aguas Regionales, CENS, CHEC, Delsur, ENSA, ESSA, Eegsa, HET, and Ticsa.

⁽³⁾ Including EPM, Adasa, Aguas de Malambo, Aguas del Oriente, Aguas Regionales, CENS, CHEC, Delsur, ENSA, and ESSA. Adasa reports for the first time in 2018.

There are variations in the values presented for previous years. This is due to the adjustments applied in EPM's 2016 inventory calculation methodology, after external assurance, basically in the quality of data used for fuels.

SOx: sulphur dioxide.

NOx: nitrogen oxide.

| SOx and NOx emissions - EPM | | | | | | |
|---|---------------------|-------------|---------------------|-------------|---------------------|-------------|
| Concept / Indicator (ton/year) | 2016 ⁽¹⁾ | | 2017 ⁽²⁾ | | 2018 ⁽³⁾ | |
| | NOx | SOx | NOx | SOx | NOx | SOx |
| La Sierra thermal power station (isokinetic sampling). | 721.29 | 0.65 | 3.89 | 0.00 | 2.53 | 0.00 |
| Transportation of personnel, supplies, and products in vehicles of the group. | 20.56 | 0.18 | 12.04 | 0.11 | 16.53 | 0.13 |
| Total | 741.85 | 0.83 | 15.93 | 0.11 | 19.07 | 0.13 |

Source: EPM.

⁽¹⁾ 325 automobiles and pickup trucks, 279 motorcycles, 97 trucks and buses.

⁽²⁾ 308 automobiles and pickup trucks, 291 motorcycles, 94 trucks and buses.

⁽³⁾ 302 automobiles and pickup trucks, 281 motorcycles, 103 trucks and buses.

There are variations in the values presented for previous years. This is due to the adjustments applied in EPM's 2016 inventory calculation methodology, after external assurance, basically in the quality of data used for fuels.

| Other emissions - Grupo EPM | | | | |
|-----------------------------|---------|--------------------|-------------------|-------|
| Concept / Indicator (ton) | Benzene | Particulate matter | Organic compounds | VOC |
| 2016 ⁽¹⁾ | 0.18 | 1.83 | 112.71 | 12.71 |
| 2017 ⁽²⁾ | 0.16 | 2.26 | 103.06 | 9.62 |
| 2018 ⁽³⁾ | 0.10 | 1.61 | 71.31 | 8.44 |

Source: EPM.

⁽¹⁾ Including EPM, Aguas de Malambo, Aguas del Oriente, Aguas Regionales, CHEC, Delsur, ENSA, and ESSA.

⁽²⁾ Including EPM, Aguas de Malambo, Aguas del Oriente, Aguas Regionales, CENS, CHEC, Delsur, ENSA, ESSA, Eegsa, HET, and Ticsa.

⁽³⁾ Including EPM, Adasa, Aguas de Malambo, Aguas del Oriente, Aguas Regionales, CENS, CHEC, Delsur, ENSA, and ESSA.

There are variations in the values presented for previous years. This is due to the adjustments applied in EPM's 2016 inventory calculation methodology, after external assurance, basically in the quality of data used for fuels.

| Other emissions - EPM | | | | |
|---------------------------|---------|--------------------|-------------------|------|
| Concept / Indicator (ton) | Benzene | Particulate matter | Organic compounds | VOC |
| 2016 ⁽¹⁾ | 0.09 | 0.69 | 62.54 | 5.73 |
| 2017 ⁽²⁾ | 0.05 | 0.49 | 36.67 | 3.36 |
| 2018 ⁽³⁾ | 0.05 | 0.76 | 38.31 | 3.96 |

Source: EPM.

⁽¹⁾ 325 automobiles and pickup trucks, 279 motorcycles, 97 trucks and buses.

⁽²⁾ 308 automobiles and pickup trucks, 291 motorcycles, 94 trucks and buses

⁽³⁾ 302 automobiles and pickup trucks, 281 motorcycles, 103 trucks and buses.

There are variations in the values presented for previous years. This is due to the adjustments applied in EPM's 2016 inventory calculation methodology, after external assurance, basically in the quality of data used for fuels.

GRI standards disclosures and EPM indicators

305-1 Direct (Scope 1) GHG emissions.

305-2 Energy indirect (Scope 2) GHG emissions.

305-3 Other indirect (Scope 3) GHG emissions.

305-4 GHG emissions intensity.

305-5 Reduction of GHG emissions.

305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions.

Scope and coverage

Businesses

Water

Sanitation

Electrical energy

Gas

Territory

Colombia - Antioquia

Colombia - Caldas

Colombia - Quindío

Colombia - Risaralda

Colombia - Santander

Colombia - Norte de Santander

Colombia - Malambo, Atlántico

Chile

El Salvador

Guatemala

Panama

Companies

Empresas Públicas de Medellín - EPM

Aguas Regionales EPM

Aguas de Malambo

Empresas Varias de Medellín - Emvarias

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

Centrales Eléctricas del Norte de Santander - CENS

Distribuidora de Electricidad del Sur - Delsur

Empresa Eléctrica de Guatemala - Eegsa

EPM Chile

Elektra Noreste - ENSA

Adaptation to natural variability and climate change

Set of strategies, measures, and projects duly identified, assessed, and prioritized over time, in accordance with the scale of risk related to climate events, to strengthen the response capacity of businesses, services, surroundings, and communities and to contribute to the continuation of the company despite the climate changing conditions.

Management in 2018

Differentiated by business and company, Grupo EPM's 2018-2030 Adaptation Plan was drawn up thanks to the external support and the participation of representatives from all the business group's national and international companies and businesses.

Advances were achieved, by 50%, in the preparation of the work plans, with adaptive actions applied to the different processes, types of business, and areas of influence.

Progress was made by 80% on the documentation corresponding to the process of climate modeling and scaling for the basins of interest of EPM's water and energy businesses for the forecasts of 2040-2070 and 2100.

The contract system remained firm to guarantee the supply of natural gas by EPM, considering climate variability events or the El Niño 2018-2019 phenomenon. Likewise, the national public balance of natural gas supply and demand was monitored.

The program to update the climate vulnerability analysis was implemented in EPM's power substations, and the local emergency plans were strengthened in the Bello, Envigado, Guayabal, Middle Magdalena Region, Nueva Esperanza, and San Diego substations.

With the purpose of minimizing the impact of climate variability in the region, the affiliated company Egsa started the analysis and implementation of adaptation measures in some infrastructures of the power substations located in Guatemala; it included the analysis of the climate variables in the forest management plans of the transmission and distribution lines and continued with the agreement for the protection of a protected area of the Naciones Unidas national park that, at the end of 2018, had managed to protect 15.97 hectares.

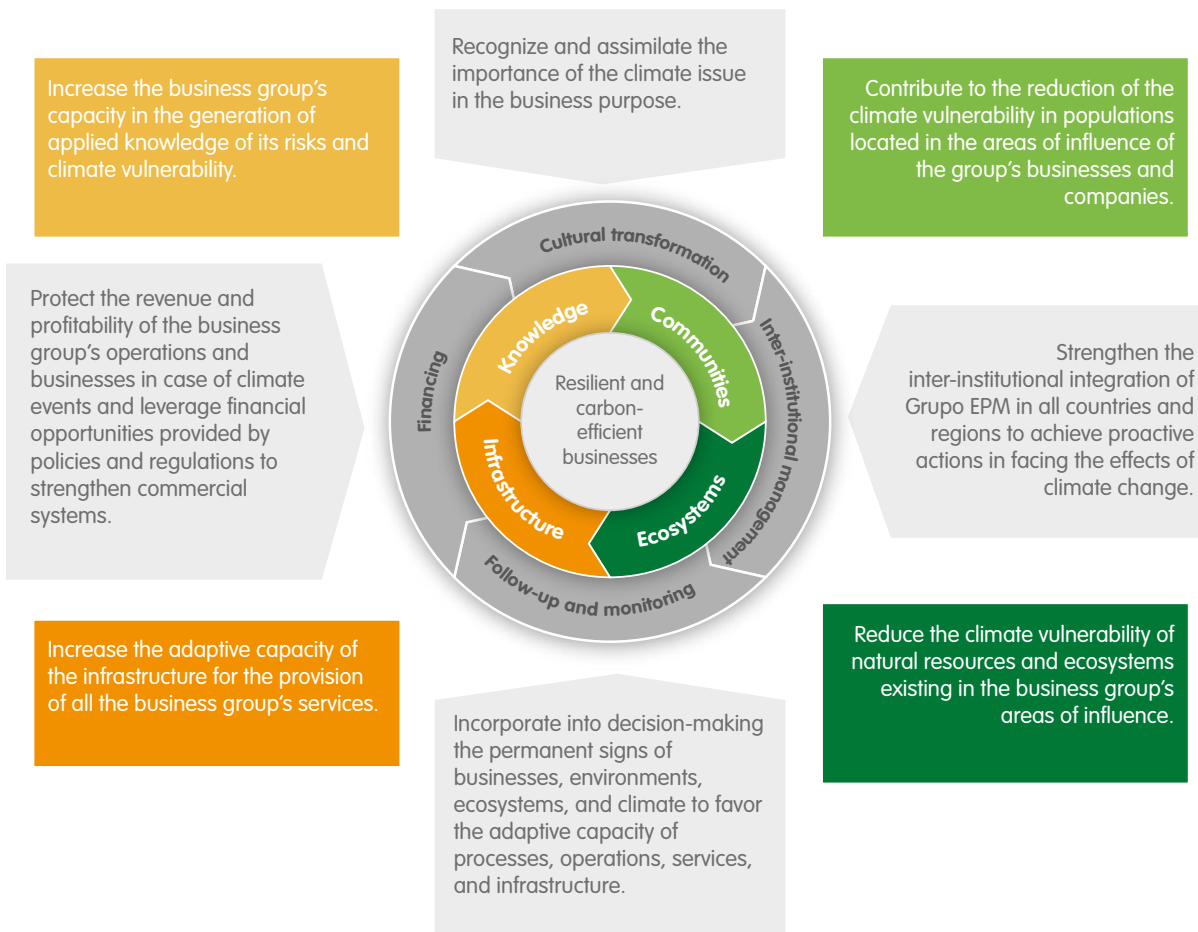
At the end of 2018, ENSA reforested 3.8 hectares with native trees in its area of influence in Panama; the company aims to achieve environmental compensation and strengthen the development of economic activities with the community. Likewise, to strengthen the climate strategy in its processes and actions, the company conducted workshops in its area of operations and encouraged the contractor companies to complete the action plan definition in the associated topics.

Delsur, CENS, and ESSA started the definition of their action plan to accomplish the goals and objectives; moreover, they permanently assess the climate risks of their operations.

Management

Grupo EPM's adaptation plan integrates four central and four cross-cutting management cores, through which it intends to develop over time the main actions that favor the permanence of the environments and the provision of the different services.

**Grupo EPM's adaptation plan to climate change and variability
2018 - 2030**



Main advances in 2018

Knowledge

Seeking to increase the assertive knowledge in the decision-making of growth, expansion, and future markets for Grupo EPM's businesses and companies, the monitoring of the ENSO NOAA (Climate Prediction Center) reports was strengthened for the continuous monitoring of the climate variables that affect the reliability of the systems. Likewise, progress was made, through a study with Universidad Nacional de Colombia, in the analysis of future climate scenarios that could affect the main basins of interest of the water and energy businesses in the department of Antioquia; the results will strengthen the application of current climate models in EPM.

For the power generation in the group, CHEC and EPM keep the hydroclimate variables identified and monitored in the areas where the service is provided. For its part, Aguas Regionales advanced assessments of groundwater and other surface sources, for water supply.

EDEQ developed a matrix in the Environmental Management System, where it included its climate risks, while CHEC maintained the consideration of climate information in its hydrological projections, for future analyses of the power generation of the business.

Delsur, group's affiliated company in El Salvador, has insurance policies covering all types of climate events (storms, landslides, floods, sinking, etc.), both for administrative offices and for power substations.

Infrastructure and processes

EPM's power distribution and transmission system put the geotechnical stability program into operation and 100% of the plan established in 2018 was fulfilled in the monitoring and control of erosion processes that can affect the infrastructure. Likewise, the company participated in inter-institutional spaces in Antioquia to strengthen actions associated with the protection of the service infrastructure, leveraging the preparation of the land-use plans of the municipalities of Envigado, Copacabana, Medellín, and Sabaneta.

Considering climate variables, Eegsa advanced procedures with Guatemala's environmental authority to strengthen and expand its power distribution and transmission infrastructure. It managed to have full coverage insurances for 79 power substations, while documenting the route for the use of information related to meteorological stations installed in the planning of concrete adaptation actions, adjusted to the climate conditions of its areas of influence.

As for EPM, the company maintained a constant participation at the national, sectoral, union, and territorial levels, in matters of climatic interest, action plans, and development of bills and regulations.

EPM's water and sanitation business included in its 2019 business plan a budget item to comply with the required climate management.

Communities and ecosystems

Climate change poses significant challenges for forests and people. In this sense, mitigation and adaptation actions become Grupo EPM's basic responses to address its causes and reduce its consequences.

With the purpose of reducing interventions on forests by the populations that depend on them, the organization leverages development programs for sustainable forest management that, besides counteracting the risks of climate change on water sources, forests, and ecosystems, creates opportunities for the establishment of new economic modes such as the payment for environmental services.

To conserve water resources and maximize the role of forests in mitigating and adapting to climate change, Grupo EPM's climate strategy includes initiatives to reduce emissions from deforestation and degradation of forests located in its areas of influence. Programs are undertaken to improve the role of forests as carbon sinks and promote the substitution of products, such as planting firewood tree gardens instead of using fossil fuels for energy production.

The [Conservation of water and biodiversity](#) chapter details the progress of these actions in 2018.

Furthermore, progress is made in alliances, communication, and integration of regional programs. This is how in this period EPM contributed to infrastructure and operational improvement in the San Lorenzo, Calizas, Valle de San Nicolás, and Electrificación rural (Rural electrification) projects. The company included climate issues in meetings with community leaders and participated in the agroclimatic working group known as Environmental Monitoring System of Caldas, Ricclisa, in order to achieve proactive management concerning the impacts of climate change in the region.

The following are among the main actions for 2019:

- Define the sustainability system for the BanCO2 initiative. (EDEQ).
- Identify opportunities and synergies with other regional or national institutions to favor conservation in protected areas of interest to the company. (Eegsa).
- Continue with ESSA's, CENS's, and CHEC's commitments established in the BanCO2 agreement.
- Surpass the conservation goal of 610 hectares of forest, as an offset mechanism for the carbon dioxide emissions generated by the company. (ESSA).
- Maintain the integration of actions established for the implementation of the strategy of comprehensive water resource and biodiversity management, considering the results of the tools and available resources (climate scenarios, risk map, hydrosedimentological modeling, environmental management plan or current environmental license, current alliances, future compensation obligations, available land, budget, etc.). (EPM energy).
- Continue with the vulnerability analysis program in substations of the power distribution system and update the corresponding emergency plans. Likewise, obtain the risk matrix and the local emergency plans, considering the climate variable. (EPM T&D).
- Implement the Smart Grid project that includes, among other actions, the installation of meteorological stations to conduct climate analysis studies at Eegsa.

- Include the risks associated with the climate variable in the studies and environmental and social management plans that are conducted for the group's new projects. (Egsa).
- Identify and acquire insurance policies that cover the impacts caused to the business group's different processes and infrastructures, as a result of the materialization of climate events, prior financial analysis. (Egsa).
- Conduct vulnerability studies that assess the effects of climate change on the company's activities. (Delsur).
- Make the methodology official and start its application to identify the economic, social, and environmental risks of the projects that are executed in the company. (Delsur).

GRI standards disclosures and EPM indicators

201-2 Financial implications and other risks and opportunities due to climate change.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Risaralda
Colombia - Santander
Colombia - Norte de Santander
Colombia - Malambo, Atlántico
Chile
El Salvador
Guatemala
Panama

Companies

Empresas Públicas de Medellín - EPM

Aguas Regionales EPM

Aguas de Malambo

Empresas Varias de Medellín - Emvarias

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

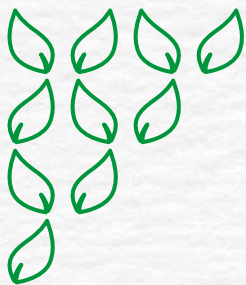
Centrales Eléctricas del Norte de Santander - CENS

Distribuidora de Electricidad del Sur - Delsur

Empresa Eléctrica de Guatemala - Eegsa

EPM Chile

Elektra Noreste - ENSA



Grupo·epm[®]



Financial strength



Financial strength

Management of the Grupo EPM's financial health, with a vision of competitiveness and continuity in the long term, considering growth limits and corporate governance practices, in order to create economic value, contribute to the sustainable human development, and increase the value offered to the stakeholders.

Financial strength is essential for the competitiveness and continuity of the organization.

Financial and growth goals must take into account the organizational, natural, and market conditions on which the achievement of results depends.

The proper administration of financial resources requires a prospective analysis of the business group, focused on the prevention of risks associated with undue political interference and the implementation of controls that not only avoid decisions damaging to the organization's long-term continuity but also prevent resources from being diverted to initiatives that are not aligned with its corporate purpose.

Financial strength is the basis for responding to the commitment to create economic value, which directly contributes to sustainable human development and to the increase in the value offered to stakeholders, including the return on the owners' investment.

The relationship with the Municipality of Medellín, in its role as owner of EPM, is regulated by the Law, the autonomy granted by administrative decentralization, and the internal regulations. In addition, the owner-company relationship is delimited in the Relations Framework Agreement signed in 2007 by the Medellín Mayor's Office and EPM. The detailed report on the EPM's ownership structure, which includes the follow-up to the framework agreement and the transfers, can be found in the [Corporate Governance Report](#).

Relevance

It allows the company to meet the requirements of working capital, investment needs, obligations to the owner, and financial muscle to grow. It is fundamental to contribute to the sustainability of its environment through the creation of shared value and the distribution of the value generated, considering the social, natural, and market limits.

Main achievements

| Goals | Achievements | Accomplishment |
|--|--|----------------|
| Savings of 10% of the actual costs and expenses without including the business operation.* | EPM saved COP 240 billion, exceeding the goal of COP 200 billion. The affiliated companies saved COP 181 billion, for a total of COP 421 billion in savings for the group. | Total |
| Shift of non-priority investments. | The group achieved a lower execution of investments, amounting to COP 984 billion. EPM: In 2018, the company managed to materialize savings derived from reductions and shifts for COP 309 billion, mainly associated with sanitation (COP 117 billion), water supply (COP 107 billion), and distribution (COP 50 billion). Underexecutions represented COP 204,846 million corresponding to the Generation segment (COP 145 billion, including Ituango with COP 80 billion) and the Institutional segment (control centers and building renovation amounting to COP 21 billion). Affiliated companies: National energy affiliates: COP 243 billion. National water affiliates: COP 116 billion. International affiliates: COP 111 billion. | Total |
| Asset disinvestment. | Authorization by the EPM's Board of Directors: In July 2018, the company's management was authorized to initiate the necessary procedures to sell EPM's shareholding in Interconexión Eléctrica S.A. (ISA), as well as the non-material minority shareholdings in Colombia and other indirect shareholdings in Aguas de Antofagasta and Los Cururos wind farm, in Chile. Council of Medellín: On October 30, 2018, the Council of Medellín in plenary session approved the Draft Agreement 150 of 2018, "by means of which the sale of shareholdings is authorized." Other measures: The sale of assets was discussed with different stakeholders in order to guarantee transparency in the transaction. Investment banks were selected as independent actors that seek transparency in the selection process. The first pricing models were structured as a benchmark of the potential value of the companies in the market. These processes are expected to be completed by the second half of 2019. | Total |

| Goals | Achievements | Accomplishment |
|--|---|----------------|
| Approval of lines of credit. | In 2018, the company managed to obtain credits for approximately USD 750 million from the international financial sector and for COP 1 trillion from the local banking sector. These resources were allocated to the investment plan of EPM's base businesses. As for the Grupo EPM's affiliated companies, Adasa, ENSA, and Grupo DECA executed financial liability management operations for a total amount of USD 688 million, which improved their debt profile. These operations did not increase the group's debt level and were conducted with the purpose of reducing cash requirements in the short term. | Total |
| Insurance claim for incident in Ituango. | <ol style="list-style-type: none"> 1. Periodical visits to the project by adjusters, reinsurers, and insurers, as well as weekly reports on the progress in the work fronts. 2. Appointment of experts by EPM and by the reinsurers who have visited the project and to whom a large amount of information has been submitted for the root cause study. 3. Regular meetings and conversations on recovery plans, schedule, and costs associated with the recovery. 4. In 2018, "...the income from the non-contractual civil liability policy for damages to third parties due to the Ituango project ..." was included under the Other Income heading. Note 31 Other Income. EPM's Separate financial statements and notes as of December 2018 - Parent company. | Total |

Source: Executive Vice Presidency of Corporate Finance and Risk and Investments Management.

* Business operation: Resources necessary for the provision of residential public utilities.

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|--|------------------------------|----------------------|--------------------|-------------------------------------|---|
| | | Territory | Business | Company | |
| Savings of 10% of the actual costs and expenses without including the business operation. | 2019 | All the territories | All the businesses | All the companies | COP 300 billion. |
| | 2020 | | | | COP 300 billion. |
| Shift of non-priority investments. | 2019 | All the territories | All the businesses | All the companies | COP 477 billion. |
| | 2020 | | | | COP 472 billion. |
| | 2021 | | | | COP 302 billion. |
| Asset disinvestment. | 2019 | Colombia | All the businesses | Empresas Públicas de Medellín - EPM | COP 3.8 trillion. |
| Approval of lines of credit. | 2019 | Colombia | All the businesses | All the companies | Approved lines of credit. |
| Insurance claim for incident in Ituango. | 2019 | Colombia | All the businesses | Empresas Públicas de Medellín - EPM | Compliance with the schedule. |
| Execute the engagement plans with the owner and the partners, focused on the construction and strengthening of long-term relationships; manage their compliance; and perform quarterly follow-up for the report to the Balanced Scorecard. | 2019 | Colombia - Antioquia | All the businesses | Empresas Públicas de Medellín - EPM | Compliance with at least 80% of the engagement plans. |

Source : Executive Vice Presidency of Corporate Finance and Risk and Investments Management.

The actions defined by Grupo EPM to comply with the strategies to save costs and expenses, as well as the shift of investments, will be extended for a period of 3 and 4 years, respectively.

Related stakeholders

Customers and users
Community
Owner
Government
Investors
Suppliers and contractors
Partners

Actions

- Financial development of Grupo EPM
- Liquidity strategies
- Financial results

GRI standards disclosures and EPM indicators

103-1 Explanation of the material topic and its boundary.
103-2 The management approach and its components.
103-3 Evaluation of the management approach.
EPM-22 EPM's EBITDA.
EPM-23 Grupo EPM's EBITDA.
EPM-24 EPM's EBITDA margin.
EPM-25 Grupo EPM's EBITDA margin.
EPM-26 EPM's net margin.
EPM-27 Grupo EPM's net margin.
EPM-28 Covenant (Debt / EBITDA) of the group.
EPM-32 Resources from liquidity strategies.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Risaralda
Colombia – Santander
Colombia – Norte de Santander
Colombia – Malambo, Atlántico
Chile
El Salvador
Guatemala
Mexico
Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Aguas Nacionales EPM
Empresa de Aguas del Oriente Antioqueño
Empresas Públicas de Rionegro - EPRio
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EPM Chile
Tecnología Intercontinental - Ticsa
Hidroecológica del Teribe - HET
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa

Sustainable development goals



Financial development of Grupo EPM

In recent years, the EPM's strategic planning has focused on growth and expansion to new markets and projects, which has allowed the company to structure a portfolio that creates new sources of income and, therefore, diversify the level of risk.

Management in 2018

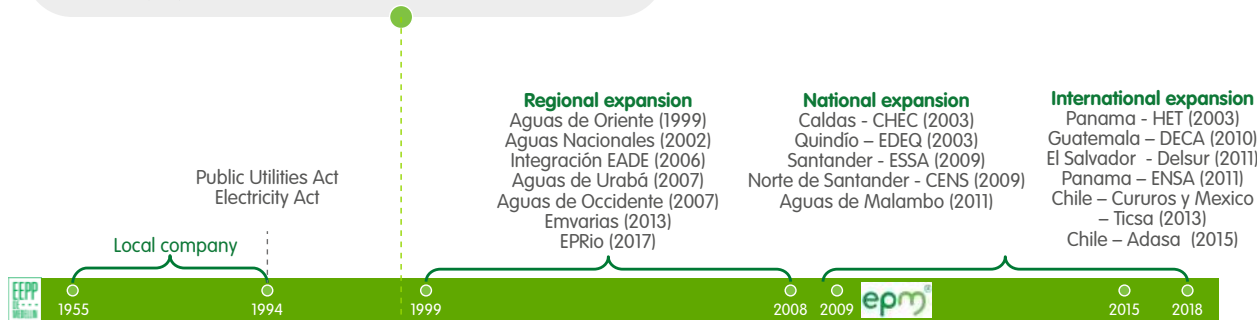
EPM reevaluates its goals and focuses on maintaining financial indicators at levels that guarantee the continuity of the base businesses and enable the completion of projects with the support of a business group whose equity amounts to COP 22 trillion at the end of 2018.

Since the end of the 1990s, EPM started a process of consolidation as a business group, reaching in 2018 a structure of 48 companies, among affiliates and subsidiaries, where the most recent acquisitions correspond to Adasa (Chile) and EPRio (Rionegro, Antioquia). In addition, large infrastructure projects are being executed, including the Porce II and Porce III power generation plants, the transmission lines, the Aguas Claras wastewater treatment plant, the Ituango hydroelectric project, among others. This dynamic has resulted in a growth of 46%, between 2014 and 2018, in the group's total assets.

Evolution of the group's growth



COP 67 million was the capital contributed by the Municipality of Medellín in 1955, when EPM was born as an autonomous supplier of electricity, water, sewerage, and telephone services for a population of 500,000 inhabitants.

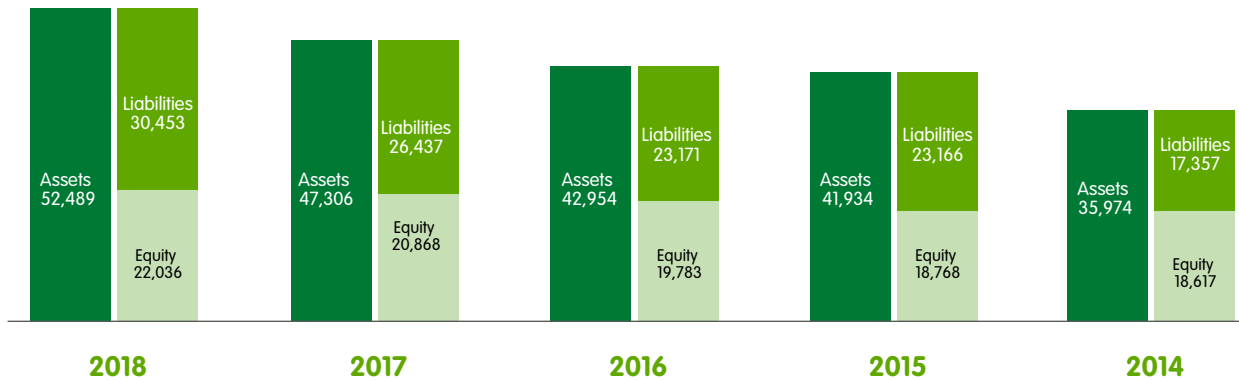


Today, EPM is a business group that comprises:

- **48** national and international companies.
- More than **20 million** customers.
- Assets that amount to **COP 52.4 trillion**.

Growth and expansion implied new requirements that led to reevaluate the group's optimal financial structure in the search for greater value creation. The organization, therefore, decided to increase its debt levels through the issuance of national and international bonds, besides loans with the banking sector, which modified the participation of financial liabilities with respect to assets from 29% to 38% in 2014 and 2018 respectively. The borrowing capacity has been supported by the fulfillment of the businesses' and affiliates' results and by the development of projects.

Grupo EPM's balance



Source: Executive Vice Presidency of Corporate Finance and Risk and Investments Management.

Figures in million Colombian pesos.

The consolidation as a business group and the incorporation of new projects have contributed favorably to the financial results; a situation that is explained by the earnings generated by most affiliated companies, the income from the operation of new projects, and the operating dynamics of the base businesses. These results are produced in a national and international context characterized by macroeconomic scenarios with a high degree of uncertainty due to the tax reforms, changing regulatory frameworks, new technologies, and the dynamic of some affiliated companies that have not lived up to the expectations.

The foregoing gives the company financial room for maneuver; however, it is limited by the contingency in the Ituango hydroelectric project, given that EPM expected the first generation unit to come into operation by December 2018. This new source of resources would be added to the current operation of the base businesses—that presents a continuous flow of income since most of these businesses correspond to regulated markets—dividends, and other divestment figures delivered by the group's companies, which have increased during the last four years, reaching COP 3.4 trillion.

The postponement of income from the Ituango project, the additional investment needs for the completion of the project, the attention to the affected population, and the coverage of financial liabilities led EPM to reevaluate its strategic planning, being liquidity one of the fundamental aspects. This is how the organization established a combination of sources that includes loans, optimizations within the group, and the sale of some of the assets acquired in the past. With this strategy, the group expects to:

- Preserve the continuity of the business operation.
- Cover the needs generated by the contingency.
- Guarantee the resources necessary for the completion of the project.
- Meet the company's financial obligations.
- Control debt levels.
- Maintain the investment grade by risk rating agencies.

In addition, the group has planned new ways of playing, such as the establishment of strategic alliances with companies from different industries seeking the generation of innovative products for its natural markets.

The measures taken by the group and the desire of completing the Ituango project, added to a history of financial stability, make it possible for the organization to face the uncertainty of the coming years with optimism, although with prudence.

GRI standards disclosures and EPM indicators

EPM-23 Grupo EPM's EBITDA.

EPM-25 Grupo EPM's EBITDA margin.

EPM-27 Grupo EPM's net margin.

EPM-28 Covenant (Debt / EBITDA) of the group.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Risaralda
Colombia – Santander
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Colombia – Malambo, Atlántico
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El Salvador
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Aguas de Antofagasta - Adasa

Liquidity strategies

The liquidity strategy of EPM and the group in general focuses on guaranteeing the sources of resources to cover the needs derived from the normal operation of the businesses and ensure the execution of the infrastructure investment plan in order to continue providing quality public utilities. The establishment of an optimal structure of sources is a principle that guarantees not only the necessary resources in the short and medium term, but also the financial stability of the group's companies in the long term.

Management in 2018

In 2018, the EPM's strategic planning was updated, establishing the liquidity strategy as one of the main aspects and defining it as the framework for action that will govern the financial decisions during the next four years. The purpose of this measure is preserving the financial strength of the company, given the current situation derived from the contingency in the Ituango project.

The actions aimed at obtaining additional sources of liquidity for Grupo EPM are described below:

- **Disinvestments:** In July 2018, the EPM's Board of Directors authorized the company's management to initiate the necessary procedures (including the procedure before the Council of Medellín) to sell EPM's shareholding in Interconexión Eléctrica S.A. (ISA), as well as the non-material minority shareholdings in Colombia and other indirect shareholdings in Aguas de Antofagasta and Los Cururos wind farm, in Chile, for an estimated value of COP 3.8 trillion. In accordance with the schedule, the company expects to materialize the first divestments in the last quarter of 2019.
- **Optimization of costs and expenses:** For the 2018-2021 period, Grupo EPM established a savings goal of 10% of the total costs and expenses, which amount to COP 1 trillion, approximately. It is important to note that these savings do not involve the commercial operation component, which ensures continuity in the provision of services in a timely manner and with the quality that characterizes EPM. The savings estimated for 2018 were reached according to plan and thanks to the implementation of new efficiencies in operating and support processes.
- **Shift of investments:** The prioritization plan for the 2018-2021 period considered a shift of investments for COP 2 trillion, without affecting the quality indicators in the provision of the service. During 2018, the lowest investment execution was COP 983,846 million for Grupo EPM.

- **Disbursement of loans:** The confidence granted by risk rating agencies, along with the Grupo EPM's favorable track record in the credit market, enabled the group to obtain credit disbursements already agreed for around USD 950 million. Likewise, it was possible to obtain loans for approximately USD 750 million from the international financial sector and for COP 1 trillion from the local banking sector. These resources were allocated to the investment plan of EPM's base businesses.

During 2018, Grupo EPM entered into credit agreements with local and international banks that amounted to USD 1.7 trillion, in order to strengthen its financial position and reduce its liquidity risk, as well as to face the cost overruns due the contingency in the Ituango hydroelectric project.

Additionally, Adasa, ENSA, and Grupo DECA—Grupo EPM's affiliated companies—executed financial liability management operations for a total amount of USD 688 million, which improved the debt profile. These operations did not increase the group's debt level and were conducted with the purpose of reducing cash requirements in the short term.

As a strategy to minimize exchange risk, EPM made coverage transactions for USD 300 million during the year. These decisions neutralized the 10% impact of the COP devaluation in relation to the USD on the company's financial statements.

EPM kept the Moody's Baa3 (with negative outlook) and the Fitch Ratings BBB grades of international investment as well as the AAA national grade, which made it possible to maintain the confidence of the investing public and the financial market in general. These ratings became a key point for the financing strategy in 2018.

During the year, and considering the setback of the contingency in the Ituango hydroelectric Project, EPM continued keeping constant communication with the risk rating firms, the investors, and the financial market in general, aiming to preserve their confidence.

Additionally, the local energy affiliated companies and Adasa (Chile) had positive behaviors as their ratings were maintained in AAA and AA-, respectively.

- **Claim for the policies that cover the Ituango project**

Once the contingency occurred in the Ituango project, the insurer of the project was notified of the event and the claim processes for the different policies were started. In 2018, "...the income from the non-contractual civil liability policy for damages to third parties due to the Ituango project..." was included under the Other Income heading. Note 31 Other Income. EPM's Separate financial statements and notes as of December 2018 - Parent company.

The claim process for other policies included the following activities:

- Periodical visits to the project by adjusters, reinsurers, and insurers, as well as delivery of weekly reports on the progress in the work fronts.
- Appointment of experts by EPM and by the reinsurers who have visited the project and to whom a large amount of information has been submitted for the root cause study.
- Regular meetings and conversations on recovery plans, schedule, and costs associated with the recovery.

GRI standards disclosures and EPM indicators

EPM – 32 Resources from liquidity strategies.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
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Financial results

As a decentralized entity of the Municipality of Medellín, EPM has an obligation to periodically report its financial results. In turn, as an international bond issuer, the company is committed to keep its investors informed of the results and different situations that may positively or negatively impact the results of EPM and the group.

In order to ensure transparency of the financial information, it is reviewed by an external entity that validates its quality and authenticity.

Management

The financial results obtained by EPM and the group in 2018 show a good performance that is supported by their liquidity, profitability, and debt indicators.

| Concept | 2018 | | 2017 | |
|--------------------------|--------|--------|--------|--------|
| | Group | EPM | Group | EPM |
| Income | 16,321 | 8,157 | 14,918 | 7,295 |
| Total costs and expenses | 12,727 | 5,814 | 11,305 | 4,862 |
| EBITDA | 5,115 | 3,346 | 4,732 | 3,138 |
| Net profit | 2,418 | 2,345 | 2,327 | 2,188 |
| EBITDA margin | 31.48% | 41.32% | 32.12% | 42.93% |
| Net margin | 14.81% | 28.75% | 15.60% | 29.59% |

Source: Executive Vice Presidency of Corporate Finance and Risk and Investments Management.

Figures in million COP.

Growth of the group's income: 9%. Total costs and expenses: 13%. EBITDA: 8%. Net profit: 4%.

The Generation segment contributes 34% of the group's EBITDA; its growth in relation to 2017 is explained by higher energy sales to large customers and the increase in sales to the long-term electricity sector. For its part, costs and expenses grew in greater proportion due to higher long-term energy purchases on the stock exchange and due to expenses associated with the contingency of the Ituango project.

The increase in consumptions and fees in the parent company is evidenced by a positive variation of 9% in the EBITDA for the Distribution segment, with a contribution of 42% to the group's EBITDA.

The Gas segment achieved a growth of 89% in the EBITDA, compared to 2017, thanks to higher sales to the secondary market and higher demand by thermal power stations of the coastal zone.

On the other hand, the Water Provision and Wastewater Management segments generated 19% of the group's EBITDA, as a result of higher figures in users, consumption, and fees. In addition, the favorable results of these segments are also visible in Adasa (Chile) and Ticsa (Mexico), due to the increase in consumption and construction contracts, respectively.

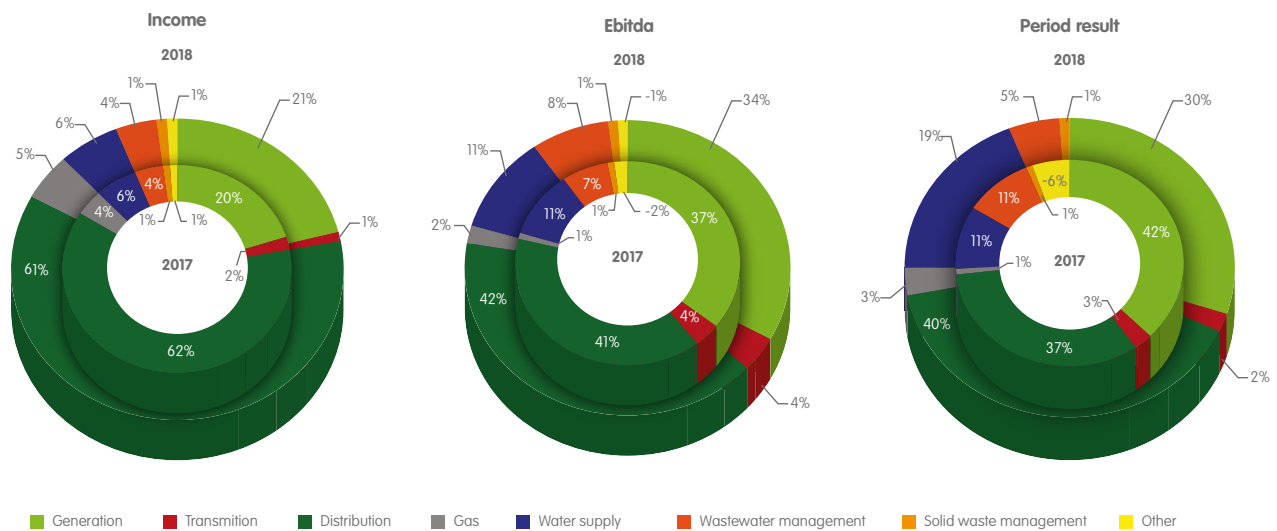
The net profit increased by COP 90,434 million due to the operating dynamics of the businesses, which shows a positive variation in the EBITDA of COP 383,176 million.

Grupo EPM invested COP 3.5 trillion in infrastructure, of which COP 2.3 trillion correspond to the parent company.

The return on equity was 12% for the group and 11% for EPM; similar to those of 2017.

The debt/EBITDA indicator surpassed the value obtained in 2017, due to an increase of 22% in the financial liabilities, compared to 8% in the EBITDA. The increase in the financial liabilities is mainly explained by the disbursement of loans to fund the general investment plan, in which the Ituango project stands out, and by the devaluation in 2018.

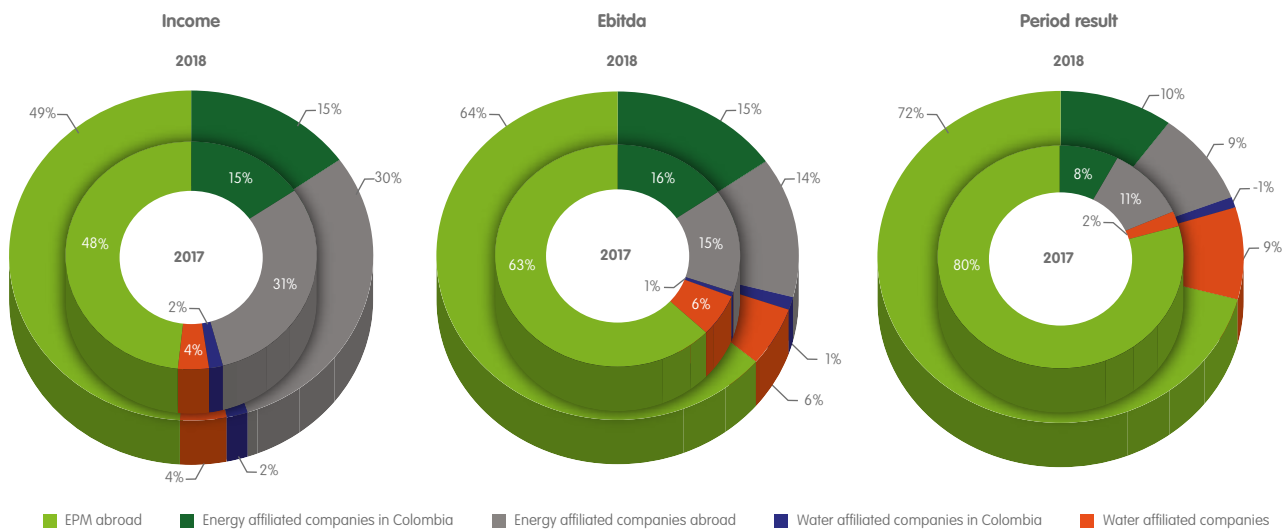
EPM received, from its affiliated and subsidiary companies, resources amounting to COP 474,509 million, of which COP 371,540 million correspond to dividends contributed by the controlled companies and COP 102,968 million by the non-controlled companies (COP 61,032 million from ISA and COP 38,483 from UNE).



Source: Executive Vice Presidency of Corporate Finance and Risk and Investments Management.

In turn, EPM received COP 8.2 trillion in income, with a growth of 10% compared to the previous year, mainly due to higher energy sales, as well as to the increase in users, consumption, and fees in the Water Supply business. The EBITDA and the net profit of the parent company increased by 7%, reaching COP 3.3 trillion and COP 2.3 trillion, respectively.

In 2018, transfers to the Municipality of Medellín amounted to COP 1.5 trillion, of which COP 656,457 million corresponded to ordinary transfers and COP 547,047 million to extraordinary transfers, plus the transfers made for the sale of Isagen shares, which amounted to COP 300 billion. The variation, compared to the previous year, in terms of ordinary and extraordinary transfers is 15%, equivalent to COP 194,368 million.



Source: Executive Vice Presidency of Corporate Finance and Risk and Investments Management.

GRI standards disclosures and EPM indicators

- EPM-22** EPM's EBITDA.
- EPM-23** Grupo EPM's EBITDA.
- EPM-24** EPM's EBITDA margin.
- EPM-25** Grupo EPM's EBITDA margin.
- EPM-26** EPM's net margin.
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Scope and coverage

Businesses

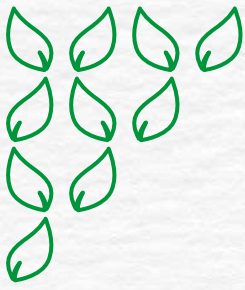
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Sanitation
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Gas

Territory

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Grupo·epm[®]



Fees and prices

Fees and prices

This management before the government and the regulatory authorities serves to apply pricing methodologies that are fair and efficient for users; it is supported by education and communication activities to customers and users on the factors that affect the fee.

The fees for the services provided by Grupo EPM are subject to regulations. Therefore, a continuous management is carried out with the government and regulatory authorities so that the pricing methodologies implemented will always be fair and efficient for users. One of Grupo EPM's purposes is to have competitive fees, and therefore, the group also works on a business efficiency scheme regarding its costs and processes.

In the case of large power and natural gas consumers, Grupo EPM offers them fees that can be negotiated in the components of commercialization margin and supply value. In this case, the rest of the components are regulated (transport, distribution, and others).

Relevance

It favors the recovery of costs and the achievement of the company's strategic objectives. It impacts the stakeholders' trust in the organization by influencing their perception of the fairness of the fees when they compare the company's surplus with the people's income and with the proportional increase of both, surplus and income, over time.

Main achievements

| Goals | Achievements | Accomplishment |
|---|--|----------------|
| Continue the pricing modification processes for leachate treatment and final disposal. | The request was filed at the regulatory commission on August 31, 2018. | Total |
| Apply pricing gradualness in the relevant markets where new charges are approved and where, due to competitiveness, the maximum charges cannot be applied. Consider that, for this activity, it is not possible to apply below costs. | It began to be applicable from the billing for March 2018. For now the gradualness is to 10 years and the model is stable. | Total |

| Goals | Achievements | Accomplishment |
|---|--|----------------|
| Request approval of revenues to Grupo EPM's Colombian affiliated companies for the 2019-2023 regulatory period. | The work plan for the application was fulfilled. | Total |
| Define the market to be requested to the Drinking Water and Basic Sanitation Regulatory Commission (abbreviated CRA in Spanish) for the regional fee of water supply and sewerage. | The schedule for the delivery of information is established, with the estimated dates of final calculation by the regulatory team for December 2019. Information on the application of the regional market methodology has been requested to the CRA. | Partial |
| Impact 45,000 people with the implementation of the Company's Education Plan and the 2018 strategy of closeness to customers and the community. | During 2018, the <i>Cercanía es crecer juntos</i> (Closeness means growing together) strategy was integrated into the Company's Education Plan, which favored the efficiency in the management of resources, as well as synergies that facilitated the achievement of results and the fulfillment of the projected participation goals. The estimate is 45,000 participants, 86,768 educational interactions with customers, and a goal accomplishment of 193%. The fees structure and the understanding of the bill were among the main topics addressed. | Total |
| Implement educational strategies that involve the topic of fees and prices: 1. Conoce tu consumo (Calculate your consumption). 2. Education in localities. 3. Home visits. 4. Leadership school. 5. Educational events. 6. Social support in energy losses. | 1. Conoce tu consumo (Calculate your consumption): 27,791 users 2. Localities: 4,666 3. Closeness: 17,639 - 3 programs 4. Schools: 385 5. Educational events: 5,222 6. Support in losses: 16,707 7. New bill: 1,282 Total: 73,692 users | Total |

| Goals | Goals | Accomplishment |
|--|---|-----------------------|
| <p>Execute campaign of benefits of using power.</p> <p>Increase by one percentage point the "ratio" dimension in the loyalty assessment.</p> | <p>In 2018, it was not assessed; therefore, obtaining this indicator was not possible. Efficient use actions were carried out through training in the benefits of power for 5% of the total users of the company.</p> | <p>Partial</p> |

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|---|------------------------------|--------------------|-------------------|--|----------------------------|
| | | Territory | Business | Company | |
| Manage the approval of revenue for Grupo EPM's power distribution business and actively participate in the definition process of the new methodology for transmission remuneration. | 2019 | Colombia | Electrical energy | Empresas Públicas de Medellín - EPM | Completion of work plan. |
| Proactively manage the approval of retail distribution and commercialization charges of natural gas for EPM. | 2019 | Colombia-Antioquia | Gas | Empresas Públicas de Medellín - EPM | Rulings approving charges. |
| Request regional market to the CRA for the regional fee of water supply and sewerage in EPM and Rionegro. | | | Water | Empresas Públicas de Medellín - EPM | Completion of work plan. |
| Continue the pricing modification processes for leachate treatment and final disposal. | | | Sanitation | Empresas Varias de Medellín - Emvarias | Completion of work plan. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|--|------------------------------|-----------------------------|-------------------|--|---|
| | | Territory | Business | Company | |
| Execute campaign of institutional communication to train 40% of the users. | 2019 | El Salvador | Electrical energy | Distribuidora de Electricidad del Sur - Delsur | Accomplishment of goal. |
| Execute closeness actions focused on municipalities that show high rate of receivables. Get to spokesperson leaders through trainings. Execute 14 closeness actions. | 2019 | Colombia-Santander | | Electrificadora de Santander - ESSA | Number of closeness actions executed / Total of closeness. |
| Implement educational strategies that involve the topic of fees and prices. A total of 55,000 people were served. | 2019 | Colombia-Norte de Santander | | Centrales Eléctricas del Norte de Santander - CENS | <ul style="list-style-type: none"> • Number of educational strategies implemented. • Number of people served. |

Related stakeholders

Customers and users
 Colleagues
 Owner
 State
 Investors
 Partners

Actions

- Bill - Cuéntame
- Water supply and sewerage fees
- Sanitation fees
- Electricity fees
- Gas fees

GRI standards disclosures and EPM indicators

103-1 Explanation of the material topic and its boundary.

103-2 The management approach and its components.

103-3 Evaluation of the management approach.

EPM-13 Fees by service type.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

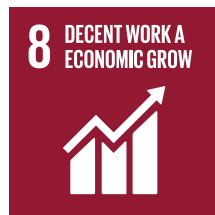
Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Risaralda
Colombia - Santander
Colombia - Norte de Santander
Colombia - Malambo, Atlántico
Chile
El Salvador
Guatemala
México
Panamá

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Aguas Nacionales EPM
Empresa de Aguas del Oriente Antioqueño
Aguas de Malambo
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS

Sustainable Development Goals



Bill - Cuéntame

The EPM bill, Cuéntame, is the company's means of invoicing the services it provides and communicating with users through a modern, clear, close, and easy-to-interpret format that seeks to favor the understanding of the values billed and keep the community updated with information on different topics of interest.

The Cuéntame format reaches all the customers in Antioquia and consists of the public utilities bill, which is the document that contains the values invoiced and the detail of consumptions and fees of each service, and, until July 2018, the newsletter, which, due to the Ituango Hydroelectric Project, was changed to a simpler format (included in the same bill body); through this company's instrument, EPM can continue getting close to customers and users with segmented information according to their needs.

Management in 2018

In 2018, there were two regulatory changes that impacted the fees of the gas, water supply, and sewerage services. The first change took place in March for the gas service with the approval by the Energy and Gas Regulatory Commission (abbreviated CREG in Spanish) of the unification of fees in a new market and of the distribution charges for the municipalities served by EPM, with the purpose of offering more efficient fees.

The second change was in October for the water supply and sewerage services with the enforcement of CRA's Ruling 840 that determines the efficiency scores for EPM and approves a redistribution of administrative and operating costs, which reduced the fixed charge and increased the variable charge of the fees. In general, this change did not affect the average value of the bill for the company's customers.

There were no regulatory changes that impacted the behavior of fees in the energy and sanitation services. The variations presented are the result, mainly, of fluctuations of some of the external variables associated with the fees, such as the consumer price index, the producer price index, the market representative rate, among others. All these factors were within the remuneration schemes considered by the different regulatory commissions.

When interpreting the bill, it is important that users understand the concepts that affect the values billed; the main elements to be considered are the consumption units and the fees of each service, as well as the credits, consumption days, works executed, among other factors.

The consumption of each service depends mainly on customer's use habits; variables such as the number of people living in the house, the technical conditions of the installations, and the features of the appliances and equipment of the home modify the value of the bill. The days of consumption included also modify the value, since they may change in some months of the year due to factors such as the number of days and holidays.

The fees for each of the services are defined by the respective regulatory commissions through pricing formulas that, depending on their application and the different variables that are defined for each of the services, are likely to define increases or reductions of the fees.

Other concepts that should also be taken into account when checking the bill values include interests due to accounts outstanding or paid after the due date, financing of consumption, works, new services or purchases made with the Somos credit, and charges for service cutoffs or reconnections. Additionally, EPM has agreements in some municipalities for billing the services provided by other entities, including sanitation, public lighting, and other products such as Vital and Red Hogar insurances.

Diverse subjects of interest were addressed in the different sections of the Cuéntame newsletter during 2018. Some of the most important ones are listed below:

- Explanation of the different sections of the bill for more and better understanding of each one of its components. Related subjects were also addressed, including Factura Web (e-bill) and management of questions, complaints, and claims (abbreviated PQR in Spanish) through the company's website.
- Spreading of educational, environmental, social, and commercial issues: efficient use of services, sustainable mobility, new technologies implemented in the management of leaks, innovation projects at the service of customers and users, among others.
- Information on benefits and possibilities of access to the Somos credit in the different regions of the department of Antioquia.
- Presentation of the main actions included in EPM's Management Report.
- Disclosure of events and sponsorships in which the company was present.
- In June, a special edition on the situation of the Ituango Hydroelectric Project was published. It was a space to thank the community for their support during the contingency and report the main actions conducted in the work and with the affected families.

Thinking about the well-being derived from the enjoyment of public utilities, EPM implemented different purchasability actions to make the payment process easier and education actions to encourage the understanding of the bill and the optimal use of public utilities. The most representative actions on the education front include the execution of the company's education plan, as well as of different strategies through multiple educational interactions with customers, mainly on issues such as the fees structure, the understanding of the bill and of consumption, and the efficient use of public utilities, among others.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia

Companies

Empresas Públicas de Medellín - EPM

Water supply and sewerage fees

The water supply and sewerage services are regulated residential public utilities. Therefore, Grupo EPM permanently stands for the welfare of the population before the national government and the decentralized regulatory and controlling entities, through market conditions that favor the coverage and provision of these services with quality and continuity at fair and efficient rates.

One of Grupo EPM's purposes is to have competitive fees, and therefore, the organization also works on a business efficiency scheme regarding its costs and production processes that ensure financial adequacy.

Management in 2018

In 2018, Grupo EPM participated in regulatory spaces established by the Drinking Water and Basic Sanitation Regulatory Commission (abbreviated CRA in Spanish) and by the Colombian Ministry of Housing, City, and Territory. The following regulations, among others, were issued: CRA's Ruling 840, which determines the efficiency scores for EPM; Decree 1207 and Ruling 0874, which include environmental investments in fees; and CRA's Ruling 864, which regulates the modification of fee formulas and reference costs.

The regulatory management in 2018 consisted of the construction and implementation of specific regulations for EPM and general regulations for the sector. One of the most important actions was the issuance of CRA's Ruling 840 that determines the efficiency scores for EPM and approves a redistribution of administrative and operating costs. This reduced the fixed charge and increased the variable charge of the fees applicable from the consumption of October 1.

In November, EPM and the affiliated company Aguas Nacionales entered into the Sewerage Interconnection Contract under the terms of CRA's Ruling 759, with the purpose of regulating the conditions of interconnection to the transportation and wastewater treatment subsystems of the Aguas Claras wastewater treatment plant. This contract also involves the drying and final disposal of the biosolids resulting from wastewater treatment of the entire interconnected system, including those from the San Fernando wastewater treatment plant.

The Ministry of Housing, City, and Territory issued Decree 1207 and Ruling 0874 that approve the inclusion of a specific list of environmental investments that will be recognized in the fees, considering the additional costs established by environmental regulations to ensure the adequate protection of basins and water sources.

In December, the CRA issued Ruling 864 to establish the rules to modify the service fee formulas and determine the time when providers can autonomously modify their reference costs.

In June, the affiliated company Aguas del Oriente applied the fee methodology described in CRA's Ruling 825. However, in July the CRA issued Ruling 844 that modified the previous one. Therefore, as of December 27, a fee that takes into account necessary investments to guarantee the quality and continuity of the services was applied.

EPM

| EPM water supply - Full fee (stratum 4) | | | |
|--|-------------|-------------|-------------|
| Fixed charge (\$/user) | 2016 | 2017 | 2018 |
| Metropolitan area | 8,303 | 8,566 | 6,173 |

| Variable charge (\$/m³) | 2016 | 2017 | 2018 |
|---|-------------|-------------|-------------|
| Interconnected system | 1,612 | 1,776 | 2,357 |
| Caldas | 1,414 | 1,507 | 1,779 |
| Barbosa | 1,178 | 1,309 | 1,735 |

Source: Commercial Directorate for Water and Sanitation.

Rates up to December of each year in ordinary prices, where the evolution of the rates charged to users can be seen. These values correspond to the full fee*, in other words, without including subsidies or contributions that each municipality determines.

| EPM sewerage - Full fee (stratum 4) | | | |
|--|-------------|-------------|-------------|
| Fixed charge (\$/user) | 2016 | 2017 | 2018 |
| Metropolitan area | 4,458 | 4,598 | 3,543 |

| Variable charge (\$/m³) | 2016 | 2017 | 2018 |
|---|-------------|-------------|-------------|
| Interconnected | 1,702 | 1,761 | 1,876 |
| Caldas | 554 | 648 | 930 |
| Barbosa | 860 | 952 | 1,191 |

Source: Commercial Directorate for Water and Sanitation.

Rates up to December of each year in ordinary prices, where the evolution of the rates charged to users can be seen. These values correspond to the full fee*, in other words, without including subsidies or contributions that each municipality determines.

Aguas Regionales

| Aguas Regionales water supply - Full fee (stratum 4) | | | |
|--|-------|-------|-------|
| Fixed charge (\$/user) | 2016 | 2017 | 2018 |
| Western region | 7,626 | 7,868 | 8,133 |
| Urabá | 6,565 | 6,773 | 7,001 |

| Variable charge (\$/m ³) | 2016 | 2017 | 2018 |
|--------------------------------------|-------|-------|-------|
| Western region | | | |
| Santa Fe de Antioquia | 1,469 | 1,518 | 1,569 |
| San Jerónimo | 1,566 | 1,619 | 1,689 |
| Sopetrán | 919 | 1,098 | 1,280 |
| Olaya | 638 | 760 | 884 |
| Urabá | | | |
| Apartadó | 1,351 | 1,396 | 1,442 |
| Carepa | 666 | 739 | 825 |
| Chigorodó | 1,400 | 1,501 | 1,552 |
| Mutatá | 1,402 | 1,755 | 1,847 |
| Turbo | 1,570 | 1,742 | 1,903 |
| Bajirá | 1,402 | 1,755 | 1,847 |
| El Reposo | 1,351 | 1,396 | 1,442 |

Source: Commercial Directorate for Water and Sanitation.

Rates up to December of each year in ordinary prices. The evolution of the rates charged to users can be seen. Variations correspond mainly to the rate indexation regarding the consumer price index in order to keep the value of money over time, thus favoring the recovery of costs and the provision of a quality service. These values correspond to the full fee*, in other words, without including subsidies or contributions that each municipality determines.

| Aguas Regionales sewerage - Full fee (stratum 4) | | | |
|--|-------|-------|-------|
| Fixed charge (\$/user) | 2016 | 2017 | 2018 |
| Western region | 4,434 | 4,574 | 4,722 |
| Urabá | 3,789 | 3,909 | 4,040 |

| Variable charge (\$/m ³) | 2016 | 2017 | 2018 |
|--------------------------------------|-------|-------|-------|
| Western region | | | |
| Santa Fe de Antioquia | 1,135 | 1,166 | 1,209 |
| San Jerónimo | 1,297 | 1,674 | 2,104 |
| Sopetrán | 493 | 643 | 799 |
| Olaya | 243 | 350 | 469 |
| Urabá | | | |
| Apartadó | 1,481 | 1,633 | 1,900 |
| Carepa | 1,003 | 1,103 | 1,237 |
| Chigorodó | 1,405 | 1,636 | 1,701 |
| Mutatá | 1,050 | 1,071 | 1,117 |
| Turbo | 1,050 | 1,086 | 1,205 |

Source: Commercial Directorate for Water and Sanitation.

Rates up to December of each year in ordinary prices. The evolution of the rates charged to users can be seen. Variations correspond mainly to the rate indexation regarding the consumer price index in order to keep the value of money over time, thus favoring the recovery of costs and the provision of a quality service. These values correspond to the full fee*, in other words, without including subsidies or contributions that each municipality determines.

Aguas de Malambo

| Aguas de Malambo water supply - Full fee (stratum 4) | | | |
|---|-------|-------|-------|
| Malambo | 2016 | 2017 | 2018 |
| Fixed charge (\$/user) | 6,480 | 6,685 | 6,910 |
| Variable charge (\$/m ³) | 1,541 | 1,590 | 1,646 |

Source: Commercial Directorate for Water and Sanitation.

Rates up to December of each year in ordinary prices, where the evolution of the rates charged to users can be seen. Variations correspond to the rate indexation regarding the consumer price index in order to keep the value of money over time, thus favoring the recovery of costs and the provision of a quality service. These values correspond to the full fee*, in other words, without including subsidies or contributions that each municipality determines.

Aguas de Malambo sewerage - Full fee (stratum 4)

| Malambo | 2016 | 2017 | 2018 |
|--------------------------------------|-------|-------|-------|
| Fixed charge (\$/user) | 3,311 | 3,415 | 3,530 |
| Variable charge (\$/m ³) | 758 | 783 | 821 |

Source: Commercial Directorate for Water and Sanitation.

Rates up to December of each year in ordinary prices, where the evolution of the rates charged to users can be seen. Variations correspond to the rate indexation regarding the consumer price index in order to keep the value of money over time, thus favoring the recovery of costs and the provision of a quality service. These values correspond to the full fee*, in other words, without including subsidies or contributions that each municipality determines.

Aguas de Oriente

Aguas del Oriente water supply - Full fee (stratum 4)

| El Retiro | 2016 | 2017 | 2018 |
|--------------------------------------|-------|-------|-------|
| Fixed charge (\$/user) | 5,455 | 5,804 | 6,786 |
| Variable charge (\$/m ³) | 1,615 | 1,719 | 1,792 |

Source: Commercial Directorate for Water and Sanitation.

Rates up to December of each year in ordinary prices, where the evolution of the rates charged to users can be seen. Variations correspond to the rate indexation regarding the consumer price index in order to keep the value of money over time, thus favoring the recovery of costs and the provision of a quality service. These values correspond to the full fee*, in other words, without including subsidies or contributions that each municipality determines.

Aguas del Oriente sewerage - Full fee (stratum 4)

| El Retiro | 2016 | 2017 | 2018 |
|--------------------------------------|-------|-------|-------|
| Fixed charge (\$/user) | 2,405 | 2,559 | 4,127 |
| Variable charge (\$/m ³) | 224 | 239 | 685 |

Source: Commercial Directorate for Water and Sanitation.

Rates up to December of each year in ordinary prices, where the evolution of the rates charged to users can be seen. Variations correspond to the rate indexation regarding the consumer price index in order to keep the value of money over time, thus favoring the recovery of costs and the provision of a quality service. These values correspond to the full fee*, in other words, without including subsidies or contributions that each municipality determines. The increase evidenced for 2018 corresponds to the implementation of CRA's Ruling 825 of 2017.

* Full fee: It is the cost of the cubic meter of water supply and sewerage, which corresponds to the stratum 4 fee; this value does not include the percentage of subsidy provided by the municipal council of each town hall.

GRI standards disclosures and EPM indicators

EPM-13 Fees by service type.

Scope and coverage

Businesses

Water
Sanitation

Territory

Colombia – Antioquia
Colombia - Malambo, Atlántico

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Aguas Nacionales EPM
Empresa de Aguas del Oriente Antioqueño
Aguas de Malambo

Sanitation fees

The sanitation service is a regulated public utility; therefore, Grupo EPM permanently stands for the welfare of the population before the national government and the decentralized regulatory and controlling entities, through market conditions that favor the coverage and provision of the service with quality and continuity at fair and efficient rates.

One of Grupo EPM's purposes is to have competitive fees, and therefore, the organization also works on a business efficiency scheme regarding its costs and production processes that ensure financial adequacy.

Management in 2018

In 2018, Grupo EPM participated in spaces established by the Drinking Water and Basic Sanitation Regulatory Commission (abbreviated CRA in Spanish) and by the Colombian Ministry of Housing, City, and Territory to contribute to the strengthening of the sector through regulatory developments such as CRA's Ruling 858, which modified the quality system and the discounts of the sanitation service, and Decree 2412, which regulated the incentive for solid waste reclamation.

In 2018, two regulatory standards for the sanitation service were defined. In November, CRA's Ruling 858 was issued, partially modifying the quality and discount system; it determined that the compliance with the operating hours is defined in accordance with what is established in the program of service provision, the Uniform Conditions Agreement, and the end time of the macro-routes. It was clarified that the commercial claims correspond to those issued in favor of the subscriber in the second instance that are binding and that had been filed in the period of application of the associated discount. It was also specified that the interest rate, when discounts are not made effective, corresponds to the annual effective current bank interest. Likewise, the External Audit of Management and Results eliminated the verification and certification of the indicators.

In December, through Decree 2412, the Ministry of Housing, City, and Territory regulated the incentive for reclamation. Thus, this Colombian ministry allowed the collection of the incentive—corresponding to 0.80% of the monthly minimum wage—to be implemented in the municipalities where, according to their respective Integrated Solid Waste Management Plan (abbreviated PGIRS in Spanish), viable reclamation projects had been defined. This incentive will be billed and collected by the providers of the non-reclaimable waste collection and transportation service and will be transferred monthly to a special account of the municipality. These resources will be assigned by the Committee of Incentive for the Reclamation and Treatment of Solid Waste that will evaluate and select the projects according to the eligibility criteria defined by the Ministry of Housing, City, and Territory.

It is also important to mention that the draft of CRA's Ruling 857—whereby the service productivity factor is established—had the participation of citizens. Considering that this draft standard has a direct impact on Emvarias, affiliated company of Grupo EPM, the Water and Sanitation Regulation Director's Office of EPM presented the pertinent observations and adjustment recommendations to the regulating entity and the sector's guild.

Fees by user of sanitation ordinary service in Medellín

| Concept / Indicator | 2016 | 2017 | 2018 |
|---|--------|--------|--------|
| Stratum 1 | 6,934 | 7,620 | 8,113 |
| Stratum 2 | 9,647 | 10,556 | 11,233 |
| Stratum 3 | 13,992 | 15,275 | 16,251 |
| Stratum 4 | 17,419 | 18,914 | 20,109 |
| Stratum 5 | 36,120 | 38,829 | 41,233 |
| Stratum 6 | 44,408 | 47,258 | 50,123 |
| Small commercial generators | 46,800 | 48,740 | 51,558 |
| Variable fee in m ³ - Big generators | 47,275 | 48,634 | 51,809 |

Source: Emvarias.

Rates as of December of each year in ordinary prices, where the evolution of fees charged can be observed. Variations correspond to the rate indexation regarding indexes such as the consumer price index, the monthly minimum wage, the fuel oil and diesel oil index, and the levelling works index, in order to maintain the value of money over time, thus allowing the recovery of costs and the provision of a quality service.

GRI standards disclosures and EPM indicators

EPM-13 Fees by service type.

Scope and coverage

Businesses

Sanitation

Territory

Colombia – Antioquia

Companies

Empresas Varias de Medellín - Emvarias

Electricity fees

Due to their nature, residential public utility fees are subject to regulations. This means that the fees that EPM charges cannot be freely set, but they are subject to the conditions supported by the Law and determined by the regulatory body that, in this case, is the Energy and Gas Regulatory Commission (abbreviated CREG in Spanish). This entity sets the rules of the methodologies for calculating fees, which are based on efficiency criteria so that only efficient costs and expenses are transferred to consumers. In all the regions where it provides its services, Grupo EPM seeks to maintain competitive fees that favor cost recovery and companies' sustainability. In 2018, EPM continued its proactive management before the regulatory body and the government to ensure that the rules issued for the next fee period reflect fair and efficient prices.

The costs covered with the fees include the assets required to provide the service, the costs of managing, operating, and maintaining them to bring electrical energy from the energy sources to the end user, and the entire support process for customer service.

Management in 2018

In 2018, the general methodology that determines an important component in the unit cost of service provision was defined; the update of the distribution charges that is estimated will be effective as of the second quarter of 2019. Grupo EPM actively participated with the sector's guilds in the presentation of observations and counterproposals aimed at achieving the sustainability of the business without detriment to quality.

Both in its calculation of unit cost and in its recognition of self-generators, in accordance with the provisions of CREG's Ruling 030/18, the organization implemented the non-conventional energies injected into the network, while preparing its applications and processes to fully comply with the provisions of CREG's General Ruling 015/18 when its application for updating distribution income is approved.

| Evolution of power fees - EPM (COP/kWh) | | | |
|---|------|------|------|
| Concept | 2016 | 2017 | 2018 |
| Stratum 1 | 199 | 207 | 214 |
| Stratum 2 | 249 | 259 | 268 |
| Stratum 3 | 401 | 400 | 424 |
| Stratum 4 | 472 | 471 | 498 |
| Stratum 5 | 566 | 565 | 598 |
| Stratum 6 | | | |
| Commercial | | | |
| Industrial | | | |

Source: Vice Presidency of Power Transmission and Distribution / Power Commercialization. Transactions Unit. Values correspond to the fee of December 2018.

| Evolution of power fees - EDEQ (COP/kWh) | | | |
|--|------|------|------|
| Concept | 2016 | 2017 | 2018 |
| Stratum 1 | 212 | 221 | 228 |
| Stratum 2 | 265 | 276 | 285 |
| Stratum 3 | 451 | 422 | 450 |
| Stratum 4 | 530 | 497 | 530 |
| Stratum 5 | 636 | 596 | 636 |
| Stratum 6 | | | |
| Commercial | | | |
| Industrial | | | |

Source: Vice Presidency of Power Transmission and Distribution / Power Commercialization. Transactions Unit. Values correspond to the fee of December 2018.

| Evolution of power fees - ESSA (COP/kWh) | | | |
|--|------|------|------|
| Concept | 2016 | 2017 | 2018 |
| Stratum 1 | 200 | 208 | 215 |
| Stratum 2 | 250 | 260 | 269 |
| Stratum 3 | 416 | 419 | 419 |
| Stratum 4 | 489 | 493 | 493 |
| Stratum 5 | 587 | 591 | 592 |
| Stratum 6 | | | |
| Commercial | | | |
| Industrial | | | |

Source: Vice Presidency of Power Transmission and Distribution / Power Commercialization. Transactions Unit. Values correspond to the fee of December 2018.

| Evolution of power fees - CENS (COP/kWh) | | | |
|--|------|------|------|
| Concept | 2016 | 2017 | 2018 |
| Stratum 1 | 201 | 210 | 216 |
| Stratum 2 | 252 | 262 | 270 |
| Stratum 3 | 411 | 413 | 451 |
| Stratum 4 | 484 | 487 | 531 |
| Stratum 5 | 580 | 584 | 637 |
| Stratum 6 | | | |
| Commercial | | | |
| Industrial | | | |

Source: Vice Presidency of Power Transmission and Distribution / Power Commercialization. Transactions Unit. Values correspond to the fee of December 2018.

Evolution of power fees - CHEC (COP/kWh)

| Concept | 2016 | 2017 | 2018 |
|------------|------|------|------|
| Stratum 1 | 217 | 226 | 234 |
| Stratum 2 | 265 | 275 | 285 |
| Stratum 3 | 434 | 436 | 466 |
| Stratum 4 | 511 | 513 | 548 |
| Stratum 5 | 613 | 616 | 658 |
| Stratum 6 | | | |
| Commercial | | | |
| Industrial | | | |

Source: Vice Presidency of Power Transmission and Distribution / Power Commercialization.
Transactions Unit. Values correspond to the fee of December 2018.

Evolution of power fees - ENSA (USD/kWh)

| Use | 2016 | 2017 | 2018 |
|-------------|------|------|------|
| Residential | 0.19 | 0.15 | 0.17 |
| Commercial | 0.24 | 0.17 | 0.21 |
| Industrial | 0.21 | 0.15 | 0.18 |

Source: Vice Presidency of Power Transmission and Distribution / Power Commercialization.
Transactions Unit. Values correspond to the fee of December 2018.

Evolution of power fees - Delsur (USD/kWh)

| Use | 2016 | 2017 | 2018 |
|-------------|------|------|------|
| Residential | 0.18 | 0.20 | 0.21 |
| Commercial | 0.16 | 0.18 | 0.19 |
| Industrial | 0.13 | 0.15 | 0.16 |

Source: Vice Presidency of Power Transmission and Distribution / Power Commercialization.
Transactions Unit. Values correspond to the fee of December 2018.

Evolution of power fees - Egsa (USD/kWh)

| Use | 2016 | 2017 | 2018 |
|--------------------|-------|------|------|
| Simple low voltage | 0.147 | 0.15 | 0.14 |

Source: Vice Presidency of Power Transmission and Distribution / Power Commercialization Transactions Unit.

GRI standards disclosures and EPM indicators

EPM-13 Fees by service type.

Scope and coverage

Businesses

Electrical energy

Territory

Colombia – Antioquia

Colombia – Caldas

Colombia – Quindío

Colombia – Santander

Colombia - Norte de Santander

El Salvador

Guatemala

Panamá

Companies

Empresas Públicas de Medellín - EPM

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

Centrales Eléctricas del Norte de Santander - CENS

Distribuidora de Electricidad del Sur - Delsur

Empresa Eléctrica de Guatemala - Egsa

Elektra Noreste - ENSA

Gas fees

The fees of the residential public utility of natural gas through pipelines are regulated by the Energy and Gas Regulatory Commission (abbreviated CREG in Spanish). Based on the definition of methodologies of specific remuneration for each activity of the natural gas value chain (production, transport, distribution, and commercialization), this regulatory body ensures the transference of efficient costs of investment, administration, operation, and maintenance to the users.

It is understood that every rate is of a comprehensive nature, since it involves a coverage and a level of service quality. In all the regions where it provides its services, EPM seeks to maintain competitive fees that favor cost recovery and companies' sustainability.

The commercialization cost, collected through a fixed charge, remunerates the entire support process for customer service.

Management in 2018

In 2018 the CREG approved a transitory distribution charge for the different relevant markets of the department of Antioquia. The main market integrated the municipalities of Valle de Aburrá with 89 municipalities served with compressed natural gas. For the application of the new charges, fee scales were defined to gradually apply the fee changes.

The approved charges reflect EPM's management before the different guilds and the CREG to achieve efficient fees for users.

The new charges were applied since March.

Negotiations were also conducted with the regulatory entity to achieve the definition and approval of the final distribution charges and the fixed and variable commercialization charges.

| Evolution of EPM gas fees - Integrated (COP/m ³) | | | | |
|--|-----------|-------|-------|-------|
| Sector | Stratum | 2016 | 2017 | 2018 |
| Residential | Stratum 1 | 815 | 850 | 876 |
| | Stratum 2 | 862 | 908 | 946 |
| | Stratum 3 | 1,538 | 1,574 | 1,694 |
| | Stratum 4 | 1,507 | 1,535 | 1,686 |
| | Stratum 5 | 1,743 | 1,778 | 1,961 |
| | Stratum 6 | 1,652 | 1,685 | 1,867 |
| Non residential (commercial + industrial) | | 1,386 | 1,424 | 1,489 |
| Commercial | | 1,393 | 1,431 | 1,497 |
| Industrial | | 1,379 | 1,416 | 1,481 |
| Vehicular natural gas | | 938 | 910 | 964 |

Source: Vice Presidency of Gas, Commercial Management.

Weighted average* of the charges applicable during 2018 in each of the relevant markets (Medellín, Barbosa, Girardota, Copacabana, Bello, Envigado, Itagüí, Sabaneta, La Estrella, Caldas, La Ceja, La Unión, El Retiro, Sonsón, Apartadó, Turbo, Chigorodó, Carepa, Necoclí, Arboletes, Frontino, Cañasgordas, Fredonia, Santa Bárbara, Jardín, Jericó, San Juan de Urabá, Abejorral, Angelópolis, Belmira, Betania, Betulia, Caramanta, Carolina del Príncipe, Cocorná, Concordia, Gómez Plata, Granada, Guadalupe, Hispania, Montebello, Mutatá, Pueblorrico, Puerto Nare, Salgar, San Carlos, San Luis, San Pedro de Urabá, San Rafael, Támesis, Tarso, Titiribí, Urao, Valparaíso, Venecia, Maceo, Amalfi, Santo Domingo, Caracolí, Yolombó, San Vicente, Ituango, Liborina, Olaya, Sabanalarga, San Andrés de Cuerquia, Valdivia, Concepción, Dabeiba, Remedios, San José de la Montaña, San Roque (urban area), Toledo, Vegachí, and Yalí).

*As of March 2018 billing, the fee methodology was changed and new transitory charges were applied for all the relevant markets, except for the southeastern area of Antioquia (Guarne, Marinilla, Rionegro, and El Santuario).

The CREG approved transitory distribution charges for eight submarkets, of which the most relevant one was the integrated market; the other seven submarkets correspond to the relevant markets in which resources from the nation were invested.

Fixed charges continue to be those approved for each of the 22 current relevant markets that were approved since 2003.

Evolution of EPM gas fees - Markets with investment resources (COP/m³)

| Sector | Stratum | 2016 | 2017 | 2018 |
|-------------|-----------|-------|-------|-------|
| Residential | Stratum 1 | 645 | 679 | 704 |
| | Stratum 2 | 852 | 893 | 923 |
| | Stratum 3 | 2,802 | 2,899 | 2,996 |
| | Stratum 4 | 2,684 | 2,772 | 2,945 |
| | Stratum 5 | 3,508 | 3,912 | 4,321 |
| | Stratum 6 | 3,390 | 3,480 | 3,805 |
| Commercial | | 3,093 | 3,254 | 3,297 |
| Industrial | | 2,731 | 2,893 | 2,995 |

Source: Vice Presidency of Gas, Commercial Management.

Weighted average* of the charges applicable during 2018 in each of the relevant markets (Guatapé, El Peñol, Yarumal, San Pedro de los Milagros, Santa Rosa de Osos, Entreríos, Don Matías, Santa Fe de Antioquia, San Jerónimo, Sopetrán, Amagá, Puerto Berrío, San José del Nus, and Cisneros).

*As of March 2018 billing, the fee methodology was changed and new transitory charges were applied for all the relevant markets, except for the southeastern area of Antioquia (Guarne, Marinilla, Rionegro, and El Santuario).

The CREG approved transitory distribution charges for eight submarkets, of which the most relevant one was the integrated market; the other seven submarkets correspond to the relevant markets in which resources from the nation were invested.

Fixed charges continue to be those approved for each of the 22 current relevant markets that were approved since 2003.

Evolution of EPM gas fees - Southeastern area (COP/m³)

| | | 2016 | 2017 | 2018 |
|--|------------|-------|-------|-------|
| Residential | Stratum 1 | 1,474 | 1,440 | 1,488 |
| | Stratum 2 | 774 | 813 | 854 |
| | Stratum 3 | 3,429 | 3,562 | 3,751 |
| | Stratum 4 | 3,429 | 3,562 | 3,751 |
| | Stratum 5 | 4,115 | 4,275 | 4,501 |
| | Stratum 10 | 4,115 | 4,275 | 4,501 |
| Nonresidential (commercial + industrial) | | | | |
| Commercial | | 3,734 | 3,879 | 4,085 |
| Industrial | | 3,734 | 3,879 | 4,085 |
| Vehicular natural gas | | 1,154 | 1,114 | 1,250 |

Source: Vice Presidency of Gas, Commercial Management.

Applicable to Guarne, Marinilla, Rionegro, and El Santuario.

GRI standards disclosures and EPM indicators

EPM-13 Fees by service type.

Scope and coverage

Businesses

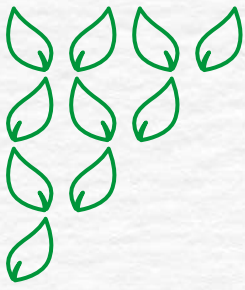
Gas

Territory

Colombia – Antioquia

Companies

Empresas Públicas de Medellín - EPM



Grupo·epm[®]



Transparency



Transparency

Grupo EPM's companies develop communication, education, and engagement strategies, based on truthfulness, completeness, appropriateness, timeliness, and clarity of the information delivered concerning the company's management, in order to guarantee the stakeholders' trust.

Relevance

Transparency reduces corruption and extra costs, development barriers, and reputational risks. It provides opportunities to strengthen stakeholders' trust and allow them to make decisions that benefit them in the social, environmental, and economic aspects and exert social control.

Main achievements

| Goals for 2018 | Achievements | Accomplishment |
|--|---|----------------|
| Permanently develop a thematic agenda with mass and alternative media, within the framework of the newsworthy issues of the company, through press releases, attention to media requirements, and press conferences. | During 2018, media management was specially focused on informing in a timely manner about the evolution of the Ituango project's contingency. Despite the magnitude of this problem, it was possible to establish a fluid communication with the media regarding this issue of national scope, without leaving aside the other issues related to business management and social responsibility activities, the environment, innovation events, and community service information. | Total |
| Hold 12 meetings with members and community leaders that are part of EPM's Friend Leaders network. | 12 meetings were held with the team of EPM's Friend Leaders program, including a visit to the Hidroituango project. | Total |

| Goals for 2018 | Achievements | Accomplishment |
|---|---|----------------|
| Develop 12 Speaking out meetings with community leaders in the areas of influence of the We are there for you programs. | 13 meetings in which the We are there for you program was deployed were held in the following 13 territories: Barbosa, Bello, Belmira, Boston, Buenos Aires, Caldas, Girardota, La Iguañá, Robledo Las Margaritas, La Sierra, San Cristóbal, Santo Domingo, and Machado. | Total |
| Adopt the new proposed scheme for managing the Digital Government policy. | A working team was constituted; the new required approach based on components, transversal enablers, and purposes was shared; and work plans were established. | Total |
| Ensure EPM's compliance with the provisions of Act 1712 and Decree 103 of 2014, guaranteeing disclosure of the required information on transparency and access to public information on the website. | Aspects of transparency and access to information were included in the anti-corruption plan, and its compliance was promoted through internal means. | Total |
| Strengthen EPM's accountability activities with stakeholders, in accordance with the provisions of the Integrated Model of Planning and Management (abbreviated MIPG in Spanish). | Actions referring to communication were incorporated, and a detailed assessment was carried out in light of the MIPG. | Total |
| Actively participate in the collective action of the electricity sector against corruption. | The money laundering and terrorist financing (ML/TF) risk matrix was prepared and shared during the 6th Forum on Ethics of the Electricity Sector. This agreement was recognized as a good practice during the event, held by Transparencia por Colombia, to share the results of the Business Transparency Assessment 2018. | Total |
| Contribute to the implementation of the United Nations Office on Drugs and Crime (UNODC) program known as Towards Integrity: An Alliance between the Public and Private Sectors against Corruption in Colombia. | Workshops have been offered in the regions where the group operates, with the participation of suppliers and contractors. In Medellín, a session aimed at small and medium-sized enterprises (SMEs) to explain the program's strategy was held. | Total |

| Goals for 2018 | Achievements | Accomplishment |
|--|---|----------------|
| Define and develop a plan for implementing ethical management in Grupo EPM. | <p>At the end of 2018, 88% of the actions resulting from the road map were developed, contributing to the strengthening of ethical management.</p> <p>The ethics committee approved the adjustment to the organizational structure for the implementation of the Ethical Management Model that will start to operate as from 2019.</p> <p>Each affiliate has been defining elements for ethical management, according to their characteristics and dynamics and based on some minimum aspects approved by the EPM's Ethics Committee.</p> | Partial |
| Verify compliance with the data protection baseline for Grupo EPM's affiliates in Colombia and define plans to close the gaps. | <p>At the end of 2018, all the energy affiliates in Colombia implemented their data protection baseline. To achieve this, they have a person in charge, collect authorizations, have published policies, privacy notices, inventory of databases with personal data, contractual clauses, training programs, and risk maps, among others. Moreover, the newly acquired water affiliates were notified on the information that they must implement, and they have been working on this. Aguas Nacionales, Malambo, and Emvarias already have a baseline, as well as Promobiliaria, Ticsa Colombia, EPM Inversiones, and Fundación EPM.</p> | Total |
| Implement an integrating mechanism in the ML / TF risk prevention front for Grupo EPM's affiliates in Colombia. | <p>The mechanism was implemented, and four meetings were held in the second semester of 2018 (one of them was the 2018 management and closing annual meeting). This integrating and collaborative mechanism will continue to operate.</p> | Total |

| Goals for 2018 | Achievements | Accomplishment |
|---|---|---------------------|
| <p>Refine the mechanism to analyze risks and impacts of alerts (reputations, ML/FT, fraud/corruption/bribery, legal, and others).</p> | <p>During 2018, the Compliance Unit worked in coordination with the Supplier Diversity Unit and the Directorate of Contracting Legal Support in the formalization of an internal committee to address alerts involving risks of contagion, whether reputational or legal, in the national operating companies.</p> <p>However, although said formalization is in the process of approval, the areas involved held meetings during the year to analyze the cases that have required it, involving the national affiliates.</p> | <p>Total</p> |
| <p>Comply with the legal framework associated with the Anti-corruption and Citizen Services Plan.</p> | <p>All the corporate audit and regulatory requirements were complied with. Both the Anti-corruption and Citizen Services Plan, as well as the Corruption Risk Map, were published on EPM's website in January 2018, and the corporate audit requirements regarding progress made for quarterly follow-ups have been timely addressed.</p> | <p>Total</p> |
| <p>Adopt the Transparency Statement and the Conflict of Interest Statement at the Colombian energy affiliates.</p> | <p>This mechanism was implemented by the national energy affiliates, as follows: ESSA and EDEQ on March 2018, CENS on May 2018, and CHEC on December 2018.</p> | <p>Total</p> |
| <p>Adopt the group's Code of Business Conduct at the Colombian energy and water and sanitation affiliates.</p> | <p>On September 6, 2018, the approval process of the Business Conduct of Grupo EPM by the national energy and water affiliates was completed through each of their respective boards of directors.</p> | <p>Total</p> |

| Goals for 2018 | Achievements | Accomplishment |
|--|---|-----------------------|
| <p>Design a project for the management and disclosure of operations between related parties of Grupo EPM.</p> <p>Evaluate the implementation of mechanisms or practices, in response to the requirements of the Financial Superintendence of Colombia in the Código País survey regarding transactions between related parties, aligned with IFRS and in accordance with the recommendations of corporate governance best practices by the World Bank and the Organisation for Economic Co-operation and Development (OECD).</p> | <p>During 2018, progress was made in the design of the project, complying with the standards and methodology defined by EPM for this stage, and the deliverables of the information technology component required for the financial assessment were obtained.</p> | <p>Partial</p> |

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|--|------------------------------|----------------------|--------------------|---------|--|
| | | Territory | Business | Company | |
| Consolidate the organizational structure for ethical management. | 2019 | Colombia - Antioquia | All the businesses | EPM | Evaluation of the implementation of the new organizational structure. Fulfillment %: 100% |
| Strengthen ethical management. | 2019 | Colombia - Antioquia | All the businesses | EPM | (Actions implemented/ Projected actions)*100% Fulfillment %: 80% |
| Develop ethical dilemmas for reflection within the organization. | 2019 | Colombia - Antioquia | All the businesses | EPM | (Committee meetings with dilemmas / Committee meetings)* 100% Fulfillment %: 80% |
| Hold 15 meetings with members and community leaders that are part of EPM's Friend Leaders network throughout the year. | 2019 | Colombia - Antioquia | All the businesses | EPM | Number of meetings held. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|--|------------------------------|--|---|---|--|
| | | Territory | Business | Company | |
| Hold 20 Speaking out meetings with community leaders in the areas of influence of the We are there for you programs throughout the year. | 2019 | Colombia - Antioquia | All the businesses | EPM | Number of meetings held. |
| Hold nine meetings with candidates running for mayors in Antioquia. | 2019 | Colombia - Antioquia | All the businesses | EPM | Number of meetings held. |
| Develop 20 engagement programs with the Business segment. | 2019 | Colombia - Antioquia | All the businesses | EPM | Number of meetings held. |
| Adopt the Transparency Statement and the Conflict of Interest Statement in the water affiliates that haven't still adopt them (Aguas Regionales and Aguas de Malambo) and in the international energy affiliates. | 2020 | Colombia, Guatemala, Panamá, El Salvador | Water and Sanitation, Power Generation, Power Transmission and Distribution | Aguas Regionales, Aguas de Malambo, Eegsa, ENSA, Delsur | Transparency Statement and Conflict of Interest Statement. |
| Permanently develop a thematic agenda with mass and alternative media, within the framework of the newsworthy issues of the company, through press releases, attention to media requirements, and press conferences. | 2021 | Colombia - Antioquia | All the businesses | EPM | Thematic agenda developed. |
| Develop learning spaces with EPM staff and with mass and alternative media to allow a greater understanding of issues related to the sector and the organization. | 2021 | Colombia - Antioquia | All the businesses | EPM | Learning spaces developed. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator |
|--|------------------------------|----------------------|--------------------|---------|--|
| | | Territory | Business | Company | |
| Comply, at the Colombian affiliates, with the legal framework associated with the Anti-corruption and Citizen Services Plan. | 2021 | Colombia - Antioquia | All the businesses | EPM | 100% of planned actions accomplished. |
| Ensure EPM's compliance with the provisions of Act 1712 and Decree 103 of 2014, guaranteeing disclosure of the required information on transparency and access to public information on the website. | 2021 | Colombia - Antioquia | All the businesses | EPM | 100% compliance with the provisions of Act 1712 and Decree 103 of 2014. |
| Strengthen EPM's accountability activities with stakeholders, in accordance with the provisions of the Integrated Model of Planning and Management (abbreviated MIPG in Spanish). | 2021 | Colombia - Antioquia | All the businesses | EPM | Comply with 100% of the guidelines for the different stages of accountability in the Management with Values for Results dimension of the MIPG. |
| Evaluate government tools: Assessment of government tools with a third party. | 2022 | Colombia - Antioquia | All the businesses | EPM | Evaluation by a third party of the corporate governance tools. |

Related stakeholders

Customers and users
 Colleagues
 Community
 Owner
 Government
 Grupo EPM people
 Investors
 Suppliers and contractors
 Partners

Actions

- Information for stakeholders
- Transparency practices

GRI standards disclosures and EPM indicators

103-1 Explanation of the material topic and its boundary.

103-2 The management approach and its components.

103-3 Evaluation of the management approach.

205-2 Communication and training about anti-corruption policies and procedures.

EPM-14 Transparencia por Colombia indicator.

Scope and coverage

Businesses

Water

Sanitation

Electrical energy

Gas

Territory

Colombia - Antioquia

Colombia - Caldas

Colombia - Quindío

Colombia - Risaralda

Colombia - Santander

Colombia - Norte de Santander

Colombia - Malambo, Atlántico

Chile

El Salvador

Guatemala

Mexico

Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Aguas Nacionales EPM
Empresa de Aguas del Oriente Antioqueño
Empresas Públicas de Rionegro - EPRio
Aguas de Malambo
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
EPM Chile
Hidroecológica del Teribe - HET
Tecnología Intercontinental -Ticsa
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa

Sustainable Development Goals



Information for stakeholders

Grupo EPM shares its business management with its stakeholders directly and through mass media as one of the mechanisms to strengthen and transcend the informative purpose and strengthen the relationships with stakeholders.

To achieve this, the following are the main mechanisms:

Media management: Management of information and relations with mass media based on respect, equity, transparency, opportunity, truthfulness, openness, and service vocation, in accordance with EPM's Communication Policy and EPM's Manual of Relations with Mass Media.

External media: Management of media aimed at external audiences and stakeholders in the areas of influence of each of the companies of Grupo EPM, with relevant information on the interaction with the territory, matters related to public utilities, and as a promotional mechanism of communities and customers.

Social media: Permanent communication with virtual communities through discussions in the interest of stakeholders aimed at strengthening relationships and transparency, as well as building sustainability and protecting reputation.

Sustainability report: Balanced report on the economic, social, and environmental management of the previous year, and its positive or negative impact on society. It is a corporate sustainability management tool that allows identifying gaps, risks, and opportunities, as well as prioritizing actions and keeping track on the initiatives reported.

Public accountability: action carried out annually in order to inform the main achievements and challenges of the corporate management and its alignment with stakeholders, based on the contents collected in the Sustainability Report.

Management in 2018

Media management increased during the year as a result of the demand for information generated by the Ituango project's contingency. In this regard, the issuance of nearly 100 newsletters and press releases on the matter is highlighted, as well as permanent attention to the media for interviews and questions on specific aspects regarding the problem.

Social media was also important in this situation, and there was an effective management to disseminate official information and mitigate the impact of negative interventions and fake news.

Discussion of EPM's current issues with different audiences

In 2018, when the contingency of the Ituango project occurred, the engagement with different stakeholders intensified as from May, and the following meeting spaces stand out:

Government. Engagement strategy for more than ten debates in the Council of Medellín, two in the Congress of the Republic of Colombia, and three in the Province of Antioquia Assembly Hall. Engagement management with territorial entities for the following projects: Valle de San Nicolás, El Capiro, Centro Parrilla, El Salado, and La Seca Highway Interchange.

Colleagues. National Industrial Association of Colombia (abbreviated ANDI in Spanish), Colombian Chamber of Infrastructure (abbreviated CCI in Spanish), Medellín-Antioquia Chamber of Commerce, Southern Aburrá Chamber of Commerce, Business Corporation of Eastern Antioquia, and Antioquia's Engineering Society.

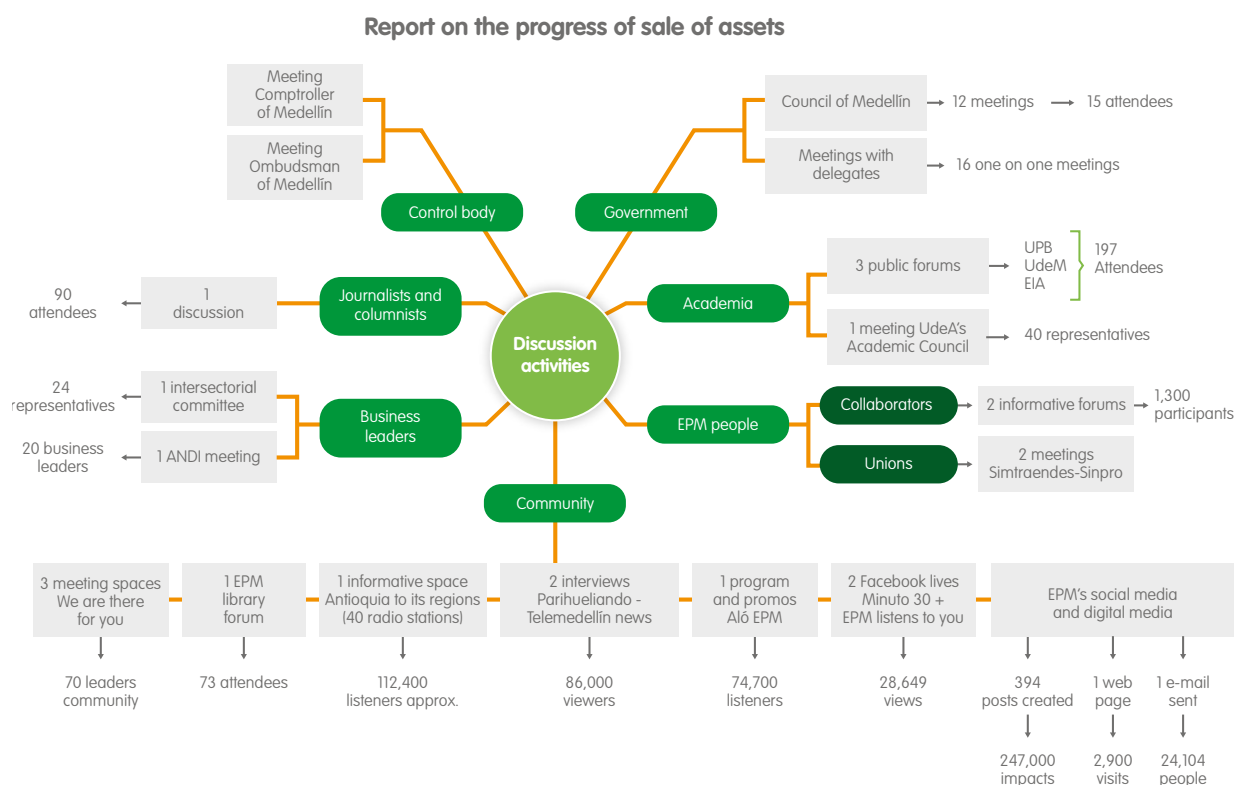
Media, columnists and journalists. Seven discussions with journalists, one of them in Bogotá; two discussions with columnists, one in Bogotá and the other in Medellín; three tours to media offices in Medellín and Bogotá, and 2,169 specific media requests.

Meeting with guilds in Antioquia. Presentation of a timeline of events regarding the Ituango hydroelectric project since the contingency started. Moreover, a meeting was held in Bogotá with opinion leaders and guilds, as well as meetings in EPM and with the boards of directors of the prioritized guilds to provide in-depth information on the sale of assets.

Visits to the Ituango project of representatives of the guilds and the academia.

- October 9: directors and CEOs of the CCI, Grupo SURA, Fenalco, the Colombian American Chamber of Commerce, and Augura.
- November 30: visit of the deans of universities and engineering associations.

Sharing activities for the sale of EPM assets. Through these public spaces and disclosure activities, EPM provided detailed information to its stakeholders regarding Agreement 150, while sharing sessions were held with the Council of Medellín.



Media management: some of the activities that were carried out during the year include preparation of content, attention to interviews with authorized and trained members of the company, discussions and visits with media and opinion leaders. Informational support for the contingency in the Ituango project is highlighted.

The main activities were as follows:

- 387 newsletters published.
- 112 press releases to the public opinion.
- 2,175 requests from local, regional, national and international journalists addressed.
- 40 press conferences organized, convened and held.
- 9 meetings with the media and opinion leaders.
- 8 visits to strategic projects with the media, including Ituango project.
- 91 face-to-face interviews with EPM's CEO.

External media:

Línea Directa newsletter: Quarterly publication that had two editions in 2018, with topics such as success stories shared by our customers, promotion of new eco-friendly offers, and information of interest about new EPM infrastructure projects, among others.

Camino al Barrio: TV show produced by EPM, which makes the communities of Medellín and the Valle de Aburrá visible. In the 52 broadcasts in 2018, besides the visits to the neighborhoods, special episodes were dedicated to important topics such as the Cuencas project, the renovation of Medellín's downtown, and the Centro Parrilla program, the contingency of the Ituango project in the municipality of Valdivia and its small town of Puerto Valdivia, and the improvement of the water supply and sewerage services in Rionegro and Quibdó thanks to the work of Grupo EPM's affiliates.

EPM Radio: This collaborative radio model between EPM and the community generates interaction with its users regarding the services, programs, projects, and products offered by Grupo EPM.

In 2018, Aló EPM had 243 broadcasts in its daily format.

In its weekly format, it had 52 broadcasts through 32 community radio stations in the subregions of Urabá, and Southern, Northern, Northeastern, Bajo Cauca, and Eastern regions.

The Ituango project's radio programs (Aló EPM at the hydroelectric plant: with you, On the table, and On the way) broadcast weekly on 8 radio stations in the northern and western Antioquia, had 52 broadcasts each.

Social media: In 2018, followers of all EPM's social media increased:

| | Facebook | Twitter | Instagram | Youtube |
|-------------------|----------|---------|-----------|---------|
| January 1, 2018 | 124,641 | 53,958 | 16,222 | 6,736 |
| December 31, 2018 | 145,074 | 76,039 | 39,129 | 14,958 |
| Growth | 20,433 | 22,081 | 22,907 | 8,222 |
| Growth rate | 16.39% | 40.92% | 141.21% | 122% |

The main topics addressed in social media, among others, were the Ituango hydroelectric project and the progresses made regarding the contingency.

Sustainability report

Most of Grupo EPM's companies prepare their sustainability reports using the GRI methodology. As for EPM, the GRI Standards are used, which enables organizations to prepare their sustainability report regardless of their size, industry, or location. Moreover, this report is in line with the International Integrated Reporting Council (IIRC) framework.

Grupo EPM's report preparation is a continuous organizational learning process that is in constant evolution. Content and quality principles established by GRI are applied.

Grupo EPM's reports are presented at shareholders' meetings and to employees and the community in different spaces for dialog, such as meetings with community action boards and municipal councils, among others.

The Global Reporting Initiative (GRI) is an organization that promotes the use of sustainability reports so that organizations can become more sustainable and contribute to sustainable development. www.globalreporting.org/information/about-gri/Pages/default.aspx

For more information on the Sustainability Report, see [Report profile](#).

The management and sustainability reports of Grupo EPM's affiliates are available at each company's website.

Public accountability

The annual public accountability event aimed at EPM people took place on April 4, 2018 at the EPM building. It addressed the management carried out by Grupo EPM during 2017. On April 7, public accountability was carried out with the community at the UVA de La Imaginación.

For the accountability exercise, the foreseen phases were followed to account for what is required by the online government strategy and the anti-corruption plan.

Information: the different stakeholders were informed about the relevant events that occurred in 2017.

Invitation: the different stakeholders were invited to participate in the accountability exercise.

Execution: The event was held, with the participation of the community and the company's governing body and board of directors.

The event was broadcast simultaneously in 40 community radio stations in the department of Antioquia, Teleantioquia and Telemedellín TV channels, and EPM's social media.

Collection of concerns and information and publication of results: after the event, the concerns were collected, and the reports were stored on EPM's website so that all stakeholders could have access to them.

Around 300 people attended the event, and around 2,000,000 people were reached, including listeners, viewers, and followers of EPM's social media.

The event streamed for the internal audience, and 250 Grupo EPM's employees connected.

Related stakeholders

Customers and users
Colleagues
Community
Owner
Government
Grupo EPM people
Investors
Suppliers and contractors
Partners

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Risaralda
Colombia - Santander
Colombia - Norte de Santander
Colombia - Malambo, Atlántico
Chile
El Salvador
Guatemala
Mexico
Panama

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Aguas Regionales EPM
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Empresa de Aguas del Oriente Antioqueño
Empresas Públicas de Rionegro - EPRio
Aguas de Malambo
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
EPM Chile
Hidroecológica del Teribe - HET
Tecnología Intercontinental -Ticsa
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa

Transparency practices

To preserve trust and credibility among all its stakeholders, Grupo EPM incorporates, in its management, clear rules regarding organizational culture standards and principles, as well as its mechanisms for engagement, interaction, and verification of objective and goal fulfillment.

This set of actions raises stakeholders' awareness so that they become responsible, engage, get to know and exercise their rights and obligations, actively promote integrity, and fight corruption.

The practices developed in EPM facilitate compliance with the strategic objectives of Grupo EPM and have their origin not only in compliance with the laws, but are the basis of a culture based on ethical values and principles.

Transparency is one of Grupo EPM's values, and it is considered a fundamental principle for good governance and management practice that has allowed to preserve trust and credibility among its different stakeholders.

Management in 2018

In the Business Transparency assessment 2018, EPM ranked as an entity with a low level of corruption risk. Its average score was 89.6. According to this study, the challenges lie in the strengthening of the process for managing requirements. Meanwhile, improvement actions should focus on social control, penalties for non-compliance, training in ethics, and corruption prevention.

In terms of digital government, the company was awarded with the seals of excellence in the following categories: Open Government, Participation Exercises, Open Government-Open Data, and IT Management Capabilities.

Grupo EPM aims to become a corporate benchmark in transparency practices, by including international standards in its compliance management, actively participating in collective actions that generate high impact on society, and managing best transparency practices.

Its current practices include:

Ethics and transparency mechanisms: They refer to practices and tools implemented to minimize the materialization of risk situations related to fraud, corruption, bribery, money laundering, and terrorist financing.

Transparency assessment: Grupo EPM's companies participate voluntarily in the assessment of transparency practices of the public utility providers in Colombia, in order to identify their degree of development and encourage them to implement improvement plans and actions in their activities, recognize the companies committed to ethical and transparent relationships with their stakeholders, and foster compliance with international standards.

Digital Government: The purpose of this strategy is to improve efficiency, promote transparency, encourage citizens' collaboration and participation, strengthen their management with stakeholders, and favor the conditions to enhance the competitiveness of institutions engaged with the Colombian government, using information and communications technology as leverage.

Ethics and transparency mechanisms

The mechanisms to prevent fraud, corruption, and bribery in Grupo EPM strengthen the capacities for participation, monitoring, influence, and dialogue with all public and private actors; therefore, there are self-regulatory initiatives and instruments that make it possible to preserve an environment of security, transparency, and trust.

Among the mechanisms established, the following stand out: Code of Ethics, Manual of Business Behavior, Corporate Governance Manual, Code of Conduct for Suppliers and Contractors, and Zero Tolerance Policy to Fraud, Corruption, and Bribery, as well as the **ethics hotline**, and several additional initiatives, such as:

- Transparency statement.
- Conflict of interest statement.
- Manual for dealing with conflicts of interest and managing the Group's decisions of interest.
- Manual of the risk management system for money laundering and terrorism financing.
- Collective agreement of the electricity sector.
- Compliance Committee of the real sector in Antioquia.

During 2018, the ethics committee met, with support from an external advisor. Progress was made in the analysis of "ethical dilemmas", and the adjustment to the organizational structure of ethical management was approved as an opportunity for improvement. Based on the inputs of the ethics hotline, the cases to design ethical dilemmas as an input for the reflections within the organization continued to be analyzed.

The committee approved the adjustment to the organizational structure for the implementation of the Ethical Management Model that will begin to operate as from 2019. Each Grupo EPM's affiliate has been defining elements for ethical management, according to their characteristics and dynamics and based on some minimum aspects approved by the EPM's Ethics Committee. A roadmap for the implementation of the Ethical Management Model adopted by USAID was designed, and the actions defined for this term were executed.

- Ethics hotline: EPM and all its national and international affiliates have the Transparent Contact ethics hotline, mechanism developed for receiving and recording signs and incidents due to possible misconducts committed by EPM employees and/or other stakeholders and which may affect the fulfillment of the strategic objectives. <https://www.epm.com.co/site/home/transparencia/contacto-transparente>

Besides being a tool for receiving and reporting incidents, this mechanism features an interactive environment for providing training on and teaching about this topic and where the most relevant cases, the lessons learned, and the annual statistics regarding its operation are published.

https://www.epm.com.co/site/portals/contacto_transparente/ie.html

- The Transparency Statement is a voluntary initiative that has been implemented since 2015. In 2018, it was accepted by 95.53% of the collaborators in EPM (6,834 employees of the 7,153 that make up EPM's 2018 staff) and those with a potential conflict of interest. This statement is a sign of its ethical commitment and serves as a mechanism to prevent corruption risks. In it, the employees who signed it undertake to comply with five principles of ethical conduct and express that they are familiar with the Code of Ethics and the Code of Business Conduct. This mechanism strengthens trust in the company-employee and company-citizenship relationships, as well as transparency in the work of Grupo EPM. During 2018, it was implemented in all national operating energy affiliates and in the following water affiliates: EPRio and Aguas Nacionales.
- The policy of zero tolerance to fraud, corruption, and bribery has been adopted by all the group's companies since 2015. <https://www.epm.com.co/site/home/institucional/politicas#Politica-de-Cero-Tolerancia-al-Fraude-la-Corrupci-n-y-el-Soborno-1240>.
- The Code of Business Conduct of Grupo EPM was approved in April 2018 for EPM and its national operating energy and water affiliates. It is expected to extend this to the international affiliates in 2019.
- Knowledge and support to processes: in 2018, the processes of Corporate Identity, Electrical Asset Purchase - Transmission and Distribution, Portfolio Services - Transmission and Distribution: renting of electrical infrastructure were supported, with the purpose of helping them define ex-post and ex-ante controls or minimize the materialization of risk scenarios associated with fraud, corruption, and bribery.
- Controls were designed and implemented to inform third parties in the affiliates in Mexico and Chile.
- The internal clients of EPM and the national and international affiliates were trained and advised on the analysis of ML/TF alerts.
- The ML/TF online course in EPM was relaunched for employees who joined the company from 2015 to 2018.

- A committee was created in EPM and its national affiliates to address cases associated with compliance with the Code of Conduct for Suppliers and Contractors and reputational alerts from third parties.
- During 2018, the ML/TF integrating mechanism of EPM and the national affiliates became formal, four meetings were held in which topics related to ML/TF risk management were discussed, experiences were shared, and procedural decisions were taken.
- EPM continues to actively participate in the Committee of the Real Sector in Antioquia as vice president. This initiative has been growing at the local level. Moreover, Grupo EPM was recognized, within the real sector, for its progress made in the implementation of the ML/TF risk management system as a good practice at the national level.
- EPM and all its national energy affiliates are still actively participating in the Collective Agreement of the electric sector for fighting corruption and promoting free competition, promoted by the National Operation Council (abbreviated CNO in Spanish) and XM S.A. E.S.P., with the supervision of the Transparency Secretariat of the Presidency of the Republic of Colombia, Transparencia por Colombia, and the UNODC. Moreover, the money laundering and terrorist financing (ML/TF) risk matrix was prepared and shared during the 6th Forum on Ethics of the Electricity Sector. This agreement was recognized as a good practice during the event, held by Transparencia por Colombia, to share the results of the Business Transparency Assessment 2018.
- Celebration of the International Day for the Prevention of Money Laundering and Terrorist Financing. The activity was carried out in the Himerio Pérez López Auditorium in the EPM building on November 1, 2018 and was attended by approximately 300 compliance employees, professionals from the areas of risks, auditing, and control, etc. There were interventions by national authorities, including the Superintendence of Solidarity Economy, the Superintendence of Surveillance and Private Security, the Ministry of Information and Communications Technology (abbreviated MinTIC in Spanish), the Sociedad de Activos Especiales (abbreviated SAE in Spanish) S.A.S, and UNODC, among others.
- Celebration of the International Anti-Corruption Day: the academic event was held on December 7, 2018, EPM being the host and organizer. More than 200 people participated, including academics; compliance employees; professionals from the areas of ethics, auditing, and internal control and responsible for this matter in more than 150 companies in Antioquia.
- Regarding the protection of personal data line of work, we participated in the privacy and information security component of the El Centinela project, a corporate project that seeks to meet high standards in terms of information security at EPM. For this purpose, workshops were conducted with IT employees responsible for managing the databases with personal data of the different stakeholders, ensuring that, in the development of their management, the requirements established in Act 1581 of 2012 and its regulatory decrees are met.
- Attention was also given to the definition of the requirements that the cybersecurity policy acquired by EPM should have in order to protect its information assets and its cyber assets, guaranteeing privacy and information security.

- As responsible for personal data, EPM carried out the National Registration of Databases early before the Superintendence of Industry and Commerce (abbreviated SIC in Spanish), as it is obliged to do so, due to its legal nature, as from 2019.
- Progress was made in posting privacy and video surveillance notice signs in the different offices of the company to inform visitors of this. Thanks to this, there is compliance with the accountability guidelines.
- The affiliate EDEQ developed a course in Citizenship and Peace aimed at student spokespersons, comptrollers, and representatives of students from public and private schools in the city of Armenia, with the aim of promoting respect for their rights and social control of the government institutions for the construction of a solid culture of legality.
- During 2018, a communications strategy was implemented through internal media, for providing information on ethical management, in which the Code of Ethics, Ethical Principles and Values, the Transparent Contact hotline, and the celebration of the Public Servant Day were promoted.
- The following training strategies during 2018 were carried out:
 - Lecture on Ethical Government, addressed to the members and some support staff from the ethics committee, which was attended by 34 employees.
 - Within the framework of the “The value of what we do” event, a lecture on “Ethics of care and moral feelings” was delivered, and it was attended by 150 employees.
 - Within the framework of the Culture Fair, 16 workshops were held to highlight ethical principles and values, and they were attended by 226 employees.
 - In the Leadership school for executives, five meetings on ethical principles and values were held, having an impact on 86 employees.
 - In the corporate induction program, contents of the Code of Ethics were included for 87 employees.

Ethical and transparent management with suppliers and contractors

Due to the situation that occurred in EPM regarding a warning to suppliers and contractors for making false purchase orders in the name of the company and its affiliates, EPM decided to strengthen the “Zero hour for procurement.” For this purpose, familiarity with the Code of Conduct was reinforced, and relevant information related to the procedure for submitting purchase orders was adjusted and provided to contractors, through the administrative leader of each contract.

Moreover, in the eight events for service portfolio submission that were held in 2018 as part of the socialization process with suppliers and contractors, they were once again informed of the Code of Conduct.

In February 2018, information was provided on the event for launching of the Transparency and Integrity Strategy for SMEs - UNODC and Global Compact Colombia. The objective was to strengthen the capacity of SMEs to identify processes susceptible to corruption and implement actions for their protection, in accordance with Act 1778 of 2016.

In October 2018, a committee was created, with the participation of different areas of the company, to analyze different scenarios and recommend actions when cases of non-compliance with the principles established in the Code of Conduct for Suppliers and Contractors of Grupo EPM or risks associated with engagement with third parties are detected. As a result of all actions aimed at strengthening transparency, openness, dialogue, and clear rules, among other attributes, in the transparency assessment 2018 and with respect to management in 2017, the company obtained a score of 100 points over 100 in contract management.

Business transparency assessment (abbreviated MTE in Spanish)

EPM has participated in the business transparency assessment - Public Utilities chapter, promoted by the Transparencia por Colombia Corporation. The general objective of the assessment is to improve standards of transparency and anti-corruption, through the identification of corruption risks for the strengthening of business management. It is a tool that identifies institutional designs and practices that lead to corruption risks.

In the business transparency assessment 2018, EPM obtained a final score of 89.6 average points, standing as a company with a low level of corruption risk. This allows to identify how well the policies and mechanisms to prevent corruption risks have been refined, to facilitate access to information, and to promote spaces for dialogue and participation with the different stakeholders.

The components of Openness (100 points) and Clear Rules (99.7 points) are at a low level of corruption risk, where the opportunity for improvement focuses on the corruption risks evaluated within the anti-corruption plan, while the components of Control (71.8 points) and Dialogue (60 points) are at a moderate level of corruption risk, where the challenges are focused on strengthening the requirements management process through the different established means, and the improvement actions focus on social control, penalties for non-compliance, and integration of topics of ethical management and corruption prevention in the training plans.

Twenty-three national public utility companies participated in the assessment. Together, they obtained a score of 81.1 points, which places them at a moderate level of corruption risk. Of these companies, 13 belong to the energy and gas sector; seven, to the water supply, sewerage, and sanitation sector; and three, to the information and communications technology sector.

The results obtained demonstrate the company's commitment to this important practice, while becoming a stimulus to continue improving and a great input to drive the organization to commit to transparency and the fight against corruption.

Now, the challenge for the respective owners of processes is to define and carry out an improvement plan that allows to close gaps and meet the goals set and that leads to improving the score for the next assessment.

By decision of the Corporación Transparencia por Colombia, there will be no assessment in 2019, and this will continue to be carried out every two years. The goals established for the next two assessments are as follows:

| Business Transparency Assessment Goals | | |
|---|-------------|-------------|
| Objects subjected to assessment | 2020 | 2022 |
| Grupo EPM | 87.87 | 92.77 |
| EPM Matriz | 93.75 | 96.88 |
| Aguas de Oriente | 79.50 | 87.25 |
| Aguas Nacionales | 88.15 | 91.58 |
| Aguas Regionales | 78.55 | 86.78 |
| Aguas de Malambo | 73.00 | 84.00 |
| Emvarias | 83.15 | 89.08 |
| CHEC | 92.05 | 95.03 |
| EDEQ | 90.35 | 94.18 |
| ESSA | 88.30 | 93.15 |
| CENS | 89.10 | 93.55 |

Digital Government

The following specific achievements stand out for 2018:

The commitment of EPM and its group to comply with the online government strategy evolved after the promulgation of the Digital Government policy through Decree 1008 of June 2018. This policy seeks to “promote the appropriate use of information and communications technologies to consolidate a competitive, proactive, and innovative government and citizenship that generate public value in an environment of digital confidence.”

This change led EPM to prepare itself, by promoting transition and broadening the scope of the Digital Government policy, framed within the MIPG, by the Administrative Department of Public Administration. This involved a review of the closure of commitments and detailed analysis, knowing and planning the new scopes and commitments required by the policy, based on its two components, three cross-cutting enablers, and five purposes, as well as giving continuity to the topics being addressed to develop a more comprehensive view of the solutions proposed by the company for the stakeholders. This, through the use of ICTs in the generation of public value based on governance, social development, guarantee of rights, satisfaction of needs, and the provision of quality services.

The self-assessments of the levels of progress before the transition showed significant advances in terms of administrative efficiency, citizenship participation, transparency and disclosure of information, citizen services through electronic means, and strategic IT management, complemented with the work defined to strengthen information security and the associated management system. This in turn meant, for the company, being awarded with the seals of excellence in the following categories: Open Government, Participation Exercises, Open Government-Open Data, and IT Management Capabilities.

GRI standards disclosures and EPM indicators

205-2 Communication and training about anti-corruption policies and procedures.

EPM-14 Transparencia por Colombia indicator.

Scope and coverage

Businesses

Water

Sanitation

Electrical energy

Gas

Territory

Colombia - Antioquia

Colombia - Caldas

Colombia - Quindío

Colombia - Risaralda

Colombia - Santander

Colombia - Norte de Santander

Colombia - Malambo, Atlántico

Chile

El Salvador

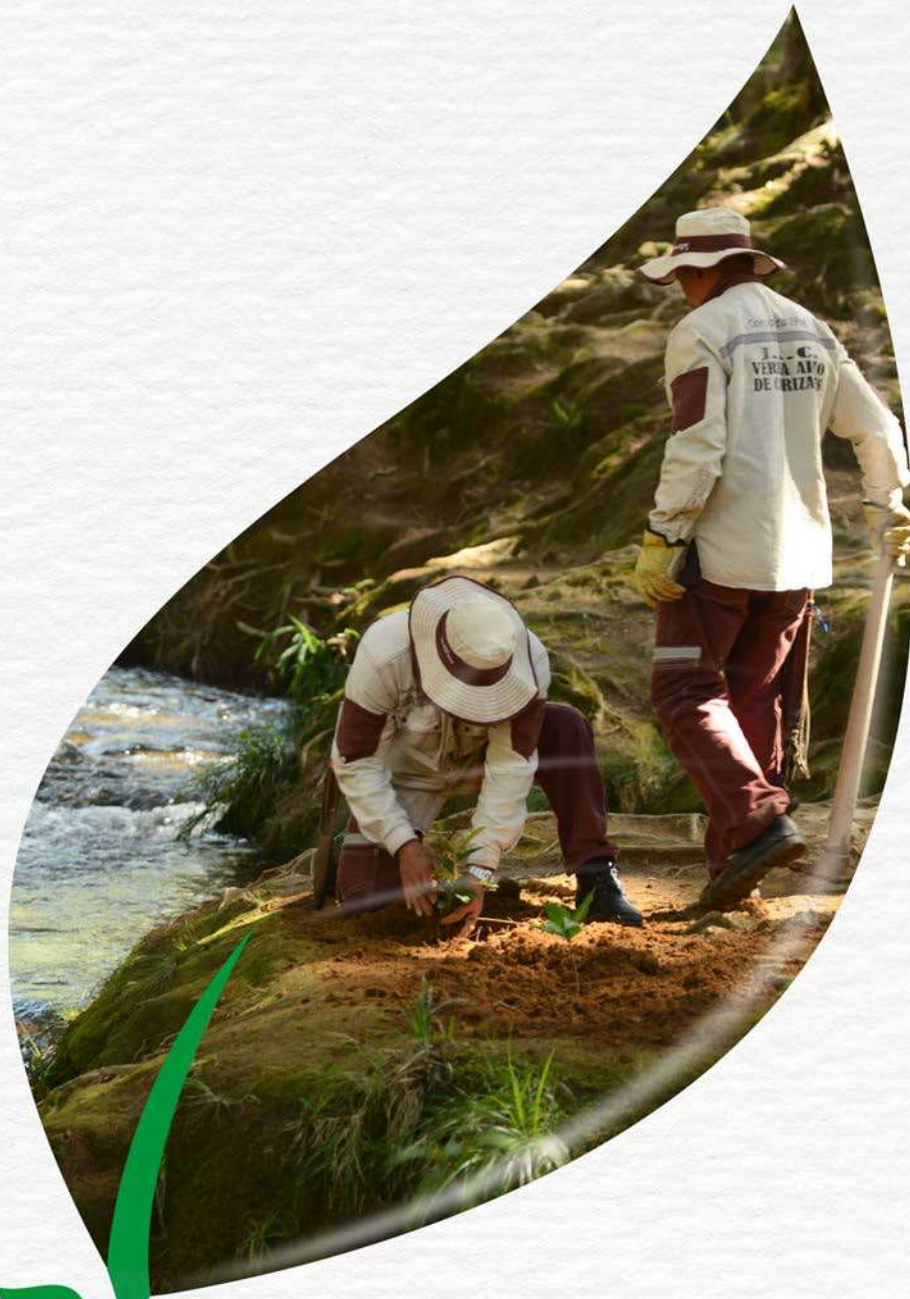
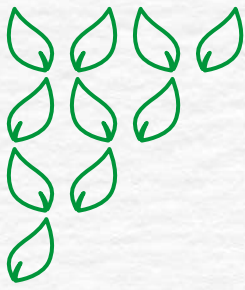
Guatemala

Mexico

Panama

Companies

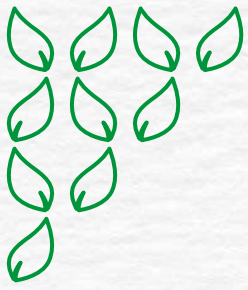
Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Aguas Nacionales EPM
Empresa de Aguas del Oriente Antioqueño
Empresas Públicas de Rionegro - EPRio
Aguas de Malambo
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
EPM Chile
Hidroecológica del Teribe - HET
Tecnología Intercontinental -Ticsa
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa



Grupo·epm[®]



Complementary matters



Grupo·epm[®]



Corporate
citizenship



Corporate citizenship

The social responsibility model of Grupo EPM promotes actions that are directly related to its role as public utility provider. Moreover, either directly or through Fundación EPM, it takes actions that meet the needs of the communities in the areas where it operates: social investment, programs, and contributions to public policies that are part of the concept of corporate citizenship. This way, it promotes, among communities, their development, inclusion in the urban dynamics, economic activities, and access to information and cultural, educational, social, job, and financial opportunities.

Related stakeholders

Community
Owner
Government
Partners

Actions

- Christmas lighting
- Events and sponsorships
- Fundación EPM
- City projects

GRI standards disclosures and EPM indicators

203-1 Infrastructure investments and services supported.
203-2 Significant indirect economic impacts.

Scope and coverage

Businesses

Water
Sanitation
Electricity
Gas

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Risaralda
Colombia - Santander
Colombia - Norte de Santander
Colombia - Malambo, Atlántico
Chile
Guatemala
Panama

Companies

Empresas Públicas de Medellín - EPM
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Empresas Varias de Medellín - Emvarias
Aguas Regionales EPM
Aguas Nacionales EPM
Empresa de Aguas del Oriente Antioqueño
Aguas de Malambo
Aguas de Antofagasta - Adasa
Empresa Eléctrica de Guatemala - Eegsa
Elektra Noreste - ENSA

Christmas lighting

Christmas lighting is an annual project run by Grupo EPM that contributes to the construction of a civic culture, the promotion of values, and the preservation of the community traditions, and allows families to get together and enjoy the city.

Due to the Hidroituango contingency, the Christmas lighting for the city of Medellín was carried out with a lower budget but with the same coverage. Innovation was the focus, as new materials such as fiber optic and interlaced plastic fabric were also used, in order to replace the traditional metallic paper.

To give life to the 2018 Christmas lighting called “Colombia, magical paradise of lights at Christmas”, a team of 219 people, including professionals and artisans, worked throughout the year.

Some of the main figures of EPM 2018 Christmas lighting include: 35,000 figures, 26 million LED bulbs, 11 tons of metallic paper, 158 tons of iron, 798 kilometers of rope light, 254 fiber posts, 64 moving structures, and 275 1000-watt projectors.

Moreover, the 6th edition of the “Turn on the joy” contest was developed, and the following 14 municipalities were the winners in terms of design, construction, assembly, maintenance, and removal of the Christmas lighting: Arboletes, Belmira, Caracolí, Concordia, Cocorná, Copacabana, Frontino, Guatapé, San Vicente, Salgar, Santa Bárbara, Santa Fe de Antioquia, Santo Domingo, and Tarazá.

Management in 2018

Grupo EPM emphasized the protection of natural resources as the theme of the Christmas lighting. It was a perfect opportunity to highlight the country's richness and diversity of fauna and flora.

The “Turn on the joy” contest brought together communities from different regions in Colombia to recreate their Christmas traditions. The increase in the coverage of the Christmas lighting in several municipalities is highlighted.

As for the affiliates of Grupo EPM:

CENS: in the 2018 “Turn on the joy” business strategy held by CENS, the municipalities of Chinácota, Santo Domingo de Silos, Cacota de Velasco, Los Patios, and Ragonvalia were the winners.

CHEC: the Christmas lighting in the city of Manizales and ten rural settlements included 1,416 flat figures and 234 volumetric figures. A total of 45 thousand meters of LED rope light, 8 thousand units of 8-meter mini LED light extensions, and 70 light projectors on trees all around the city were used.

EDEQ: Its 2018 Christmas lighting called “Quindío, Christmas paths” was the company’s strategy to foster the environmental and tourism component of the region based on three lines of work: “Turn on the joy”, public lighting loyalty campaign, and support to tourism in the region. For the Christmas lighting and decoration of ten of the twelve municipalities in the department, 920 figures were installed, along with 450 thousand bulbs and 8 kilometers of LED rope light. In the “Turn on the joy” contest, the winning municipalities were Quimbaya, Filandia, and La Tebaida.

| EPM Christmas lighting | | | |
|---------------------------------|--------|--------|--------|
| Indicator | 2016 | 2017 | 2018 |
| Direct jobs | 310 | 286 | 219 |
| Indirect jobs (street peddlers) | 350 | 350 | 350 |
| Beneficiaries | 1,350 | 1,350 | 1,350 |
| Investment (million COP) | 12,000 | 15,000 | 10,000 |

Source: Vice Presidency of Power Transmission and Distribution.

| Christmas lighting - Energy affiliates of Grupo EPM | | | |
|---|-----------|-----------|-----------|
| Indicator | 2016 | 2017 | 2018 |
| Direct jobs | 483 | 412 | 317 |
| Indirect jobs (street peddlers) | 220 | 208 | 454 |
| Beneficiaries | 1,973,169 | 2,010,627 | 1,942,143 |
| Investment (million COP) | 6,947 | 7,867 | 4,598 |

Source: Vice Presidency of Power Transmission and Distribution.

GRI standards disclosures and EPM indicators

203-2 Significant indirect economic impacts.

Scope and coverage

Electricity

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Norte de Santander
Colombia - Santander

Companies

Empresas Públicas de Medellín - EPM
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS

Events and sponsorships

Grupo EPM develops and supports events and open advertising engagements that strategically aim at generating, supporting, and strengthening its relationships with the stakeholders, to seek the development of the regions where it operates and enhance the business group's reputation.

With a sense of social responsibility, local and regional initiatives having a positive impact on the community are supported by the organization. These initiatives address issues such as conservation of natural resources, technical issues to favor a sustainable culture, safe use of public utilities, and exploitation of recyclable materials, among others. They also contribute to the human, economic, cultural, social, and environmental development processes of the territories where the Group's companies operate.

Management in 2018

Its participation in events and sponsorships allowed Grupo EPM to strengthen its relationship with the different stakeholders in 2018. Some of them include engagement in local and national events such as the Flowers Marathon, the Book and Culture Festival, and the Flowers' Festival, and participation in city spaces that contribute to culture, such as engagement with the Museum of Antioquia, the Museum of Modern Art (abbreviated MAMM in Spanish), the Philharmonic Orchestra of Antioquia and the Explora Park, among others.

In terms of events, the company developed activities for engagement with different stakeholders in the context of the Hidroituango contingency.

Other events held with the community are also highlighted, including the United for Water program, the Buen Comienzo Festival, the "We are there for you" community encounters, and the visits of the World's protector mission. Moreover, there were meeting spaces with the company's suppliers and contractors, and besides participating in industry competitions, there was engagement in brand activation in commercial, cultural, environmental, and sports events such as Expoinmobiliaria, Let's make music turn green, International Environmental Trade Fair, and UCI 2.1 Tour. Thanks to its innovative spirit in the use of renewable energies and sustainable mobility, EPM was the protagonist or participant in events such as Expo Solar, Innovate Yourself, CT+I Fair, and Mobility Fair.

| EPM sponsorships | | | |
|------------------------------|------|------|------|
| Total number of sponsorships | 2016 | 2017 | 2018 |
| Local (only Medellín) | 69 | 61 | 18 |
| National | 41 | 46 | 20 |
| International | 0 | 0 | 0 |

Source: Corporate Identity Management.

| Investment in EPM sponsorships | | | |
|--------------------------------|-------|-------|-------|
| Contributions (million COP) | 2016 | 2017 | 2018 |
| Local (only Medellín) | 7,153 | 4,022 | 2,371 |
| National | 3,187 | 3,867 | 4,835 |
| International | 0 | 0 | 0 |

Source: Corporate Identity Management.

| EPM events | | | |
|------------------|------|------|------|
| Number of events | 2016 | 2017 | 2018 |
| Commercial | 145 | 111 | 27 |
| Non-commercial | 49 | 363 | 120 |

Source: Corporate Identity Management.

| Investment in EPM events | | | |
|-----------------------------|-------|-------|-------|
| Contributions (million COP) | 2016 | 2017 | 2018 |
| Commercial | 1,635 | 706 | 147 |
| Non-commercial | 1,298 | 3,149 | 1,080 |

Source: Corporate Identity Management.

As for the energy affiliates, CENS focused on supporting athletes from different disciplines such as gymnastics, rugby, and skating. Moreover, this affiliate allocated resources for different regional fairs, such as technology and construction fairs. CHEC engaged in the agenda of the Manizales Fair, and EDEQ supported the municipal festivities, mainly those related to sports and culture. As for ENSA, its participation in events such as the Forum on Energy for Sustainable Development, the Green Companies and Environmental Forum, among others, is highlighted. It sponsored again—for the fourth consecutive year—the Provincial League of Baseball of Colon.

Consolidated of sponsorships - Energy affiliates of Grupo EPM

| Number of sponsorships | 2016 | 2017 | 2018 |
|------------------------|------|------|------|
| Local | 149 | 149 | 62 |
| National | 2 | 3 | 19 |

Source: Vice Presidency of Power Transmission and Distribution.

Investment in sponsorships - Energy affiliates of Grupo EPM

| Contributions (million COP) | 2016 | 2017 | 2018 |
|-----------------------------|-------|-------|------|
| Local | 2,150 | 1,758 | 791 |
| National | 18 | 12 | 389 |

Source: Vice Presidency of Power Transmission and Distribution.

Consolidated of events - Energy affiliates of Grupo EPM

| Indicator | 2016 | 2017 | 2018 |
|-----------------------------|--------|--------|---------|
| Number of events held | 27 | 118 | 49 |
| Contributions (million COP) | 1,473 | 1,404 | 2,821 |
| Coverage (beneficiaries) | 34,944 | 52,095 | 964,959 |

Source: Vice Presidency of Power Transmission and Distribution.

As for the water and sanitation affiliates:

The inclusion of hydration points as an advertising element by the affiliate Adasa (Chile) migrated during 2018 to an educational space that allows educating the community in production, desalination, and water quality processes, and in different types of commercial matters.

In Colombia, the affiliate Aguas Regionales implemented theatrical activities in educational institutions and child development centers to foster citizenship culture matters, mainly in terms of good practices in the use of public utilities. As a decisive strategy to get closer to the communities, community educational events were held.

Emvarias participated in the Flower's Festival and sponsored the Buen Comienzo Festival, sending a message to the children to help keep the city clean.

Aguas del Oriente held a special event on the occasion of the Water Day, and Aguas de Malambo, in the department of Atlántico, carried out a "cultural and public utilities takeover" with the purpose of promoting teamwork with the local public and private entities.

| Consolidated of sponsorships - Water and sanitation affiliates of Grupo EPM | | | |
|--|-------------|-------------|-------------|
| Figures - water and sanitation affiliates | 2016 | 2017 | 2018 |
| Number of local sponsorships | 59 | 152 | 52 |
| Contributions local sponsorships (million COP) | 191 | 265 | 210 |

Source: Vice Presidency of Water and Sanitation.

| Consolidated of events - Water and sanitation affiliates of Grupo EPM | | | |
|--|-------------|-------------|-------------|
| Total - water and sanitation affiliates | 2016 | 2017 | 2018 |
| Number of events held | 119 | 169 | 832 |
| Contributions to events (COP million) | 500 | 423 | 860 |
| Coverage (beneficiaries) | 124,760 | 806,686 | 666,375 |

Source: Vice Presidency of Water and Sanitation.

GRI standards disclosures and EPM indicators

203-2 Significant indirect economic impacts.

Scope and coverage

Businesses

- Water
- Sanitation
- Electricity
- Gas

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Santander
Colombia - Norte de Santander
Colombia - Malambo, Atlántico
Chile
Panama

Companies

Empresas Públicas de Medellín - EPM
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Aguas Regionales EPM
Empresa de Aguas del Oriente Antioqueño
Aguas de Malambo
Empresas Varias de Medellín - Emvarias
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa

Fundación EPM

Fundación EPM was created in 2000 to contribute to the development of the current and potential areas of influence of Grupo EPM, through programs and projects of social and environmental management that favor the conservation of natural resources and the proper use of public utilities.

In this sense, and contributing to the corporate strategy of Grupo EPM, the foundation takes actions aimed at strengthening closeness to communities, improving coverage of residential public utilities, and promoting care for the environment.

As part of its work, it manages initiatives such as Water for Education, Education for Water; Articulated Life Units (UVAs); the EPM Water Museum; the EPM Library; the Library Network; and the Deseos Park and House of Music. Moreover, it supports the Environmental Management, Monitoring, and Follow-up Plans of Nueva Esperanza; the Malambo Source of Life Fund; and the strategies for Customers and Community Training.

Management in 2018

During 2018, Fundación EPM invested COP 26,930 million in generating presence and closeness to the communities in the area of influence of Grupo EPM. In this way, it strengthened the social and environmental management actions that lead to a better quality of life of the people and contributed to the improvement of residential public utilities. Thanks to all these actions, more than 5 million people benefited in the departments of Antioquia, Atlántico, and Cundinamarca.

Thanks to its articulated work with the communities and public and private entities, Fundación EPM managed to install 68 water purification solutions in rural educational centers in the department of Antioquia, through its Water for Education, Education for Water program. In total, 5,520 children benefited from these actions.

This year, the social management actions developed in the Articulated Life Units (UVAs) grew stronger (12 of them in Medellín, one in Bello and one in Itagüí). In these spaces, educational and cultural activities were carried out to strengthen closeness to the communities. More than 1,800,000 people participated in these programs.

The foundation supported EPM in its commitment to improve communication with customers and users through its EPM Customers and Community Training project. More than 30,000 educational activities were developed, with the participation of more than 80,000 customers and users in 92 places in the department of Antioquia. In the same vein, 2,016 water micrometers were installed in the municipality of Malambo, in the department of Atlántico, to provide around 8,000 people living in this territory with access to drinking water.

In the EPM Water Museum, the EPM Library, the Deseos Park and House of Music, and the Library Network, educational, cultural, and recreational activities aimed at the community in general were carried out, with a thematic emphasis on social appropriation of knowledge and conservation of natural resources.

In partnership with Corantioquia, Fundación EPM installed 213 wastewater treatment systems in Bajo Cauca, Northeastern Antioquia, and the Middle Magdalena Region of Antioquia.

The Antioquia's Higher Education Scholarship Fund benefited 270 young people from the department, who received a scholarship covering tuition fees and maintenance expenses, in order to pursue their higher education studies, at a technical, technological, and university level. This program is developed in alliance with the Antioquia Governor's Office and the Antioquia Development Institute (abbreviated IDEA is Spanish).

| Fundación EPM management | | | |
|---|-----------|-----------|-----------|
| Program or project / Number of beneficiaries | 2016 | 2017 | 2018 |
| Water for Education, Education for Water | 14,341 | 7,042 | 5,520 |
| EPM Library | 537,903 | 508,811 | 402,026 |
| Customers and Community Training | N.A. | 15,547 | 86,060 |
| Antioquia's Higher Education Scholarship Fund* | 937 | 595 | 270 |
| Malambo Source of Life Fund | 4,232 | 4,297 | 8,136 |
| EPM Water Museum | 106,711 | 99,574 | 104,236 |
| Deseos Park and House of Music | 2,342,565 | 1,891,617 | 1,720,568 |
| Library Network | 1,045,901 | 1,013,502 | 1,183,821 |
| Basic Sanitation | N.A. | 703 | 826 |
| UVAs (14) | 1,480,946 | 1,743,881 | 1,882,993 |

Source: Fundación EPM.

* The figures of the Antioquia's Higher Education Scholarship Fund correspond to scholarship holders who joined the program in 2018. As of December 31, 2018, the total number of students that are part of the fund is 11,075 scholarship holders throughout the department of Antioquia, of which 1,719 are supported with resources provided by Fundación EPM to the Corporation for the Promotion of Higher Education, entity in charge of running the program.

Related stakeholders

Community
Owner
Government
Partners

GRI standards disclosures and EPM indicators

203-1 Infrastructure investments and services supported.
203-2 Significant indirect economic impacts.

Scope and coverage

Businesses

Water
Electricity

Territory

Colombia – Antioquia
Colombia - Malambo, Atlántico
Colombia - Cundinamarca

Companies

Empresas Públicas de Medellín - EPM
Aguas de Malambo
Aguas Nacionales EPM

City projects

Grupo EPM, aware of its role in the construction of a fair, educated, and sustainable society, defines projects with a visible impact on the quality of life of the inhabitants in the territories where it operates.

Management in 2018

While EPM continued with its fundraising activities in important parks of the city, the water and energy affiliates of Grupo EPM carried out outstanding actions with the communities in the municipalities where they provide their services. CENS invested in improving infrastructure and community spaces, while EDEQ promoted the proper use of the Municipal Library and developed the Leadership Network with young people as the central axis of the community.

Seeking to contribute to the strengthening of its relationship with the communities, with a total investment of COP 7,979 million, EPM expanded and adjusted the landscaping of the San Juan del Puerto pier in the municipality of Guatapé, in the department of Antioquia, where the construction of a linear park on the edge of the reservoir and of a floating landing stage in the El Peñol reservoir are highlighted.

Moreover, the company carried out works to improve the infrastructure of the marketplace in the Municipality of El Peñol and its urban environment, with an investment of COP 142 million in 2018. EPM also started works for the modernization of the low and medium voltage underground networks located in Medellín's downtown, near the Paseo Bolívar, with an investment of COP 1,023 million.

For its part, the affiliate CENS supported the construction and strengthening of productive units and networks in Norte de Santander, besides investing in improving infrastructure and community spaces and carrying out a program to support higher education known as "Good energy scholarships for your life project."

Through different educational, cultural, recreational, and fun strategies, the energy affiliate EDEQ promoted the proper use of the Municipal Library and, through an agreement with the Committee of Coffee Growers, installed water purification plants to benefit educational institutions that did not have this service before.

In Panama, the affiliate ENSA delivered to the community four prepaid courts in 2018. This project, which includes the lighting and adaptation of sports fields in low-income areas, contributes to the community's security and unity and fosters sports among children and adults.

In Guatemala, the affiliate Eegsa started the patrimonial lighting works of the Metropolitan Cathedral, while in Chile, Adasa began the construction of the first Water Square in the Antofagasta region, a public space located in the Beach Town. Also, in partnership with the Ministry of Housing and Urban Development, it contributed to the supply of drinking water in public spaces through the "I love my neighborhood" program.

| Management of urban spaces owned by EPM | | | |
|--|---------|---------|---------|
| Impact | 2016 | 2017 | 2018 |
| Visitor assistance service – city guides (million COP) | 386 | 387 | 402 |
| Maintenance of Pies Descalzos park and Puerta Urbana (million COP) | 90 | 243 | 276 |
| Cost of toilet units for community use (million COP) | 290 | 289 | 307 |
| Number of visitors to Pies Descalzos park and Puerta Urbana | 335,544 | 281,024 | 311,297 |

Source: Vice Presidency of Shared Services and Supplies / Administrative Support Management / Fundación EPM.

| Plots delivered in free lease by EPM to the community | | | |
|---|-------|-------|-------|
| Indicator | 2016 | 2017 | 2018 |
| Free-lease contracts signed | 64 | 63 | 61 |
| Benefit for the community (million COP)* | 2,804 | 3,528 | 3,702 |

Source: Vice Presidency of Shared Services and Supplies.

* The reported value corresponds to the estimated percentage of profitability of assets in free lease, which is equivalent to the cost of leasing that commodataries did not pay, since this type of contracts are legally free of charge.

GRI standards disclosures and EPM indicators

203-1 Infrastructure investments and services supported.

203-2 Significant indirect economic impacts.

Scope and coverage

Businesses

Water

Electricity

Territory

Colombia - Antioquia

Colombia - Quindío

Colombia - Norte de Santander

Chile

Guatemala

Panamá

Companies

Empresas Públicas de Medellín - EPM

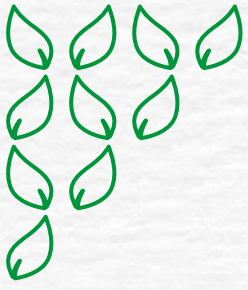
Empresa de Energía del Quindío - EDEQ

Centrales Eléctricas del Norte de Santander - CENS

Empresa Eléctrica de Guatemala - Eegsa

Elektra Noreste - ENSA

Aguas de Antofagasta - Adasa



Grupo·epm[®]



Development
and innovation








Development and innovation

EPM wants to grow with people through innovation and operation efficiency to contribute to the development of sustainable and competitive territories. Therefore, it conceptualizes, incubates, and escalates options to develop new businesses, as well as identifies and transfers new technologies to strengthen current businesses while optimizing the existing processes.

It also has the services of technological forecasting and competitive intelligence for all businesses and dependencies. This work is carried out from the EPM Library and seeks to strengthen the innovation process.

Over the last few years, efforts and synergies have been articulated through a single work plan called Agenda de innovación (Innovation agenda). Based on workshops held throughout the business group on signs of the environment and understanding of strategic planning, innovation focal points per business were declared and prioritized in 2018. They were recognized as the topics that framed the group's main innovation needs and opportunities. These are detailed in the following figure:

|  |  |  |  |  |
|---|--|--|---|--|
| Nonconventional renewable energy (abbreviated ERNC in Spanish) | Transmission and distribution | Water supply Wastewater management | Gas | Solid waste management |
| <ul style="list-style-type: none"> • Solar energy. • Wind energy. • Biomass. • Biogas. • Small hydarulic power stations. • Geothermal energy. • ERNC integration. • Hydraulic and thermal power stations. | <ul style="list-style-type: none"> • Optimization and operational profitability • Purchasability and digitization. • Increase in service provision (growth and coverage). • Environmental and social management. | <ul style="list-style-type: none"> • Sustainable management of water sources. • Infrastructure optimization. • Distributed solutions. • Energy efficiency. • Water treatment by-products. | <ul style="list-style-type: none"> • Integral solutions. • Biogas. • Vehicular natural gas. • New gas applications. | <ul style="list-style-type: none"> • Operational and infrastructure optimization of the waste collection service. • Waste reclamation. • Waste valorization. • Efficient management of sanitary landfills. |

Main achievements

| Goals | Achievements | Accomplishment |
|---|--|----------------|
| <p>Programa Feria CT+i (ST+i Fair program), through the execution of Solar circuit and Innóvate EPM (Innovate yourself EPM) projects, and Science, technology and innovation fair.</p> | <p>Science, technology and innovation fair (ST+i Fair): it is aimed at elementary and secondary school students; it extended its coverage to 25 municipalities in Antioquia. 120 educational institutions were benefited; 53 of them in the rural sector. 40 out of 74 projects that reached the final phase of the program in November committed to solving challenges in the thematic lines defined by EPM.</p> <p>Innóvate EPM (Innovate yourself EPM): it was supported by EDEQ and CHEC. 205 university students from Medellín, Armenia, and Manizales participated with the submission of 100 projects.</p> <p>Circuito solar EPM (EPM solar circuit): 628 students participated. They were from 9th to 11th grades and from 15 municipalities in Antioquia. 60 teams reached the final. They consisted of 175 students from 43 educational institutions in 13 municipalities of Antioquia.</p> | <p>Total</p> |
| <p>Solution for the reclamation of biosolids: Conduct market research, potential market exploration, and definition of opportunities; define business model according to the defined strategy; create conceptual design of plant for fertilizer production; and estimate budget for implementation.</p> | <p>The commercial strategy and product development were defined. A market study was carried out in order to get to know appraisals related to customer identification, material demands, product potentials, market knowledge, sectors, and types of crops.</p> <p>In the area of education, academic/commercial events were held to contextualize crop owners regarding biosolids and the proposed solutions and products.</p> | <p>Total</p> |
| <p>Thermal coatings project: Achieve the technology assimilation in the power generation business assets, doing the required coating with the APS (air plasma spray) equipment and the robot.</p> | <p>In October 2018, the EPM infrastructure began to be upgraded for repairs, including new assimilated technologies (APS, HVOF, and GAP) and covering the plants' repair needs. As a particular challenge, a centralized work is carried out on the repair of capital components of the Guadalupe III, Troneras, and Termosierra power plants.</p> | <p>Total</p> |

| Goals | Achievements | Accomplishment |
|---|---|----------------|
| Build in EDEQ two water purification plants in rural educational institutions. | Three educational institutions benefited, including the execution of the interinstitutional agreement with the Colombian Coffee Growers Federation and the municipalities of Calarcá, Filandia, and Quimbaya. The impact sectors of the project were characterized and a social diagnosis was obtained that identified rural settlements where this project was developed in three stages. These phases consisted of information about the project to the beneficiary community; training for the educational institutions benefiting from the program in topics such as energy, environment, efficient use of water and energy, and care and preservation of water; and, finally, support and monitoring of the project between EDEQ and the Coffee Growers Committee. | Total |
| Implement the electrical data model in the group's infrastructure by the affiliate CHEC. | The full implementation of group projects led by EPM was not achieved, such as: occupational health and safety management system, EAM, FSM, ARIBA, Digital Electric Model (abbreviated MDE in Spanish), and Information Security Management System (ISMS). | Partial |
| Define the business model to sell CHEC's laboratory services to external customers and offer the services. | The cost structure of CHEC laboratories was defined and surveyed in order to identify the current fixed costs and determine the price that would be offered to the customer. Based on this exercise and the market study conducted, the existing price for meter testing and calibration was redefined. | Total |
| Smart measurement: Integrate the readings into the information system for billing and portfolio management, and real-time display of consumption in the ESSA application. | In August, a 50% of progress on the reading captures to the biller machine is reported, as well as a development of the web service for the application. | Total |

| Goals | Achievements | Accomplishment |
|---|---|----------------|
| Develop 14 critical maneuvers in the overhead and underground network maintenance management by the affiliate CHEC within the framework of the development of training software using 3D environments (interactive and immersive) applied to electricity distribution networks. | The construction of a 3D training room at CHEC facilities, the training of CHEC damage and repair work groups, and the development of 16 maneuvers were achieved. | Total |

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress made in management in 2018 |
|---|------------------------------|----------------------|----------|-------------------------------------|--------------------------|--|
| | | Territory | Business | Company | | |
| Monitor, control online, and diagnose the telemetry pilot in Sucre, in the small town of Olaya. | 2019 | Colombia – Antioquia | Water | Empresas Públicas de Medellín - EPM | Programmed / implemented | Telemetry and remote management equipment was installed along the water supply system of the municipality of Sucre. This favored the online monitoring of the main variables of the water supply system to timely carry out actions to improve the service in terms of continuity, quantity, and quality. It also enabled the online identification of the main causes that may affect the service of the water supply system. Similarly, it was possible to achieve operational efficiency and optimization of maintenance, including the regulation of pressure remotely and to know first hand how to operate and maintain this type of water supply systems. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress made in management in 2018 |
|---|------------------------------|----------------------|--------------------|---------------------------------------|--------------------------------------|--|
| | | Territory | Business | Company | | |
| Power generation in water supply networks pilot project: Design and define site and equipment for power generation in water supply networks. | 2019 | Colombia – Antioquia | Water | Empresas Públicas de Medellín - EPM | Programmed / implemented | The pilot project is being implemented. Two sites were selected for the installation of the PAT (pumps as turbines) systems and previous hydraulic measurements were made to determine the generation capacity and detailed design of the PAT systems for the two sites. |
| Hazardous waste management: Evaluate in EPM the possibility of implementing the analysis of PCBs (polychlorinated biphenyls) for porous solid surfaces. | 2019 | Colombia – Antioquia | Electrical energy | Empresas Públicas de Medellín - EPM | Percentage of progress in milestones | |
| Distribution transformers with vegetable dielectric oil: Raise awareness about new technology and adapt processes. | 2019 | Colombia – Antioquia | Electrical energy | Empresas Públicas de Medellín - EPM | Percentage of progress in milestones | |
| Continue with the necessary technical and feasibility analyses to further leverage the profitability of the optical fiber owned by EDEQ and ensure its optimal operation. | 2019 | Colombia – Quindío | All the businesses | Empresa de Energía del Quindío - EDEQ | Reach 100% of achievement | Technical feasibility analysis was carried out for four economic proposals and possible negotiations for the profitable use of EDEQ optical fiber. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress made in management in 2018 |
|---|------------------------------|----------------------|--------------------|--|---|---|
| | | Territory | Business | Company | | |
| Implement the Innovation Management System (IMS) and obtain the NTC 5801 certification. | 2019 | Colombia – Santander | All the businesses | Electrificadora de Santander - ESSA | ESSA's IMS certification in accordance with the NTC 5801. | 45% progress in the implementation of the IMS: diagnosis, training and discussion, work plan to close gaps, and innovation policy and objectives. |
| Develop a strategy that allows the dissemination, introduction, and sale of induction stoves with local electrical appliance suppliers. | 2019 | Guatemala | Electrical energy | Empresa Eléctrica de Guatemala - Eegsa | Stoves introduced to the market in 2019 | |

Related stakeholders

Customers and users
 Community
 Owner
 Government
 Grupo EPM people
 Suppliers and contractors
 Partners

Actions

Innovation management
Technological developments
Urban solid waste management
Non-conventional solutions for the water business

GRI standards disclosures and EPM indicators

EPM-19 Implementation of new businesses in development and innovation.

Scope and coverage

Businesses

Water supply
Sanitation
Electrical energy
Gas

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Santander
Guatemala
Panama
Chile

Companies

Empresas Públicas de Medellín - EPM
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Empresa Eléctrica de Guatemala - Eegsa
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa

Technological developments

In order to optimize the infrastructure performance in the different operating processes and be at the forefront of technological advances, EPM develops research, development, and innovation projects aimed at the production of new materials, products, and devices, and at the establishment and improvement of new processes, systems, and services.

Through these developments, not only the capacities of operating staff are strengthened, but also the generation of new knowledge in the organization and in the members of research groups of the universities or entities involved. It is possible to obtain important inventions for the protection of intellectual property or to achieve a possible commercial operation and placing on the market, which constitutes an innovation.

To achieve the corporate goals and provide new solutions, EPM commits to the integration of technologies and participates in the development of some of them.

Management in 2018

Using advanced analytics, EPM developed three analytical models to improve service quality indicators in the transmission and distribution business:

- Alerts via impact email on System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI).
- Visual and interactive analysis of the service quality.
- Downstream failure prediction of local distribution system (LDS) reclosers.

EPM already has a primary treatment system and during 2018 achieved a 95% advance in the operation of the secondary treatment system for the leachate from La Pradera landfill, improving the conditions for dumping the leachate into the Medellín River. For this purpose, biological reactors and a high efficiency ultrafiltration system were used.

Advanced analytics has been applied through the development of solutions that improve service quality indicators in businesses. The automation of 10 processes was achieved through robots (RPA) that increase the efficiency (control, quality, attention capacity, and achievement) of the process and the productivity of the employees, reducing repetitive and standardized manual tasks. The technical-economic analysis of the remote management pilot for public lighting in the municipality of Medellín was carried out under a scenario of widespread use.

At the same time, the affiliates of Grupo EPM made progress in the application of capabilities to achieve operational efficiencies in the occupational health and safety system, asset management systems EAM, FSM, ARIBA, and MDE, Information Security Management System (abbreviated ISMS in Spanish), and implementation of the Human Capital Management (HCM) solution.

Emvarias implemented a project to extend the service life of engine lubricating oils, with environmental benefits from less final disposal of filters and oils, as well as savings in test vehicles. These results are expected to be scaled throughout the fleet.

CHEC disseminated EPM's knowledge of the IT architecture model.

EDEQ developed an optimal model associated with investments to mitigate the effect of vegetation in contact with the LDS and pruning plans.

Through the installation of monitoring cameras, ESSA seeks to automate some functions of the generation plant and bring through them the signals provided by sensors and meters to the administrative offices.

ENSA Panama is making progress in replacing sodium streetlights with LEDs, which will save 10% in the consumption of the public lighting system.

Eegsa in Guatemala strengthens its Metric laboratory services under ISO 17025 for the reduction of losses, while performing measurements to meters, energy standards and instrument transformers within international standards to ensure quality measurements to customers and users of its services.

| Investments in technological development (million COP) | |
|--|---------------|
| Concept / Indicator | 2018 |
| EPM parent | 966 |
| Company Group | 9,692 |
| Affiliates | 10,658 |

Source: Executive Vice Presidency of Strategy and Growth – Development and Innovation Management.

The chart shows a representative percentage of investments in technological developments by the affiliates. The biggest investment is made by ENSA Panama with its replacement project of streetlights with LED type.

GRI standards disclosures and EPM indicators

EPM-19 Implementation of new businesses in development and innovation.

Scope and coverage

Businesses

Water supply
Sanitation
Electrical energy

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Santander
Panama
Guatemala

Companies

Empresas Públicas de Medellín - EPM
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Empresa de Energía del Quindío - EDEQ
Electrificadora de Santander - ESSA
Elektra Noreste - ENSA
Empresa Eléctrica de Guatemala - Eegsa

Innovation management

It is a discipline that seeks to promote a culture of repeatable and sustainable innovation within an organization. Innovation management initiatives seek efficiencies for current businesses and changes that significantly transform the business (Gartner, 2018).

Grupo EPM has followed an important path in this management. It incorporated the culture of innovation as a competence of all its employees and applied the innovation model described below, which starts from generating ideas, prioritizing, validating prototypes, and executing pilot projects, until reaching solutions, implemented improvements, or new products or services for customers and users.

Grupo EPM innovation management model

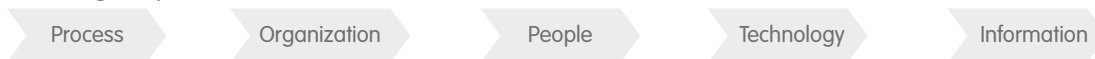
I. Strategic component



II. Implementation component



III. Enabling component



Furthermore, Grupo EPM recognizes the importance of maintaining continuous learning and having a network of allies to identify people, entrepreneurs, entities, and companies, in order to make alliances for collaborative work, make investments through the capital fund, and establish a win-win relationship to build the required solutions.

Management in 2018

EPM achieved the conformation of an innovation agenda covering the entire group. As a result, an innovation portfolio was consolidated, with the active participation of employees from most of the national and international affiliates, who presented their needs and opportunities.

Work was done on the standardization of the language around innovation, as well as on the issuance of business guidelines and rules associated with the management of innovation within the scope of the group.

EPM implemented the following projects to promote innovation and scientific activity among children and young people: Science, technology and innovation fair (ST+i Fair), which benefited 1,210 students and 390 elementary and secondary school teachers from 120 educational institutions; 53 of which were from the rural sector. 40 of the submitted projects focused on solutions in the thematic lines defined by EPM. Innóvate EPM (Innovate yourself, EPM), held in Medellín, Armenia, and Manizales, gathered 205 university students, who submitted 100 projects. In addition, 3,120 students and 810 teachers from 9th to 11th grades participated in the EPM solar circuit competition, with 175 young finalists in 60 teams.

EPM carried out the 2018 Call for innovation initiatives, covering the entire group and implementation timelines. 160 draft proposals were received; 41 of them were selected as part of the innovation portfolio. In the Creando ando (Creating I am) call, in EPM parent company, 615 short-term implementation ideas were received; 153 were identified as potentially implementable. Moreover, the company participated in spaces such as the university - industry - government committee, as well as in different events and training workshops in some universities and institutions with the presentation of innovation topics, methodologies, and success and failure cases.

In its quest to leverage new businesses, EPM's innovation and entrepreneurship fund acquired shares in the Chilean company Triciclos (recycling and clean points), in Kaptar (recycling and loyalty) and in Hybrico (Guatemala). Ventures EPM signed an agreement with Ruta N and CREAME to develop the first cycle of accelerated ventures.

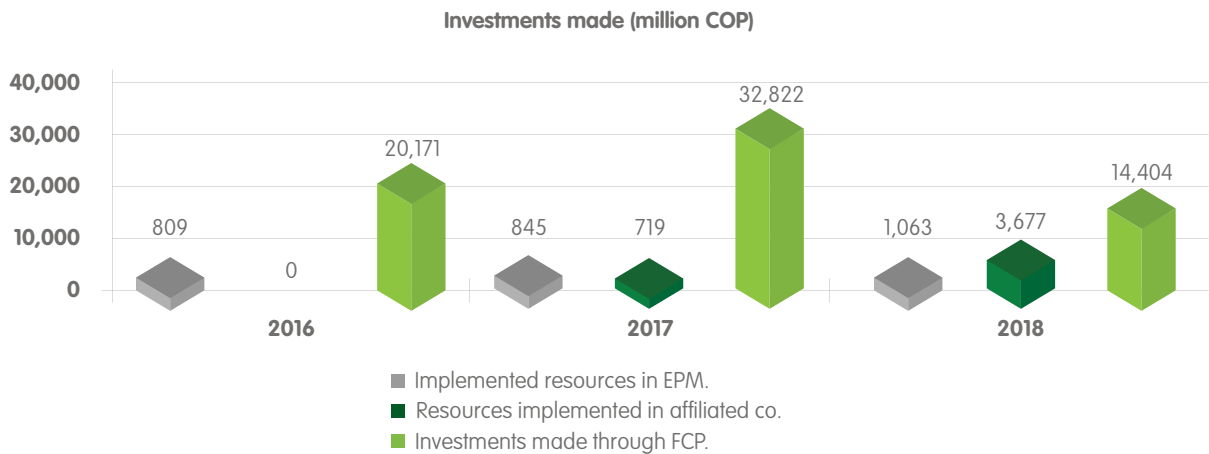
EDEQ participated with two presentations in the International Congress on Maintenance and Asset Management. This Grupo EPM affiliate was recognized by the Colombian Association of Engineers (abbreviated ACIEM in Spanish) for its progress in implementing the Asset Management System.

CHEQ developed a training software using 3D environments (interactive and immersive), applied to electricity distribution networks, with results published in some journals. In addition, it received an award for this work during the 8th International Congress on works with voltage and safety in transmission and distribution.

ESSA achieved 45% progress in the implementation of the IMS (policy and objectives). It also executed the Convocatoria MEGA-Innovadores (Megainnovators call), while selecting and prioritizing innovative project ideas.

From Panama, ENSA Innova received 143 proposals through the Héroes de Verdad web platform: 44 were selected, of which 32 are in incubation and 12 were implemented.

Adasa awarded five projects to be implemented in 2019 as a result of the fourth version of Antofaemprende (Antofagasta ventures), to strengthen a community of social entrepreneurs with the capacity to propose and provide solutions to the challenges in this region of Chile.



Source: Executive Vice Presidency of Strategy and Growth – Development and Innovation Management.

The chart shows the investments by projects implemented in EPM and the group’s affiliates, as well as the investments made by the Innovation and Entrepreneurship Capital Fund. In 2018, the affiliates showed an increase in investment, demonstrating their firm commitment to innovation management.

GRI standards disclosures and EPM indicators

EPM-19 Implementation of new businesses in development and innovation.

Scope and coverage

Businesses

- Water supply
- Sanitation
- Electrical energy
- Gas

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Risaralda
Colombia - Santander
Panama
Chile
Guatemala

Companies

Empresas Públicas de Medellín - EPM
Empresa de Energía del Quindío - EDEQ
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa Eléctrica de Guatemala - Eegsa
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa

Municipal solid waste management

Solid waste in Medellín and its metropolitan area requires a planned management to design solutions according to the characteristics and conditions of our region, socially inclusive and sustainable from the health/environmental and economic point of view.

In this sense, Grupo EPM has proposed a strategic vision with several parameters. These include prioritizing the projects to be implemented in the different time horizons in order to achieve integral and efficient management (making the most of the by-products obtained in the process), providing solutions for the management of ordinary, special and hazardous (short term) solid waste, and taking the business model to a level that promote minimization at source and the reuse, recycling, and recovery of materials and energy from waste.

Management in 2018

Between 2018 and 2022, as a result of the adjustment to the group's strategic planning that was approved in September 2018, Vision 2025 initiatives were defined. Among them, priority was given to the generation of efficiencies and growth in the management of municipal solid waste. To this end, actions will be implemented to leverage this growth.

EPM continues to enable solutions that optimize the process from the generation of waste at the source, continuing with the activities of sweeping and cleaning, reuse and recycling, to the efficient management of the sanitary landfill.

Progress was made in structuring the business to take advantage of the biosolids generated in wastewater treatment: production of a crop fertilizer that has already been technically tested with excellent results. Once the conclusions of the required (market, environmental, regulatory, financial, and economic) studies are available, which are described in the business case, it is expected that this initiative will be materialized in EPM or in one of its affiliates.

With regard to hazardous waste management, 95% progress was made in implementing the analysis of PCBs on impermeable solid surfaces to support the management of the PCB removal plant in the decontamination of equipment.

In addition, there is a mineral dielectric oil regeneration plant that EPM has been operating to make environmentally appropriate use of these oils, the materials recovered, and the waste generated in this process. During this year, the company received 386 tons of equipment from energy distribution networks, which were diagnosed, PCB cleaning, 106 tons of oil regenerated and, in turn, 48 tons of oil were regenerated and delivered to appropriate facilities (General Warehouse) for reuse in internal processes. Likewise, as a contribution to the care for the environment, 251 tons of reclaimable metal scrap, free of PCBs and other materials, were adequately handled.

Emvarias invested COP 381 million in the installation of six underground systems in the Carrera Bolívar; large automatic compactors, and the installation of waste containers in the Ciudadela Nuevo Occidente. These investments are aimed at optimizing the management of solid municipal waste in Medellín, reducing odors, eliminating sources of pollution, improving health conditions, and further mechanizing the service. Furthermore, at the installed Puntos Naranja (Orange Points) 2,645 kg of waste of electrical and electronic equipment, 1,083 kg of batteries, 604 kg of streetlights, 553 kg of medicines, and 375 kg of cooking oil were collected. The company also constituted a project for the citizens of Medellín's Comuna 14 on the delivery of reclaimable material. The program La ruta recicla (The recycling road) was recognized with the InnovaCiudad Award 2018, which each year recognizes initiatives that contribute to the quality of life of communities and the development of cities. This project is subscribed to the Smart City Business America Congress & Expo.

GRI standards disclosures and EPM indicators

EPM-19 Implementation of new businesses in development and innovation.

Scope and coverage

Businesses

Sanitation

Territory

Colombia - Antioquia

Companies

Empresas Públicas de Medellín - EPM

Empresas Varias de Medellín - Emvarias

Non-conventional solutions for the water business

Water is the main resource EPM uses for its water and power generation businesses. Thus, through innovation, new non-traditional solutions are explored. These are related to other forms of water catchment for human consumption, use of new water sources, use of new structures and materials, and implementation of other practices for the removal of microorganisms or pollutants, among others. Therefore, the aim is to implement sustainable solutions with the use of the most appropriate technology, considering investment costs, operation, maintenance and conditions of the environment where it will be implemented.

Management in 2018

EPM implemented the remote management project in rural water supply systems in the municipality of Olaya (in western Antioquia). Additionally, it began a pilot project to evaluate the implementation feasibility of the PAT technology and its compatibility with the water supply network. At the same time, it installed a water purification flower on an EPM site for the use of rainwater and continued with the project of overhead water supply systems in areas where it is not possible to enable the service using underground networks.

EPM continued with the pilot project for the construction of overhead water supply systems in the municipality of Turbo, in the Urabá region, department of Antioquia. The company built 2.5 km of network to carry the water to the Marine Infantry Battalion No. 16 and provide the water supply service to neighboring homes. Between 2017 and 2018, COP 827 million was invested.

On the other hand, the company started a pilot project that evaluates PAT technology as a system to regulate pressure or dissipate excess energy from the flow in EPM's water supply network; in this way, excess energy is used to generate electricity. In 2018, two sites were selected for the installation of the PAT systems and previous hydraulic measurements were made to determine the generation capacity and detailed design of the PAT systems for both sites.

The second pilot project was the installation of telemetry and remote management equipment along the water supply system in the small town of Sucre (municipality of Olaya), west of the department of Antioquia. Its purpose is to monitor online the main variables of the system, identify online the main causes that affect or may affect the service, and achieve operational efficiency and maintenance optimization, so that the affiliate company Aguas Regionales can use this knowledge and that the experience in other hard-to-reach water supply systems can be replicated in the future.

Finally, a decentralized solution for the purification of water from rainwater was installed on an EPM site. In 2018, monitoring of the quality of the outlet water was initiated and an investment of COP 90 million was made.

| Investment in non-conventional solutions for the water business | | |
|--|------------|--------------|
| Concept / Indicator | 2017 | 2018 |
| Overhead water supply system pilot project. | 577 | 250 |
| Pilot project for a decentralized solution for water purification from rainwater. | 0 | 90 |
| Telemetry pilot project of a regional water supply system, implementing the Sucre water supply system, operated by Aguas Regionales. | 53 | 224 |
| Pilot project for the evaluation of PAT technology as an alternative system to regulate the pressure in EPM's water supply network and use its excess in electricity generation. | 0 | 458 |
| Total investment | 630 | 1,022 |

Source: Vice Presidency of Water and Sanitation / Development and Innovation Management.

GRI standards disclosures and EPM indicators

EPM-19 Implementation of new businesses in development and innovation.

Scope and coverage

Businesses

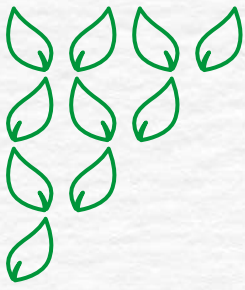
Water supply
Sanitation

Territory

Colombia – Antioquia

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM



Grupo·epm[®]



Working
environment



Working environment

Grupo EPM understands the working environment based on the objective and subjective conditions that form the environment for work performance, seeking that people have a satisfactory experience when developing their activities in the company. This concept includes factors such as health and safety.

Training and development: The learning management process focuses on ensuring a smart organization, capable of learning through the training of its people and strengthening their employability through education.

Employment and equality: They consist of aspects related to the company-employee relationship, including remuneration, gender equity and equal employment opportunities, as well as the exercise of union and association rights.

Today, companies focus their strategies and efforts toward improving the quality of life of their collaborators, motivating them and building a sense of belonging to the organization. A suitable working environment helps people do their work under optimal conditions, which makes them more productive and gives them balance between personal and professional development.

Main achievements

| Goals | Achievements | Accomplishment |
|--|--|----------------|
| EPM: Continue increasing the usability of the benefits, through the implementation of new segmentation and dissemination strategies. | The usability of benefits during 2018 was 95%, that is, out of 7,153 public servants, 6,783 claimed at least one benefit for them or their beneficiaries. Usability was 89% in 2017. | Total |

| Goals | Achievements | Accomplishment |
|--|---|----------------|
| EPM: Continue implementing the strategies of the strategic mobility plan (abbreviated PMES in Spanish). | <ul style="list-style-type: none"> • Delivery of the PMES to Área Metropolitana del Valle de Aburrá. • Teleworking strategy: 293 teleworkers. • En bici al trabajo (Bike-riding to work) strategy: 525 people enrolled. • Implementation of the Vamos Med mobile application of the Medellín Mayor's Office to support the En bici al trabajo program and to control the arrivals of employees riding their bicycles as means of transport. • Strategy of approach routes in Medellín from the EPM building to the La Alpujarra metro station and from the Colombia substation to the La Floresta metro station. | Total |
| EPM: Extend the recognition plan to other audiences and institutionalize other existing recognition plans. | EPM continued the execution of the transmission and distribution program, with eight events and the participation of 160 servers and 58 beneficiaries in Medellín, the metropolitan area, Urabá, and the Lower Cauca region in Antioquia. The company designed, presented, and provided the plan to expand its coverage to the Vice Presidency of Water and Sanitation. The plan was not implemented because there is no productivity assessment tool to select the target audience. | Total |
| EPM: Define the concept of emotional salary at EPM. | Bitácora (EPM's intranet) was updated with information on the emotional salary at EPM - Mi calidad de vida (My quality of life) - and the closeness endomarketing program was implemented with the delivery of kits for significant moments of the public servants' life (marriage, childbirth, death of loved ones, housing loan). | Total |
| EPM: Continue implementing the EPM saludable (Healthy EPM) action plan and expand its coverage. | EPM saludable impacted the welfare of 55 public servants with positive changes in their health (BMI, abdominal perimeter, cardiovascular risk indicators). | Total |
| EPM: Achieve low-/nonexistent-risk population in the total risk indicator. | Low-/nonexistent-risk population in the total risk indicator. Goal: 64.22%. | Total |

| Goals | Achievements | Accomplishment |
|---|---|------------------|
| EPM: Check the quality of performance indicators and objectives prepared during 2018 and provide feedback to heads and managers to increase the quality and effectiveness of objectives and indicators. Thus, public servants increasingly will know their objectives, the metrics of their individual and collective contributions, and how to develop them. | Progress was made in this goal with a sample of the senior staff. The company analyzed the performance objectives corresponding to the performance plans of 70 executives of the organization. | Partial |
| EPM: Design and implement an online site that supports training at EPM. | Universidad EPM's Campus Virtual (Virtual Campus) online site was implemented, leveraging the options offered by the HCM-Learn module. | Total |
| EPM: Implement the Advanced Leadership Training program with Escuela de Altos Estudios de Quirama (Quirama's School of Advanced Studies) for 50 heads. | EPM signed an agreement with Quirama for 25 executives. A total of 120 executives are enrolled in Inalde's leadership programs (at Universidad de La Sabana). Three groups of executives will be trained with Quirama during 2019. | Total |
| EPM: Identify, for knowledge management, people with key knowledge, transfer of knowledge, and expert team. | Progress was made in the transfer of knowledge for people with key knowledge before the time of their retirement and in the expert team with the Center for Technical Excellence. | Total |
| EPM: Take other companies as reference on the collective bargaining processes for the implementation of best practices. | Four parent companies of business groups were taken as references. EPM collected experiences to validate practices currently implemented at the organization and to learn about others to study them and work on their implementation. | Total |
| EPM: Prepare and share EPM's internal labor regulations. | The internal labor regulations were prepared and shared with the departments where participation and implementation would be greater. | Total |
| EPM: Assist the Colombian power affiliates in the collective bargaining processes during the year. | EPM assisted the collective bargaining processes of EDEQ and CHEC; as for ESSA and CENS, their unions decided not to start the process. The bargaining agreements of the four power affiliates were analyzed and recommendations were made. | Total |
| Reach a disabling injury frequency rate (DIFR) of 0.31. | The DIFR was 0.73. | Not accomplished |
| EPM: Fill 400 vacant positions. | 361 vacant positions were filled using the different mechanisms established. | Partial |

Challenges

| Challenge | Year in which it is achieved | Achievement indicator |
|--|------------------------------|--|
| Implement the debt management program for EPM's public servants. | 2019 | Decrease in the number of people with a high level of indebtedness. |
| Prepare the required documentation for the Famillially Responsible Company (abbreviated EFR in Spanish) certification in 2021. | 2021 | Certification. |
| Execute, with austerity criteria, 100% of the recreational and sports activities and corporate events. | 2019 | Percentage of execution versus the schedule. |
| Achieve 60% of low-/nonexistent-risk population in the total risk indicator. | 2019 | Total risk indicator. |
| Achieve 60.50% of low-/nonexistent-risk population in the total risk indicator. | 2020 | Total risk indicator. |
| Establish cross-cutting goals in a way that collaborative work is promoted. | 2019 | Total risk indicator. |
| Execute four leadership development programs with the Escuela de Altos Estudios de Quirama (Quirama's School of Advanced Studies) for 80 executives. | 2019 | Program completed. |
| Execute 100% of the cultural transformation contract with Confluye. | 2019 | Execution of the contract. |
| Prepare the collective bargaining process with the Sintraemsdes union organization. | 2019 | Completion of the activities planned in the preparation schedule. |
| Analyze the bargaining agreements of Sinpro and Sintraemsdes to make recommendations regarding their application. | 2019 | Analysis of all the current bargaining agreements at EPM and preparation of recommendations. |
| Reach a disabling injury frequency rate (DIFR) of 0.26. | 2019 | DIFR indicator. |
| Reach a disabling injury frequency rate (DIFR) of 0.23. | 2020 | DIFR indicator. |
| Reach a disabling injury frequency rate (DIFR) of 0.22. | 2021 | DIFR indicator. |
| Cover 224 vacant positions approved by the board of directors until December 2018. | 2019 | Number of vacant positions approved by the board of directors in 2018 that are to be filled / number of vacant positions approved by the board of directors filled by December 31, 2019. |

Related stakeholders

Customers and users
Community
Grupo EPM people
Suppliers and contractors

Actions

Employee welfare and benefits
Quality of life
Organizational climate
Employee performance
Training and development
Retirees and pensioners
Union organizations
Staff
Occupational safety and health
Personnel selection

GRI standards disclosures and EPM indicators

102-8 Information on employees and other workers.

102-41 Collective bargaining agreements.

103-1 Explanation of the material topic and its boundary.

103-2 The management approach and its components.

103-3 Evaluation of the management approach.

EU14 Programs and processes to ensure the availability of a skilled workforce.

EU15 Percentage of employees eligible to retire in the next five and ten years, broken down by job category and by region.

EU16 Policies and requirements regarding health and safety of employees, contractors, and subcontractors.

EU17 Days worked by contractor and subcontractor employees involved in construction, operation, and maintenance activities.

EU18 Percentage of contractor and subcontractor employees that have undergone relevant health and safety training.

401-1 New employee hires and employee turnover.

401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees.

403-2 Types of injury and rates of injury, occupational diseases, lost days, absenteeism, and number of work-related fatalities.

403-3 Workers with high incidence or high risk of diseases related to their occupation.

403-4 Health and safety topics covered in formal agreements with trade unions.

404-1 Average hours of training per year per employee.

404-2 Programs for upgrading employee skills and transition assistance programs.

404-3 Percentage of employees receiving regular performance and career development reviews.

405-1 Diversity of governance bodies and employees.

EPM-16 Percentage of employees surveyed in quality of life.

Scope and coverage

Businesses

Water

Sanitation

Electrical energy

Gas

Territory

Colombia - Antioquia

Colombia - Caldas

Colombia - Quindío

Colombia - Risaralda

Colombia - Santander

Colombia - Norte de Santander

Colombia - Malambo, Atlántico

Chile

El Salvador

Guatemala

Mexico

Panama

Companies

Empresas Públicas de Medellín E.S.P. - EPM

Central Hidroeléctrica de Caldas S.A. E.S.P. - CHEC

Empresa de Energía del Quindío S.A E.S.P. - EDEQ

Electrificadora de Santander S.A. E.S.P. - ESSA

Centrales Eléctricas del Norte de Santander S.A E.S.P. - CENS

Distribuidora de Electricidad del Sur S.A. de C.V. - Delsur

Empresa Eléctrica de Guatemala S.A. - Eegsa

EPM Chile S.A.

Hidroecológica del Teribe S.A. - HET

Elektra Noreste S.A. - ENSA

Regional de Occidente S.A. - E.S.P.

Aguas de Urabá S.A. - E.S.P.

Aguas Nacionales EPM S.A. - E.S.P.

Empresa de Aguas del Oriente Antioqueño S.A. - E.S.P.

Empresas Públicas de Rionegro - EPRio

Aguas de Malambo S.A. - E.S.P.

Empresas Varias de Medellín S.A. E.S.P. - Emvarias

Tecnología Intercontinental S.A.P.I. de C.V.-Ticsa

Aguas de Antofagasta S.A.

Employee welfare and benefits

EPM promotes the quality of life of its public servants and their family group, by timely delivering monetary benefits and implementing programs and activities that harmonize their family and work life. In this way, the company promotes spaces of assistance, recreation, sports, and social and cultural projection, in a dynamic that consolidates the sense of belonging and strengthens the corporate culture for the fulfillment of organizational objectives.

The use of benefits during 2018 was 95%, which means that 6,783 people claimed at least one benefit.

Each affiliated company of Grupo EPM defines and executes welfare plans with sports, recreational, and cultural activities. In the affiliated companies, the development of these activities included actions such as:

- Prevention of musculoskeletal diseases
- Nutritional program
- Celebration of special occasions
- Talent festival
- Promotion of healthy lifestyles

Management in 2018

95% of EPM's employees used at least one of the benefits granted by the company. A total of 53,430 benefits amounting to COP 30,621 million were delivered, and 260 people benefited from housing loans amounting to COP 32,137 million.

EPM continues encouraging its teleworking strategy, to which a total of 293 public servants have integrated: 128 executives are authorized to perform mobile telework, 106 public servants telework in a supplementary mode (three days at home and two at EPM), and 59 public servants telework in an autonomous mode (five days at home). Moreover, with the aim of promoting sustainable mobility, the company defined a strategy called En bici al trabajo (Bike-riding to work) with 525 people enrolled in the program during 2018.

ESSA, affiliated company located in Santander, fulfilled the welfare plan for its workers and their families. The highlights include the financial savings proposed by the company and the participation of strategic partners for the development of the different activities planned in 2018.

Eegsa held sports and cultural events that favored interaction between among from different areas. 275 employees participated in the bowling championship, 96 in basketball, and 204 in football. Furthermore, gifts were delivered on Mother's Day, Father's Day, and the Day of Affection. 42 workers took part in the talent festival.

In Delsur (El Salvador) and ENSA (Panama), the development of programs on nutrition generated interest and commitment in the participants to improve their health by adopting good eating habits.

EPRio, for its part, has been implementing for three years a welfare plan for collaborators, with benefits, educational aids, birthday bonuses, and celebration of the Health Week.

The following companies of the group have programs aimed at workers who begin their transition to retirement (pre-pensioners), with the purpose that they assume this stage as a new opportunity for personal, social, and work development:

- EPM
- EDEQ
- CHEC
- Delsur
- Emvarias

With the purpose of finding more quality of life for families, EPM, EDEQ, and CHEC have expanded the possibilities for both sexes to qualify for extra-legal maternity and paternity leaves. In 2018, among these three companies, 34 extra-legal leaves were granted to women and 92 to men. Likewise, among the companies of the group, 237 women and 439 men were granted legal maternity and paternity leaves. During this period only one resignation took place; in general, all workers rejoined at the end of the paternity or maternity leave.

| Employee welfare program - EPM | | | | | | |
|--------------------------------|------------------|---------------------|------------------|---------------------|------------------|---------------------|
| Program | 2016 | | 2017 | | 2018 | |
| | People benefited | Value (million COP) | People benefited | Value (million COP) | People benefited | Value (million COP) |
| Social projection | 8,259 | 1,105 | 5,612 | 484 | 2,252 | 396 |
| Cultural events | 29,047 | 2,182 | 20,787 | 2,254 | 6,950 | 97 |
| Sports and recreation | 13,750 | 2,586 | 17,198 | 2,778 | 10,884 | 2,105 |
| Total | 51,056 | 5,874 | 43,597 | 5,516 | 20,086 | 2,598 |

Source: Vice Presidency of Human Resources and Technology.

As a result of austerity measures due to the contingency of the Ituango Hydroelectric Project, all corporate activities and events were reviewed; those generating the greatest impact were preserved. With innovative ideas and strategic alliances with different entities, the main scheduled activities were normally implemented.

Implementation of employee welfare programs at energy affiliated companies - Grupo EPM

| Company | 2017 | | 2018 | |
|--------------|------------------|---------------------|------------------|---------------------|
| | People benefited | Value (million COP) | People benefited | Value (million COP) |
| CHEC | 29,156 | 1,612 | 34,340 | 1,064 |
| CENS | 1,859 | 3,132 | 556 | 480 |
| ESSA | 8,085 | 1,660 | 10,621 | 1,142 |
| EDEQ | 2,264 | 825 | 928 | 890 |
| Eegsa | 554 | 2,971 | 790 | 13,268 |
| Total | 41,918 | 10,200 | 47,235 | 16,844 |

Source: Energy affiliated companies of Grupo EPM.

Implementation of employee welfare programs at water affiliated companies - Grupo EPM

| Company | 2017 | | 2018 | |
|------------------------------|------------------|---------------------|------------------|---------------------|
| | People benefited | Value (million COP) | People benefited | Value (million COP) |
| Aguas de Malambo | 92 | 52 | 92 | 26 |
| EPRio | 144 | 14 | 130 | 14 |
| Aguas Regionales | 248 | 107 | 277 | 125 |
| Aguas del Oriente Antioqueño | 13 | 6.61 | 14 | 5.5 |
| Aguas Nacionales | 23 | 25 | 21 | 8 |
| Emvarias | 701 | 1,507 | 565 | 1,457 |
| Ticsa | 283 | 200 | 502 | 291 |
| Total | 1,504 | 1,912 | 1,601 | 1,926 |

Source: Water affiliated companies of Grupo EPM.

Benefits granted at EPM

| Indicators | 2016 | 2017 | 2018 |
|--|--------|--------|--------|
| Number of benefits | 44,239 | 50,086 | 53,430 |
| Value (million COP) | 21,117 | 26,278 | 30,621 |
| Percentage of employees using benefits | 91% | 89% | 95% |

Source: Vice Presidency of Human Resources and Technology.

| Loans disbursed at EPM | | | |
|---------------------------------|--------------|--------------|--------------|
| Indicators | 2016 | 2017 | 2018 |
| Number of home loans | 285 | 479 | 260 |
| Number of loans for other items | 2,365 | 2,241 | 1,878 |
| Total loans disbursed | 2,650 | 2,720 | 2,138 |
| Loans value (million COP) | 29,332 | 58,764 | 33,019 |

Source: Vice Presidency of Human Resources and Technology.

The decrease is caused by the amount injected to the funds, which was COP 45 billion in 2017, as a result of the signing of the collective agreements, while in 2018 it was 10% of that amount.

GRI standards disclosures and EPM indicators

401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees.

401-3 Parental leave.

404-2 Programs for upgrading employee skills and transition assistance programs.

Scope and coverage

Businesses

Water

Sanitation

Electrical energy

Gas

Territory

Colombia - Antioquia

Colombia - Caldas

Colombia - Quindío

Colombia - Santander

Colombia - Norte de Santander

Colombia - Malambo, Atlántico

El Salvador

Mexico

Guatemala

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Aguas Nacionales EPM
Empresa de Aguas del Oriente Antioqueño
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
Tecnología Intercontinental -Ticsa
Empresas Públicas de Rionegro - EPRio
Elektra Noreste - ENSA

Quality of life

The Quality of life program is based on the identification, assessment, prevention, intervention, and ongoing monitoring of exposure of employees to psychosocial risk factors, at work and outside work. Health and safety at work transcend the traditional concepts and become an important aspect associated with productivity in modern organizations. Therefore, the assessment of psychosocial risks gives EPM vital information to focus on the actions that foresee and prevent diseases caused by occupational stress.

The quality of life and psychosocial risk assessment becomes a management tool that guides and focuses the efforts for the improvement of the organizational results and the welfare of the public servants and their families.

Management in 2018

Having maintained and improved in many aspects the organizational climate at the company, in a year of complex situations for EPM, accounts for the sustained progress in this area. This is evidenced by the results of the quality of life and psychosocial risk assessment in 2018: 64.22% of the population surveyed is at low risk or no risk, which means an improvement of 2.28% compared with the 2017 assessment and classifies EPM as a healthy company.

There was an increase of 5.37% in coverage during 2018 at EPM; 6,028 public servants participated, equivalent to 85.78% of the company's total population. With the purpose of improving the work environment assessment in the quality of life component, EPM based on three dimensions whose assessment increased, compared to 2018:

| Quality of life survey - EPM | | | |
|------------------------------|-------|-------|---------------|
| Dimensions | 2017 | 2018 | Level |
| Role clarity | 46.39 | 50.86 | Low / No risk |
| Social relationships at work | 54.84 | 55.16 | Low / No risk |
| Leadership | 45.58 | 48.43 | Low / No risk |

CHEC: Thanks to training per work teams in each of the variables assessed by the tool endorsed by the Ministry of Labor, employees were made aware of the importance of filling out the survey and implementing the action plans, which generated a positive impact on the coverage of the survey that went from 80.13% to 89.74%. The company achieved that all work teams had an action plan for the management of organizational climate variables and, in an integrated way, the dimensions of the psychosocial risk survey.

EDEQ: The company accomplished to completely execute the defined work plan for psychosocial risk management. This led to maintaining the total risk at a low level.

CENS: As part of the eight version of the Occupational Safety and Health Week, recreational and pedagogical activities were conducted in different offices, especially aimed at strengthening and raising awareness about the importance of psychosocial risk management, as well as as promoting the culture of self-care based on healthy lifestyles; the activities reached CENS workers, students, and contractors.

Delsur: The development of the program on nutrition generated interest and commitment in the participants to improve their health. The psychological clinic is available to collaborators who need a consultation of this nature and is associated with the nutritional clinic to provide support.

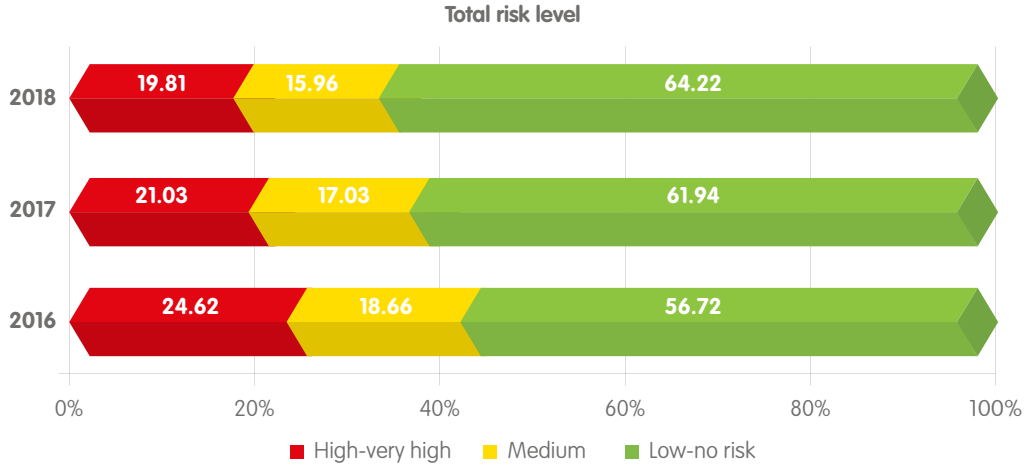
Eegsa: Based on the results of the 2017 survey, this Grupo EPM affiliated company in Guatemala shared the results obtained with all the DECA II managements. The action plans were addressed in conjunction with the organizational climate and the programs to improve the quality of life were started: occupational gymnastics, healthy eating (fruit basket in the centers), and stress awareness talks, with the participation of 790 workers.

Aguas Nacionales and Aguas Regionales: Their intervention plans for the improvement of quality of life were designed and executed.

Emvarias: The intervention plan was designed and prepared according to the results of the quality of life survey, with the support of the SURA occupational risk administrator and a psychologist expert in occupational health.

| Quality of life survey - EPM | | | |
|---|-------|-------|-------|
| Indicator | 2016 | 2017 | 2018 |
| Quality of life surveys completed | 4,920 | 5,423 | 6,028 |
| Percentage of quality of life surveys completed | 81% | 80% | 86% |

Source: Vice Presidency of Human Resources and Technology.



Application of the quality of life and psychosocial risk survey at Grupo EPM

| Company | 2017 | 2018 |
|------------------|---|---|
| | % of employees who completed the survey | % of employees who completed the survey |
| EPM | 80.41% | 85.78% |
| CHEC | 80.13% | 89.74% |
| CENS | 87.0% | 91.16% |
| ESSA | 80.97% | 82.98% |
| EDEQ | 73.03% | 66.6% |
| Eegsa | 82.00% | N.A. |
| Aguas de Malambo | 65.00% | 61.00% |
| Emvarias | N.D. | 69.00% |
| Ticsa | N.D. | 90.00% |
| Aguas Regionales | 91.00% | 90.00% |
| Aguas Nacionales | 92% | 85.82% |

Source: Vice Presidency of Human Resources and Technology.

At Ticsa and Eegsa, the survey is applied every two years.

GRI standards disclosures and EPM indicators

EPM-16 Percentage of employees surveyed in quality of life and psychosocial risk.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

Colombia – Antioquia
Colombia – Caldas
Colombia – Quindío
Colombia – Santander
Colombia - Norte de Santander
Colombia - Malambo, Atlántico
Colombia – Risaralda
Mexico

Companies

Empresas Públicas de Medellín E.S.P. - EPM
Central Hidroeléctrica de Caldas S.A. E.S.P. - CHEC
Electrificadora de Santander S.A. E.S.P. - ESSA
Empresa de Energía del Quindío S.A E.S.P. - EDEQ
Centrales Eléctricas del Norte de Santander S.A E.S.P. - CENS
Aguas Regionales
Aguas Nacionales EPM S.A. E.S.P.
Aguas de Malambo S.A. E.S.P.
Tecnología Intercontinental S.A.P.I. de C.V.-Ticsa

Employee performance

Performance management at Grupo EPM aligns the individual and collective contributions of employees with the objectives of the organization and the continuous improvement of those abilities that lead to the fulfillment of the business purpose.

In this way, EPM employees contributed to the fulfillment of the company's expected results.

The implementation of the process of performance and development through its stages during the annual cycle favors conversations to define employees' goals and indicators aligned with the organizational goals and to assess the progress report and expected results.

As for the actions, leadership of the heads of the organization continues to develop, which is evidenced in the increase in its perception, through the different tools that are used to collect the information.

Management in 2018

The compliance with the times and stages of the process is highlighted, with an important initial effort to train executives and managers in the management of the development goals.

In 2018, 99% of the public servants were formally linked to the performance process. Objectives were refined and progress was made in the discussion and qualification of the management of the development objectives.

The affiliated companies CHEC, EDEQ, ESSA, and CENS focused their efforts on stabilizing the performance module of the HCM application to define their employees' commitments.

EPM started the verification of the quality of performance indicators and objectives prepared during 2018 and, in this way, provide feedback to heads and managers to increase the quality and effectiveness of objectives and indicators. Thus, public servants increasingly will know their objectives, the metrics of their individual and collective contributions, and how to develop them. The company made progress in this goal only with a sample of the senior staff and analyzed the performance objectives corresponding to the performance plans of 70 executives of the organization.

As for the affiliates of Grupo EPM, the following is highlighted:

CHEC: In 2018, the performance and development assessment of 910 workers was conducted. This was a learning process since it was the first assessment with the HCM application and modules of objectives and performance.

CENS: The company conducted for the first time the 2017 performance assessment through the HCM application for the entire staff. The results obtained were input for the implementation of the Performance Incentive Plan, which benefited 85 workers whose performances were placed in the "Exceeds" category. Likewise, the performance commitments for 2018 of 506 workers were defined and monitored.

Eegsa: The company conducted the performance assessment to the entire staff.

Delsur: The performance evaluation of 2018 has a new methodology based on the competencies and objectives of the position held, with which a better productivity of the staff is expected. This is also one of the inputs to identify the training needs of the employees assessed.

Aguas Nacionales: The company assessed performance through the Individual Performance and Development Plan in all employees; the quarterly follow-up during the year was included to provide feedback to the employee.

Adasa: The support system of the performance management process is constantly being improved, so as to automate it and thus reduce the time of the process.

Ticsa: The Performance Improvement Process 2018 was applied to the entire staff hired under a fixed term contract and under an open-ended contract, both in Mexico and Colombia.

EPRio: This affiliated company conducted the employee performance assessment with the methodology used before acquisition by Grupo EPM. It is currently under the process of standardization and definition of guidelines to apply Grupo EPM assessment.

Envarias: It implemented a performance assessment model for official positions.

Percentage of employees with performance assessment

| Company | 2016 | 2017 | 2018 |
|--------------------------------|-------|--------|------|
| EPM ¹ | 90% | 90% | 99% |
| CHEC ² | 97% | 89% | 91% |
| CENS ³ | 18% | 94% | 93% |
| ESSA ⁴ | 100% | 96% | 99% |
| EDEQ ⁵ | 70% | 97% | N.D. |
| Delsur ⁶ | 430 | 429 | 100% |
| Eegsa ⁷ | 100% | 100% | N.D. |
| EPM Chile ⁸ | N.A | 100,0% | 100% |
| HET ⁹ | N.A | N.A | N.D. |
| ENSA | 100% | 100% | 100% |
| Aguas de Malambo ¹⁰ | N.A. | N.A. | N.A. |
| EPRio ¹¹ | N.A. | N.A. | 66% |
| Aguas Regionales ¹² | N.A. | 7% | 100% |
| Aguas Nacionales | 100% | 100% | 100% |
| Emvarias ¹³ | 77.5% | 58% | 50% |
| Aguas de Antofagasta - Adasa | 100% | 100% | 100% |
| Ticsa ¹⁴ | 100 | 100 | N.D. |

¹ In 2018, 99% of the public servants were formally linked to the performance process. Objectives were refined and progress was made in the discussion and qualification of the management of the development objectives.

² In the first semester of 2018, CHEC assessed the results (indicators) and actions of 910 workers. The assessment is an activity in which indicators 2017 were calculated and assimilated to the assessment phase in the new application. Although assessed in these dates, the management corresponds to 2017.

³ At CENS, 7% of workers without performance assessment correspond to 4.6% of new employees after the deadline for defining performance commitments, 0.2% of workers with union permission, and 2.2% of people who do not apply (leaves or disabilities greater than three months, assignment to projects or transfers with frequencies whose duration did not exceed three months).

⁴ At ESSA, 99% of workers with performance indicators formulated and managed in the HCM application.

⁵ Percentage will be available in the first quarter of 2019.

⁶ In 2017 the performance of the Commercial Management staff was not assessed because it was in a restructuring process.

⁷ This information is not available because the deadline for performance is January 31, 2019.

⁸ At EPM Chile and Los Cururos Wind Farm, performance assessment applies to eight people.

⁹ At HET, the implementation of performance assessment for the new staff began as of June 2018. To date, three have been assessed.

¹⁰ At Aguas de Malambo, employee performance is not currently assessed.

¹¹ At EPRio, some employees are not assessed yet.

¹² At Aguas Regionales, in the 2018 term, the performance assessment was conducted for the positions of heads of areas, leaders, and professionals.

¹³ Only 50% of employees are assessed.

¹⁴ The results of the performance improvement process for 2018 are not yet available. They will be available in March 2019.

GRI standards disclosures and EPM indicators

404-3 Percentage of employees receiving regular performance and career development reviews.

Scope and coverage

Businesses

Electrical energy
Gas
Water
Sanitation

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Risaralda
Colombia - Santander
Colombia - Norte de Santander
Guatemala
Chile
Mexico
El Salvador
Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas Nacionales EPM
Aguas Regionales EPM
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Aguas de Antofagasta - Adasa
Elektra Noreste - ENSA
EPM Chile
Empresa Eléctrica de Guatemala - Eegsa
Distribuidora de Electricidad del Sur - Delsur
Hidroecológica del Teribe - HET
Tecnología Intercontinental -Ticsa

Training and development

At Grupo EPM, the processes of learning management and development management focus on developing a smart business group, able to learn from the training of its people and facilitate the creation, transfer, retention, and application of knowledge to enable the transformation of individual learning into collective knowledge. The group constantly seeks development strategies to enhance the abilities of individuals and align their knowledge, behavior, and skills with the strategic plan of the organization.

Development at EPM is outlined based on a 70/20/10 scheme, in which the 70 is defined by the possibility of exposing employees to new work scenarios to develop skills; the 20 is defined by the possibility of learning with others; and the 10 includes all the strategies of guided training—the latter corresponds to the strategies used by Universidad EPM to materialize all strategies for the development of human resources at EPM.

Management in 2018

7,115 people received training, with a variation of 7.87% compared with last year; there were 54,642 attendances to events; and the average of training per employee was 16.74 hours. An important action was that the company strengthened Universidad EPM by renewing it with an innovative and powerful approach in virtual media, in spite of all the budget restrictions.

One of the most significant strategies for EPM is the programs favoring the development of our leaders; the following stand out:

- Senior Management Program (Inalde - Universidad de La Sabana): 115 executives.
- Conversation Rounds - Cultural Transformation (Confluye): 220 executives.
- Advanced Leadership Training Program (Escuela de Altos Estudios de Quirama): 22 executives.
- Executive Coaching Program: 52 executives.

Furthermore, Universidad EPM's virtual campus was implemented and progress is made in the transfer of knowledge for people with key knowledge before the time of their retirement and in the expert team with the Center for Technical Excellence.

Colciencias rated CHEC's Interactive Training in Power Distribution Networks project as a technology development project, which was assigned a 125% quota of tax deduction for the investments in purchase of software and recruitment of support staff. By 2018, the investments made in this project will give this affiliated company of the group the possibility of an estimated income tax deduction of COP 42,384 million.

EDEQ gives continuity to the Leadership School with 44 workers (executives, managers, and some professionals), with the launch of the Coach Leader's Coaching and Skill Development Program, strengthening leadership skills that enable leadership processes, communication/feedback, team management, customer service, and decision making.

CENS held 68 training and education events, with an 81% participation (442 workers). The execution of the defined learning plan included the Leadership School, the strengthening of skills, the training in occupational safety and health and in environmental and laboratory standards.

ESSA held 183 training events with 4,532 participants and 53,442 hours of training; 961 workers were trained, a coverage of 98% of the entire staff.

| Training and development figures at EPM | | | |
|--|-------|-------|-------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Training hours / Average employee. | 20 | 33 | 17 |
| Training hours for executives / Total training hours per average employee. | 30 | 51 | 75 |
| Training hours for professionals / Total training hours per average employee. | 26 | 37 | 13 |
| Training hours for assistants, technicians, and technologists / Total training hours per average employee. | 12 | 25 | 14 |
| Training hours for support staff / Total training hours per average employee. | 21 | 37 | 20 |
| Number of learning events held. | 666 | 804 | 512 |
| Number of graduate programs approved for the year. | 0 | 15 | 2 |
| Scholarships awarded by the Merit Scholarships program. | 0 | 0 | 0 |
| Trips abroad for training approved. | 50 | 68 | 46 |
| Investment in the Organizational Learning Plan (million COP). | 2,184 | 4,662 | 1,600 |
| Execution of the Organizational Learning Plan. | 90% | 94% | 99.8% |
| Budget execution. | 89% | 84% | 92.5% |

Source: Vice Presidency of Human Resources and Technology.

The reduction in all the indicators is caused by the budget restriction due to the contingency of the Ituango project. With these limitations, an appropriate management was achieved, with emphasis on the design of curricula and the implementation of the HCM learning module, which favored the management and the design of Universidad EPM's virtual campus, to support the training work at EPM and the group.

| Training and development at Grupo EPM's energy affiliated companies | | | |
|---|------|------|------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Training hours / Average employee | 73 | 108 | 485 |

Source: Energy affiliated companies.

The variation in training hours is mainly caused by an increase in hours of Eegsa and EPM Chile.

| Training and development at Grupo EPM's water affiliated companies | | | |
|--|------|------|------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Training hours / Average employee | 250 | 174 | 160 |

Source: Water affiliated companies.

GRI standards disclosures and EPM indicators

404-1 Average hours of training per year per employee.

404-2 Programs for upgrading employee skills and transition assistance programs.

Scope and coverage

Businesses

Electrical energy
Gas
Water
Sanitation

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Santander
Colombia - Norte de Santander
Colombia - Malambo, Atlántico
Chile
El Salvador
Panama

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Aguas Nacionales EPM
Empresa de Aguas del Oriente Antioqueño
Aguas de Malambo
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Empresa Eléctrica de Guatemala - Eegsa
EPM Chile
Elektra Noreste - ENSA
Tecnología Intercontinental -Ticsa
Aguas de Antofagasta - Adasa

Retirees and pensioners

In order to maintain its relationship with retirees and pensioners, the business group develops various strategies that favor engagement with this subgroup of stakeholders, including social projection activities such as psychological and spiritual counseling and the full-adulthood program (for retirees and pensioners and pre-pensioners).

Management in 2018

The relationship with retirees and pensioners is permanently strengthened through the implementation of varied and innovative activities that are addressed from different dimensions: personal, social, recreational, and cultural. The organization's commitment to and communication with this group is warm and close, which is reflected in their participation and presence in all planned activities.

EPM has a pre-pensioners' program that covers those who are less than three years away to retire; 61 people participated in 2018.

CHEC holds every year a meeting with the affiliated company's pensioners and retirees to give continuity to the close relationship with this group of people.

Through meetings, CENS reached the retired staff to clarify doubts regarding the procedures of interest before the affiliated company. Another highlight is the updating of the website in terms of information needed by retirees.

The following companies of the group have programs to improve the aptitudes of workers who begin their transition to retirement (pre-pensioners), with the purpose that they assume this stage as an opportunity for personal, social, and occupational development and that they can generate a change of attitude towards their retirement from the respective organizations:

- EPM
- EDEQ
- CHEC
- Delsur
- Emvarias

| EPM's retirees and pensioners | | | |
|-------------------------------|-------|-------|-------|
| Concept | 2016 | 2017 | 2018 |
| Pensioners in the year | 59 | 39 | 42 |
| Direct retirees (cumulative) | 2,351 | 2,193 | 2,135 |

Source: Vice Presidency of Human Resources and Technology.

The retirees under EPM's responsibility were so until June 30, 1995; the number of people who terminated their relationship with EPM due to the recognition of the pension is reported.

| Projection of EPM's employees close to retirement | | | |
|---|------------|------------|------------|
| Level | 2019 | 2020 | 2021 |
| Executive staff | 8 | 8 | 9 |
| Professional staff | 41 | 70 | 125 |
| Technologists, technicians and assistants | 61 | 51 | 142 |
| Support staff | 27 | 27 | 59 |
| Total | 137 | 156 | 335 |

Source: Vice Presidency of Human Resources and Technology.

| Retirees and pensioners of Grupo EPM's energy affiliated companies | | | |
|--|-------|-------|-------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Pensioners in the year | 889 | 870 | 855 |
| Direct retirees (cumulative) | 1,080 | 1,038 | 1,004 |

Source: Energy affiliated companies of Grupo EPM.

The information reported corresponds to EDEQ, CHEC, CENS, ESSA, Delsur, and Eegsa.

| Projection of employees close to retirement from Grupo EPM's energy affiliated companies | | | |
|--|-----------|-----------|------------|
| Level | 2019 | 2020 | 2021 |
| Executive staff | 5 | 6 | 10 |
| Professional staff | 19 | 26 | 21 |
| Technologists, technicians and assistants | 47 | 41 | 69 |
| Support staff | 6 | 5 | 4 |
| Total | 77 | 78 | 104 |

Source: Vice Presidency of Human Resources and Technology.

The information reported corresponds to EDEQ, CHEC, CENS, ESSA, Delsur, and ENSA.

Retirees and pensioners of Grupo EPM's water affiliated companies

| Concept | 2016 | 2017 | 2018 |
|------------------------------|------|------|------|
| Pensioners in the year | 70 | 64 | 9 |
| Direct retirees (cumulative) | 486 | 479 | 465 |

Source: Water affiliated companies of Grupo EPM.

The information reported corresponds to Emvarias and Adasa.

Projection of employees close to retirement from Grupo EPM's water affiliated companies

| Level | 2018 | Next five years | Next ten years |
|---|-----------|-----------------|----------------|
| Executive staff | 1 | 5 | 15 |
| Professional staff | 11 | 27 | 36 |
| Technologists, technicians and assistants | 20 | 52 | 73 |
| Support staff | 18 | 70 | 55 |
| Total | 50 | 154 | 179 |

Source: Water affiliated companies of Grupo EPM.

The information reported corresponds to Aguas de Malambo, EPRio, Aguas Regionales, Aguas Nacionales, Emvarias, Adasa, and Ticsa.

GRI standards disclosures and EPM indicators

EU15 Percentage of employees eligible to retire in the next five and ten years, broken down by job category and by region.

Scope and coverage

Businesses

Electrical energy
Gas
Water
Sanitation

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Santander
Colombia - Norte de Santander
El Salvador
Guatemala

Companies

Empresas Públicas de Medellín - EPM
Empresa de Energía del Quindío - EDEQ
Central Hidroeléctrica de Caldas - CHEC
Centrales Eléctricas del Norte de Santander - CENS
Electrificadora de Santander - ESSA
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
Elektra Noreste - ENSA

Union organizations

Grupo EPM has 17 companies with unions, 26 union organizations, and 20 signed agreements, which represents a high percentage of union membership. Therefore, EPM defined basic guidelines in 2018 to clearly and coherently manage collective labor issues.

The relationship with the union organizations, based on equality and under the terms provided by the law, has two moments: one with the approach to negotiations of the petitions and collective agreements and another with the relationship and application of the existing regulatory framework.

To date none of Grupo EPM's union leaders has expressed any situation of violation of their legal and constitutional rights, related to the exercise of their union activity.

Management in 2018

During 2018, Guidelines 42 was established to define the basic guidelines to manage the collective labor issues, including:

- Coherent treatment in the union relationships.
- Compliance with the law in terms of collective bargaining.
- Criteria during the collective bargaining process.
- Regulatory harmonization.
- Participation of the negotiating team and the company's executives.
- Relationship with union organizations.
- Monitoring and evaluation of collective agreements.

As measures taken to promote the practice of union and collective association, EPM granted 16,076 hours of remunerated absences for exercising labor union activities, as established by law, including the corresponding payment of travel expenses and the recognition of union rights. Furthermore, 41 working groups were organized with the purpose of favoring agreements that contribute to organizational improvement benefiting the workers, the union organizations, and the company, with communication spaces to share union information.

Progress was made in eight collective bargaining processes. Two of them at EPM and six at affiliated companies: EDEQ, Emvarias, CHEC, Aguas Regionales, and Delsur. Within this dynamic, the relationship of the group's companies with the unions was strengthened.

- In July 2018, EDEQ achieved the signing of the new Collective Bargaining Agreement, which is valid for four years, until December 31, 2021.
- In August, Emvarias agreed to a new negotiation of the collective agreement, for a period of three years and retroactive to January 1, 2018.
- In 2019, Aguas Regionales will seek to reach reasonable agreements that benefit the workers and the group's affiliated company.
- ENSA negotiated in 2017 a collective agreement that is valid from 2018 to 2021.

There is freedom of association at EPM. A total of 99.8% of the employees are members, directly or by extension, of one or more than one of the five existing union organizations. At the national affiliated companies of Grupo EPM, the percentage of union affiliation is 93.9% (Aguas del Oriente, EPRio, and Aguas Nacionales do not have union organizations).

| Number of unionized people at EPM | | | |
|--|--------------|--------------|--------------|
| Status | 2016 | 2017 | 2018 |
| Affiliated and/or beneficiary by extension | 6,273 | 7,277 | 7,145 |
| Under no agreements | 8 | 9 | 8 |
| Total | 6,281 | 7,286 | 7,153 |

Source: Vice Presidency of Human Resources and Technology.

| Number of unionized people at Grupo EPM's energy affiliated companies | | | |
|---|--------------|--------------|--------------|
| Status | 2016 | 2017 | 2018 |
| Affiliated and/or beneficiary by extension | 3,046 | 3,519 | 3,395 |
| Under no agreements | 364 | 32 | 33 |
| Total | 3,410 | 3,551 | 3,428 |

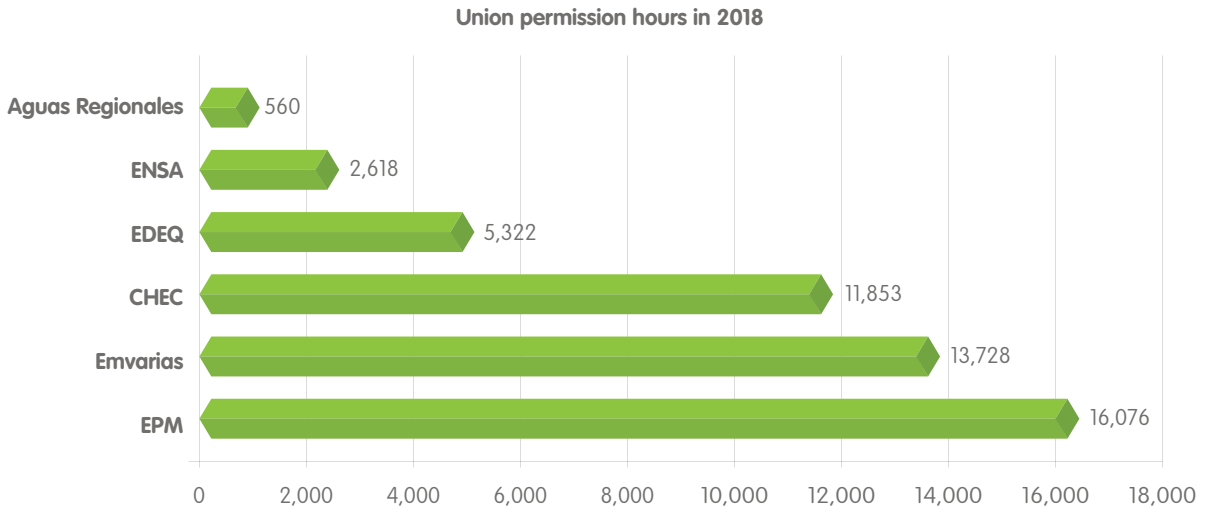
Source: Vice Presidency of Human Resources and Technology.

The information of union affiliation and/or beneficiaries of 2018 corresponds to CHEC, CENS, EDEQ, ESSA, Delsur, and ENSA. The information of those under no agreements corresponds only to the Colombian energy affiliated companies.

| Number of unionized people at Grupo EPM's water affiliated companies | | | |
|--|------------|--------------|--------------|
| Status | 2016 | 2017 | 2018 |
| Affiliated and/or beneficiary by extension | 851 | 983 | 972 |
| Under no agreements | 30 | 39 | 61 |
| Total | 881 | 1,022 | 1,033 |

Source: Vice Presidency of Human Resources and Technology.

The information of union affiliation and/or beneficiaries of 2018 corresponds to Aguas de Malambo, Aguas Regionales, Emvarias, and Aguas de Antofagasta.



Source: Vice Presidency of Human Resources and Technology.

The union permission is paid time off for the exercise of union and collective association of the workers.

GRI standards disclosures and EPM indicators

102-41 Collective bargaining agreements.

Scope and coverage

Businesses

- Electrical energy
- Gas
- Water
- Sanitation

Territory

- Colombia - Antioquia
- Colombia - Caldas
- Colombia - Quindío
- Colombia - Santander
- Colombia - Norte de Santander
- Colombia - Malambo, Atlántico
- Chile
- El Salvador
- Panama

Companies

Empresas Públicas de Medellín - EPM

Aguas Regionales EPM

Aguas de Malambo

Empresas Varias de Medellín - Emvarias

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

Centrales Eléctricas del Norte de Santander - CENS

Distribuidora de Electricidad del Sur - Delsur

Elektra Noreste - ENSA

Aguas de Antofagasta - Adasa

Staff

At Grupo EPM, the staff is defined by structured occupational groups: executives; professionals; technologists, technicians, and assistants; and support staff. The report of assigned employees includes levels, categories, and classes of positions, as well as wages existing in each affiliate.

Some of the affiliated companies in Colombia offer a fixed compensation and certain benefits, most of them included in the collective agreement. Other companies offer an integral salary to individuals who meet the requirements.

Management in 2018

EPM ranked sixth out of 100 companies in the 2018 Merco Talento Colombia Ranking, climbing a position with respect to the 2017 assessment.

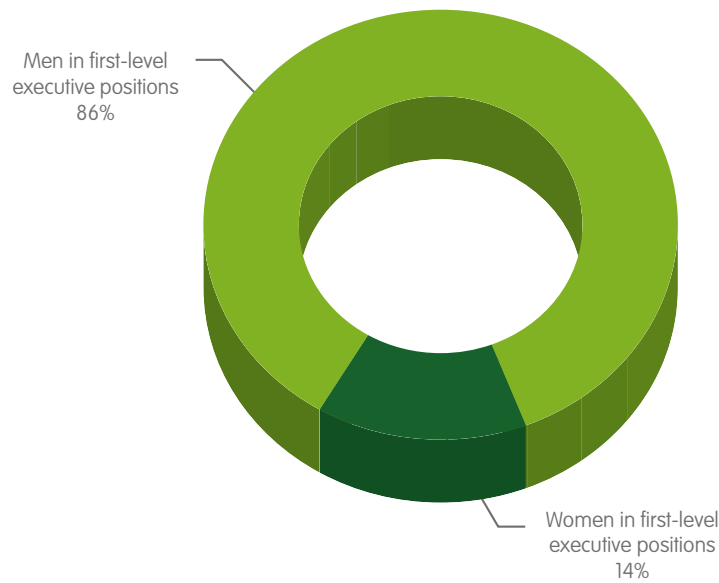
In compliance with Act 789 of 2002, Grupo EPM's companies in Colombia have the apprenticeship program that admitted over 695 interns in 2018 to provide students of two- and three-year associate programs and bachelor programs with an opportunity to complete the internship required by educational institutions.

36 promotions, 65 changes through selection processes, and 301 transfers took place at EPM. In this way, mobility in the organization was strengthened, a path undertaken since 2016 that has contributed to the oxygenation of the areas, the renewal, and the generation of new opportunities for professional growth.

Since 2017, the company is working in the inclusion of people with disabilities and the certification of gender equity, which aims to meet the Sustainable Development Goals derived from the Global Compact, specifically objectives 1, 4, and 5. With this purpose, EPM advanced actions of training, signage, reasonable adjustments, legal frameworks, and hiring of people with disabilities, initially apprentices and interns; moreover, the company prepares a pilot program to temporarily hire up to 20 technicians, technologists, or professionals with physical, sensory, or cognitive disabilities. This initiative will favor the evaluation of all the variables that must be taken into account before sharing to people with disabilities the possibility of accessing the EPM selection processes.

Likewise, actions are being taken before the Ministry of Labor and Social Security to engage EPM in the Equipares gender equity certification program. This engagement will favor a diagnosis of eight minimum conditions necessary to access the certification as a company that cares about and respects gender equity parameters.

Composition of first-level executive positions by gender



Source: Vice Presidency of Human Resources and Technology.

| Composition of executive positions by gender at EPM | | | |
|---|------|------|------|
| Indicators | 2016 | 2017 | 2018 |
| Men in executive positions | 156 | 170 | 157 |
| Women in executive positions | 57 | 56 | 55 |
| Men in first-level executive positions | 6 | 6 | 6 |
| Women in first-level executive positions | 1 | 1 | 1 |

Source: Vice Presidency of Human Resources and Technology.

| Staff | Composition of positions by gender at EPM | | | | | | |
|--|---|--------------|--------------|--------------|--------------|--------------|--------------|
| | 2016 | | 2017 | | 2018 | | |
| | Total | Men | Men | Women | Total | Men | Women |
| Executives | 213 | 156 | 170 | 56 | 219 | 163 | 56 |
| Professionals | 2,486 | 1,434 | 1,632 | 1,246 | 2,817 | 1,609 | 1,208 |
| Technologists, technicians, and assistants | 2,435 | 1,650 | 1,885 | 915 | 2,785 | 1,882 | 903 |
| Support staff | 1,147 | 1,139 | 1,371 | 11 | 1,332 | 1,322 | 10 |
| Subtotal | 6,281 | 4,379 | 5,058 | 2,228 | 7,153 | 4,976 | 2,177 |
| Apprentices | 282 | 104 | 108 | 165 | 339 | 151 | 188 |
| Interns | 81 | 47 | 42 | 30 | 72 | 36 | 36 |
| Subtotal | 363 | 151 | 150 | 195 | 411 | 187 | 224 |
| Total | 6,644 | 4,530 | 5,208 | 2,423 | 7,564 | 5,163 | 2,401 |

Source: Vice Presidency of Human Resources and Technology.

To strengthen diversity and inclusion at EPM, through the recognition, respect, and integration of differences in the organization's daily life, with emphasis on historically excluded groups, the recommendations of the Guide to Achieve a Diverse Public Employment are followed. This guide seeks to implement a differential approach in human management practices that seek real and effective access to employment and remove any type of discrimination in the workplace due to gender condition, ethnic-racial belonging, disability situation, sexual orientation, or other similar factors.

| Staff | EPM staff by level | | |
|--|--------------------|--------------|--------------|
| | 2016 | 2017 | 2018 |
| Executives | 213 | 226 | 219 |
| Professionals | 2,486 | 2,878 | 2,817 |
| Technologists, technicians, and assistants | 2,435 | 2,800 | 2,785 |
| Support staff | 1,147 | 1,382 | 1,332 |
| Total | 6,281 | 7,286 | 7,153 |

Source: Vice Presidency of Human Resources and Technology.

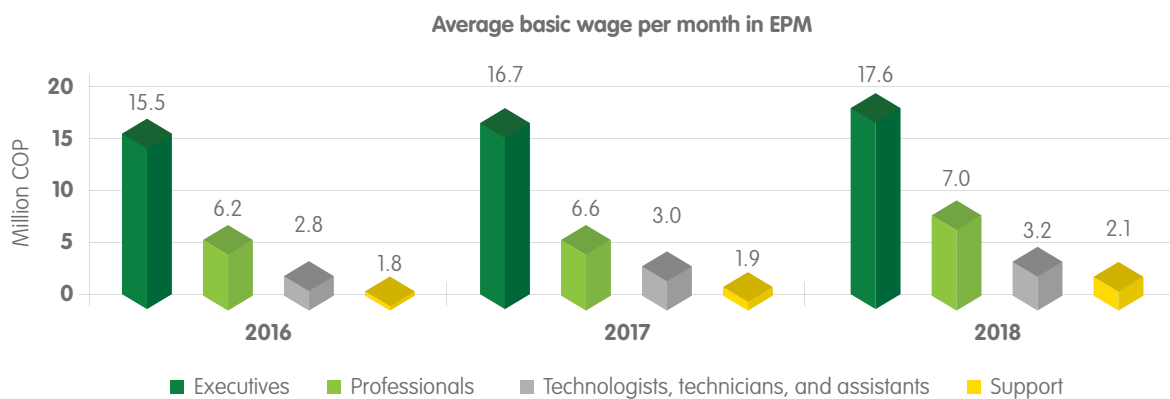
There is a decrease in the staff due to the contingency in the Ituango project. For the most part, fixed-term contracts were not renewed.

| Distribution of staff by age at EPM | | | | | |
|--|--------------|--------------|-------------------------|--------------|----------------|
| Age ranges | 2016 | 2017 | Age ranges | 2018 | Distribution % |
| 18 - 25 years | 41 | 104 | Under 30 years | 489 | 6.8% |
| 25 - 30 years | 362 | 557 | | | |
| 30 - 35 years | 855 | 1,048 | Between 30 and 50 years | 3,857 | 53.9% |
| 35 - 40 years | 873 | 1,125 | | | |
| 40 - 45 years | 727 | 868 | | | |
| 45 - 50 years | 1,006 | 962 | Over 50 years | 2,807 | 39.2% |
| 50 - 55 years | 1,296 | 1,263 | | | |
| 55 - 60 years | 946 | 1,110 | | | |
| > 60 years | 175 | 249 | | | |
| Total number of employees as of December 31 | 6,281 | 7,286 | | 7,153 | -1.8% |
| Average age of employees - years | 45 | 43 | | 45 | |

The organization has no age discrimination policies.

| Average basic wage per month in EPM (million COP) | | | |
|---|------|------|------|
| Staff | 2016 | 2017 | 2018 |
| Executives | 15.5 | 16.7 | 17.6 |
| Professionals | 6.2 | 6.6 | 7.0 |
| Technologists, technicians, and assistants | 2.8 | 3.0 | 3.2 |
| Support staff | 1.8 | 1.9 | 2.1 |

Source: Vice Presidency of Human Resources and Technology.



| Grupo EPM staff | | | |
|--|---------------|---------------|---------------|
| Company | 2016 | 2017 | 2018 |
| EPM | 6,281 | 7,286 | 7,153 |
| Aguas Nacionales EPM | 11 | 20 | 21 |
| Aguas del Oriente Antioqueño | 12 | 12 | 13 |
| Aguas Regionales EPM | 235 | 241 | 215 |
| EPRio | N.A. | N.A. | 129 |
| Aguas de Malambo | 90 | 92 | 91 |
| Empresas Varias de Medellín - Emvarias | 264 | 264 | 261 |
| Central Hidroeléctrica de Caldas - CHEC | 928 | 1.008 | 995 |
| Electrificadora de Santander - ESSA | 928 | 1.000 | 977 |
| Empresa de Energía del Quindío – EDEQ | 359 | 417 | 405 |
| Centrales Eléctricas del Norte de Santander – CENS | 514 | 516 | 556 |
| Delsur | 300 | 302 | 314 |
| Grupo DECA Guatemala | 515 | 809 | 790 |
| EPM Chile (Cururos) | 6 | 5 | 6 |
| Tecnología Intercontinental - Ticsa | 280 | 235 | 502 |
| Hidroecológica del Teribe S.A. HET | 26 | 26 | 24 |
| Elektra Noreste S.A. ENSA | 520 | 574 | 566 |
| Aguas de Antofagasta – Adasa | 439 | 448 | 460 |
| Total Grupo EPM | 11,708 | 13,255 | 13,478 |

Source: Vice Presidency of Human Resources and Technology.

The number of employees of the group tended to increase in the last three years, largely due to the incorporation of new affiliated companies to Grupo EPM, such as EPRio and Ticsa Colombia, and the increase in the number of employees at EPM.

| Geographical distribution of Grupo EPM staff | | | |
|--|---------------|---------------|---------------|
| Country | 2016 | 2017 | 2018 |
| Chile | 445 | 453 | 466 |
| Colombia | 9,622 | 10,856 | 11,021 |
| Guatemala | 515 | 809 | 790 |
| Mexico | 280 | 235 | 297 |
| Panama | 546 | 600 | 590 |
| El Salvador | 300 | 302 | 314 |
| Total | 11,708 | 13,255 | 13,478 |

Source: Vice Presidency of Human Resources and Technology.

GRI standards disclosures and EPM indicators

- 102-8** Information on employees and other workers.
- 401-1** New employee hires and employee turnover.
- 405-1** Diversity of governance bodies and employees.

Scope and coverage

Businesses

Electrical energy
Gas
Water
Sanitation

Territory

| | |
|-------------------------------|-------------|
| Colombia - Antioquia | Guatemala |
| Colombia - Caldas | Panama |
| Colombia - Quindío | Chile |
| Colombia - Santander | El Salvador |
| Colombia - Norte de Santander | Mexico |
| Colombia - Malambo, Atlántico | |

Companies

Empresas Públicas de Medellín E.S.P. - EPM
Central Hidroeléctrica de Caldas S.A. E.S.P. - CHEC
Empresa de Energía del Quindío S.A E.S.P. - EDEQ
Electrificadora de Santander S.A. E.S.P. - ESSA
Centrales Eléctricas del Norte de Santander S.A E.S.P. - CENS
Distribuidora de Electricidad del Sur S.A. de C.V. - Delsur
Empresa Eléctrica de Guatemala S.A. - Eegsa
EPM Chile S.A.
Hidroecológica del Teribe S.A. - HET
Elektra Noreste S.A. - ENSA
Regional de Occidente S.A. E.S.P.
Aguas de Urabá S.A. E.S.P.
Aguas Nacionales EPM S.A. E.S.P.
Empresa de Aguas del Oriente Antioqueño S.A. E.S.P.
Empresas Públicas de Oriente Antioqueño S.A. E.S.P.
Empresas Públicas de Rionegro - EPRio
Aguas de Malambo S.A. E.S.P.
Empresas Varias de Medellín S.A. E.S.P. - Emvarias
Tecnología Intercontinental S.A.P.I. de C.V.- Ticsa
Aguas de Antofagasta S.A.

Occupational safety and health

At EPM, the occupational safety and health management system focuses on preventing workplace risks for its people, suppliers, and contractors. It promotes the culture of self-care, safe and healthy work environments, continuous improvement, and efficient performance. It complies with the current applicable legal regulations and manages the required resources to achieve the mitigation and control of hazards identified in the interest of the comprehensive welfare of EPM people, in order to favor sustainable productivity and development in the service provision.

The group's companies in Colombia continue making progress in the implementation of the minimum standards to implement the Occupational Health and Safety Management System (OHSMS) for employers and contractors.

To strengthen the EPM safety culture, several activities were conducted with the occupational risk administrator:

- Training courses.
- Self-care. The importance of following the procedures and adopting good practices.
- Promotion of good practices of communication, participation, and cooperation among employees regarding occupational safety and health.

Management in 2018

During the contingency of the Ituango hydroelectric project, different actions were implemented in terms of occupational health and safety and psychosocial risk prevention, aimed at preventing workplace accidents and occupational diseases. Based on these premises, EPM obtained results that had a positive influence on the safety and health of the staff who develops the work at the project.

Delsur, affiliated company in El Salvador, received recognition from the Ministry of Labor and Social Welfare with the Yo sí cumplo (I do comply) seal, for complying with and exceeding the legal occupational health and safety requirements of that Central American country.

EPM completed the internal and external audits to comply with the provisions of Ruling 1111 and Decree 1072 by the Ministry of Labor. 20 activity centers were visited, 215 workers were interviewed, and more than 200 documents were reviewed. To define the associated improvement plans, each audited unit received the reports with findings, opportunities for improvement, and non-conformities detected by the audits. EPM ended 2018 with an 87% compliance with the minimum standards of the OHSMS, which leads to an assessment of "Acceptable", according to the classification table by the Ministry of Labor.

Meanwhile EDEQ scheduled meetings with the contractors to present the safety guidelines, the accident statistics and goals of the affiliated company, and the lessons learned from accidents and to raise awareness about electrical hazards. Likewise, the behavior of the safety indicators was monitored. Training focused on topics such as control of biological hazards for work in the field, prevention of cardiovascular risk and stress, activity breaks, fire control, healthy lifestyles, first aid, control of electrical risk, safe work retraining, road safety, safe handling of equipment (vehicles, forklifts, cart-basket, and cranes), reinduction of live line, and public risk. EDEQ ended 2018 with a 96% compliance with the minimum standards of the OHSMS.

CHEC achieved the proposed goal of implementing 86% of the OHSMS. In 2019, the company will continue to reinforce the concept of self-care and risk perception, encourage the participation of workers in health promotion and prevention activities, and advance in the proposal of safety based on behavior, understanding workers' strengths and weaknesses.

No serious or fatal accidents were reported to CENS staff or contractors. The group's affiliated company held in 2018 the eighth version of the Occupational Safety and Health Week and the Annual Occupational Safety and Health Congress for CENS contractors.

Delsur audited the safety supervisions and inspections conducted by the leaders to assess the quality and veracity of the information reported in the system and, thus, find points of improvement in the entry and follow-up of findings. The activities of Safe Work Analysis and Work Planning were reinforced, which led to reduce the number and severity of disabling accidents in the staff. Furthermore, the company conducted the follow-up activity to the process of retraining the technician staff to improve their abilities and aptitudes regarding grounding, operation of cutting devices, rescue of victim in pole, and cardiopulmonary resuscitation (CPR).

Eegsa held an event with the participation of all field workers of the transmission and distribution network contractors—1,155 people in total—as part of the celebration of the World Day for Safety and Health at Work. In addition, the affiliated company made progress on an effort to raise awareness of 525 (own and contractors') energy workers about the main safety risks in the development of their work.

EPRio, located in Rionegro, Antioquia, was acquired by Grupo EPM in 2017 and, for the correct and safe execution of operational activities, it was necessary to acquire some equipment.

Aguas de Malambo carried out 74 activities aimed at the promotion and prevention of occupational hazards: underwater safety in submerged intake, retraining in safe work at heights, healthy lifestyles, work stress, activity breaks, confined spaces, and self-care.

Meanwhile, Emvarias drew up an occupational safety and health manual for contractors.

| Occupational safety and health at EPM | | | |
|--|-------|-------|--------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Disabling injury frequency rate (DIFR) | 0.37 | 0.25 | 0.71 |
| Injury severity rate (ISR) | 80.45 | 71.33 | 172.86 |
| Injury frequency rate (IFR) | 4.65 | 5.29 | 4.10 |
| Workers represented in safety committees (%) | 100% | 100% | 100% |
| Absentee rate in hours worked (%) | 0.26% | 0.22% | 1.66% |
| Number of occupational injuries reported | 403 | 340 | 415 |
| Number of fatalities due to occupational injury or disease | 0 | 0 | 1 |
| Employees' health coverage | 100% | 100% | 100% |
| Investments in occupational health (million COP) | 5,685 | 6,584 | 7,949 |

Source: Vice Presidency of Human Resources and Technology.

DIFR variation: The DIFR was strongly impacted during 2018 due to a fatal accident that occurred in the area of power transmission and distribution, which, according to the American National Standards Institute (ANSI), generates 6,000 days lost with effect on the severity.

Absenteeism variation: As a result of the increase in work accidents by 22% and the fatal accident in the area of power transmission and distribution, work-related absenteeism increased strongly.

| Training in occupational safety and health at EPM | | | |
|---|--------|--------|--------|
| Concept / Indicator | 2016 | 2017 | 2018 |
| Training hours | 5,312 | 7,185 | 7,637 |
| Total hours / trained person | 72,432 | 43,830 | 90,127 |
| Total employees trained | 13,010 | 5,705 | 15,559 |

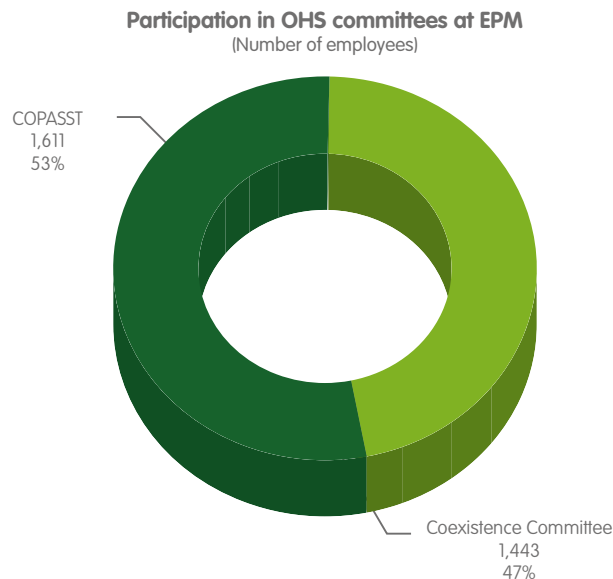
Source: Vice Presidency of Human Resources and Technology.

Variation of employees trained: For 2018, considering some events that took place in several work areas, EPM strengthened training in topics such as electrical risk, emergency care, work at heights, and handling of chemical products, which generated an increase in the participation of staff in these training scenarios.

| Disabling injury frequency rate (DIFR) in Grupo EPM | | |
|--|-----------|-------------|
| Company / Business | Goal 2018 | Result 2018 |
| EPM | 0.31 | 0.71* |
| Vice Presidency of Power Transmission and Distribution | 0.94 | 4.68* |
| Vice Presidency of Power Generation | 0.35 | 0.31 |
| Vice Presidency of Gas | 0.46 | 0.20 |
| Vice Presidency of Projects and Engineering | 0.36 | 0.21 |
| Vice Presidency of Water and Sanitation | 0.70 | 0.96 |
| EDEQ | 0.24 | 0.05 |
| CHEC | 0.38 | 0.45 |
| CENS | 0.35 | 0.33 |
| ESSA | 0.34 | 0.09 |
| Aguas Nacionales | 1.44 | 0.16 |
| Aguas Regionales | 2.52 | 0.72 |
| Aguas de Malambo | 7.73 | 1.14 |
| Emvarias | 0.71 | 0.12 |

Source: Vice Presidency of Human Resources and Technology.

* Fatal electrical accident in Apartadó (Antioquia-Colombia) impacted the goal of the Vice Presidency of Power Transmission and Distribution and the general goal of EPM.



Source: Vice Presidency of Human Resources and Technology.

At EPM, elections were held for the Coexistence Committee and the Joint Committee on Occupational Safety and Health (abbreviated COPASST in Spanish), with a participation of 1,443 and 1,611 public servants respectively. Compared with the previous elections, there was an increase in participation of 3% for COPASST and 15% for the Coexistence Committee.

Within EPM, COPASST has the noble mission of promoting and monitoring compliance with the standards and regulations on occupational health and safety, thus contributing to the protection of the physical integrity of workers and the safety of the company in general. The members of COPASST accept this important responsibility when they are elected to be part of this committee.

GRI standards disclosures and EPM indicators

EU16 Policies and requirements regarding health and safety of employees, contractors, and subcontractors.

EU17 Days worked by contractor and subcontractor employees involved in construction, operation, and maintenance activities.

EU18 Percentage of contractor and subcontractor employees that have undergone relevant health and safety training.

403-2 Types of injury and rates of injury, occupational diseases, lost days, absenteeism, and number of work-related fatalities.

403-3 Workers with high incidence or high risk of diseases related to their occupation.

403-4 Health and safety topics covered in formal agreements with trade unions.

Scope and coverage

Businesses

Electrical energy

Gas

Water

Sanitation

Territory

Colombia - Antioquia

Colombia - Caldas

Colombia - Quindío

Colombia - Malambo, Atlántico

Colombia - Norte de Santander

El Salvador

Guatemala

Companies

Empresas Públicas de Medellín - EPM

Empresas Públicas de Rionegro - EPRio

Aguas de Malambo

Empresas Varias de Medellín - Emvarias

Central Hidroeléctrica de Caldas - CHEC

Empresa de Energía del Quindío - EDEQ

Distribuidora de Electricidad del Sur - Delsur

Empresa Eléctrica de Guatemala - Eegsa

Centrales Eléctricas del Norte de Santander - CENS

Personnel selection

Grupo EPM develops the activities necessary for the selection of individuals who meet the position requirements and adapt to the cultural characteristics of the entities. In addition, other services are provided such as management of professionals in training, management of apprentices and interns, admission of assigned employees, review and analysis of requirements, and assessment, for purposes different to personnel selection.

Management in 2018

EPM stabilizes the HCM tool to support the execution of selection processes. Progress is made in the standardization of business rules for hiring personnel and in the design for implementing the recruitment module of HCM in the national energy affiliated companies.

The EPM hiring process defines internal promotion strategies and also observes the hiring of people who have or have developed experience and knowledge in EPM's processes. Through the hiring process, the coverage of 361 vacant positions is emphasized as follows:

- External staff: 135 vacancies.
- Internal staff: 226 vacancies.

EDEQ: The company advanced in the implementation of the HCM recruitment module. The group's affiliated company completed the activities programmed to incorporate the technological component into a process that has operated manually, making the participation of candidates easier and considerably reducing the environmental impact caused by paper consumption. During 2018, 13 employees joined the organization under a fixed-term contract. As part of the Professional in Training program, five individuals were hired. 2018 has been the year with the greatest growth opportunity for the internal staff with a 60% internal growth of staff promotions and transfers, compared with the 36% in 2017 and the 24% in 2016.

CENS: To select the 21 candidates, the following was carried out: publication of 27 calls, 15 internal and 12 external; reception of 999 entries of participants in the process; implementation of pre-selection tests to 327 participants in 11 calls; and development of 21 assessment centers with the participation of 83 candidates.

Delsur: The selection process was optimized to improve the response times to the staff requirements of the different areas.

Aguas Nacionales: All the required selection processes were conducted and the existing vacancies were filled.

Adasa: The satisfaction survey of recruitment and selection processes was implemented.

| Personnel selection in Grupo EPM | | | |
|----------------------------------|-------|-------|------|
| Indicators | 2016 | 2017 | 2018 |
| Selection processes | 1,373 | 2,216 | 856 |
| Contract adjustments | 736 | 1,156 | 641 |
| Women hired | 496 | 992 | 243 |
| Men hired | 1,040 | 2,096 | 574 |

Source: Vice Presidency of Human Resources and Technology.

| Personnel selection at EPM | | | |
|----------------------------|------|-------|------|
| Indicators | 2016 | 2017 | 2018 |
| Selection processes | 780 | 1,367 | 376 |
| Contract adjustments | 344 | 650 | 224 |
| Women hired | 242 | 703 | 51 |
| Women hired | 538 | 1,311 | 84 |

Source: Vice Presidency of Human Resources and Technology.

The variation in the hiring indexes are a reflection of the implementation of measures derived from the contingency of the Ituango hydroelectric project.

GRI standards disclosures and EPM indicators

EU14 Programs and processes to ensure the availability of a skilled workforce.

Scope and coverage

Businesses

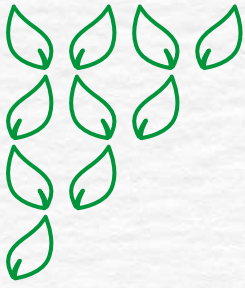
Electrical energy
Gas
Water
Sanitation

Territory

Colombia - Antioquia
Colombia - Caldas
Colombia - Quindío
Colombia - Santander
Colombia - Norte de Santander
Colombia - Malambo, Atlántico
Guatemala
Panamá
Chile

Companies

Empresas Públicas de Medellín E.S.P. - EPM
Central Hidroeléctrica de Caldas S.A. E.S.P. - CHEC
Empresa de Energía del Quindío S.A E.S.P. - EDEQ
Electrificadora de Santander S.A. E.S.P. - ESSA
Centrales Eléctricas del Norte de Santander S.A E.S.P. - CENS
Empresa Eléctrica de Guatemala S.A. - Eegsa
Elektra Noreste S.A. - ENSA
Regional de Occidente S.A. E.S.P.
Aguas de Urabá S.A. E.S.P.
Empresa de Aguas del Oriente Antioqueño S.A. E.S.P.
Aguas de Malambo S.A. E.S.P.
Empresas Varias de Medellín S.A. E.S.P. - Emvarias
Aguas de Antofagasta



Grupo·epm[®]



Social and
environmental
management in projects



Social and environmental management in projects

It is the set of environmental and social activities carried out by Grupo EPM as a developer of projects transforming the regions in which it operates. The purpose is to contribute to the construction of competitive and sustainable territories, by handling negative impacts and enhancing positive ones, as well as to avoid the materialization of risks in the construction and operation phases. This largely depends on the capacities to manage the socio-political dimension, the understanding of social and environmental forces, and the construction of trust in the territories, among others.

Today, infrastructure projects are being built for the country's expansion and energy growth, such as the Ituango Hydroelectric Project in the department of Antioquia, with an installed capacity of 2,400 MW, which will meet 17% of Colombia's power demand from 2022 onwards. Likewise, substations and lines of the Regional Transmission System are being built and repowered to meet the energy demand in Antioquia, Santander, and Norte de Santander.

In basic sanitation projects, progress is being made in collecting wastewater through sewage networks and stabilizing the EPM Aguas Claras Wastewater Treatment Plant Park, located in Bello. It has a treatment capacity of 5.0 m³/s and a biochemical oxygen demand (BOD₅) of 123 t/day, which receives residential, industrial, and commercial wastewater from Medellín and Bello and is part of the Medellín River and its tributary streams sanitation plan. Progress is also being made on the feasibility studies of the transfer station project for the management of solid municipal waste in Medellín.

Finally, the Aldeas sustainable construction program contributes to making projects and territories viable through sustainable timber construction. This includes housing, tourist infrastructure, and social and community equipment in the department of Antioquia.

Main achievements

| Goals | Achievements | Accomplishment |
|---|--|----------------|
| Manage environmental and social impacts in Grupo EPM projects. | Accomplishment of the actions defined in the environmental licenses and different plans of environmental and social management of projects, works or activities. | Total |
| Manage procedures and environmental licensing required for the construction of Grupo EPM projects. | Management of different procedures for environmental licensing and obtaining permits such as forest harvesting and offset, closed season, subtraction of reserve area, occupation of riverbed, dumping, and archaeology, among others. | Total |
| Complete and deliver the museum hall of the Nueva Esperanza Project in the municipality of Soacha, department of Cundinamarca. | The museum hall was delivered to the community of Soacha in August, according to agreements signed between EPM, Codensa, and the Municipality of Soacha. | Total |
| Close permits and environmental obligations during the construction of the EPM's project Aguas Claras Wastewater Treatment Plant Park (Bello WWTP). | All the obligations of the environmental license were met during the construction phase. At the end of 2018 the plant was undergoing tests and stabilization. | Partial |
| Conduct maintenance for 12,239 trees planted in EPM's project Aguas Claras Wastewater Treatment Plant Park. | Monitoring and verification of the maintenance carried out on the 12,433 trees in ten micro-watersheds of the municipality of Bello and in areas intervened by the project. | Total |
| Install seven rural aboriginal schools, 17 local infrastructure modules in Emvarias, and four nurseries associated with the sustainable infrastructure construction project (Aldeas). | Schools: Three schools completed (Pueblorrico, El Bagre, Ciudad Bolívar); the rest are under construction. Emvarias' Infrastructure: Five modules under construction; the rest in 2019. Nurseries: One is under construction in Riogrande; three by 2019. | Partial |
| Adapt the reservoir vessel of the Ituango Hydroelectric Project. | 659 hectares were adapted in 2018, which are added to 230 hectares removed in 2016 and 2017. There was partial accomplishment due to disturbances of a socio-political nature in the construction fronts and the premature damming of the Cauca River due to the contingency. | Partial |

| Goals | Achievements | Accomplishment |
|---|---|----------------|
| Begin the restoration within the framework of the conservation portfolio of 200 ha in tropical dry forest and 150 ha in tropical moist forest of the Ituango Hydroelectric Project. | The ecological restoration began in April on land acquired by EPM through a contract with the Universidad Nacional, Medellín campus. | Total |
| Manage the risks associated with the filling of the reservoir of the Ituango Hydroelectric Project. | In 2018, the land and river mobility plan was implemented for the community of Ituango. As a result of the contingency on April 28, the Mobility contingent plan was implemented through a caravan of vehicles, motorcycles, and people along established routes, as well as the putting into service of the ferry La Tranquilidad for the transport through the reservoir. | Total |
| Consolidate the integration of the Ituango Project into the territory. | Signing of six agreements with the following community action boards: <ol style="list-style-type: none"> 1. IE Santa Gema, urban branch of the Association of Community Action Boards (abbreviated ASOCOMUNAL in Spanish). 2. CER El Junco – CAB of El Junco small town. 3. CER Cristóbal – CAB of the San Cristobal rural settlement. 4. IE El Guáimaro – CAB of the Carauquia rural settlement. 5. IE Angelina – CAB of the La Angelina rural settlement. 6. IE San Luis Gonzaga – Asocomunal of the municipality of Santa Fe de Antioquia. | Total |

| Goals | Achievements | Accomplishment |
|--|---|----------------|
| <p>Restore living conditions focusing on populations located in the reservoir vessel of the Ituango Hydroelectric Project.</p> | <p>Connectivity restoration of the communities of La Angelina and Mogotes de Buriticá, and those of Sabanalarga and Peque, through:</p> <ul style="list-style-type: none"> • Improvement of the road leading from La Angelina rural settlement to Mogotes. • Maintenance of the La Angelina suspension bridge. Social procurement is currently in process with the CAB. • Construction of new infrastructure (3 km of road and a bridge of 180 m long), as a definitive connectivity measure; it is currently in the procurement process. • Discussion of river transport on impacted rural settlements. <p>In spite of the contingency situation, the connectivity by means of river transport was started beforehand. At first, the service was provided by means of the Naviera's boats, and since December 2018 through the operation of two ferries to transport people and mule load.</p> | <p>Partial</p> |

Note: for more details on the main achievements of the Ituango Hydroelectric Project, see [Ituango Hydroelectric Project](#)

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|---|------------------------------|----------------------|--------------------|-------------------------------------|--|---|
| | | Territory | Business | Company | | |
| Improve water quality of the Medellín River. | 2019 | Colombia– Antioquia | Sanitation | Empresas Públicas de Medellín - EPM | Operation indicators of the Aguas Claras Plant (percentage of organic load and suspended solids removed from the Medellín River) and progress in works of the Sanitation and Wastewater Management Plan (SWMP) for the collection of wastewater discharges. | Start of operation and stabilization of the plant at the end of 2018, and progress in works on the SWMP projects. |
| Strengthen capacities in the environmental and social component of the project management initiative (Vision 2025 program). | 2019 | Colombia – Antioquia | All the businesses | Empresas Públicas de Medellín - EPM | Achievement of the plan (project management outline) which consists of learning and developing the knowledge and skills required for project development. | Diagnosis of competencies and lines of action to close gaps and implementation of a curricular program. |
| Strengthen and articulate the vision of territory in the environmental and social management of projects. | 2019 | Colombia – Antioquia | All the businesses | Empresas Públicas de Medellín - EPM | Integration of environmental project management with Área Metropolitana del Valle de Aburrá (abbreviated AMVA in Spanish) regional initiatives in forest harvesting and ecological connectivity. Articulation of the project implementation schedules of different businesses in the same territory to generate the least impact and achieve the required synergies in the management of procedures. | Management with AMVA for the articulation of EPM with the Metropolitan agreement. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|--|------------------------------|----------------------|-------------------|-------------------------------------|---|---|
| | | Territory | Business | Company | | |
| Achieve the sustainable infrastructure construction plan (Aldeas). | 2019 | Colombia – Antioquia | Electrical energy | Empresas Públicas de Medellín - EPM | Construction of: 18 homes Three schools 12 modules of Emvarias infrastructure: Three nurseries | Management of agreements and inter-institutional articulation for the accomplishment of the proposed goals. |
| Regain control of the Ituango Hydroelectric Project. | 2019 | Colombia – Antioquia | Electrical energy | Empresas Públicas de Medellín - EPM | <ul style="list-style-type: none"> • Close the water flow through the mechanical room. • Complete the cutoff wall in priority dam fillings between elevations 380 and 435. • Definitively block the right diversion tunnel and the auxiliary diversion tunnel (abbreviated GAD in Spanish). • Excavation and handling of the slope of the upper part of the floodgate area. • Final treatments and reinforcement of the intermediate discharge tunnel in the floodgate area and upstream and downstream of it. • Injections for treatments in the abutments of the dam. | Progress in the project recovery plan. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|--|------------------------------|----------------------|-------------------|-------------------------------------|--|---|
| | | Territory | Business | Company | | |
| Implement the recovery plan for the municipalities of Valdivia, Tarazá, Cáceres, and Nechí, related to the contingency of the Ituango Hydroelectric Project. | 2019 | Colombia – Antioquia | Electrical energy | Empresas Públicas de Medellín - EPM | Recovery and restitution of the living conditions of the communities and intervention of the infrastructure affected by the project contingency. | Progress in the plan and inter-institutional articulation. |
| Meet the requirements of the National Environmental Licensing Authority (abbreviated ANLA in Spanish) related to the Ituango Hydroelectric Project. | 2019 | Colombia – Antioquia | Electrical energy | Empresas Públicas de Medellín - EPM | Fulfillment of ANLA requirements and lifting of the precautionary measure imposed by Resolution 820 of 2018. | Visit reception and report management required by ANLA. |
| Carry out the 1% investment of the Ituango Hydroelectric Project. | 2019 | Colombia – Antioquia | Electrical energy | Empresas Públicas de Medellín - EPM | Implement the 1% projects in the municipalities prioritized for 2019 (Ituango, Briceño, Sabanalarga, and Yarumal). | Progress in the investment plan. |
| Manage the socio-political risk for the Ituango Hydroelectric Project. | 2019 | Colombia – Antioquia | Electrical energy | Empresas Públicas de Medellín - EPM | Mitigate the incidence of opponents through the execution of the engagement plan with prioritized stakeholders. | Inter-institutional management and with communities in the territory. |

Note: for more details on the challenges of the Ituango Hydroelectric Project see [Ituango Hydroelectric Project](#)

Environmental investment, cost, and expenditure

Environmental and social investments – Grupo EPM 2018 (million COP)

| Company | Biotic environment | Environmental management ² | Social management ³ | Physical environment | IHP Contingency ⁴ | Total |
|---------------------------------------|--------------------|---------------------------------------|--------------------------------|----------------------|------------------------------|----------------|
| EPM | 61,536 | 4,965 | 21,883 | 4,316 | 50,959 | 143,660 |
| Emvarias | 0 | 14,959 | 0 | 5 | 0 | 14,964 |
| Delsur | 0 | 2,259 | 0 | 0 | 0 | 2,259 |
| CENS | 299 | 335 | 760 | 345 | 0 | 1,740 |
| Eegsa | 0 | 966 | 0 | 0 | 0 | 966 |
| ESSA | 0 | 224 | 358 | 0 | 0 | 582 |
| ENSA | 0 | 266 | 0 | 0 | 0 | 266 |
| Aguas Nacionales ¹ | 0 | 1 | 1 | 0 | 0 | 2 |
| Total environmental investment | 61,835 | 23,977 | 23,002 | 4,667 | 50,959 | 164,439 |

Source: Vice Presidency of Corporate Finance and Investment Management – Directorate of Accounting and Costs.

¹ Corresponds to the Aguas Claras project.

² Includes: environmental management, environmental and social studies, management of environmental and social impacts, consulting and audit, technical management of environmental procedures, and forest offsets.

³ Includes: social management, archaeology program, and management for engagement and communication.

⁴ Includes: consulting and audit in the contingency of the Ituango Hydroelectric Project.

Environmental costs and expenditures in 2018 – Grupo EPM (million COP)

| Company | Environmental impact management | Comprehensive environmental management of equipment and waste | Management for the protection and improvement of the environment | Environmental studies | Technical management of environmental procedures | Other environmental activities ² | Water and weather management | Total |
|------------------|---------------------------------|---|--|-----------------------|--|---|------------------------------|--------|
| EPM ¹ | 27,870 | 6,682 | 3,711 | 2,469 | 3,040 | 0 | 33 | 43,805 |
| CHEC | 848 | 72 | 2,003 | 1,967 | 22 | 1,005 | 4 | 5,921 |
| Ticsa | 635 | 1,681 | 9 | 98 | 13 | 4 | 117 | 2,557 |
| Emvarias | 706 | 0 | 1,376 | 106 | 23 | 97 | 0 | 2,308 |
| ESSA | 453 | 123 | 117 | 595 | 137 | 201 | 0 | 1,627 |
| CENS | 457 | 152 | 0 | 0 | 164 | 169 | 0 | 942 |
| Eegsa | 0 | 289 | 386 | 0 | 0 | 0 | 0 | 675 |
| Adasa | 80 | 91 | 22 | 9 | 286 | 186 | 0 | 673 |
| Delsur | 441 | 52 | 0 | 0 | 0 | 0 | 0 | 493 |
| Aguas Regionales | 314 | 0 | 3 | 73 | 3 | 0 | 5 | 398 |
| EPRio | 0 | 0 | 17 | 79 | 0 | 0 | 279 | 375 |

| Environmental costs and expenditures in 2018 – Grupo EPM (million COP) | | | | | | | | |
|--|---------------------------------|---|--|-----------------------|--|---|------------------------------|---------------|
| Company | Environmental impact management | Comprehensive environmental management of equipment and waste | Management for the protection and improvement of the environment | Environmental studies | Technical management of environmental procedures | Other environmental activities ² | Water and weather management | Total |
| Aguas de Malambo | 92 | 0 | 92 | 0 | 92 | 0 | 92 | 366 |
| EDEQ | 192 | 0 | 67 | 0 | 0 | 0 | 0 | 259 |
| ENSA | 43 | 43 | 20 | 76 | 0 | 0 | 0 | 181 |
| EPM Chile - Cururos | 0 | 0 | 0 | 0 | 0 | 177 | 0 | 177 |
| Total environmental costs and expenditures | 32,131 | 9,186 | 7,822 | 5,472 | 3,779 | 1,839 | 530 | 60,759 |

Source: Vice Presidency of Corporate Finance and Investment Management – Directorate of Accounting and Costs.

¹ Including equity investments.

² Other environmental activities include: environmental management monitoring, environmental process plan, and design.

Related stakeholders

Customers and users
Community
Owner
Government
Investors

Actions

Ituango Hydroelectric Project
Aguas Claras – EPM's Wastewater Treatment Plant Park
Aldeas Program
Intermediate projects

GRI standards disclosures and EPM indicators

103-1 Explanation of the material topic and its boundary.

103-2 The management approach and its components.

103-3 Evaluation of the management approach.

203-1 Infrastructure investments and services supported.

203-2 Significant indirect economic impacts.

413-1 Operations with local community engagement, impact assessments, and development programs.

413-2 Operations with significant actual and potential negative impacts on local communities.

Scope and coverage

Businesses

Water supply

Sanitation

Electrical energy

Gas

Territory

Colombia – Antioquia

Colombia – Caldas

Colombia - Norte de Santander

Colombia – Risaralda

Colombia – Santander

Companies

Empresas Públicas de Medellín - EPM

Aguas Regionales EPM

Aguas Nacionales EPM

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Centrales Eléctricas del Norte de Santander - CENS

Aguas Claras – EPM’s Wastewater Treatment Plant Park

EPM’s Aguas Claras Wastewater Treatment Plant Park is part of the works that constitute the SWMP.

This secondary treatment plant receives domestic, industrial, and commercial wastewater from Medellín and Bello. It is the largest and most modern in the country and one of the most advanced of its kind in Latin America. It began operations in October 2018 and reached its stabilization level on January 31, 2019.

Treatment capacity:

- Flow: 5.0 m³/s
- Removal:
 - BOD₅: 123 t/day
 - 80% total suspended solids (TSS)

Management in 2018

Start of tests, stabilization of the physicochemical and biological processes in the plant, and completion of the biosolids thermal drying plant, which allows a 70% reduction of sludge weight from secondary treatment for a better use and final disposal.

Achievements:

- Achievement of 100% of the obligations of the environmental license.
- Monitoring and verification of the maintenance carried out on the 12,433 offset trees in ten micro-watersheds of the municipality of Bello and in areas intervened by the project. This task was completed using a mobile application designed in EPM for online reporting on the conditions of arboreal individuals.
- For the 32 rulings that granted forest harvesting permits, 18 were completed, for which all the obligations imposed by the environmental authority, Área Metropolitana del Valle de Aburrá, had already been fulfilled. The remaining 12 rulings have current obligations related to maintenance.
- Conservation and protection of the wild fauna that enters the plant.
- In regard to the social management component, the following achievements are reported:
 - Ten environmental education workshops conducted with the community.
 - 93 environmental education workshops conducted with project workers.
 - Six River Festivals, environmental days, and puppet shows for adults and children in the area of direct influence of the project.

- Delivery of 800 school kits to seven educational institutions in the area of direct influence of the project.
- 14 discussion sessions for stakeholders during the plant testing and stabilization stage.
- 100% achievement of the activities of the information and participation program as a result of 98 guided visits to the project.
- Closure of the Preventive archaeology program with the development of a discussion group aimed at the community in the area of direct influence.

Challenges:

- Generation of odors during the stabilization and start-up phase of the plant (October 2018) and for four months. This impact decreased as the process of biological stabilization of the microorganisms responsible for the digestion of organic matter evolved. Over this period, information was amplified through mass media, social media, meetings with communities, and immediate and personalized assistance.

Similarly, to determine the degree of affectation of the odors generated during the stabilization process, the Universidad Pontificia Bolivariana (UPB) was contracted to monitor gases (ammonia-NH₃ and hydrogen sulfide H₂S). It was found that all concentrations were below the limits established in Resolution 1541 of 2013 of the Ministry of Environment and Sustainable Development and posed no health risk. These measurements were taken at air quality points located at Puerta del Norte, Colegio Navarra, the electrical substation, and inside the plant.

GRI standards disclosures and EPM indicators

203-1 Infrastructure investments and services supported.

203-2 Significant indirect economic impacts.

413-1 Operations with local community engagement, impact assessments, and development programs.

413-2 Operations with significant actual and potential negative impacts on local communities.

Scope and coverage

Businesses

Sanitation

Territory

Colombia – Antioquia

Companies

Empresas Públicas de Medellín - EPM

Aguas Nacionales EPM

Aldeas program

Aldeas is an innovative initiative that takes advantage of trees reaching their maturity period in the more than 4,000 ha of forest plantations around the power generation reservoirs and drinking water supply. Its purpose is to provide an added value by offering a portfolio of constructive solutions for communities and territories with a high degree of socio-economic vulnerability in the regions where EPM operates.

The Aldeas program contributes to:

- Strengthening of public-private partnerships for the promotion of the social and environmental development of the communities.
- The construction of safe habitats in the rural environment where families can continue promoting the agricultural development of the country.
- The promotion of forest governance through the sustainable use of trees that complete their maturation cycle in the forests owned by EPM.
- The feasibility of projects and the validation of EPM's presence in the territories.
- The articulation of the forestry sector, the wood industry, and the construction industry, which has allowed the generation of a great number of direct and indirect jobs, contributing to the revitalization of the local and regional economy.

Management in 2018

Today, Aldeas is much more than just homes; it is a program that contributes to making the projects and the territories viable through sustainable construction using wood, which includes tourist infrastructure, social and community equipment infrastructure (environmental classrooms, communal stalls, schools, playgrounds), and rods for fences.

Achievements:

- The community of El Cedral, in the municipality of Ituango, benefited from the construction of a community room under an agreement with the municipality.
- Rural aboriginal schools of Pueblorrico, Ciudad Bolívar, and El Bagre were built under an agreement with Antioquia Governor's Office and the municipalities.
- Construction of locative infrastructure (restaurant of the La Pradera landfill) for the affiliate Emvarias in the municipality of Don Matías.
- Construction of offices for the Operation and Maintenance Center (abbreviated COM in Spanish) in Valle de San Nicolás, for the water supply management of EPM.
- Investment of COP 2,897 million for 2018, which includes forest harvesting and construction.
- Presentation of the expost evaluation results of the program, which evidenced the improvement in the quality of life of beneficiary families.

Challenges:

- Hard-to-reach indigenous communities for the installation of rural schools in the municipalities of Murindó and Urrao.
- Commissioning of electricity to homes in the most remote areas, due to various regulatory aspects of the Energy and Gas Regulatory Commission (abbreviated CREG in Spanish) for rural electrification programs.

GRI standards disclosures and EPM indicators

203-1 Infrastructure investments and services supported.

203-2 Significant indirect economic impacts.

413-1 Operations with local community engagement, impact assessments, and development programs.

413-2 Operations with significant actual and potential negative impacts on local communities.

Scope and coverage

Businesses

Electrical energy

Territory

Colombia – Antioquia

Companies

Empresas Públicas de Medellín - EPM

Intermediate projects

These are the expansion, modernization and growth projects in the energy, gas, water, and solid waste sectors that are currently being developed by Grupo EPM and that leverage the sustainable growth of the organization and the territories in which it operates.

In power generation: among the most relevant are the recovery of the Playas power station, the rehabilitation of the Dolores power station, and the Miraflores reservoir dam, as well as the replacement of the Guatapé transformers.

In transmission and distribution: works were carried out to expand and replace the system, improve service quality, electrify homes with the Antioquia iluminada program (Antioquia illuminated), connect customers and repower, reconfigure and modernize substations and regional project lines in EPM and its affiliates CENS, ESSA, and CHEC.

For water and basic sanitation: drinking water supply projects in the Valle de Aburrá described in the Water provision intervention program (abbreviated PIPA in Spanish), as well as the projects in the Valle de San Nicolás and Habitación viviendas (Habitable homes program). As part of the SWMP, there are projects such as the maintenance of sewage networks and infrastructure, modernization of the San Fernando WWTP, Centro Parrilla, Otras Cuencas, and Rodas-Piedras Blancas-El Salado. With regard to solid waste management, prefeasibility studies are being carried out for the transfer station project. Projects related to basic community sanitation are being carried out with the affiliates Aguas de Malambo and Aguas Regionales.

Management in 2018

Improvement of the quality of life of the communities where Grupo EPM operates.

Works were built to guarantee the supply of electricity, gas, drinking water, wastewater and solid waste management that improve coverage, continuity, and quality of service for customers. In addition, networks and infrastructure associated with public utilities were modernized and replaced.

Achievements:

- Fulfillment of environmental and social management plans for public utilities infrastructure projects.
- Management of environmental procedures and permits required for the construction of works: modification of environmental licenses and permits for forest harvesting and offset, archaeology, dumping, and riverbed occupation.
- Implementation of information and community involvement programs with the different stakeholders at regional and local levels.

- Implementation of communication strategies and engagement with different local, regional and national stakeholders that allowed establishing and strengthening a two-way communication and trust relationships for the viability and sustainability of the projects.
- Social assistance in the establishment of easements and property management.
- As for solid waste management, prefeasibility studies and design of the municipal solid waste (MSW) transfer station for Medellín were carried out, with an initial capacity of 2,000 tons/day.

GRI standards disclosures and EPM indicators

203-1 Infrastructure investments and services supported.

203-2 Significant indirect economic impacts.

413-1 Operations with local community engagement, impact assessments, and development programs.

413-2 Operations with significant actual and potential negative impacts on local communities.

Scope and coverage

Businesses

Water supply

Sanitation

Electrical energy

Gas

Territory

Colombia - Antioquia

Colombia - Risaralda

Colombia - Caldas

Colombia - Quindío

Colombia - Santander

Colombia - Norte de Santander

Colombia - Malambo, Atlántico

Companies

Empresa de Aguas del Oriente Antioqueño

Aguas de Malambo

Empresas Varias de Medellín - Emvarias

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

Centrales Eléctricas del Norte de Santander - CENS



Grupo·epm[®]



Sustainable
production and
consumption





Sustainable production and consumption

The core aspect of the strategic environmental planning of Grupo EPM, which define, coordinates, implements, and monitors initiatives focused on efficient use and saving of energy and water (see water and biodiversity), waste management, rational consumption and saving of materials and input materials, sustainable public procurement, and best environmental practices.

Sustainable production and consumption are a decisive opportunity to optimize the use of resources in the activities required for the provision of public utilities by the Grupo EPM People, to influence the production practices of goods and services carried out by its suppliers and contractors, and to guide habit changes in customers and users, so that the group contributes to business competitiveness and, as corporate citizen, encourages the responsible use of resources and the reduction of environmental pollution.

For the first time, information from the new affiliate EPRio is included.

Main achievements

| Goals | Achievements | Accomplishment |
|---|---|----------------|
| Integrate equipment for energy self-supply from photovoltaic generation in ENSA's administrative offices. | ENSA installed 450 solar panels with a total capacity of 146.25 kW, as well as a bi-directional meter. The system was energized in August. Currently, an alliance with a third party for the installation of other photovoltaic projects in our facilities is being studied. | Total |
| Install energy meters in 24 substations to record consumption in Delsur's own facilities. | Delsur acquired and installed remote-managed meter to record energy consumption in 6 substations. Due to difficulties in their import and planning, it was necessary to adjust the goal from 24 to 6 substations. | Partial |
| Prepare the initial draft of the 2019-2030 Sustainable Production and Consumption Strategy for Grupo EPM. | The preliminary version of the sustainable production and consumption strategy was structured, along with the guidelines and management axes. EPM and several companies of the business group have records of consumption of water, energy, waste, and materials since 2013 in each of their facilities. | Partial |

Challenges

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|--|------------------------------|----------------------|------------|-------------------------------------|---|--|
| | | Territory | Business | Company | | |
| Complete the implementation of the online monitoring of the energy efficiency program in the processes of wastewater catchment, purification, primary distribution, and treatment. | 2019 | Colombia - Antioquia | Water | Empresas Públicas de Medellín - EPM | Number of facilities with online monitoring and energy consumption of the process. | Implementation and start updating hardware and response to anomalies in communication systems. Online monitoring will allow establishing the baseline for the definition of energy saving targets. |
| Keep energy generation using biogas in the San Fernando and Aguas Claras wastewater treatment plants to self-supply at least 30% of each plant's internal demand. | 2019 | Colombia - Antioquia | Sanitation | Empresas Públicas de Medellín - EPM | (Self-supplied electrical energy / Electrical energy consumed in each WWTP) $\geq 30\%$. | Self-generation of 46.80% of the energy consumed in the San Fernando wastewater treatment plant in 2018, based on the use of 5.79 Mm ³ of biogas. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|---|------------------------------|-------------------------------|-------------------|--|---|--|
| | | Territory | Business | Company | | |
| Sustain the increase in electric power consumption equal to or less than 10% with respect to the previous period. | 2019 | Colombia - Caldas | Electrical energy | Central Hidroeléctrica de Caldas - CHEC | (Energy consumption in the current year / Energy consumption in the previous year) \leq 1.10. | Various actions aimed at fostering energy efficiency were implemented, such as the automation and replacement of perimeter lighting with LED lights in some facilities and the reduction in the number of lights. This goal applies to the environmental management system life cycle assessment facilities. |
| Improve energy efficiency in the facilities. | 2019 | Colombia - Norte de Santander | Electrical energy | Centrales Eléctricas del Norte de Santander - CENS | Indicators for calculating energy efficiency. | Formulation of the guideline for calculating energy efficiency. Implementation of a model in the new distribution building. |
| Conduct an energy efficiency study in the administrative offices. | 2019 | Guatemala | Electrical energy | Empresa Eléctrica de Guatemala - Eegsa | Study conducted. | Action to be started in 2019. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|--|------------------------------|----------------------|-------------------|-------------------------------------|--|---|
| | | Territory | Business | Company | | |
| Replace chlorine with sodium hypochlorite generated in situ, in the Aguas frías, La Montaña, and Barbosa water purification plants. | 2019 | Colombia - Antioquia | Water | Empresas Públicas de Medellín - EPM | Change in 60% of the system. | Action to be started in 2019. |
| Acquire between 450 and 500 vegetable oil transformers, according to the needs generated in the system, due to failure or expansion. | 2019 | Colombia - Santander | Electrical energy | Electricadora de Santander - ESSA | Number of vegetable oil transformers purchased/ Number of vegetable oil transformers scheduled. | In the year, 652 vegetable oil transformers were added to ESSA inventory. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|--|------------------------------|----------------------|--------------------|-------------------------------------|--|--|
| | | Territory | Business | Company | | |
| Maintain electrical energy consumption at the EPM building below or equal to 99.23 kWh/m ² -year. | 2020 | Colombia - Antioquia | All the businesses | Empresas Públicas de Medellín - EPM | Electrical energy consumption ≤ 99.23 kWh/m ² -año. | Implementation of the plan on rational and efficient use of electrical energy. Analysis of the trend and variation in electrical energy consumption. Installation of an application for the monitoring and specialized analysis of energy management solutions. Replacement of fluorescent lamps with LED and eco-lamp technology in some sectors. Change of schedules in technological systems to save energy. The electric energy consumptions in the 2014-2018 period are as follows: 116.17 kWh/m ² (2014), 113.87 kWh/m ² (2015), 100.69 kWh/m ² (2016), 97.89 kWh/m ² (2017), 97.21 kWh/m ² (2018). |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|--|------------------------------|--------------------|-------------------|--|---|---|
| | | Territory | Business | Company | | |
| Remove stocks of polychlorinated biphenyls (PCBs). | 2022 | Colombia | Electrical energy | Empresas Públicas de Medellín - EPM | 100% of the stocks and waste identified as of December 31, 2020. 100% of the stocks and waste removed as of December 31, 2022. | Contract for the sampling of dielectric oils in the power distribution equipment. Renewal of accreditation of EPM laboratory for the analysis of oil samples. Operation of the dechlorination process for oils. ESSA treated 119.82 l of dielectric oil through the filter press system. |
| Develop a plan for removing PCBs. | 2022 | Guatemala | Electrical energy | Empresa Eléctrica de Guatemala - Eegsa | Number of equipment removed. | Approval of the PCB removal project. |

| Challenge | Year in which it is achieved | Scope and coverage | | | Achievement indicator | Progress in management in 2018 |
|---|------------------------------|----------------------|--------------------|-------------------------------------|---|---|
| | | Territory | Business | Company | | |
| Produce, in EPM plant nursery, the organic fertilizer required for the maintenance of gardens and green areas in EPM offices. | 2022 | Colombia - Antioquia | All the businesses | Empresas Públicas de Medellín - EPM | Indicator of use of organic waste generated in EPM offices. | <p>Construction and commissioning of the composting room, with mechanisms to increase process efficiency.</p> <p>Debris from tree felling and pruning, coffee grounds, husks and fruits, and kitchen waste from restaurants in the different offices are subjected to composting in EPM plant nursery.</p> <p>Production of 250 t/year of organic fertilizer.</p> <p>Savings of million COP/year in the purchase of fertilizer.</p> <p>Maintenance of gardens and green areas using organic fertilizer produced in EPM plant nursery.</p> <p>Use of 500 t/year of organic waste, instead of taking it to final disposal in the sanitary landfill.</p> |

Related stakeholders

Customers and users
Community
State
Grupo EPM people
Investors
Suppliers and contractors

Actions

- Energy consumption
- Waste management
- Other consumptions and efficient practices

GRI standards disclosures and EPM indicators

103-1 Explanation of the material topic and its boundary.
103-2 The management approach and its components.
103-3 Evaluation of the management approach.
301-1 Materials used by weight or volume.
301-2 Recycled input materials used.
302-1 Energy consumption within the organization.
302-2 Energy consumption outside of the organization.
302-3 Energy intensity.
302-4 Reduction of energy consumption.
302-5 Reductions in energy requirements of products and services.
306-2 Waste by type and disposal method.
306-4 Transport of hazardous waste.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

| | |
|-------------------------------|-------------------------------|
| Colombia - Antioquia | Colombia - Malambo, Atlántico |
| Colombia - Caldas | Chile |
| Colombia - Quindío | El Salvador |
| Colombia - Risaralda | Guatemala |
| Colombia - Santander | Panama |
| Colombia - Norte de Santander | |

Companies

Empresas Públicas de Medellín - EPM
Aguas Regionales EPM
Empresa de Aguas del Oriente Antioqueño
Empresas Públicas de Rionegro - EPRio
Aguas de Malambo
Empresas Varias de Medellín - Emvarias
Central Hidroeléctrica de Caldas - CHEC
Electrificadora de Santander - ESSA
Empresa de Energía del Quindío - EDEQ
Centrales Eléctricas del Norte de Santander - CENS
Distribuidora de Electricidad del Sur - Delsur
Empresa Eléctrica de Guatemala - Eegsa
EPM Chile
Hidroecológica del Teribe - HET
Elektra Noreste - ENSA
Aguas de Antofagasta - Adasa

Sustainable Development Goals



Energy consumption

It aims to optimize the use of energy (electricity, gasoline, diesel, gas, and other fuels) based on the monthly report of consumption, the comparative analysis using historical figures, and the search for strategies to reduce or stabilize consumption.

Grupo EPM carries out actions such as the replacement of fluorescent lighting with LED (light emitting diode) lighting, the installation of motion detectors and solar panels for self-consumption energy in administrative offices, the maintenance and adaptation of cooling systems, the replacement of transformers to avoid failures and damage to the network and equipment, the conversion of its own vehicles to natural gas, the replacement of gasoline or diesel cars with electric vehicles, and the execution of awareness sessions aimed at internal staff, as part of the savings and efficient use program and campaigns among clients and users.

The power distribution and water supply companies are reducing losses in their networks.

Management in 2018

ESSA installed solar panels in one of its administrative buildings to cover 50% of the demand of this headquarters.

Egsa generated 12% of the total electrical energy required from solar panels and is making progress in the installation of panels in power distribution substations.

Grupo EPM requires energy for the development of its activities. 85.70% of the total internal energy demand, equivalent to 314,846 MWh, corresponds to the percentage required for the group's fleet and stationary equipment, the water supply, the power generation in the thermal stations, and the lighting in the power generation stations and administrative buildings.

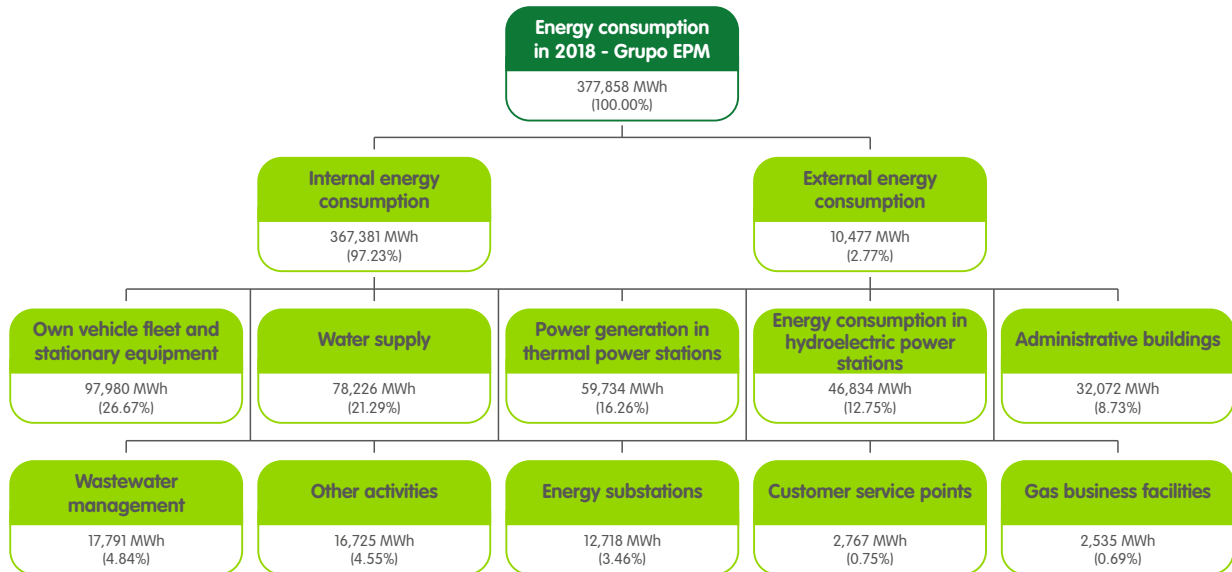
The total energy consumption in Grupo EPM decreased by 0.76% compared to 2017. The favorable hydrological conditions in 2018 did not require the frequent operation of the thermal stations and allowed to have a similar power demand in pumping for the supply of drinking water to that in 2017.

Fuels such as natural gas, diesel, regular gasoline, premium gasoline, and liquefied petroleum gas come from non-renewable sources. Biogas and self-supplied electrical energy come from renewable sources. The electrical energy consumed from the network has a renewable and non-renewable component, which depends on the participation of the thermal stations in the generation of the country's energy.

Until 2017, energy consumption was reported in GJ. As from 2018, it is expressed in MWh. In 2018, self-supplied electrical energy was included for EPM Chile and Egsa.

The figures for 2017 were corrected because, due to an involuntary mistake, Emvarias reported the electric energy consumption corresponding to only one month.

Energy consumption in 2018 - Grupo EPM

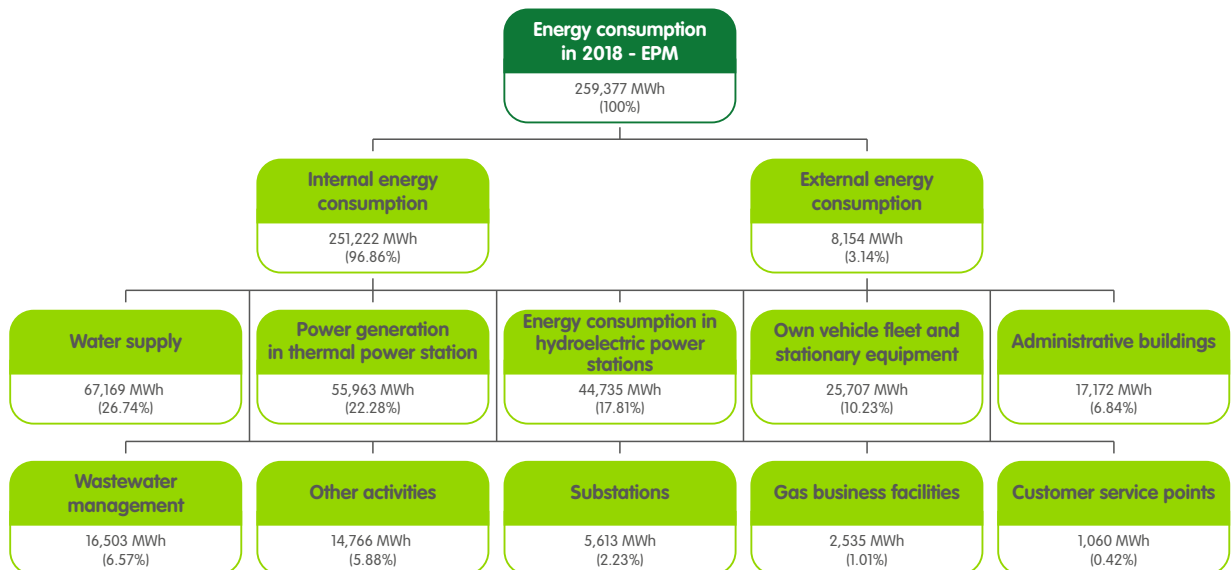


Source: Idsos application.

Other activities include warehouses, storehouses, camps for power generation plants and technical centers.

The use of own vehicles and stationary equipment was the activity that required more energy during 2018 in Grupo EPM.

Energy consumption in 2018 - EPM



Source: Idsos application.

Other activities include warehouses, storehouses, camps for power generation plants and technical centers.

Water supply was the business with the highest internal energy demand at EPM in 2018.

Internal energy consumption - Grupo EPM (MWh)

| Source of energy | 2016 | 2017 | 2018 |
|---------------------------------|------------------|----------------|----------------|
| Electrical energy | 2,988,664 | 160,275 | 176,685 |
| Diesel | 45,523 | 55,574 | 56,915 |
| Natural gas | 1,335,414 | 35,900 | 52,288 |
| Self-supplied electrical energy | 29,639 | 46,585 | 39,162 |
| Biogas | 28,204 | 32,201 | 35,410 |
| Vehicular natural gas | 1,526 | 33,901 | 34,792 |
| Gasoline | 7,407 | 6,500 | 6,272 |
| Liquefied petroleum gas | 21,553 | 2,514 | 1,266 |
| Fuel oil | 824,959 | 13,032 | 0 |
| Total | 5,254,684 | 354,281 | 367,381 |

Source: Idsos application.

The internal energy consumption increased by 3.70%. The most used sources were electrical energy (48.09%), diesel (15.49%), and natural gas (14.23%). The self-supplied electrical energy in power stations and use of biogas supplies 10.66% of the energy demand.

91.23% of natural gas was used in Termosierra and 5.73% in Termodorada, which operated only with this fuel. This explains the 45.65% increase in natural gas and the 100% reduction in fuel oil.

Biogas is excluded from the total because it is considered in self-supplied electrical energy.

Internal energy consumption - EPM (MWh)

| Source of energy | 2016 | 2017 | 2018 |
|---------------------------------|------------------|----------------|----------------|
| Electrical energy | 2,950,954 | 125,115 | 137,143 |
| Natural gas | 1,138,510 | 30,749 | 48,755 |
| Self-supplied electrical energy | 29,639 | 46,585 | 38,351 |
| Biogas | 28,204 | 32,201 | 35,410 |
| Diesel | 16,400 | 15,471 | 20,182 |
| Gasoline | 5,684 | 4,866 | 4,408 |
| Liquefied petroleum gas | 21,553 | 2,514 | 1,266 |
| Vehicular natural gas | 508 | 1,090 | 1,117 |
| Fuel oil | 810,584 | 11,018 | 0 |
| Total | 4,973,832 | 237,408 | 251,222 |

Source: Idsos application.

EPM consumes 68.48% of the group's energy. The internal energy consumption increased by 5.82%. Electrical energy (54.59%) and natural gas (19.41%) had the highest consumption rates. The self-supplied electrical energy (energy use in power stations and biogas) supplies 15.26% of the energy demand.

The 49.66% reduction in liquefied petroleum gas is due to the fact that, in 2017, there was a greater occupation of the camps at the Guatapé and Playas power plants.

The increase in diesel is due to the higher use of own vehicles.

The EPM building, administrative headquarters that concentrates most of the staff, reduced electrical energy consumption by 101.14 MWh compared to 2017, due to changes in the schedules of technological systems, the installation of LED and eco lights, the implementation of lighting switches in areas that did not have them, the disabling of automatic doors, and the installation of stairs between floors that could only be accessed through the elevator, among others.

EPM's annual goal (2017-2019 period):

Non-renewable energy consumption \leq 2,500 GWh (in a year with El Niño) or

non-renewable energy consumption \leq 350 GWh (in a year without El Niño)

EPM's non-renewable energy consumption in 2018 = 75.73 GWh.

| Energy consumption in water supply - Grupo EPM | | | | | | | | | |
|--|--------------------------|--------------|--------------|-----------------------------------|---------------|---------------|--|---------------|---------------|
| Company | Energy consumption (GWh) | | | Drinking water (Mm ³) | | | MWh consumed/Mm ³ of drinking water | | |
| | 2016 | 2017 | 2018 | 2016 | 2017 | 2018 | 2016 | 2017 | 2018 |
| EPM | 123.58 | 59.60 | 67.17 | 210.77 | 281.41 | 281.50 | 586.30 | 211.78 | 238.61 |
| Aguas Regionales | 7.81 | 4.96 | 4.51 | 35.44 | 23.87 | 27.48 | 220.45 | 207.80 | 163.93 |
| Aguas de Malambo | 4.61 | 4.63 | 4.93 | 6.24 | 7.89 | 8.59 | 737.59 | 586.20 | 573.88 |
| Aguas del Oriente | 0.22 | 0.19 | 0.17 | 0.71 | 0.74 | 0.80 | 311.80 | 250.67 | 207.36 |
| EPRio | N.D. | N.D. | 1.46 | N.D. | N.D. | 7.92 | N.D. | N.D. | 183.97 |
| Adasa | N.D. | N.D. | N.D. | N.D. | 8.19 | 10.93 | N.D. | N.D. | N.D. |
| Total | 136.22 | 69.37 | 78.23 | 253.17 | 322.10 | 337.22 | 538.05 | 220.99 | 239.75 |

Source: Idsos application.

Consumption of electrical energy in the DWTP, tanks, pumping stations, wells, and collection stations is included.

EPRio and Adasa report for the first time.

Grupo EPM consumed 78,226 MWh (21.29% of internal demand) for water supply. 67,169 MWh were used by EPM.

The energy intensity in water supply at EPM increased by 12.67%, that is, more energy was required for each unit of drinking water. The energy consumption in pumping stations and tanks accounted for 95.20% of the demand for this process.

In the Apartadó (Urabá), Aguas Regionales decreased energy consumption in water supply by 9.17%, due to the reduction of the flow for primary treatment and distribution in times when there is little consumption. Simultaneously, the volume of water to be treated increased by 15.14%. As a result, the energy intensity in this process reduced by 21.11%.

| Energy consumption in wastewater management - Grupo EPM | | | |
|---|--------------------------|---------------|---------------|
| Company | Energy consumption (MWh) | | |
| | 2016 | 2017 | 2018 |
| EPM | 14,380 | 16,081 | 16,503 |
| EPRio | N.D. | N.D. | 931 |
| Aguas Regionales | 1,506 | 591 | 301 |
| Aguas de Malambo | 71 | 64 | 56 |
| Total | 15,957 | 16,736 | 17,791 |

Source: Idsos application.

Consumption of energy in the WWTPs and in the pumping stations is included.

The energy consumption for wastewater management in Grupo EPM was 17.791 MWh (4.84% of the internal energy demand). This consumption increased by 6.30% compared to 2017. Part of this result is due to the inclusion of EPRio.

The 49.17% decrease in energy consumption in Aguas Regionales is due to the fact that the Chigorodó wastewater treatment plant (Urabá) has not been operational since December 2017, as a collector is being built, which will transport wastewater to the plant.

Aguas Regionales implements energy efficiency measures (replacement of 78 lights, installation of a speed shifter in the catchment system to reduce consumption through reactive energy, replacement of standard motors with high efficiency motors, among others) in the design of drinking water treatment systems and the sewage lift station, while maintaining the provision of the service.

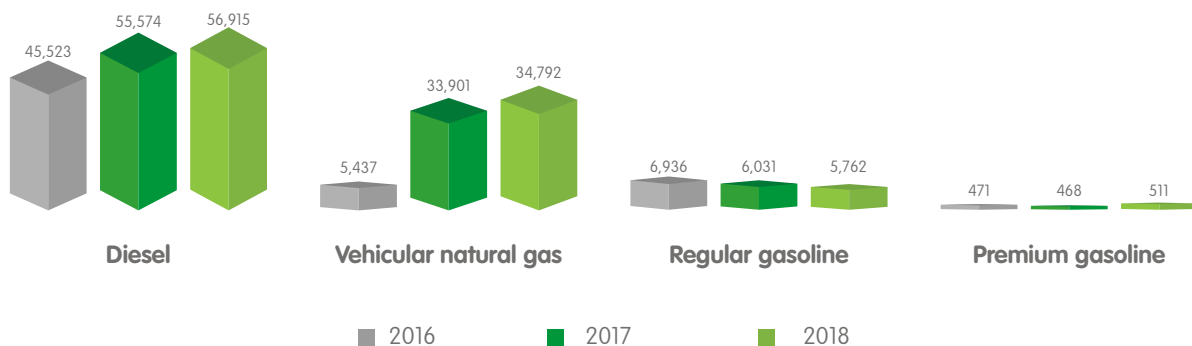
| Energy consumption in wastewater management - EPM | | | |
|---|------------|------------|------------|
| Aspect | 2016 | 2017 | 2018 |
| Energy consumption (MWh). | 14,380 | 16,081 | 16,503 |
| Volume of wastewater treated (thousands of m ³). | 41,472 | 38,575 | 43,440 |
| Renewable energy generated (MWh). | 5,957 | 6,849 | 7,619 |
| Amount of renewable energy compared to energy consumed. | 41% | 43% | 46% |
| kWh consumed/thousands of m³ of waste water treated | 347 | 417 | 380 |

Source: Idsos application.

Data on energy consumption and wastewater treated correspond to two wastewater treatment plants; energy generation occurs in one of them from the capture of biogas.

The energy consumption for wastewater management was 16,503 MWh (6.57% of the internal energy demand). With the methane produced in the anaerobic digestion of sludge, the company self-supplied 46.80% of the electrical energy required in wastewater management at the San Fernando wastewater treatment plant, where the heat of motor generators is used to heat up the sludge in digesters.

Energy consumption in the vehicle fleet and stationary equipment - Grupo EPM (MWh)



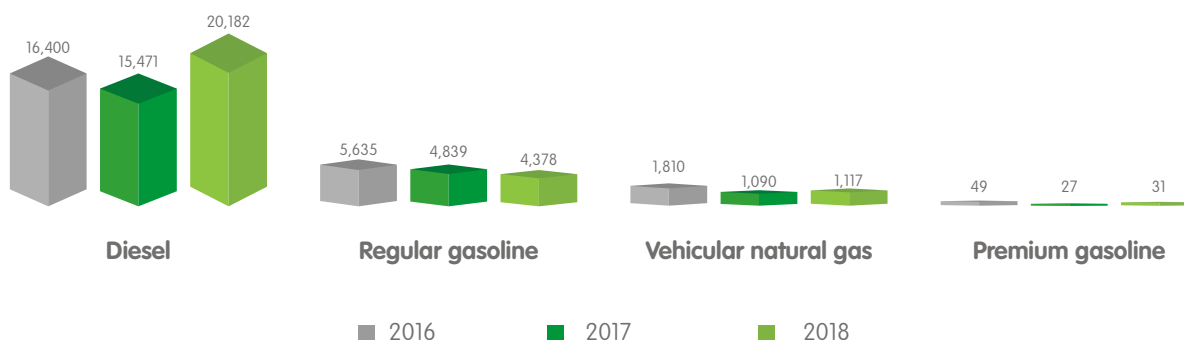
Source: Idsos application.

The energy consumption by EPM's vehicle fleet was 97,980 MWh (26.67% of the energy demand). Diesel accounts for 58.09% of consumption, followed by vehicular natural gas (35.51%).

The natural gas used by Envvarias in its waste collection trucks accounted for 96.74% of this fuel consumption for the group, while diesel accounted for 41.97%. EPM is the second company with the highest diesel demand, as it consumes 35.46% of this fuel.

The figures for 2017 were corrected.

Energy consumption in the vehicle fleet and stationary equipment - EPM (MWh)



Source: Idsos application.

The energy consumption by EPM's vehicle fleet increased by 19.98% compared to the previous year, among other reasons because many trips that were contracted with third parties were done using its own vehicle fleet. Total consumption amounted to 25,708 MWh (10.23% of the internal energy demand). Diesel accounts for 78.50%, followed by regular gasoline (17.03%).

Diesel had the greatest variation (30.45% increase) compared to 2017.

The figures for 2016 were corrected.

External energy consumption

| Energy consumption of the vehicle fleet hired - Grupo EPM (MWh) | | | |
|---|---------------|---------------|---------------|
| Fuel | 2016 | 2017 | 2018 |
| Diesel | 17,716 | 24,899 | 9,437 |
| Regular gasoline | 1,283 | 1,372 | 961 |
| Vehicular natural gas | 196 | 188 | 79 |
| Premium gasoline | 0 | 7 | 0 |
| Total | 19,195 | 26,466 | 10,477 |

Source: Idsos application.

The external energy demand is calculated based on fuel consumption by the vehicle fleet hired by Grupo EPM. In 2018, this consumption was 10,477 MWh (60.41% less than that of the previous year), which corresponds to 2.77% of the total energy demand. Diesel accounts for 90.07% of fuel consumption.

The figures for 2017 were corrected.

| Energy consumption of the vehicle fleet hired - EPM (MWh) | | | |
|---|---------------|---------------|--------------|
| Fuel | 2016 | 2017 | 2018 |
| Diesel | 13,701 | 15,378 | 7,181 |
| Regular gasoline | 993 | 1,300 | 951 |
| Vehicular natural gas | 104 | 161 | 22 |
| Premium gasoline | 0 | 7 | 0 |
| Total | 14,798 | 16,846 | 8,154 |

Source: Idsos application.

The energy consumption by the vehicle fleet hired by EPM decreased by 51.60%. The most significant reductions were in vehicular natural gas and diesel. The latter accounts for 88.07% of fuel consumption.

The bid specifications of personal transport contracts for infrastructure projects under construction require that vehicles operate with diesel.

The figures for 2017 were corrected.

GRI standards disclosures and EPM indicators

- 302-1** Energy consumption within the organization.
- 302-2** Energy consumption outside of the organization.
- 302-3** Energy intensity.
- 302-4** Reduction of energy consumption.
- 302-5** Reductions in energy requirements of products and services.

Scope and coverage

Businesses

Water
Sanitation
Electrical energy
Gas

Territory

| | |
|-------------------------------|-------------|
| Colombia- Antioquia | Chile |
| Colombia - Caldas | El Salvador |
| Colombia - Quindío | Guatemala |
| Colombia - Santander | Panama |
| Colombia - Norte de Santander | |
| Colombia - Malambo, Atlántico | |

Companies

Empresas Públicas de Medellín - EPM

Aguas Regionales EPM

Empresa de Aguas del Oriente Antioqueño

Empresas Públicas de Rionegro - EPRio

Aguas de Malambo

Empresas Varias de Medellín - Emvarias

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

Centrales Eléctricas del Norte de Santander - CENS

Distribuidora de Electricidad del Sur - Delsur

Empresa Eléctrica de Guatemala - Eegsa

EPM Chile

Hidroecológica del Teribe - HET

Elektra Noreste - ENSA

Aguas de Antofagasta - Adasa

Waste management

Integrated solid waste management includes preventive actions in the generation, minimization, valorization, reclamation, treatment, and disposal of waste. Grupo EPM classifies waste into recyclable, biodegradable, inert and ordinary, special, and hazardous.

Grupo EPM's companies implement and update integrated waste management plans that comprise the application of strategies such as the reduction in generation, the increase in reclamation, and the programs of education and training, to contribute to the appropriate management of waste in their facilities. In turn, they participate in activities led by other institutions of each country or region to collect certain waste such as plastic lids, electrical and electronic devices, pesticides, batteries, among others, generated by Grupo EPM people, customers and users, and other stakeholders.

Management in 2018

The operation of the dechlorination plant with metallic sodium allows the removal of 100% of the PCBs with a concentration over 50 ppm associated with the equipment. Washing the smooth metallic parts facilitates its decontamination and recovery. The materials delivered meet the limit required by the standard. If the average weight of a transformer is 200 kg, with this process, 196 kg are recovered and 4 kg are disposed corresponding to the porous material in the transformer core.

EPM obtained recognition from Ministry of Environment and Sustainable Development (abbreviated MADS in Spanish) and UNDP for its effort, work, and contribution to the environmental management of PCBs in Colombia.

In 2018, waste generation in Grupo EPM was 31.913 t (the 156 t that had been stored since 2017 is not included in this value). 12.91% of waste is hazardous.

The power distribution companies made progress in the sampling and inventory of transformers, the replacement of contaminated equipment, and the treatment of oils with PCB content of over 50 ppm.

The waste generated by the construction of infrastructure projects is excluded from the total, as in this stage of the projects waste is produced in an amount and type different from the daily production. Therefore, they would alter the trend in the generation of waste from activities associated with the provision of services, and it wouldn't be possible to set realistic goals.

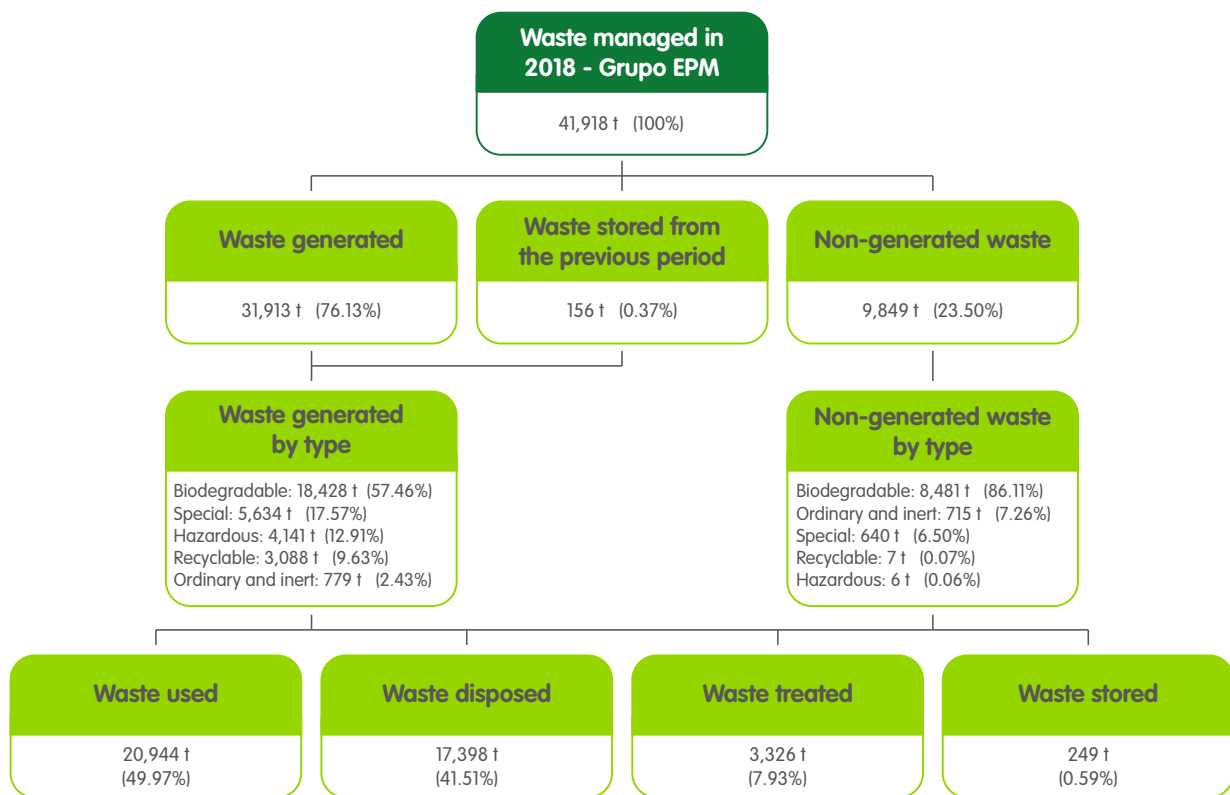
In addition to the waste generated by Grupo EPM, the organization decides to manage those that reach its reservoirs and the intake grids of the water purification and wastewater treatment plants, which amount to 23.50% of the waste managed.

The Ituango hydroelectric project started recording and managing waste not generated in 2018, from the structuring of the reservoir. Most of this waste includes pieces of wood that the Cauca River drags in its 850 km journey along 80 municipalities of Colombia to get to the dam. The river is used by some populations for discharging liquid effluents and disposing their solid waste, which means that the volume of the material to be extracted from the reservoir is considerable.

The waste generated and managed by the Ituango hydroelectric project is addressed separately.

For the first time, information from the new affiliate EPRio is included.

Waste managed in 2018 by Grupo EPM



Source: Idsos application.

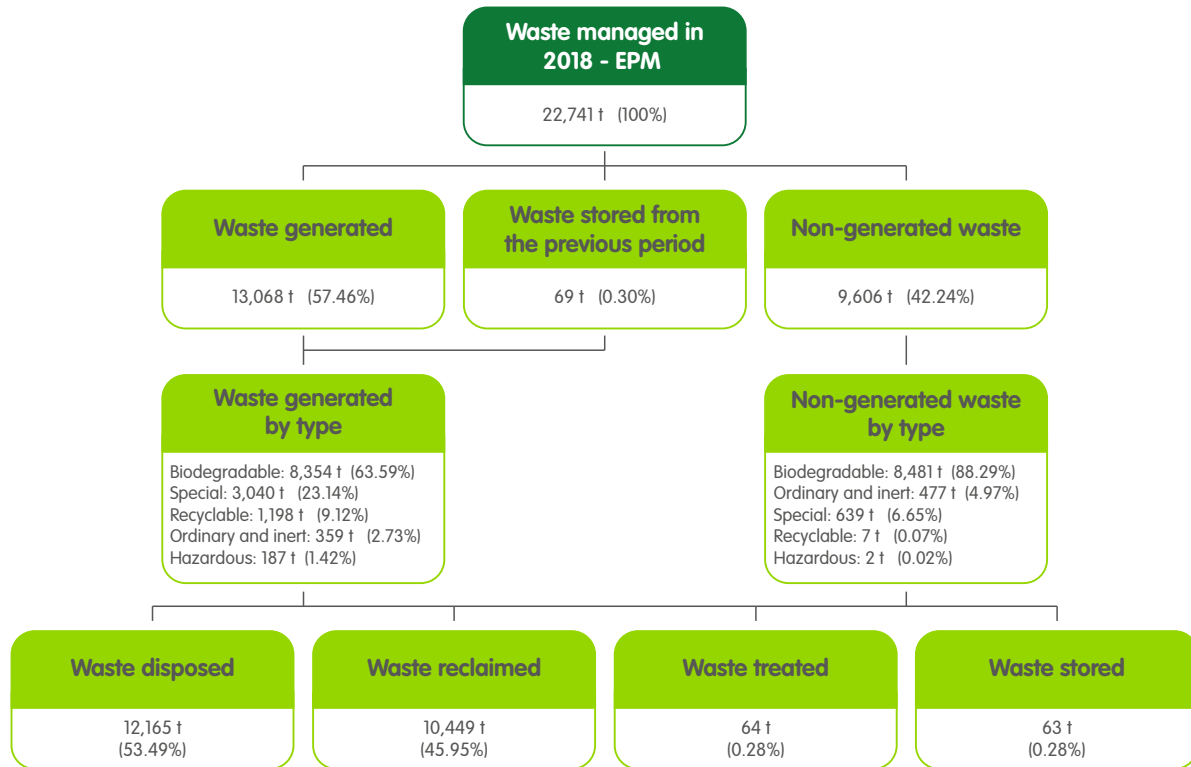
Waste not generated refers to waste that, although managed by the organization, was not directly generated by it. For example, the floating solid waste that reaches the reservoirs, the invasive aquatic plants, or the waste that is collected in the intake grids in the wastewater treatment plants.

Biodegradable waste represents 57.46% of the waste generated by Grupo EPM.

49.97% of the waste is reclaimed.

Grupo EPM managed 9,849 t of waste that reached its reservoirs and the intake grids of the water purification and wastewater treatment plants.

Waste managed by EPM in 2018



Source: Idsos application.

Waste not generated refers to waste that, although managed by the organization, was not directly generated by it. For example, the floating solid waste that reaches the reservoirs, the invasive aquatic plants, or the waste that is collected in the intake grids in the wastewater treatment plants.

Biodegradable waste accounts for 63.59% of the waste generated by EPM, while hazardous waste accounts for 1.42%.

Waste not generated (which reached reservoirs or intake grids of water purification and wastewater treatment plants) accounts for 42.24% of the waste that EPM managed in 2018. Most of this waste should have been sent to final disposal, as it is difficult to separate it and due to the considerable amounts collected.

Waste not generated (which reached reservoirs or intake grids of water purification and wastewater treatment plants) accounts for 42.24% of the waste that EPM managed in 2018. Most of this waste should have been sent to final disposal as it is difficult to separate it and due to the considerable amounts collected.

| Waste generated (t) - Grupo EPM | | | |
|---------------------------------|---------------|---------------|---------------|
| Type of waste | 2016 | 2017 | 2018 |
| Biodegradable | 17,313 | 19,569 | 18,428 |
| Special | 2,405 | 4,746 | 5,634 |
| Hazardous | 907 | 1,278 | 4,141 |
| Recyclable | 2,558 | 3,095 | 3,088 |
| Ordinary and inert | 620 | 675 | 779 |
| Total | 23,803 | 29,363 | 32,070 |

Source: Idsos application.

Waste generation increased by 9.22%.

The 224.02% increase in hazardous waste is due, among other reasons, to the fact that Adasa generated 3,176.96 t (an amount that increased by 3,900% compared to what was reported by this affiliate in 2017) and that CHEC adapted a new warehouse for the management of this type waste, which allows that, in this premise, all the hazardous waste produced is received, weighed, and managed.

The 18.71% increase in special waste is explained by the operation of the new sludge treatment systems in three of EPM's water purification plants, as well as by the execution of civil works and infrastructure remodeling activities in the affiliates.

The 2016 and 2017 figures are adjusted due to involuntary typing errors.

CENS implements management actions that allow reclamation and reincorporation, in the production cycle, of 100% of recyclable waste (metal waste, aluminum, PCB-free transformers, among others), with the articulation of the process at the warehouse and the generation of income thanks to the commercialization of this material.

ESSA treated 119,816 l of dielectric oil through the filter press system during 2018 and acquired 1,609 vegetable oil transformers.

Waste generated (t) - EPM

| Type of waste | 2016 | 2017 | 2018 |
|--------------------------|---------------|---------------|---------------|
| Biodegradable | 9,474 | 11,641 | 8,354 |
| Special | 1,292 | 2,164 | 3,040 |
| Recyclable non-hazardous | 1,128 | 1,129 | 1,198 |
| Ordinary and inert | 298 | 321 | 359 |
| Hazardous | 196 | 194 | 187 |
| Total | 12,388 | 15,449 | 13,138 |

Source: Idsos application.

EPM produced 13,138 t of waste, which is equivalent to 40.97% of the group's waste generation.

The 40.48% increase in special waste, as well as the generation of sludge in the treatment systems of the water purification plants, is due to remodeling, adaptation of infrastructure, and sands resulting from the modernization of the San Fernando wastewater treatment plant.

The 28.24% decrease in biodegradable waste is explained by the reduction of debris from felling and pruning of trees, which arise from the maintenance of vegetation in the energy distribution networks.

Management of waste at Grupo EPM (t)

| Management | 2016 | 2017 | 2018 |
|----------------|---------------|---------------|---------------|
| Reclamation | 21,902 | 25,040 | 20,944 |
| Final disposal | 6,522 | 9,218 | 17,398 |
| Storage | 972 | 286 | 249 |
| Treatment | 194 | 246 | 3,326 |
| Total | 29,590 | 34,790 | 41,917 |

Source: Idsos application.

Reclamation includes reuse, recycling, and composting. Treatment involves incineration. Final disposal refers to landfill.

Grupo EPM managed 41.917 t of waste, including those generated by the activities of the company, the 156 t that was stored since the previous year, and the 9,849 t that it did not produce.

49.97% of waste was reclaimed, and 41.51% was sent to final disposal.

The waste sent to final disposal increased by 88.74%, among other reasons because Eegsa reported, for the first time, the debris from felling and pruning of trees associated with its electrical network, which today are not reclaimed. Waste treated increased by 1,252.03% and corresponds to 3,176.96 t of arsenic sludge from water pre-treatment and treatment reported by Adasa.

| Management of waste generated by EPM (t) | | | |
|--|---------------|---------------|---------------|
| Management | 2016 | 2017 | 2018 |
| Final disposal | 4,027 | 4,960 | 7,235 |
| Reclamation | 8,589 | 10,925 | 6,221 |
| Storage | 573 | 54 | 38 |
| Treatment | 81 | 92 | 38 |
| Total | 13,271 | 16,032 | 13,532 |

Source: Idsos application.

Reclamation includes reuse, recycling, and composting. Treatment involves incineration. Final disposal refers to landfill.

Of the 22,741 t of waste managed by EPM, 13,532 t were generated directly by the company's activities.

The waste that was reclaimed decreased by 43.06%, while the waste disposed increased by 45.85% and includes the sludge resulting from the new treatment systems of the water purification plants. 58.10% of waste disposed are biodegradable and 34.18% are special.

The ideal management for biodegradable waste is reclamation, while for special waste, it may be reclamation or treatment. In both cases, final disposal is not the optimal eco-friendly alternative and, therefore, it becomes an improvement action to be implemented.

EPM's annual goal (2017-2019 period):
 Waste to be disposed \leq 4,000 t.
 Waste to be disposed \leq 35% of the waste generated.
 Waste reclaimed \geq 60% of the waste generated.
 Waste to be disposed by EPM in 2018 = 7.235 t, equivalent to 53.46% of the waste generated.
 Waste to be reclaimed by EPM in 2018 = 6.221, equivalent to 45.98% of the waste generated.
 These targets were not met in 2018.

Waste management in the Ituango hydroelectric project (t)

| | 2016 | 2017 | 2018 |
|---|------------|------------|----------------|
| Waste stored from the previous period. | 4 | 0 | 3 |
| Waste generated by the project. | 191 | 244 | 332 |
| Waste not generated but managed by the project. | 0 | 0 | 133,688 |
| Total | 195 | 244 | 134,023 |

Source: Idsos application.

The Ituango hydroelectric project managed 134,023 t of waste in 2018, of which 99.75% was not generated from the project's activities. 99.98% of waste not generated but managed corresponds to biodegradable material. 180 t of this waste was reclaimed, 15 t was treated, 138 t was sent to final disposal, and the rest was stored for its proper management in 2019.

Management of hazardous waste generated by Grupo EPM (t)

| Type of Management | 2016 | 2017 | 2018 |
|------------------------------|------------|--------------|--------------|
| Treatment | 177 | 167 | 3,296 |
| Reclamation | 498 | 797 | 643 |
| Storage for later management | 204 | 220 | 183 |
| Final disposal | 47 | 87 | 23 |
| Total | 926 | 1,271 | 4,145 |

Source: Idsos application.

79.52% of hazardous waste generated was treated, and 15.51% was reclaimed. The main generating sources were EPM (41.32%), EDEQ (15.58%), Delsur (11.26%), Eegsa (10.90%), and Adasa (10.11%).

The generation of hazardous waste increased by 226.12%. In 2018, CENS and EPM's transmission and distribution business transported across borders 3.77 t of hazardous waste containing mainly PCBs.

The activation of a transaction agreement between EPM and CHEC—which seeks to provide services for the treatment of equipment contaminated with PCB; the removal of related waste; and the sale, for reclamation, of dechlorinated oil and surplus iron, silicon, copper, aluminum, and bronze—demonstrates improvement in the management of hazardous waste at Grupo EPM.

Management of hazardous waste generated by EPM (t)

| Type of management | 2016 | 2017 | 2018 |
|------------------------------|------------|------------|------------|
| Reclamation | 76 | 57 | 117 |
| Treatment | 109 | 117 | 61 |
| Storage for later management | 5 | 4 | 4 |
| Final disposal | 26 | 9 | 4 |
| Total | 216 | 187 | 186 |

Source: Idsos application.

Of the 186 t of hazardous waste, 62.90% was treated and 32.80% was reclaimed. 4 t were sent to final disposal.

EPM's annual goal (2017-2019 period):

Hazardous waste generated ≤ 190 t and $\leq 1.5\%$ of the total waste generated.

Hazardous waste generated by EPM in 2018 = 186 t, equivalent to 1.37% of the total.

Management of waste not generated by Grupo EPM (t)

| Type of management | 2016 | 2017 | 2018 |
|------------------------------|--------------|--------------|--------------|
| Reclamation | 571 | 469 | 88 |
| Final disposal | 4,647 | 5,700 | 9,799 |
| Storage for later management | 3,325 | 1,339 | 83 |
| Treatment | 6 | 1 | 4 |
| Total | 8,549 | 7,509 | 9,974 |

Source: Idsos application.

EPM and CHEC have provided information on their management of waste not generated for the three previous periods. In 2016, Aguas del Oriente Antioqueño, CENS, and ENSA also provided information on this. In 2018, this information was also provided by Aguas Regionales.

99.83% of this waste is reported by EPM. The increase in waste not generated is due especially to macrophytes extracted from the Porce II, Riogrande II, and Peñol Guatapé reservoirs, which were disposed. In 2017, the Porce II reservoir had minimum levels of invasion with values that did not exceed 6 hectares, except for December 2017. In 2018, the invasion conditions were completely different, as about 92 hectares were invaded.

Reclamation decreased by 81.23% because, 366.70 t of wood extracted from the Porce II reservoir was reclaimed in 2017, while only 48.90 t was reclaimed in 2018.

CHEC sent, to final disposal, 217 t of waste that was collected in grids of water intakes, water bodies of the reservoirs, and riverbeds of the streams that supply the reservoirs.

GRI standards disclosures and EPM indicators

306-2 Waste by type and disposal method.

306-4 Transport of hazardous waste.

Scope and coverage

Businesses

Water

Sanitation

Electrical energy

Gas

Territory

Colombia - Antioquia

Colombia - Caldas

Colombia - Quindío

Colombia - Santander

Colombia - Norte de Santander

Colombia - Malambo, Atlántico

Chile

El Salvador

Guatemala

Panama

Companies

Empresas Públicas de Medellín - EPM

Aguas Regionales EPM

Empresa de Aguas del Oriente Antioqueño

Empresas Públicas de Rionegro - EPRio

Aguas de Malambo

Central Hidroeléctrica de Caldas - CHEC

Electrificadora de Santander - ESSA

Empresa de Energía del Quindío - EDEQ

Centrales Eléctricas del Norte de Santander - CENS

Distribuidora de Electricidad del Sur - Delsur

Empresa Eléctrica de Guatemala - Eegsa

EPM Chile

Hidroecológica del Teribe - HET

Elektra Noreste - ENSA

Aguas de Antofagasta - Adasa

Other consumptions and efficient practices

It includes actions focused on the optimization of consumption, the efficient use of materials and input materials, and the minimization of environmental effects caused by their use within Grupo EPM.

The most representative elements of consumption at Grupo EPM are the water purification input materials, the dielectric oil used in energy generation, and power transmission and distribution. The variation in the doses of chemical inputs that are required to purify water is usually associated with the quality of the resource captured.

These actions seek to raise Grupo EPM people's awareness about reducing, reusing, and recycling different input materials, when feasible, as well as getting the optimal dosage of the chemicals used for water purification, without having an impact on the quality of the public utilities provided.

Management in 2018

At EPM, the energy transmission and distribution business regenerates 100% of the oil necessary for the operation of substations and lines, as well as the maintenance of network equipment.

The amount of dielectric oil reused varies depending on the batches of equipment serviced.

Water purification input materials (t/Mm³) - Grupo EPM



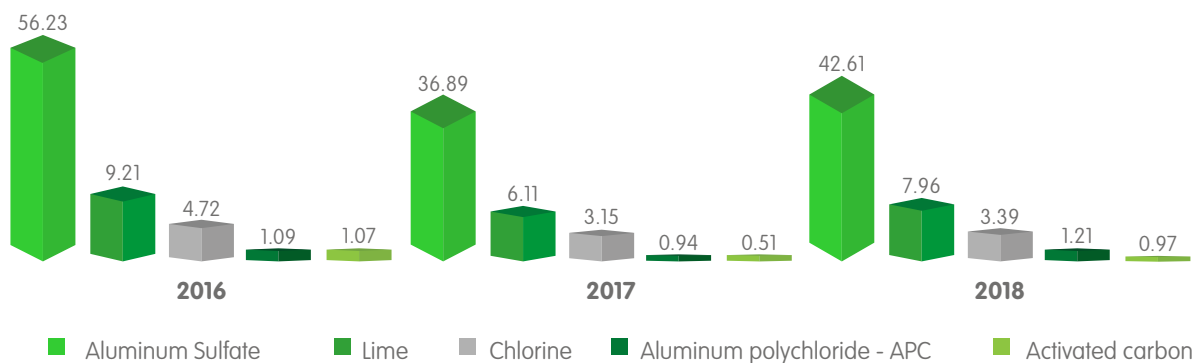
Source: Idsos application.

Input materials increased by 22.21%. Aluminum sulfate accounts for 69.50% of the total input materials used, followed by lime (14.27%). Aguas del Oriente Antioqueño uses sodium silicate that cannot be reflected in the graph.

The elements with the highest increases per unit of drinking water compared to 2017 were activated carbon (103.59%), which eliminates compounds providing smell, color, and taste; lime (39.89%); and aluminum polychloride (35.81%). This increase is an indication of the increasing deterioration in the water quality of the sources.

For the first time, EPRio and Adasa provide information on the input materials that they use for water purification.

Water purification input materials (t/Mm³) - EPM



The amount of input materials used per unit of drinking water at EPM increased by 17.98%. Activated carbon showed the highest increase (90.97%), although it is the input material that is used in a smaller proportion, followed by lime, which serves to stabilize water pH (30.28%), and chlorine (29.39%).

Aluminum sulfate (which increased by 15.53%) accounts for 75.89% of the consumption of different water purification input materials, followed by lime with 14.18%.

Dielectric oil consumption at Grupo EPM (t)

| Concept | | 2016 | 2017 | 2018 |
|------------------------|---------------------------|--------------|---------------|---------------|
| Fresh oil required in: | Existing infrastructure | 52.73 | 165.99 | 140.98 |
| | New projects or equipment | 0.00 | 188.31 | 399.00 |
| Total | | 52.73 | 354.29 | 539.98 |
| Filtered oil reused | | 51.86 | 224.71 | 133.66 |
| Reuse | | 98.34% | 63.43% | 24.75% |

Source: Idsos application.

The 399 t of dielectric oil required for new infrastructure or equipment (with a 111.89% increase) corresponds to the transformers and energy generating equipment that were installed in the mechanical room of the Ituango hydroelectric project before the contingency.

94.81% of the oil required in existing infrastructure is regenerated.

Filtered oil reused decreased by 40.52% in 2018, since in the previous year Delsur had oil that still had acceptable properties for its recovery.

| Dielectric oil consumption at EPM (t) | | | | |
|---------------------------------------|---------------------------|--------------|---------------|---------------|
| Concept | | 2016 | 2017 | 2018 |
| Fresh oil required in: | Existing infrastructure | 49.26 | 160.13 | 133.25 |
| | New projects or equipment | 0.00 | 188.31 | 399.00 |
| Total | | 49.26 | 348.44 | 532.25 |
| Filtered oil reused | | 44.50 | 220.72 | 132.15 |
| Percentage of reuse | | 90.33% | 63.35% | 24.83% |

Source: Idsos application.

EPM uses 98.57% of the dielectric oil required in the group.

EPM increased by 52.75% fresh dielectric oil consumption in 2016. 74.97% of the fresh oil corresponds to the installation of transformers required for power generation at the Ituango hydroelectric project.

The internal process of oil regeneration favored the recovery of 24.83% of the oil required for the operation. All the oil reused corresponds to the energy transmission and distribution business.

GRI standards disclosures and EPM indicators

301-1 Materials used by weight or volume.

301-2 Recycled input materials used.

Scope and coverage

Businesses

Water

Electrical energy

Territory

Colombia – Antioquia

Colombia – Caldas

Colombia - Malambo, Atlántico

Chile

El Salvador

Guatemala

Companies

Empresas Públicas de Medellín - EPM

Aguas Regionales EPM

Empresa de Aguas del Oriente Antioqueño

Empresas Públicas de Rionegro - EPRio

Aguas de Malambo

Central Hidroeléctrica de Caldas - CHEC

Distribuidora de Electricidad del Sur - Delsur

Empresa Eléctrica de Guatemala - Eegsa

Aguas de Antofagasta - Adasa

2018 Sustainability Report

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Ituango project

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1. General considerations of the Ituango hydroelectric project

The Ituango hydroelectric project is located on the Cauca River, in the northwest of Antioquia, about 170 kilometers from the city of Medellín, and its area of influence includes the municipalities of Ituango and Briceño, where the main works are located, and Santa Fe de Antioquia, Buriticá, Peque, Liborina, Sabanalarga, Toledo, Olaya, San Andrés de Cuerquia, Valdivia, and Yarumal, which provide land for the reservoir and other works of the project.

The project consists of a dam of 225 m high with a volume of 20 million m³, an underground power station with a maximum installed capacity of 2,400 MW and 13,930 GWh of average annual energy.

The project also includes works for the temporary diversion of the Cauca River, on its right bank, the spillway to evacuate open-canal-type floods, and the intermediate discharge tunnel.

To learn more about the project, click here:

[Video](#)

[Brochure](#)

2. Construction of the Ituango project

2.1. Progress in construction

On April 30, 2018, before the contingency, the Ituango project had a physical advance of 84.3%, with a 0.8% lag with respect to the forecast. The main advances are summarized in the following work fronts:

- The filling of the dam with execution progress of 88%, for a volume of 17,606,819 m³.
- The excavation of the spillway with progress of 99% and the concrete of the spillway with progress of 95%.
- The concrete in the intermediate discharge with progress of 81%.
- The concrete in the upper headraces with progress of 94%.
- The aspiration tunnels with progress of 100% in units 1 to 4 and 39% in units 5 to 8.

2.2. Progress in the physical component

Before the contingency, all environmental activities prior to filling were under implementation based on the provisions of the Environmental Management Plan (EMP) authorized by the National Environmental Licensing Authority (abbreviated ANLA in Spanish). A diagram of this plan in its physical component is presented below:



2.2.1. Program for the management of atmospheric quality

With the execution of the activities of this program the management plan seeks to reduce the impact generated to the air, with activities such as:

- Watering of roads and exposed areas using tanks and sprinklers.
- Covering dump trucks with tarps.
- Controlling emissions in the crushing, concrete, and asphalt plants.
- Covering and watering places where construction stone materials are stocked.

Noise monitoring



Particulate matter handling in the crusher



Road watering



Air quality monitoring



In addition, atmospheric quality monitoring is conducted periodically, with follow-up to variables such as particulate matter, gases, noise, and odors in the area of direct influence of the project.

2.2.2. Program for the management of excavation materials

The execution of the activities of this program seeks to avoid and reduce the impact generated to the air, the water, and the soil as a result of the excavations carried out to build the infrastructure required for the project. Different activities are implemented in this program including:

- Withdrawal of materials and placement in disposal areas.
- Conformation and compaction of materials in disposal areas.
- Construction of drainage works.
- Final revegetation of the impacted area.

Construction of filters



Disposal area with berms, ditches, and revegetation



2.2.3. Program for the management of surface water

The execution of the activities of this program seeks to reduce the impacts that could be generated on water resources through the implementation of different activities such as:

- Gauging in water sources.
- Monitoring of the resource use.
- Operation of water intakes.
- Construction of ditches and canals in disposal roads and areas.

In addition, surface water sources in streams, in the Cauca River in the reservoir area, and downstream are monitored permanently.

Sampling of consumption water



Gauging of flow rates caught



Measurement of water quality in the Cauca River



Construction of canals



2.2.4. Program for the management of residential and industrial wastewater

This program seeks to minimize the impact generated to water as a result of the discharges of wastewater that are generated in the different facilities of the project, through the execution of different activities such as:

- Treatment of residential and industrial wastewater.
- Permanent monitoring of discharges and of receiving water sources.
- Portable sanitary systems for the work fronts.

Cleaning of portable toilets with a Vactor truck



Operation of sedimentators and grease traps



Residential wastewater treatment plant, Villa Luz camp



2.2.5. Program for the integrated management of waste

The execution of the activities of this program seeks to reduce the impact generated to the soil, water, and air, with activities such as:

- Sorting at the source
- Collection
- Storage
- Final disposal
- Reclamation
- Treatment

With a capacity of approximately 23,000 m³, the Bolivia landfill was built for the final disposal of ordinary waste resulting in the project.

Sorting at the source



Storage of hazardous waste



Composting of biodegradable waste



Recycling



Delivery of hazardous waste for final disposal to authorized companies



2.2.6. Program for the management of vehicular traffic impacts

This program seeks to avoid or minimize the possible impact generated on wild fauna, people, and the air quality associated with the movement of vehicles through the project roads, through different activities such as:

- Training of drivers in environmental education.
- Control of speed.
- Signage on the roads.
- Preventive maintenance works.

Vehicle inspections



Signage on the roads



2.2.7. Program for the management of construction materials sources

The execution of the activities of this program seeks to minimize the impact generated on the water, soil, air, and flora and it focuses on the management of areas for the extraction of construction materials. Currently, it is mainly developed in the El Palmar borrow area No. 4, from where the impermeable material for the core of the dam is extracted. The following actions are implemented there:

- Air quality: humidification of the exposed areas, use of tarps for the transport of materials.
- Water quality: control of rainwater and runoff, construction of energy dissipation works.

- Closing plan: partial and final closure of each exposed area, in order to improve soil stability and mitigate the deterioration impact on the landscape.
- Revegetation of the areas where exploitation was completed.

Construction of canals at the El Palmar materials source



Revegetation of the areas where exploitation was completed



2.2.8. Program for the management of instability and erosion

This program seeks to avoid and reduce the impact generated to the soil and water, with the execution of activities such as:

- Construction of canals.
- Protection of slopes with shotcrete.
- Revegetation of slopes.

Additionally, monitoring of instability and erosion is carried out permanently and measures for their management are proposed.

Shotcrete and revegetation combination for slope stabilization



Installation of parapets to avoid material from dragging to the hillside



2.2.9. Program for the reservoir filling and the Cauca River diversion

The diversion of the Cauca River began on February 17, 2014, with the blowing of the plugs that protected the branches of the diversion tunnels.

The development of this activity had the participation of a group of approximately 60 people, made up of 26 fishermen from different riverine populations of the middle and lower areas of the Cauca River and professionals from the environmental, industrial safety, and occupational health fields.

During this process, 4,645 fish were recovered, of which 99.2% was released alive.

Rescue of fish during the diversion of the Cauca River



2.2.10. Program for the management of the reservoir

It is divided into two subprograms. However, none had been implemented before the contingency presented from April 28. They are generally described below:

2.2.10.1. Subprogram for the operation of the reservoir

This subprogram is oriented to good management of the reservoir and avoiding discharge impacts downstream, by implementing the operation rule that guarantees that on a single day (or 24-hour period) the fluctuation of the river flow should be restricted in function of the average flow of the Cauca River on that day.

2.2.10.2. Subprogram for the management of macrophytes and waste

This subprogram is directed to the control of macrophytes (water hyacinth) and floating waste on the reservoir, making a proper management and final disposal of them. Some of the activities of this program are containment, removal from the reservoir, separation, commercialization, final disposal, and treatment.

2.2.11. Investment of 1%

Colombian regulations establish that any project that involves the use of water taken directly from natural sources and that is subject to obtaining an environmental license must allocate at least 1% of the total investment for the recovery, conservation, preservation, and monitoring of the hydrographic basin that feeds the respective water source.

In the case of the Ituango project, the resources are being invested as follows:

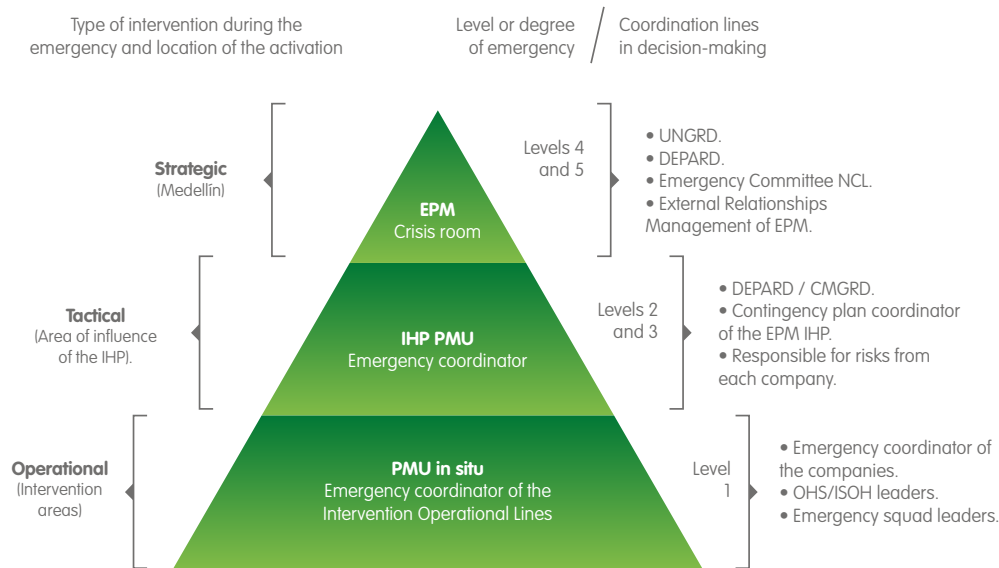
- Protection and management of strategic areas: purchase, reforestation, and isolation of areas of influence from springs that are source of water supply.
- Environmental sanitation: construction of sewers and residential wastewater treatment plants in the municipalities of the area of influence.
- Training of environmental leaders and managers through environmental education activities.

For the first quarter of 2018 the investments in the territory for this concept were in the line of purchase of properties for the protection of the microbasins: in total 381.23 hectares with an investment of COP 1,528,565,690.

2.2.12. Contingency plan

The risk analysis was prepared considering the uncertainty of the occurrence of disasters generated by the natural conditions existing in the area of influence of the project and by anthropic factors. As part of the methodology used, the potential threats were assessed in light of their probability of occurrence and impacts that they could generate.

The structure proposed for the contingency plan distinguishes three operational levels: strategic, tactical, and operational, including the competencies within the risk management process in knowledge, reduction, and emergency management. The organizational structure of this plan is presented below.



Likewise, as part of the implementation of the contingency plan, the installed capacity has been inventoried in the municipalities of the area of influence of the project and in downstream municipalities; workshops and drills were also conducted. In addition, 30 kits were delivered for emergency care:

| Description | Installed capacity |
|--|--------------------|
| Early warnings installed by the Red Cross | 12 |
| Drills conducted with the downstream communities | 18 |
| Drills conducted with the upstream communities | 40 |
| Preparation workshops conducted downstream | 88 |
| Preparation workshops conducted upstream | 120 |
| People prepared for the response downstream | 3,667 |
| People prepared for the response upstream | 4,045 |
| Action Plan during Disasters (APDD) (% of progress) | 100% |
| Endowment kits for communities | 30 |
| Workshops and drills by Municipal Councils for Disaster Risk Management (abbreviated CMGRDs in Spanish) and Departmental Councils for Disaster Risk Management | 6 |
| Workshops and drills by CMGRDs upstream | 42 |
| Drill by CMGRDs downstream | 2 |
| Drill by CMGRDs upstream | 14 |
| Patients attended to during medicalized ambulance transport (MAT) and basic ambulance transport (BAT) | 337 |

Diesel fuel fire control drill (CCCI)*

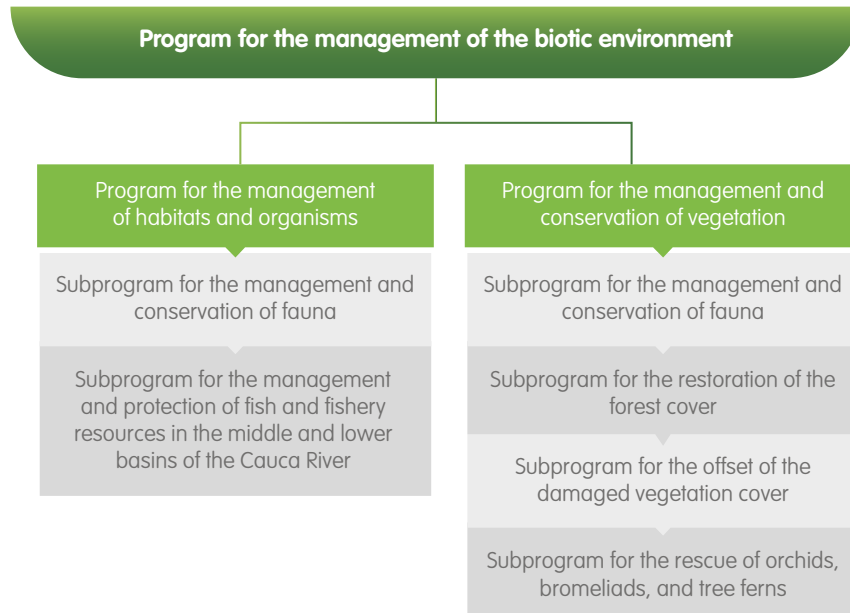


First aid training



2.3. Progress in the biotic component

Diagram of the programs for the management of the biotic component.



2.3.1. Program for the management of habitats and organisms

It is divided into two subprograms.

*CCCI: Consorcio Camargo & Correa, Concreto y Coninsa Ramón H Ituango

2.3.1.1. Subprogram for the management and conservation of wild fauna

This program seeks to reduce the impact generated to the wild fauna, with the development of the following activities:

- Preventive signage on the crossing of wild fauna on the roads.
- Actions to chase away, rescue, and relocate the terrestrial fauna affected by the construction of the works, the diversion of the Cauca River, and the filling of the reservoir.
- Construction and operation of wild fauna care and assessment centers - one permanent and some mobile - operated in agreement with the Regional Autonomous Corporation of Central Antioquia (Corantioquia).
- Preparation of population studies of vulnerable wild fauna species.

Signage on the crossing areas of fauna



Training of employees on fauna care



Use of horns to chase fauna away



Mobile fauna care center



As part of the obligations described in the Environmental Management Plan (EMP), the operation of the Permanent Wild Fauna Care and Assessment Center (CAC) of the project began in 2018; currently 14 people work there, including veterinary physicians, biologist, zotechnician, veterinary assistants, environmental educator, communicator, operators, and drivers. The center has the necessary equipment for the clinical and biological management of the individuals that require it, as well as for processes of rehabilitation and release to the natural environment of the wild fauna individuals that may be affected by the different activities of the project.

Permanent Wild Fauna Care and Assessment Center (CAC)



In addition, terrestrial fauna monitoring continued during 2018 as part of the project's EMP. Punctual samplings for the population studies of felines and otters were also carried out, as well as the monitoring required within the Program for the management and protection of fish and fishery resources in the lower and middle basins of the Cauca River.

To learn more, click here:

[Birds](#)

[Felines](#)

2.3.1.2 Subprogram for the management and protection of fish and fishery resources in the middle and lower basins of the Cauca River

This subprogram meets the requirements established by the environmental authorities in the environmental license. On February 18, the updates of both the Program for the management and protection of fish and fishery resources in the middle and lower basins of the Cauca River and the Program for the monitoring and conservation of fish and fishery resources in the middle and lower basins of the Cauca River were submitted to the ANLA. These programs are divided into the following projects:

- Project for the monitoring of the group of fish species located in the lower and middle basins of the Cauca River.
- Project for the monitoring of the reproductive activity of migratory species in the lower and middle basins of the Cauca River. It includes the monitoring of the reproductive activity of rheophilic species and the identification of potential spawning areas.
- Project for the monitoring of the fishing activity in the lower and middle basins of the Cauca River.
- Project for the rescue and relocation of fish due to the diversion of the Cauca River and the filling of the reservoir.
- Project for the rescue and relocation of fish species due to maneuvers or operational activities in the Ituango hydroelectric power station.
- Project for the restocking of fish species.

Since 2010, the project has been monitoring fish species from different stations in the middle and lower basins of the Cauca River, from Bolombolo to Pinillos (Southern Bolívar), in order to assess species composition, breeding seasons, migration routes, among others aspects. To date, 123 fish species have been recorded in the assessed section.

Likewise, potential spawning location and some migration routes have been identified.

Simultaneously, the population genetic analysis of 16 species is being conducted, aiming at identifying aspects such as genetic diversity, distribution of populations, and possible damages due to the construction and operation of the project.

2.3.2. Program for the management and conservation of vegetation

2.3.2.1. Subprogram for biomass removal and forest harvesting

This program manages the impact on flora, landscape, and wildlife, both in the area of works, roads, and camps, and in the reservoir vessel. As part of this subprogram, the following activities are performed: opening of roads, alignment for land clearing, grass-cutting, felling, limbing, stacking, transport to temporary collection sites when required, among others.

In 2016, the vegetation cover of the reservoir vessel started to be removed. 889.3 ha of vegetation cover were intervened until the moment in which the contingency occurred and the level of the river (reservoir) began to increase rapidly.

Tree felling



Temporary timber collection sites

Wood chipping



Panoramic view of the removal of vegetation cover in the reservoir vessel



Transport of wood above the maximum level of the reservoir (420 MAMSL)



2.3.2.2 Subprogram for the restoration of the vegetation cover

With the execution of the activities of this program, the company seeks to restore and offset the possible impacts on the flora and fauna components, through the implementation of the following actions:

- **Conservation of vegetation:** seeds of threatened species such as balsa, yellow mombin, needle flower, courbaril, gumbo-limbo, basul, elephant ear, gaita, colorado, aguacatillo, soapberry, and calabur are rescued and planted in nurseries.
- **Rescue of germplasm:** in order to preserve the rescued material - before, during, and after forest harvesting - in any of its reproductive forms (seeds, cuttings, tubers, among others) strategies have been established to maintain and reproduce the rescued germplasm.
- **Adaptation and maintenance of plant nurseries:** during 2018, three nurseries operated in the project.
 1. El Palmar plant nursery (permanent): It has a production capacity of 1 million plantlets per year.
 2. Villa Luz plant nursery (temporary): It is in charge of the production of native plantlets for the activities of vegetation restoration in the areas intervened by the construction processes.
 3. Humagá plant nursery (temporary): It performs activities of storage and classification of the vegetal material with the purpose of using it in the activities of landscape recovery and restoration in the areas impacted by the construction of the Puerto Valdivia-Dam road.

Landscape recovery and restoration activities in the areas that will no longer be intervened, as part of the execution of the final abandonment and restoration plan. The restoration of the El Palmar borrow area started in the first semester of 2018, with the development of trials with a mixture of biosolids (from the San Fernando wastewater treatment plant), cleared material, and seeds of grasses and trees, in a total area of 7 ha.

Additionally, the execution of activities for ecological restoration began in April in the properties acquired by EPM within the offset area of the project. The main goal of these activities is the ecological restoration of 150 ha of tropical moist forest and 200 ha of tropical dry forest, based on the structural and morphological characteristics of the territory.

Production of plant material in the Villa Luz plant nursery



Rescued seeds (germplasm)



Rescue of plantlets



Sowing and fertilization of plants in already abandoned areas



2.3.2.3. Subprogram for the offset of the damaged vegetation cover

This subprogram makes it possible to obtain a positive net ecological balance through the execution of activities to restore the vegetation cover damaged by the construction of the works and the conformation of the reservoir.

The environmental license establishes the obligation to offset 17,920.04 ha; the company has acquired lands that cover a total area of 16,723.54 ha - 12,986.52 ha corresponds to tropical dry forest (TDF) and 3,737.02 ha corresponds to tropical moist forest (TMF). The results show that the project has become a real and valuable opportunity to protect and preserve large tropical dry forest areas that were previously at risk due to activities mainly related to stockbreeding and mining.

Additionally, beyond its obligations, the project has acquired and protected 6,134.75 ha of premontane moist forest (PMMF), thanks to which environmental benefits have been obtained in terms of improvement of the ecological connectivity and management of biodiversity in the area of influence.

2.3.2.4. Subprogram for the rescue of orchids, bromeliads, and tree ferns

The purpose of this subprogram is to maintain the diversity and abundance of the species of orchids and bromeliads found in the areas intervened by the project, through the transplantation of a portion of the individuals affected by the construction of the works and the configuration of the reservoir.

Epiphytes and ferns are rescued and relocated to places with optimal conditions for their adaptability: areas with thick canopies, with medium to high relative humidity, close to surface water sources, with similar physical and biotic conditions to those of their original habitats, and that will not be intervened during the construction of works or the configuration of the reservoir.

During the first semester of 2018, epiphytic and terrestrial orchids and bromeliads found in the reservoir area were rescued, achieving the relocation of 37,085 individuals. All the individuals were distributed by life zone. In this way, 7,076 individuals were rescued and relocated to tropical dry forest (TDF) and 30,009 individuals to tropical moist forest (TMF).

Rescue of epiphytes



Monitoring

Relocation



Transitory collection in temporary plant nurseries



Scheme of the social environment management program.

2.4.1. Community communication and participation program

In order to favor the construction of relationships based on trust and mutual understanding among stakeholder groups in the area of influence of the project, some assertive communication and pedagogical strategies have been implemented, based on the production and delivery of accurate and timely information, as well as on the promotion of spaces for dialogue and strengthening of communication and leadership skills.

This program is made up of two projects: Communication for participation and Information and communication.

2.4.1.1. Communication for participation project

Strengthening of youth communication groups

In 2018, 48 training workshops were conducted with youth communication groups in the municipalities of Ituango, Briceño, Valdivia, Ituango, Peque, Sabanalarga, and Liborina. In these spaces, young people received practical tools on content production, media analysis, as well as on communication and leadership skills.

The strengthening of youth participation scenarios (collectives, municipal platforms, and organized groups) becomes an opportunity for the promotion of citizenship. Through communication tools, young people manage to perceive themselves as builders and promoters of practices that contribute to the creation of a democratic culture in their communities. This culture is understood as the result of empowerment for making decisions and working jointly to achieve common objectives.



In October 2018, 60 young people met to exchange experiences, learn about the work of other youth groups, share the communication pieces that each group produces in their municipality, learn about community communication and its applications in local contexts, and recognize the importance of their active participation in local development through communication.



Chats in the rural settlements

Chats are the spaces for dialogue and conversation par excellence. They are the opportunity to listen to the communities and identify the topics that interest them.

Listening to the different expectations and positions on the impacts of the project, talking about the contributions to development, and sharing information on the progress of the work are the purposes of these spaces that are essential for the viability of the project, as they are one of the pillars of environmental and social management.

Every month of 2018, the company conducted conversation spaces in all the rural settlements and municipalities of the area of influence. In these dialogue spaces, the communities received information on the most important milestones that the project might face this year, mainly related to the filling of the reservoir in the middle of the year

and to the start of the power generation operations by the end of the year. Therefore, information was provided regarding the way in which the physical, social, and environmental impacts derived from these two milestones would be handled.

From the contingency and until December, other conversations were held focused on explaining and addressing the concerns of the communities regarding what happened during the contingency and the way in which the project has foreseen its recovery process.

In 2018, the Ituango hydroelectric project conducted more than 252 meetings with stakeholders.

Meetings with the communities



Visits to the project with the stakeholders What can be seen can be felt and, therefore, be better understood

During 2018, the project implemented a plan of visits to the main works with all the stakeholder groups, especially with the families and communities of the area of influence, municipal administrations, EPM's employees, universities, the academy, and the media.

These visits were particularly meaningful for the families and communities of the area of influence because they could understand the magnitude of the work and the importance of their contribution to the construction and operation of this project. In addition, some concerns were addressed, mainly related to the construction processes,

the investment, and the role of local authorities in the execution of the resources that will be received from the power generation. As for universities and the academy, it was an opportunity to talk about the construction process, the environmental and social management, and the opportunities created by a project like this one.

2.4.1.2. Information and communication project

Radio strategy: radio for people

The radio is an opportunity for close and permanent dialogue with communities. Informative spaces and radio magazines have allowed an effective contact with the communities to understand topics of interest. The environment, the development, the opportunities, and the progress of the project are permanent conversation topics in the Con vos (With you) and Sobre la Mesa (On the Table) programs, which are broadcast every week on the radio stations of the region.

The contents and the dialogues with the community can be listened to at the following link:

www.epm.com.co/site/Home/EPMradio.aspx

La Voz del proyecto Ituango (The voice of the Ituango project) newspaper

The newspaper becomes an informative element that summarizes the memory of the project. It collects the life stories, environmental activities, and contributions to the development and evolution of the project.

Communities feel part of the project when they can read and see their own stories, life plans, and achieved goals; when they know about the project and can graphically and visually appreciate its contributions to the region.

La Voz del proyecto Ituango newspaper is a document that contains the history and memory of the project. All its published editions can be read at <https://www.epm.com.co/site/home/medios-de-comunicacion-epm/publicaciones>

2.4.2. Program for the restitution of living conditions

This program is in charge of restoring the living conditions of people affected in the components of habitat, housing, social fabric, economic base, and community infrastructure.

EPM, in cooperation with the affected families and the municipal administrations, implemented the management measures according to the cultural particularities, the level of the impacts received due to the construction of the works, and the respective degrees of vulnerability of every case. The following results were achieved in 2018:

- 257 families in the process of full restitution of living conditions, and implementation of the management measures corresponding to the recovery of the habitat, deployment of family productive projects, and restoration of social and cultural networks through social support.
- 92.3% advance in the habitat restoration process through the construction of new houses and acquisition and/or improvement of used houses.

- 88 of the productive projects already implemented and generating income for family maintenance.
- Agreement with 911 families on a management measure that includes the payment of compensation (direct purchase), based on the real impact, and advice for an appropriate investment by a team of interdisciplinary professionals.

The program for the restitution of living conditions was developed under an approach of comprehensive attention to the affected populations or communities, assuming participation as “the process in which the communities recognize themselves and are recognized by others as actors of their own history in the social, political, economic, and cultural contexts, and exercise the individual and collective rights granted by the National Constitution and the Law to enjoy a healthy environment and take part in the decisions that affect them.” In this way, engagement was permanently strengthened through discussions, meetings, and referencing for the establishment of relationships based on trust. The processes that are part of the program for the restitution of living conditions take into account the following principles:

1. Equity and equal opportunities, recognizing the conditions of vulnerability and the characteristics of the populations or communities.
2. Transparency, supported by the provision of clear, timely, and accurate information.
3. Legitimacy, through the implementation of decisions resulting from agreement and negotiation processes.
4. Respect, based on the preservation of agreements and peaceful relationships, fostering an atmosphere of trust and credibility.
5. Availability, through advice and permanent support to the population subject to restitution.

[Watch the video on restitution of living conditions](#) to learn more about the execution of the program for the comprehensive restitution of living conditions.

2.4.3. Program for the project-region integration

The purpose of this program is the insertion of the project in the region through the interaction between EPM, the communities of the area of influence, public and private institutions, and the political-administrative entities of the region.

The projects that make up the program for the project-region integration are:

Job creation project: 7,871 jobs created. 22% corresponds to people from the region.

Institutional and community strengthening project: The level of development of municipal administrations and community organizations was analyzed in order to design an institutional and community strengthening plan for each of the municipalities of the area of influence of the project and promote social organization initiatives in the community action boards of the rural settlements of influence.

Institutional strengthening plan: It was implemented through meetings and workshops with municipal administrations on topics such as public management; transparency in administrative actions; control instruments; focalization, prioritization, and monitoring of the public expenditure; accountability to the community; citizen security; resolution and management of conflicts; information systems; establishment of alliances for the development of projects; and formulation of projects for the management of legal resources.

Project for the articulation of the Ituango project with the land use plans (LUPs) and the municipal development plans (MDPs): The project defined the strategies for the management of the reservoir and the feasible initiatives to be developed in the short, medium, and long term. In addition, it makes inter-institutional coordination efforts for the formulation of a new land use proposal and the definition of the regulations—having the reservoir as the articulating axis—in order to define, approve, and implement a land use plan for the reservoir.

Project for the monitoring and mitigation of impacts due to migratory pressure: Construction of large infrastructure projects usually attracts foreign people as a result of labor requirements and other economic expectations, which can alter the normal demographic dynamics of the territory due to an accelerated population growth.

This increase in population has an impact on the demand for services such as housing, health care, education, and public utilities. Additionally, it maximizes risks related to environmental vectors, diseases, and social problems, and may transform the cultural systems of the affected populations, in a direct or indirect way.

Some variables were defined for the monitoring of impacts due to migratory pressure. These variables were grouped into six categories, as shown in the following figure:



The measures to prevent, control, or mitigate the identified impacts are agreed through participatory methods in technical committees with municipal coordination entities. In the municipalities where there is a municipal council for social policy (abbreviated Compo in Spanish), this is the space for coordinating the monitoring plans and defining the management measures of the impacts due to migratory pressure. In the municipalities where this council does not exist, a local management committee is installed in coordination with the municipal administration.

In this way, the Ituango hydroelectric project, in the municipalities of San Andrés de Cuerquia, Toledo, Ituango, and Valdivia, where these impacts were identified, has made a total investment of COP 22,056,000,000 in the following strategies:

Primary health care (PHC): for families living in the areas of influence.

Expansion of health coverage: through activities related to oral health care, sexual and reproductive health, prevention of cardiovascular risk, vector-borne diseases, as well as training on water care.

Plan for education on road safety.

Strengthening of the municipal family support unit for the mitigation of psychosocial risks in young population.

Processes of sports, artistic, and cultural initiation with children, youth, and adults.

Construction or improvement of educational institutions, sports centers, hospitals, and health centers.

Project for the engagement with the regional development: more than 5,000 families from 577 rural settlements benefit from family and entrepreneurship productive projects. Additionally, aiming at strengthening the educational development of the communities in the municipalities of the area of influence, rural educational centers (RECs) were built or improved in a participative way:

| Project | Municipality | Rural settlement | Amount (COP) |
|---------------------------------------|--------------|------------------|---------------|
| Improvement of the La Bastilla REC | Peque | La Bastilla | 117,354,832 |
| Improvement of the Renegado Valle REC | Peque | Renegado Valle | 232,302,426 |
| Astilleros REC | Valdivia | Astilleros | 635,000,000 |
| El Junco REC | Sabanalarga | El Junco | 105,590,110 |
| San Julián REC | Toledo | Barrancas | 1,042,000,000 |
| La Fragua and Buena Vista RECs | Buriticá | Buriticá | 193,833,952 |
| La Fragua REC | Buriticá | La Fragua | 123,998,947 |
| Buenavista REC | Buriticá | Buenavista | 42,557,318 |

Gender-oriented development: it contributes to gender equity, prevention of gender violence, and training in sexual health and sexual and reproductive health rights in the area of influence of the project, through the implementation of the program for engagement with gender-oriented development, with the premise of empowering women participation in development plans, programs, and projects. This dynamic makes it possible to create equal opportunities for progress to be considered by the state as an actor of institutional integration and citizen participation.

Agreements were signed by the municipalities, state-owned hospitals (executor), and EPM for the provision of friendly services in Yarumal, Briceño, Valdivia, Toledo, San Andrés de Cuerquia, Ituango, Santa Fe de Antioquia, Olaya, Liborina, Sabanalarga, Peque, and Buriticá. The population directly benefited comprised 12,233 young people at risk, including 23 pregnant women, 34 young mothers, and 559 young people in vulnerable situations due to the use of psychoactive substances. More than 36,000 people of all ages and genders also benefited, in an indirect way, from actions that included:

Training workshops on gender equity, women’s rights, sexual and reproductive rights, gender violence, and care routes.

Individual, family, and group counseling, workshops on prevention of alcohol and drugs use, prevention of suicide, life skills, prevention of unwanted pregnancy, sexual and reproductive rights, among other topics related to prevention.

Efficient wood stoves and firewood tree gardens.

Forums for commemorating the day of non-violence against women and film and discussion for celebrating the international day of women’s rights.

Increase in gender violence complaints.

This program was developed with an investment of COP 3,783 million, with the following contributions:

| Contribution of EPM | Contribution of hospital | Contribution of municipality |
|---------------------|--------------------------|------------------------------|
| COP 3,115,817,095 | COP 382,059,542 | COP 285,139,888 |

Environmental education project: pedagogical activities on coexistence and care for the environment are conducted in educational institutions in the area of direct influence of the project; as well as workshops and talks on environmental regulations and activities with families that are subject to full restitution of their living conditions.

2.4.4. Program for the monitoring of the area of influence of the project

Considering the complexity of the territory and the context of the Ituango project, the analysis and management of socio-political risks have been implemented through a methodology that integrates into the Grupo EPM's risk management.

The Ituango project has a socio-political risk matrix that is updated every six months and that accounts for the risks in terms of collective social action, human rights, security, and strategic litigation, to which the project is exposed at the local, regional, national, and international levels. It is worth mentioning that each of these risks has been assigned preventive and corrective controls to avoid or mitigate its materialization. There is also a map of actors with a socio-political approach that is constantly updated based on the readings of the territory and its dynamics.

The risks materialized, related to the mentioned categories, are reported every month, including actors involved, analysis of scenarios, and recommendations. In 2018, 13 reports were submitted and 101 signs of materialization of socio-political risks were registered, mainly in the categories of human rights, strategic litigation, and collective social action:

- Third-party claims against the project.
- Injunctions due to actions taken by third parties against the project.
- Social protests with de facto actions by third parties in the area of influence of the project.

Each of these risks was managed through preventive and corrective controls, such as inter-institutional coordination with local, regional, and national entities to deal with the events; joint legal action between the company and the state; due diligence with communities and state entities; timely response to complaints and claims; timely response to demands of national and international organizations; permanent dialogue and communication with impacted communities and the community in general; traceability of the information, among others.

2.4.5. Preventive archeology program

Archaeological survey, rescue, and monitoring activities were carried out with the approval of the competent authority: the Colombian Institute of Anthropology and History (abbreviated ICANH in Spanish). In response to the social responsibility commitment to the communities in the area of influence of the project, a result dissemination campaign was conducted in the municipalities, as well as a seminar with the academic community in the facilities of Universidad de Antioquia. In addition, as part of the dissemination activities, two articles were published in the anthropology bulletin of the same university.

The evidence recovered by means of the preventive archeology program rests in the Universidad de Antioquia's museum and its possession is registered before the ICANH, as established by the current legislation on archaeological heritage.

Dissemination activities



Archaeological artifacts



Rescue activities



2.5. Indigenous communities

The Ituango hydroelectric project, committed to the respect of human rights and cultural diversity, and in compliance with the Colombian regulations, activated the assistance protocol for the Nutabe indigenous community from Orobajo, after the certification issued by the Ministry of the Interior, through Ruling 08 of March 1, 2018, which reads: *“taking into account that the project object of this certification is in construction stage, the interested party should request the Directorate of Prior Consultation to start the consultation process.”* In consequence, on March 14, 2018, the company made the request, before the Directorate of Prior Consultation of the Ministry of the Interior, to start the consultation process during the construction stage of the project.

Subsequently, on May 11, 2018, the Ministry of the Interior initiated the prior consultation process and, along with the company, defined the methodological route as well as some joint activities between the project and the indigenous community, as an strategy to ensure the participation of the actors involved.

The joint work sessions held in 2018 made it possible to progress in the definition and coordination of technical, operational, and logistical aspects to comply with the methodological route. It is worth highlighting the partnership agreement signed on October 26 between the council of the Nutabe indigenous community and EPM with the purpose of hiring an advisory team to *“join technical, logistical, and administrative forces in order to ensure technical and legal advice and support to the Nutabe community from Orobajo during the development of the prior consultation process of the Ituango hydroelectric project, pursuant to the provisions of Ruling 08 of March 1, 2018, issued by the Directorate of Prior Consultation of the Ministry of the Interior, and of Presidential Directive 10 of 2013.”* The certificate of commencement of the respective agreement was signed on November 2.

In December, the first phase of the characterization stage was completed as a result of both the efforts made by the indigenous community through the self-determination of their customs and traditions as an ethnic minority and the support of the project’s social management team during the exploratory visits to the territory. In this way, the project reiterates its commitment to fully support the communities impacted by the construction of their works, from the premises of respect for their rights, social equity, transparency in the information, and recognition of differences.

The prior consultation process is expected to be completed by the first semester of 2019, complying with the stages of 1) identification and analysis of impacts, 2) formulation of management measures, and 3) protocolization.

The prior consultation of the Ituango hydroelectric project is the first of its kind, given that the Nutabe indigenous community from Orobajo began its self-determination process in 2014 and was recognized by the Ministry of the Interior only in 2017. In consequence, the consultation process only started in March 2018, when the construction works were 80% completed.

Besides being directed by the Ministry of the Interior, the prior consultation process has counted on the participation of guarantor institutions such as the Ombudsman’s Office, the Office of the Inspector General, the Office of the Public Defender, among others.

Before the start of the prior consultation, and at the request of the inhabitants, the Ituango project resettled 35 families that lived in Orobaajo. They are currently located in the municipalities of Ituango (31) and Sabanalarga (4), living in their own homes, implementing the productive projects of their interest, and getting used to their new territory; everything as part of the program for the integral restitution of living conditions.

2.6. Progress in additional social investment

The Ituango hydroelectric project comprehensive plan is an agreement that joins the wills and efforts of the project's partners - the Antioquia Governor's Office, the Medellín Mayor's Office, EPM, IDEA, and Sociedad Hidroeléctrica Ituango - and those of the 12 municipal administrations, in order to transform the area of influence of the project and improve the living conditions of its inhabitants, encouraging citizen participation and the direction of the human and natural resources of the territory towards a sustainable and competitive development that is a model of progress in Colombia.

The project's partners committed to invest USD 100 million more in the territory, in an effort to positively transform this area of the region.

2.6.1. Institutional line

Projects for institutional strengthening, human rights, and protective environments. A total amount of COP 14,889 million was invested in:

2.6.1.1. Institutional strengthening

Detention centers, youth detention centers, government houses, and family support units were equipped with furniture, technological devices, and vehicles for inspections.

2.6.1.2. Human rights

Education in human rights for 188 employees of the municipal administration and community leaders in the municipalities of Ituango, Toledo, Briceño, San Andrés de Cuerquia, Yarumal, Valdivia, Liborina, Peque, Sabanalarga, Santa Fe, Buriticá, and Olaya.

- Plan of comprehensive assistance to victims: 2,702 people assisted in the municipalities of Ituango, Peque, Sabanalarga, and Buriticá.
- Mine risk education: 1,553 people trained in the municipalities of Ituango, Toledo, Briceño, San Andrés de Cuerquia, Yarumal, and Valdivia.
- Rehabilitation of victims: 44 people assisted in the municipalities of Ituango, San Andrés de Cuerquia, Yarumal, and Valdivia.
- Psychosocial support to victims: 6,338 people assisted in the 12 municipalities of the area of influence.
- Assistance in cases of enforced disappearance: 220 people assisted in the municipalities of Ituango, Toledo, Briceño, San Andrés de Cuerquia, and Yarumal.

2.6.1.3. Protective environments

845 participating young people from the municipalities of Ituango, Toledo, Briceño, San Andrés de Cuerquia, Yarumal, Valdivia, Peque, and Buriticá.

2.6.2. Planning and participatory budget line

This program is a strategy aimed at strengthening governance and social inclusion through citizen participation in the construction of projects selected by popular vote. It also had a pedagogical and capacity-building component aimed at municipal delegates and citizen oversight committees. In total, 70 projects belonging to different lines, such as infrastructure, culture, and recreation, were prioritized and executed, with an investment of COP 6,270 million.

2.6.3. Connectivity line

With the execution of this line, secondary roads (162.5 km), tertiary roads (234.7 km), and bridle paths (828.98 km) were intervened in about 1,218 km. These improvements shorten distances; open the way to development, connectivity, and productivity; and benefit people reducing travel times by up to 60%. COP 56,201 million has been invested.

2.6.4. Productive projects line

With the execution of this line, production chains were established in the agricultural and forestry sectors. In addition, the company provided technical assistance, training, and support for the acquisition of supplies, tools, and equipment. 3,065 ha of land were intervened in 378 rural settlements of the 12 municipalities of the area of influence; to this end, coffee was planted to add value to special coffees; cocoa, to strengthen the cocoa chain; sugar cane, to improve and increase the production in sugar mills; avocado; among other fruits and crops. More than 3,700 people from 12 municipalities benefited from this program. The investment amounted to COP 20,035 million.

Maná: intervention of 2,300 family gardens, complemented with an education process on topics related to the production of fruits and vegetables for self-consumption, healthy diet, good food-handling practices, and proper use of water for human consumption. Moreover, 24 entrepreneurship projects with community organizations. The investment amounted to COP 4,445 million.

2.6.5. Health line

Through primary healthcare programs, 12,463 families living in distant rural settlements benefited from counseling, support, and primary health care, as well as 105 rural education centers in the area of influence.

The hospitals of the 12 municipalities of the area of influence of the project were equipped and improved in their physical infrastructure.

5,474 people have benefited from telemedicine, a strategy that improves the access to specialized health services for people located in remote, difficult-to-access areas.

COP 5,934 million has been invested in these three aspects.

2.6.6. Housing line

Through this line, the construction of 68 new houses and the improvement of 659 houses contributed to a better the quality of life for families. COP 11,268 million has been invested.

2.6.7. Education line

The purpose of this line was to integrate the student community into more favorable spaces for its learning and development, avoid desertion, and strengthen the educational processes among teachers and students. Thus seven new educational institutions were built and 71 were improved, which included the increased number of classrooms, lunchrooms, and bathrooms, among others, in the different rural settlements of the 12 municipalities in the area of influence of the project. COP 25,653 million has been invested.

2.6.8. Public utilities line

2.6.8.1. Water supply and sewerage

This includes the improvement of the water supply and sewerage systems of the 12 municipalities in the area of influence, to provide better quality of life.

This also aims at the construction of water purification plants and the improvement of deteriorated water supply and sewage networks that have met or that are required to improve the indicators of coverage and continuity of these basic public services. COP 13,050 million has been invested.

2.6.8.2. Gas

The quality of life has improved with the gas service in terms of energy savings and food cooking times, as well as with the change of other types of polluting fuels; today, more than 5,489 families benefit from this service. COP 21,437 million has been invested.

3. Contingency

3.1. What the contingency was and how it was understood

On April 28, a partial natural obstruction unintentionally occurred in the auxiliary diversion gallery (abbreviated GAD in Spanish), which caused the water to dam upstream from the dam and the flow to decrease downstream. At that moment, the dam was at an elevation of 385 MASL (meters above sea level) and, due to the winter season, the reservoir began to increase its level quickly and uncontrollably, which posed the possible risk of water overflowing above the dam. In this hypothetical scenario, the entire structure could collapse and generate a swelling downstream from the project with a peak flow estimated, at that time, at 262,000 m³/s

The contingency chronology can be found at <https://www.epm.com.co/site/home/sala-de-prensa/noticias-y-novedades/comunicado-proyecto-hidroelectrico-ituango/cronologia-de-la-contingencia>

These events increased the level of risk for the populations settled on the banks of the Cauca River, downstream from the dam. The national government, represented by the National Unit for Disaster Risk Management (abbreviated UNGRD in Spanish), permanently installed the unified control post (abbreviated PMU in Spanish) since May 7, 2018, in the city of Bogotá, to monitor and support the risk situation.

From that moment, the project - with its specialists, contractors, and panel of national and international experts - began the necessary actions to regain control of the project: construction of a pressing dam filling to increase the elevation to 415 MASL (which ensured the safe use of the spillway for swellings of the Cauca River with a return period of up to 500 years); blocking of the right diversion tunnel and the auxiliary diversion system tunnel; and the urgent completion of the spillway concrete works to allow part of the reservoir water to flow through the cavern complex of the powerhouse.

The pressing dam filling was carried out as a measure to avoid the dammed water from overflowing the dam and protect all the inhabitants located downstream from the project. To build this pressing dam filling, the same materials used in its original construction were employed and, therefore, the materials were guaranteed to comply with the national and international standards in terms of impermeability, filters, and transitions for this type of works.

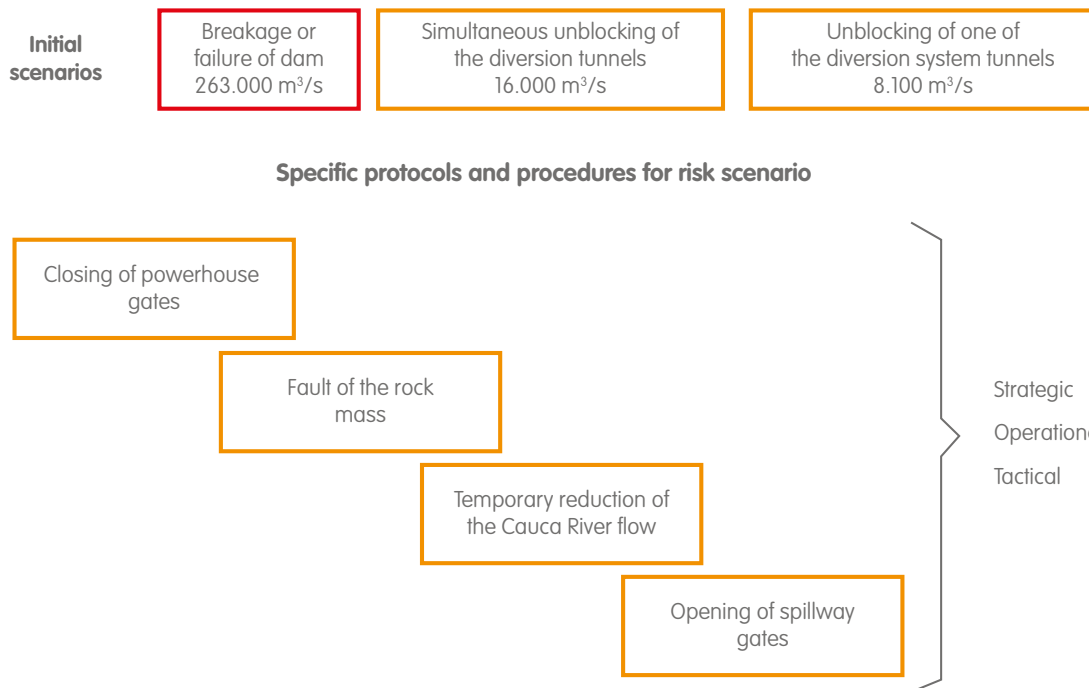
Considering the possibility of water overflowing the dam that was not yet finished, the project made the decision, from May 10, to use the powerhouse as a channel to discharge the reservoir water and thus reduce its increasing rate.

However, on Saturday, May 12, between 2:00 p.m. and 6:00 p.m., the right diversion tunnel was naturally unblocked, which generated a sudden flow increase of 6,000 m³/s in the Cauca River. The National System for Disaster Risk Management (abbreviated SNGRD in Spanish) was activated and the UNGRD announced the order to preventively evacuate the small town of Puerto Valdivia.

The following link shows a video of the contingency: https://www.youtube.com/watch?time_continue=156&v=B-SrHv7nkQs

Since the beginning of the contingency, the project, with national and international experts, has been continuously conducting the geological monitoring using piezometers to measure the water fluid pressure, radars, inclinometers, accelerometers, topographic information, satellite monitoring, and laser beams on the tunnels to determine the stability and safety conditions of the works. Likewise, in the right abutment of the dam, in the unstable area of the mountain, there are surface control points, combined with radar, which achieve sensitivities of up to tenths of millimeters; this makes it possible to be alert of any event that deviates from the normal behavior and activate warnings in a timely and anticipated manner to protect the populations and the workers. A Technical Monitoring Center (TMC) was implemented in the project facilities for this permanent surveillance 24 hours a day, seven days a week.

Protocols and procedures for dam failure and sudden swelling downstream from the IHP



TMC video: <https://www.youtube.com/watch?v=GGgE37rJw80>

Upon completion of the pressing filling up to the 410 elevation and the considerable progress in blocking the tunnels over which there is no operational control, the execution of the following activities continues: increase the pressing filling up to the 418 elevation; build a plastic concrete shield from the 380 to the 418 elevation, which seeks to ensure the impermeability of the dam; finish the dam fillings to strengthen the structural performance of the dam on its side facing downstream; complete the construction of the intermediate discharge tunnel; and close the gates of the powerhouse of the project.

On June 11, the construction of the spillway with its entire infrastructure associated with the mechanical and hydraulic operation of its gates was completed. At that time, the dam approached 415 MASL, which allows the water to be evacuated through the spillway in a controlled and safe way for flows of the Cauca River with return periods of up to 500 years. On Sunday, June 17, the dam reached an elevation of 415 MASL, thus reducing significantly the risks associated with flooding by swellings of the river.

This link shows a video of how the spillway works:

https://www.youtube.com/watch?time_continue=33&v=VDFIZkzI2eY

On June 28, EPM was notified by the National Environmental Licensing Authority (abbreviated ANLA in Spanish) about a preventive measure for the *"immediate suspension of all regular activities related to the construction, filling, and operation of the reservoir, which are part of the activities that are carried out within the execution of the project..."* This preventive measure does not involve stopping the execution of the measures of the follow-up and monitoring plan or the dismantling activities that are necessary to overcome the risk. Likewise, the preventive measure imposed does not involve the cancellation of activities, works, duties, and, in general, all the environmental measures and the engineering and civil works that must be executed in order to prevent and mitigate the risks associated with the contingency presented.

3.1.1. Physical-biotic component

Activities to chase away and rescue fauna began during the forest harvesting of the reservoir vessel; they lasted throughout the year, in order to attend to possible events affecting fauna individuals as a result of the increase in water levels in the reservoir.

The activities to chase fauna away, before the filling of the reservoir, were carried out by a group of biologists and assistants. Sound and visual methods were used, as well as guidance of individuals and disabling of nests and burrows.

Wild fauna rescue is carried out through manual search and capture of individuals with reduced mobility, trapped, and at risk in tree canopies or floating waste, mainly.

In order to care for the individuals that were affected, wild fauna primary care centers were available in each of the work fronts throughout the intervention area.

Mobile Wild Fauna Primary Care Centers



For a more specialized and longer stay, the project built and is operating a Wild Fauna Care and Assessment Center (CAC) that follows the guidelines proposed by the Ministry of Environment in Ruling 2064 of 2010.

The CAC has a total occupation area of 3,000 m², where cages and huts are located for fauna attention and handling; it has a main building of 72.5 m² including offices and areas of biological management of organisms. Specialized personnel attends to wild fauna; they are two veterinary physicians, one zootechnician, one biologist, two veterinary assistants, and two operators; moreover, an environmental educator is responsible for training the community and raising its awareness.

In response to the contingency, a special response plan focused on the management of wildlife was activated; it specifically considered the gradual entry of aquatic and terrestrial rescue brigades and the start-up of mobile wild fauna care centers, as the level of the reservoir increased. Currently, tours are conducted to rescue wild fauna in water and to inspect critical points where there is fauna on land (river access road). During the days of rescue on land and in water, the manual rescue of fauna is initially implemented, assisted on some occasions by tools for the safety of personnel and animals. Fauna management tasks have focused on the rescue of animals with potential risk for drowning, especially in sectors with accumulation of floating material, islands, isolated trees, among others, prioritizing animals with low mobility (such as sloths). The height of the water column remains stable and, therefore, the number of individuals rescued has decreased considerably.

As of December 31, 2018, a total of 60,605 individuals were rescued, of which 60,444 were resettled without treatment and 87 received veterinary medical attention.

Rescue of nests



Search and rescue of fauna during the filling of the reservoir



Resettlement and treatment of fauna after the rescue



Search of fauna on the floating material



The following is a summary of this activity during the contingency attention as of December 31, 2018.

Terrestrial fauna

| | |
|---|--------|
| Individuals rescued | 60,195 |
| Individuals resettled without treatment | 60,028 |
| Individuals treated | 89 |
| Individuals resettled after treatment | 27 |
| Individuals currently at CAC of IHP | 17 |
| Individuals dead | 51 |

Individuals per group

| | |
|------------|--------|
| Birds | 62 |
| Mammals | 442 |
| Reptiles | 49,536 |
| Amphibians | 10,155 |

Indicators

| | | |
|---|-------------|--------|
| Individuals resettled / Individuals rescued * 100 | 99.77% | |
| Individuals treated / Individuals rescued * 100 | 0.15% | |
| Number of individuals of each group / Total number of individuals * 100 | Birds: | 0.10% |
| | Mammals: | 0.73% |
| | Reptiles: | 82.29% |
| | Amphibians: | 16.87% |

Likewise, with the reduction of the river flow downstream from the dam, the fish fauna rescue plan was implemented, which consists of tours to look for possible pools of water where fish are trapped, rescue them, and take them to safe places.

| Fish | |
|---|--------|
| Individuals rescued | 2,706 |
| Individuals dead | 1,002 |
| Individuals resettled | 1,704 |
| Individuals resettled / Individuals rescued * 100 | 62.97% |

The implementation of the subprogram for the management of macrophytes and floating waste was initiated early as a result of the contingency; it involved the confinement of waste in the reservoir, its dragging and extraction in some areas arranged and conditioned for this purpose, and, subsequently, its transport to several temporary or permanent collection sites.

Dragging of floating material to extraction ports



Extraction of floating material



Floating material collected and classified



The floating material extraction involved the arrangement of four transitory extraction ports and five temporary collection yards, where the floating waste was classified for its subsequent final disposal.

From May, the following waste was extracted from the reservoir.

| Type of waste | Amount extracted from the reservoir (kg) | Final disposal (kg) | Reclamation (kg) | Storage (kg) |
|---|--|---------------------|------------------|----------------|
| Wood | 133,660,114 | | 3,587.19 | 133,656,526.81 |
| Plastic | 13,378 | | 5,458.00 | 7,920.43 |
| Glass | 349 | | 197.00 | 152 |
| Ferrous scrap metal | 74 | | | 74 |
| Ordinary and inert | 8,126 | 7,010.00 | | 1,115.80 |
| Waste containers with remains of hazardous substances | 6,039 | 4,685.00 | | 1,354 |

Waste collection in the reservoir



Waste sorting at the temporary collection sites



Moreover, as a result of the contingency, specifically the anticipated damming up of water of the Cauca River, the ANLA issued 13 administrative acts with new environmental quality monitoring obligations:

- Monitoring of 13 physicochemical parameters every day and of three hydrobiological parameters every three days, at three points downstream from the dam.
- Monitoring of ten physicochemical parameters and three hydrobiological parameters along the river bed in case of sudden flow changes.
- Weekly results of the daily samplings, documentary evidences of the physicochemical and hydrobiological monitoring, and monthly report and analysis of the laboratory results of the previous month.

Environmental quality monitoring

Water monitoring

| | |
|----------------------------|----|
| Puerto Valdivia-dam route | 46 |
| Dam area | 1 |
| Reservoir tributaries | 9 |
| Catchments | 3 |
| Receiving sources | 4 |
| Total surface water bodies | 63 |

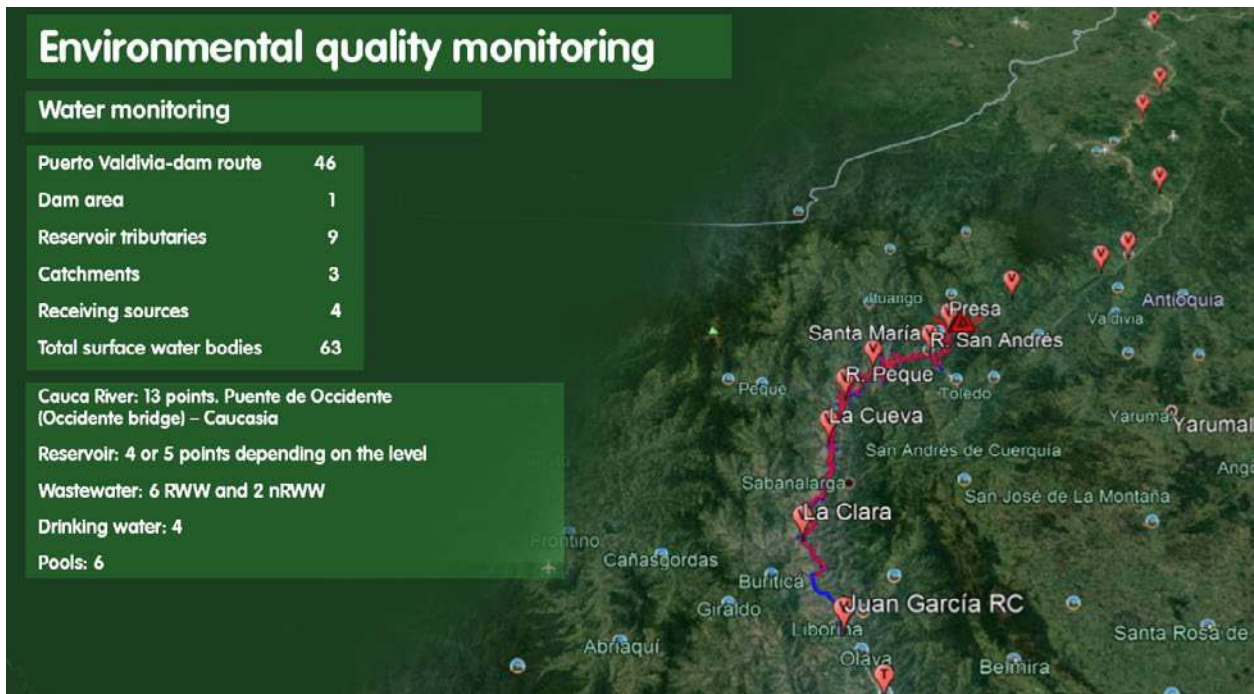
Cauca River: 13 points. Puente de Occidente (Occidente bridge) – Caucasia

Reservoir: 4 or 5 points depending on the level

Wastewater: 6 RWW and 2 nRWW

Drinking water: 4

Pools: 6



Likewise, when the river level increased and the reservoir formed, instability and erosion on slopes and banks started to be periodically monitored.

3.1.2. Social component and contingency plan

As a consequence of the events triggered by the contingency of the project, the riverine populations of the Cauca River were at risk and those on a red warning received an order for preventive evacuation, in accordance with Circular Letters 034, 035, and 042 issued by the Ministry of Mines and Energy, the Ministry of Environment and Sustainable Development, the UNGRD, and the Institute of Hydrology.

In a prompt and timely manner, EPM responded to all the needs of the communities that are within its scope and possibilities, as well as to those affected by the event on May 12. The Ituango project had, since 2009, a Contingency Plan and a Response Plan that was adjusted and updated based on recent requirements and events. Furthermore, Grupo EPM has a Protocol for Addressing Events and Crises (PADEC) that was activated from the beginning of the contingency and has coordinated the attention to it with the necessary economic resources.

The emergency on May 12 affected 73 people, impacted 162, and caused damages on the commerce.

| Item (people) | Contingency figures accumulated | | | | | Total |
|--------------------------------------|---------------------------------|--------|---------|----------|-------|--------|
| | Valdivia | Tarazá | Cáceres | Caucasia | Nechí | |
| Evacuated | 7,622 | 5,763 | 3,799 | 0 | 0 | 17,184 |
| Shelters | 16 | 20 | 3 | 0 | 1 | 36 |
| Evacuated as of December 31, 2018 | 2,227* | 0 | 0 | 0 | 0 | 2,227 |
| Shelters as of December 31, 2018 | 0 | 0 | 0 | 0 | 0 | 0 |

* The people are self-sheltered.

This link shows a video of the shelter in Sevilla:
https://www.youtube.com/watch?v=1CpOqCoU_uk

The implementation of the protocol for the return of the population evacuated in the municipality of Valdivia began on October 5; when this report was prepared, 883 families had returned.

The management to address the effects that took place downstream from the dam is presented below.

3.1.2.1. Humanitarian help

The following table shows the accumulated figures for the aid granted as of November 20 in each of the municipalities, according to the report 194 by the PMU of Ituango:

| Item (people) | Contingency figures accumulated | | | | | Total |
|---------------------|---------------------------------|--------|---------|----------|-------|--------|
| | Valdivia | Tarazá | Cáceres | Caucasia | Nechí | |
| Cleaning kit | 11,036 | 3,909 | 448 | 0 | 0 | 15,393 |
| Food kit | 11,366 | 6,725 | 800 | 461 | 400 | 19,752 |
| Cooking kit | 2,700 | 23 | 0 | 0 | 0 | 2,723 |
| Mats | 5,451 | 3,809 | 2,605 | 0 | 0 | 11,865 |
| Bedsheets | 10,260 | 2,607 | 6 | 0 | 0 | 12,873 |
| Blankets | 5,153 | 4,306 | 2,558 | 0 | 0 | 12,017 |
| Tents | 1,550 | 2,640 | 1,031 | 0 | 4,500 | 9,721 |
| Total 84,344 | | | | | | |

In addition, 112,919 snacks were delivered in the different shelters built in the municipalities of Valdivia and Tarazá; 5,312 sets of groceries, in the municipalities of Tarazá and Cáceres; and 5,000 sets of provisions and 2,500 seedlings, in Caucasia.

During the implementation of the protocol started on October 5, 2018, for the return of the population evacuated in the municipality of Valdivia, 645 sets of groceries were delivered.

3.1.2.2. Water and sanitation

In order to maintain the water supply for the populations evacuated and sheltered, as of November 25, 2018, EPM provided the following in the municipalities of Valdivia, Tarazá, and Cáceres:

| Municipality | Liters of water provided |
|--------------|--------------------------|
| Valdivia | 1,672,800 |
| Tarazá | 1,101,400 |
| Cáceres | 788,400 |
| Total | 3,562,600 |

Likewise, portable toilets and showers were made available in the temporary shelters:

| Municipality | Amount of portable toilets | Amount of portable showers |
|--------------|----------------------------|----------------------------|
| Valdivia | 40 | 100 |
| Tarazá | 60 | 50 |
| Cáceres | 30 | 50 |
| Total | 130 | 200 |

3.1.2.3. Electrification

Direct activities were conducted by EPM to install and repair spotlights and streetlights:

| Municipality | Installation | Repair |
|--------------|--------------|-----------|
| Valdivia | 13 | 35 |
| Tarazá | 27 | 0 |
| Cáceres | 30 | 0 |
| Nechí | 11 | 0 |
| Total | 81 | 35 |

3.1.2.4. Mobility plan

To mitigate the impacts generated to the community of the municipality of Ituango by the early loss of the Pescadero bridge, a comprehensive mobility plan was implemented from April 29, 2018, initially with land transportation in caravans through the works of the project, from 4:00 a.m. until 10:00 p.m., every two hours and in both directions, for private vehicles and cargo trucks.

As a complement to the land mobility plan, since May 27, river transportation has been established and scheduled with passenger transfers by boats; meanwhile, on June 15, the first of the two ferries available to transport the community through the project started to operate.

With these measures, it has been possible to give way mainly to emergency vehicles, public transport buses, and motorcycles. To date, and according to guidelines of the Ministry of Transport, the transportation on the river takes place from 6:00 a.m. to 6:00 p.m., every hour and alternately in each direction.

The following table shows the figures of mobility for the municipality of Ituango:

| River and land mobility figures as of 01/03/2019 | | | | | | | | |
|--|---------------|-----------------------|------------------|---------------|---------------------------|----------------|--------------|---------------|
| Type of mobility | Vehicles | Public transportation | Special vehicles | Motorcycles | Three-wheeled motorcycles | People | Animals | Cargo trucks* |
| Land | 10,827 | 1,764 | 469 | 3,222 | 155 | 62,646 | 7,470 | 3,276 |
| Boats | N.A. | N.A. | N.A. | N.A. | N.A. | 29,476 | N.A. | N.A. |
| Ferry | 825 | 2,350 | 84 | 15,616 | N.A. | 67,768 | N.A. | N.A. |
| Total | 11,652 | 4,114 | 553 | 18,838 | 155 | 159,890 | 7,470 | 3,276 |

* Cargo trucks began to be counted separately from the "vehicles" item since 09/12/2018.

In the same way, to mitigate the flooding of the pedestrian and mule bridge of the Bocas de Niquía area (between Sabanalarga and Peque), there is also a river mobility plan that became operational from May 10, due to the impact on the roads and the Buenavista bridge that connected rural settlements of the three municipalities. This plan was part of the connectivity restitution included in the Environmental Management Plan, but it was planned to start after the scheduled filling of the reservoir; however, as a response to the contingency, the operation of boats in this area was moved forward. To date, three vessels are active: one 16-passenger boat and two ferries with the capacity to transport 32 livestock animals with their cargo and 40 people.

Figures for river mobility - Bocas de Niquía

| Ferry | | | |
|--------|-------|--------|-------|
| Bovine | 30 | Equine | 2,453 |
| Sacks | 2,048 | People | 3,856 |

| Boats | | | |
|--------|--------|-------|-------|
| People | 10,507 | Sacks | 4,072 |

The following links show videos of the La Tranquilidad ferry:

<https://www.youtube.com/watch?v=MKz5JFoGzrQ>

https://www.youtube.com/watch?v=bZ_yfIDbuQ

Caravans of the mobility plan



3.1.2.5. Psychosocial support

This support is coordination from the PMU for the activation of the institutions responsible for psychosocial activities. As part of an agreement with the Ituango project, the Colombian Family Welfare Institute (abbreviated ICBF in Spanish) and Universidad de Antioquia have provided comprehensive and uninterrupted service to children and adolescents through mobile units, with psychosocial support, assistance, nutritional assessment, and preferential attention to early childhood through six active care lines:

| Municipality | Psychosocial support | Assurance of rights | Nutritional assessment | Care for pregnant mothers | Care for breastfeeding mothers | Liquid Bienestarina delivered | Mobile units |
|--------------|----------------------|---------------------|------------------------|---------------------------|--------------------------------|-------------------------------|--------------|
| Valdivia | 1,077 | 1,306 | 983 | 91 | 94 | 51,409 | 1 |
| Tarazá | 896 | 316 | 382 | 23 | 28 | 21,148 | 0 |
| Cáceres | 777 | 439 | 166 | 25 | 18 | 5,325 | 0 |

During the implementation of the protocol started on October 5, 2018, for the return of the population evacuated in the municipality of Valdivia, all the families returning to their homes received psychosocial support. Until December 25, the “psychosocial family form” was applied to 590 families; this tool diagnoses the situation of the population that may or may not return and favors the:

- Identification of needs of the population in terms of mental health.
- Definition of strategies regarding living means (productive projects).
- Strengthening of education in relation to disaster risk management.

3.1.2.6. Economic support

As part of the EPM-FNGRD/UNGRD agreement that aims to “bring together technical, operational, logistical, administrative, and financial efforts to carry out the relevant and necessary actions to provide assistance to the people evacuated in the area of influence of the Ituango hydroelectric project,” the Declaration of Public Calamity (Decree 039 of May 14, 2018, issued by the Municipality of Valdivia), and the Declaration of Public Calamity of the department of Antioquia (Decree 2018070001272 of May 14, 2018), EPM implemented the line of economic support for families evacuated from the high-risk area. This support is delivered to the population evacuated that inhabited the area with an evacuation order in the municipality of Valdivia.

The purpose of this attention line is to provide each household evacuated from the municipality of Valdivia and that is in provisional shelters with a temporary financial support that can cover the costs of renting, food, transportation, and others that are necessary for the household subsistence.

The amount of the financial support is:

1. COP 1,100,000 for households made up of five people or less.
2. COP 1,200,000 for households made up of six people or more.
3. COP 2,000,000 for households that were in provisional shelters and, according to the return strategy, can go back to their homes.

The following payments have been made as of December 25:

| Number of payment | Evacuated on May 16 | Affected on May 12 | Temporary payments to non-returning households | Temporary payments to returning households | Monthly subtotal |
|-----------------------|---------------------|--------------------|--|--|------------------|
| 1 | 2,035 | 231 | 3 | 173 | 2,442 |
| 2 | 1,977 | 229 | 37 | | 2,243 |
| 3 | 1,928 | 229 | | | 2,157 |
| 4 | 1,829 | 227 | | | 2,056 |
| 5 | 1,487 | 219 | | | 1,706 |
| 6 | 1,148 | 207 | | | 1,355 |
| 7 | 268 | 211 | | | 479 |
| 8 | | 154 | | | 154 |
| Total payments | | | | | 12,592 |

During the implementation of the protocol for the return of the evacuated population from Valdivia that was in temporary shelters, economic support amounting to COP 2,000,000 is given only once to 110 families when they inhabit their homes again.

3.1.2.7. Early warning system (EWS)

The early warning systems (EWSs) provide a warning of events by means of sound devices, usually of continuous tones, but also electronic or mechanical sirens that can be activated remotely or send voice messages. These systems are very important in the knowledge of and preparation for the risk, since they favor the identification and warning of an event in advance to have the opportunity of an anticipated reaction to it.

The following is the inventory of the installation of sirens-alarms and repositioning of radios and megaphones, determination of meeting points, and evacuation routes:

| Municipality | Number of current EWSs | Number of planned EWSs (SIATA) | Meeting points | Evacuation routes |
|--------------|------------------------|--------------------------------|----------------|-------------------|
| Valdivia | 21 | 28 | | |
| Tarazá | 7 | 6 | 15 | 18 |
| Cáceres | 8 | 8 | 15 | 13 |
| Caucasia | 7 | 8 | 10 | 14 |
| Nechí | 7 | 7 | 7 | 6 |
| Ituango | 6 | - | 9 | 8 |
| Total | 56 | 57 | 56 | 59 |

Furthermore, to have a redundant system, with the support of the Early Warning System of Medellín and Valle de Aburrá (abbreviated SIATA in Spanish), progress is made in the installation of an autonomous EWS consisting of a series of instruments that can activate evacuation sirens and make megaphone announcements to guide the community in the municipalities of Valdivia, Tarazá, Cáceres, Caucasia, and Nechí. This device would be activated from a monitoring center located in the facilities of the Ituango hydroelectric project.

Besides the installation of the EWSs, EPM has completed in each municipality the methodological route proposed since 2017, which consists of workshops on disaster risk management addressed to families and the community, training of community leaders in evacuation processes, delivery of kits, evacuation drills, and joint identification of evacuation routes and meeting points. These activities are complemented by the work and workshops on disaster risk management performed with the municipal councils in the municipalities of Valdivia, Cáceres, Tarazá, Caucasia, and Nechí.

The following is the current progress in compliance with Circular Letter 041 of June 7, 2018, issued by the UNGRD:

- 131,251 people prepared in the event of an emergency.
- 29 evacuation drills with 21,210 participants.
- 200 workshops with the participation of 7,045 people.
- 100% update of the municipal risk management plans for the municipalities of Valdivia, Cáceres, Tarazá, Caucasia, and Nechí.
- 100% update of the municipal strategies for the response to emergencies for the municipalities of Valdivia, Cáceres, Tarazá, Caucasia, and Nechí.

3.1.2.8. Electrical energy recognition

For the months of June, July, and August, the evacuated families (from Puerto Valdivia, Tarazá, and Cáceres) have been granted an electrical energy recognition amounting to COP 658,336,969.

3.1.3. Attention to families affected during the emergency on May 12 in Valdivia

3.1.3.1. Families damnified

For the 73 families damnified by the emergency on May 12, the following intervention measures are available:

Option 1:

- Restitution of the house, restitution of the economic base.
- Payment of movable property and equipment according to inventory.
- Provision of clothing and payment of public utilities.
- Payment of rents until the move.
-

Option 2:

- Payment of the house according to respective appraisal.
- Loss of profits due to economic activity and moral damage.
- Payment of movable property and equipment according to inventory and provision of clothing kit.
- Payment of public utilities and rents until disbursement of resources.

Of the 73 families damnified, progress was made in the process of information and consultation with 66 families through individual family assemblies.

Each family was informed about the methodology for the management of the affected population. Likewise, a detailed verification in terms of breakdowns in homes and equipment and impact on the economic activity was conducted with the households characterized to determine the degree of damage caused.

This characterization was obtained with the following information:

- Unified Registry of Affected People and photographic registry.
- Determination of traceability with the existing information of families.
- Family interview to validate the information (including economic activity and characteristics of the house).
- Vulnerability form.
- Appraisals (housing, equipment, clothing, etc.).
- Determination of impact on economic activities by obtaining information and then conducting verification.
- Preparation of summary document of the family conditions.

Of the total of 66 families visited, once the information and consultation process was completed, the trend of intervention measure defined voluntarily by the family was identified, as well as the type of productive projects and the municipalities where the families want to implement them:

| Type of intervention measure | Number of families | Trend of productive projects | Number of families | Municipality of implementation |
|------------------------------|--------------------|------------------------------|--------------------|--|
| Type 1 | 34 | Agriculture and livestock | 16 | Valdivia, Yarumal, Santa Rosa de Osos, Don Matías, Caucaasia |
| | | Real estate | 4 | |
| | | Commerce and services | 13 | |
| | | Transport | 1 | |
| Type 2 | 8 | Real estate | 8 | Medellín, Valdivia, Yarumal |
| Tenants and bailees | 12* | N/A | 12 | Valdivia, Yarumal, Ciudad Bolívar |
| Payment for improvements | 12 | N/A | 12 | Valdivia |
| Total | | | 66 | |

*Families that lived in houses rented; the intervention measure for tenants and tenants applies for them.

3.1.3.2. Families affected

For the 162 families affected by the emergency on May 12, the following intervention measures are available:

With each one of the families:

- Agreement between the family and the official.
- The total value plus 10% of the administration (social security and others).

Social procurement through the community action board - Contract with the community action board

- The total value plus 25% of the administration and profits.

Of the 162 families affected, progress was made in the process of verification of information with 26 families through individual visits.

Each family was informed about the methodology for the management of the affected population, during the contingency and emergency in the municipality of Valdivia. Information was also provided to each family characterized as affected, as self-sheltered in a safe place and whose inhabited house suffered partial losses, as well as its furniture, equipment, and clothing, according to the Unified Registry of Affected People.

| Sector | Number of families verified |
|--------------|-----------------------------|
| La Arrocera | 12 |
| La Iglesia | 10 |
| La Platanera | 1 |
| Remolinos | 2 |
| Tapias | 1 |
| Total | 26 |

3.1.3.3. Discussion

The progress made in the attention to the affected families has been discussed with the municipality of Valdivia, administrated by the municipal mayor and his secretaries of office, and with the community leaders of the small town of Puerto Valdivia.

3.1.3.4. Commerce

For informal traders and those formal traders who cannot prove income from their economic activity, there is a manual for the application of the methodology of assessment, compensation, and comprehensive compensation for the population impacted by the development of projects, works, or activities for the provision of public services by EPM. The manual establishes the compensation for financial loss due to cessation of economic activities, exceeding three months, with a one-time recognition equivalent to one monthly minimum wage for six months.

For the formal sector, the assessment is carried out according to the methodology implemented by EPM.

An investment of COP 6,000 million is projected in the implementation of this measure.

3.1.4. Installed capacity

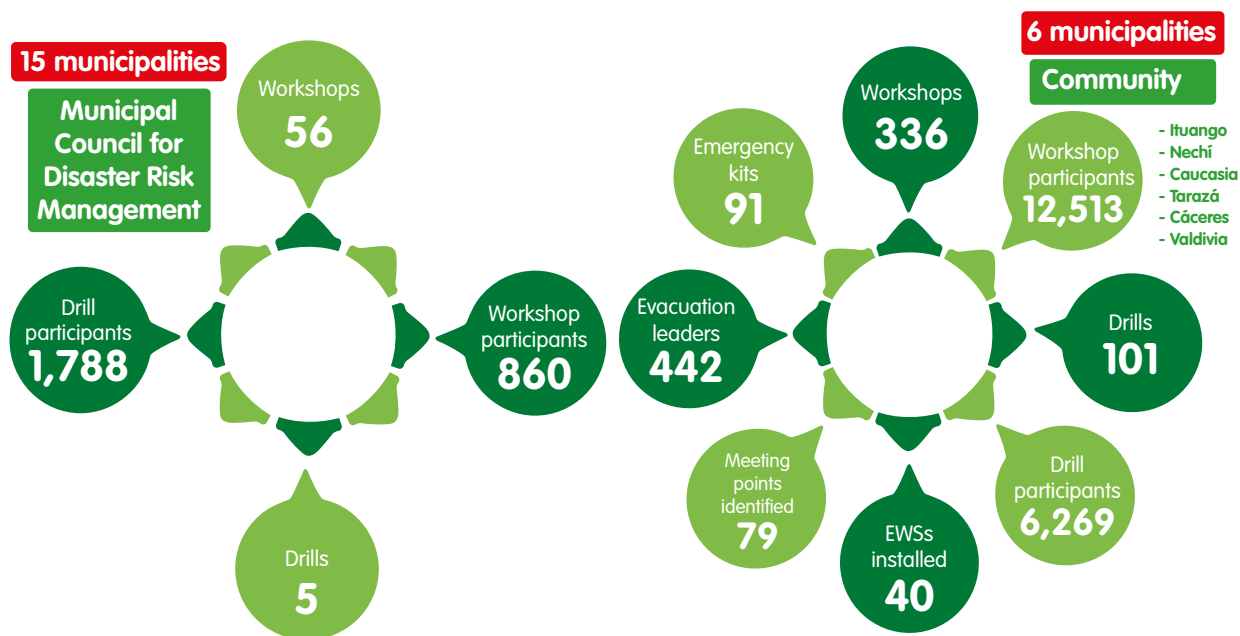
In the municipalities where there were warnings by the UNGRD, the following installed capacity is used for emergency assistance:

3.1.4.1. Previous positioning

| Description | Valdivia | Tarazá | Cáceres | Caucasia | Nechí |
|---------------|---|--|---|----------|-------|
| Mats | 5,449 | 5,200 | 3,395 | 3,733 | 3,911 |
| Bedsheets | 6,240 | 9,500 | 3,594 | 4,200 | 3,000 |
| Blankets | 14,284 | 3,600 | 5,442 | 3,200 | 2,000 |
| Pillows | 0 | 0 | 3,594 | 0 | 0 |
| Camp portions | 4,000 | 4,300 | 4,000 | 0 | 0 |
| Tents | | 4,080 | 1,840 | 0 | 4,468 |
| Cleaning kit | 1,066 | 4,200 | 2,479 | 891 | 1,690 |
| Food kit | 1,724 | 0 | 1,600 | 2,900 | 2,900 |
| Snacks | | 245 | 245 | 0 | 0 |
| Shelters | Sevilla mega-shelter | El Doce mega-shelter | El Guarumo shelter | | |
| | Capacity for 2,000 people. Equipped with water and electricity services, showers, laundry spaces, pet spaces, and children's recreation area. | Capacity for 2,000 people. Equipped with water and electricity services, showers, laundry spaces, pet space, and children's recreation area. | Capacity for 3,170 people. Equipped with water and electricity services, showers, laundry spaces, pet space, and children's recreation area. Differential approach. | | |

3.1.4.2. Preparation in the face of the emergency

| Description | Valdivia | Valdivia | Cáceres | Caucasia | Nechí |
|---|------------|------------|------------|------------|---------|
| Amount of meeting points | 19 | 19 | 20 | 21 | 7 |
| Amount of evacuation routes | 153 | 153 | 13 | 14 | 7 |
| Amount of drills | 19 | 19 | 19 | 28 | 13 |
| Community EWSs | 13 | 13 | 2 | 6 | 7 |
| Emergency kit | 0 | 0 | 17 | 25 | 11 |
| Hospital tent | 0 | 0 | 0 | 1 | 0 |
| Disaster risk management plan and municipal strategies for the response to emergencies updated as of: | 21/06/2018 | 21/06/2018 | 30/05/2018 | 30/06/2018 | Updated |

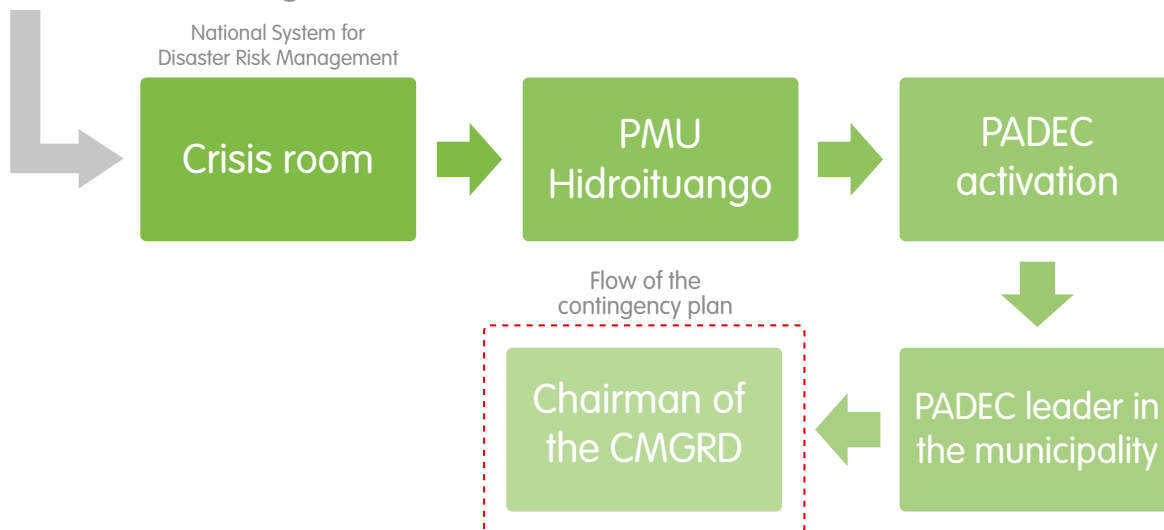


Source: CRCSA. As of: 12/03/2018.

3.1.4.3. Internal chain of calls

It is implemented in all the municipalities and has the participation of the chairman of the Municipal Council for Disaster Risk Management (abbreviated CMGRD in Spanish) and a Protocol for Addressing Events and Crises (PADEC) leader of EPM.

Technical Monitoring Center / CCC



3.1.5. Grievance procedure

Since 2009, the project has a grievance mechanism. As of 2015, it was updated to include issues related to human rights. This mechanism serves the population of the 12 municipalities of influence through the community service offices of EPM and other means such as email, EPM's building service offices in Medellín, and rural tours by field professionals.

This mechanism groups the following seven service lines:

- Inclusion in the census.
- Agreement and negotiation.
- Negative impact on infrastructure and labor claims.
- Environmental and sociocultural impacts.
- Relationship of employees and contractors with stakeholders.
- Public safety, private safety, and international humanitarian law.
- Sustainable territories.

Due to the contingency of the project, a new service line was created called "Compensation complaints - Ituango project contingency." As of December 31, 2018, a total of 1,507 letters were received from the community: 1,152 complaints and claims and 357 requests for information regarding the contingency.

| Indicator | Status | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-------------|--------|--------|-------|------|------|
| Letters | Attended to | 12,212 | 12,496 | 865 | 548 | 828 |
| | Solved | 12,212 | 12,496 | 865 | 548 | 828 |
| Rights to petition | Attended to | 1,214 | 442 | 2,874 | 948 | 679 |
| | Solved | 1,214 | 280 | 2,874 | 948 | 679 |
| Writs for protection of constitutional rights | Attended to | 8 | 11 | 8 | 7 | 0 |
| | Solved | 8 | 8 | 8 | 7 | 0 |
| Lawsuits addressed | Attended to | 10 | 0 | 7 | 31 | 0 |
| | Solved | 0 | 0 | 2 | 31 | 0 |

3.1.6. Implementation of the contingency plan

From the moment of the contingency, the action protocols previously defined with the Red Cross were activated and the company started a joint work with the UNGRD, the Dapard, and the CMGRDs. On May 12, during the evacuation ordered by the UNGRD, the Red Cross activated the call tree and sent bulk text messages to the community leaders and CMGRDs, who, following the instructions given in previous drills, moved to the meeting places defined by the Red Cross based on information of the flood patch for the most critical scenario (320,000 m³/s) established by the consulting firm (Integral).

The activities focused on three components:

1. Update of the contingency plan and formulation of the disaster risk management plan, pursuant to the provisions of Decree 2157 of 2017, and in accordance with the requirements of the ANLA; identification of new risk scenarios in coordination with the EPM's Risk Department and Integral (the documents *Response plan for downstream areas due to eventual failure of the dam and extreme discharge flow of the reservoir of the Ituango hydroelectric project* were prepared at this stage); Emergency Action Plan (EAP) and EAP maps of Puerto Valdivia, Cáceres, Tarazá, Caucaasia, and Nechí.
2. Risk reduction and setting-up: As part of this component, the company participated in the PMU meetings that were initially held 2 times a day, then every day, and, finally, every week. It also worked in coordination with the PADECs, increased the early warning systems in Puerto Valdivia, and installed other in Cáceres, Tarazá, Caucaasia, and Nechí. In addition, the CMGRDs of all the downstream municipalities to Nechí were informed on the new risk scenarios of the project.

The requirement of the UNGRD to cover the risk management topics and communicate the new risk scenarios (flood patches of 8,100 m³/s, 16,000 m³/s, and 263,000 m³/s modeled by the IDEAM, Integral, and EPM) was fulfilled in the departments and municipalities of Sucre, Córdoba, and Bolívar, which were included in the yellow warning through Circular letter 034 of May 2018 and Circular letter 042 of June 2018.

Technical and social staff were sent to the municipalities and villages of Valdivia (Puerto Valdivia), Cáceres, Tarazá, Caucaasia, and Nechí. The processes for training and strengthening the communities and CMGRDs were also reinforced.

The permanent availability of basic and medicalized ambulance service in works and offices of the project was guaranteed. Likewise, a basic ambulance was sent to Puerto Valdivia to provide health care services and give support after the contingency.

3. Response to injunctions by regulatory agencies; rights to petition; and other requests, claims, and complaints: The contingency has caused an increase in requests for information and claims that have been managed with the support of the Red Cross team. They are received from diverse instances: UNGRD, ANLA, Office of the Inspector General, Office of the Public Defender, Office of the Comptroller General, Dapard, municipalities, downstream community, among others.

On December 28, the updated version of the Disaster Risk Management Plan was submitted to the ANLA, with copies to the UNGRD and the Dapard. On December 4, the project's Emergencies and Contingencies Plan was presented in the PMU, including the new risk scenarios.

During the implementation of the contingency plan, its scope was extended to four departments: Antioquia, Córdoba, Sucre, and Bolívar. In the case of Antioquia, activities are being conducted in Valdivia (Puerto Valdivia), Tarazá, Cáceres, Caucasia, and Nechí, with the participation of the communities from 106 urban and rural sectors of the department. In Córdoba, activities are carried out along with the CDGRD and with the Ayapel's CMGRD. In Bolívar, meetings were conducted with the CDGRD, as well as information sessions on risks in the municipalities of San Jacinto del Cauca, Nechí, and Magangué. In Sucre, meetings were held with the CDGRD and activities were performed with the CMGRDs of Guaranda, San Benito Abad, San Marcos, Caimito, Majagua, and Sucre.

EPM invited all the representatives of the CDGRDs, CMGRDs, and emergency response institutions from Antioquia, Córdoba, Bolívar, and Sucre to get to know the reality of the project; the progress in the construction of the dam and plastic shield and in the completion and operation of the spillway; as well as the current risks of the project.

Between February 2017 and November 2018, 53 workshops were conducted with the CMGRDs of 15 municipalities, which counted on the participation of 823 people; besides 5 drills with 1,178 people. With the communities of Ituango, Valdivia, Tarazá, Cáceres, Caucasia, and Nechí, 309 workshops on risk management and preparation for emergencies were held with an attendance of 11,251 people; 91 emergency kits were delivered; 442 evacuation leaders were trained; 101 drills were carried out with the participation of 6,269 people; 79 meeting points were established; and 38 early warning systems were installed by the Red Cross, which are linked to the project's TMC.

| Activities performed as part of the implementation of the contingency plan | Progress as of December 28, 2018 |
|--|----------------------------------|
| Early warnings installed by the Red Cross | 15 |
| Drills conducted with the downstream communities | 102 |
| Preparation workshops conducted downstream | 363 |
| Preparation workshops conducted upstream | 4 |
| People prepared for the response downstream | 13,904 |
| People prepared for the response upstream | 106 |
| APDD (% of progress) | 81% |
| Endowment kits for communities | 91 |
| Workshops and drills by CMGRDs and CDGRDs downstream | 53 |
| Workshops and drills by CMGRDs upstream | 9 |
| Drill by CMGRDs downstream | 5 |
| Patients attended to in MAT and BAT | 761 |

Early warning systems installed

| Municipality | Location | Total |
|--------------|---------------------------|-----------|
| Caucasia | Pueblo Nuevo neighborhood | 1 |
| | Caucasia's urban area | 1 |
| Ituango | Puerto Valdivia-Dam road | 7 |
| Nechí | La Lucha neighborhood | 1 |
| | La Palma neighborhood | 1 |
| | San Nicolás neighborhood | 1 |
| | Caño Pescado | 1 |
| | Colorado | 1 |
| | Correntoso | 1 |
| Tarazá | Las Flores | 1 |
| | El Doce - Km 6 | 1 |
| | El Doce - Puqui | 1 |
| Total | | 18 |

| Municipality | CMGRD workshops | Workshops with the community | | Drills | |
|------------------------|------------------|------------------------------|------------------|---------------|------------------|
| | No. of attendees | No. of workshops | No. of attendees | No. of drills | No. of attendees |
| Cartagena | 23 | 0 | 0 | 0 | 0 |
| Montería | 17 | 0 | 0 | 0 | 0 |
| Sincelejo | 18 | 0 | 0 | 0 | 0 |
| Cáceres | 41 | 78 | 2,933 | 1 | 50 |
| Caucasia | 44 | 111 | 4,871 | 1 | 90 |
| Nechí | 71 | 39 | 1,357 | 1 | 1,386 |
| Tarazá | 71 | 81 | 3,225 | 1 | 112 |
| Valdivia | 63 | 55 | 1,520 | 1 | 150 |
| Achí | 65 | 0 | 0 | 0 | 0 |
| Ayapel | 36 | 0 | 0 | 0 | 0 |
| Caimito | 31 | 0 | 0 | 0 | 0 |
| Guaranda | 80 | 0 | 0 | 0 | 0 |
| Magangué | 41 | 0 | 0 | 0 | 0 |
| Majagual | 63 | 0 | 0 | 0 | 0 |
| San Benito Abad | 41 | 0 | 0 | 0 | 0 |
| San Jacinto del Cauca | 45 | 0 | 0 | 0 | 0 |
| San Marcos | 28 | 0 | 0 | 0 | 0 |
| Sucre | 45 | 0 | 0 | 0 | 0 |
| Ituango | 0 | 7 | 263 | 0 | 0 |
| Briceño | 1 | 0 | 0 | 0 | 0 |
| Buriticá | 1 | 0 | 0 | 0 | 0 |
| Ituango | 1 | 0 | 0 | 0 | 0 |
| Liborina | 1 | 0 | 0 | 0 | 0 |
| Olaya | 1 | 1 | 29 | 0 | 0 |
| Sabanalarga | 1 | 0 | 0 | 0 | 0 |
| San Andrés de Cuerquia | 1 | 0 | 0 | 0 | 0 |
| Santa Fe de Antioquia | 1 | 1 | 18 | 0 | 0 |
| Toledo | 1 | 0 | 0 | 0 | 0 |
| Total | 832 | 373 | 14,216 | 5 | 1,788 |

4. Project recovery plan

4.1. Technical component

In response to the contingency, EPM deployed all its technical, logistical, and managerial capacity to safeguard, in the first place, the life and assets of all the communities that were affected, in one way or another, by this situation. In the second place, the efforts were aimed at guaranteeing the continuity of the works to reduce the level of risk, allowing the project to be completed in the future.

This is how, in communication and permanent coordination with the UNGRD, the Dapard, the ANLA, the Ministry of Housing and Territorial Development, the Ministry of Mines and Energy, the National Police, the National Army, and all the other government entities, EPM continued to provide permanent assistance to the affected communities and, at the same time, execute the works that are part of the contingency plan, namely:

- Excavation and construction of the main shield above the pressing dam fillings between elevations 380 and 435 MASL.
- Perforations and injections for the conformation of the pre-plug 1 in the right diversion tunnel.
- Construction of the gallery for the conformation of the pre-plug 2 in the right diversion tunnel.
- Construction of a gallery that connects with the G3 gallery, for the construction of the final plug in the right diversion tunnel.
- Excavation and handling of the slope of the upper part of the floodgates area.
- Repair and commissioning of the two gates located in the gate chamber of the auxiliary diversion gallery.
- Final treatments and reinforcement of the intermediate discharge tunnel in the floodgate area and upstream and downstream from it.
- Injections for treatments in the abutments of the dam.
- Completion of civil works in the floodgate wells and in the headraces.
- Works for the recovery of the tunnel to access the powerhouse and the ventilation and evacuation galleries.
- Civil works of the road tunnel in the km 12, located on the right bank of the dam, on the El Valle-Ituango substitute road.

All EPM's efforts are currently focused on defining the date to start the process for progressively closing the passage of water from the reservoir through the powerhouse; an activity that depends, among other things, on the verification of the optimal operation of the intake gates, the spillway, the pressing dam filling, and the bentonite shield; the geotechnical behavior of the caverns due to the fluctuation of the reservoir; the effectiveness of the civil works to construct the pre-plug 1 of the right diversion tunnel; and the progress in the repair works of the closing gates installed in the gate chamber of the auxiliary diversion gallery. Although these works and mechanical components have operated properly during the second period of high flow of the Cauca River, the date to start the closing process has to be defined jointly with the ANLA, in such a way that the provisions of the environmental license and the instructions of the entity are guaranteed, especially those relating to the remaining flow. In this sense, the possibility of starting to close the intake gates during the first quarter of 2019 is being studied.

Once the cavern complex can be accessed, EPM will be in a position to conduct a clear and accurate diagnosis of the damages and adjust the estimates regarding the time for the interventions and the engineering and works necessary to fully recover this component of the project and, finally, put the first generation unit into operation; a milestone that is expected to be materialized by the end of 2021, according to the current information available on the damages and its technical implications.

In this way, EPM will keep contributing to the country's energy growth, delivering, according to its policy, the highest quality standards in the provision of public utilities.

4.2. Physical-biotic component

The project will continue to meet the requirements of the environmental authorities to deal with the contingency. By the end of the year, it had received 237 injunctions, of which 227 have been fully fulfilled and the rest are being processed. These injunctions include:

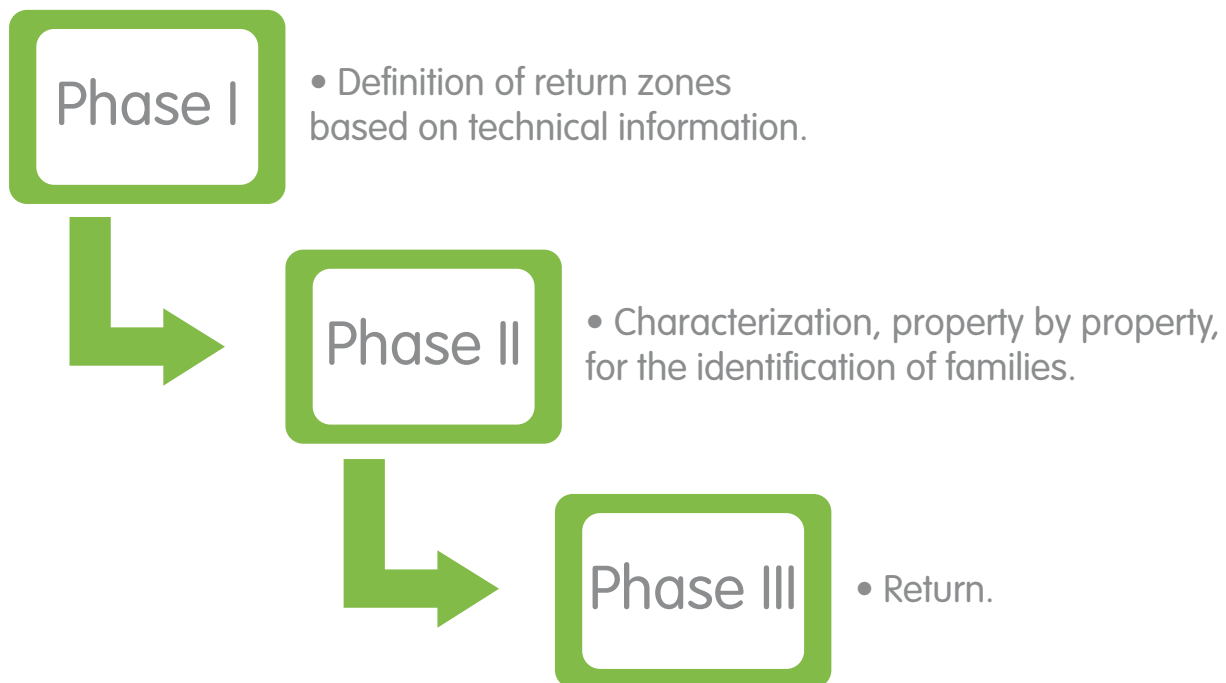
- Rescue fauna.
- Monitor the water quality in the reservoir and downstream from the dam.
- Monitor instability, erosion, and morphometric changes from the Cauca River to La Mojana.
- Maintain a 450 m³/s flow downstream from the dam.
- Take the necessary measures to lift the precautionary measure imposed by the ANLA through Ruling 820 of 2018, after the report submitted by Poyry Ltda.
- Deliver the report that explains the causes of the contingency.
- Conduct bathymetric studies in the reservoir and downstream to La Mojana.
- Restore the connectivity for the communities affected by the May 12 emergency.
- Deliver the final alternative for the controlled decrease of the reservoir level.

4.3. Social component

In order to overcome the difficulties and return to normal, the company will take the following actions:

- Implementation of the return protocol for evacuated people.
- Agreement, adjustment, and execution of the specific action plan.
- Preparation to work jointly in the relocation of infrastructure in areas of unmitigable risk.

4.3.1. Return protocol



4.3.1.1. Phase I

- 22 sectors defined based on the land use plans of the municipality and information provided by the community action boards. This work was part of the contingency plan (EPM-Red Cross agreement).
- Field corroboration of the toponymy of the 22 sectors and analysis with respect to the risk scenario of Circular letter 042 (8,100 m³/s).
- Consolidation of the following sectors: Buenos Aires, Cachirimé, El Alto, El Catorce-La Cancha, El Catorce-Miramar, El Pescado, El Quince-Alto, El Quince-Bajo, El Quince-Centro, La Coposa, La India, Monteblanco, Palomas, Palomas-IER, Palomas-Lavadero, El Moreno, Palomas-Potrero, Paulinas, Pescadito, Puerto Raudal 1, Puerto Raudal 2, Puerto Valdivia Centro Remolinos.

4.3.1.2. Phase II

Development of a survey that makes it possible to characterize the property through the following data:

- Geographic location.
- Risk situation.
- Property information.
- Conformation of the household (head and members).
- Public utility availability.
- Activities performed in the house.
- Description of the work, description of the building.
- Photographic record.

Characterization outcomes:

Partial data for the rural settlements with temporary shelters and self-shelters.

| Rural settlement | Sector | Infrastructure in the spot of 8,100 m ³ /s | | |
|--------------------------|----------------------------|---|------------|------------|
| | | No | Yes | Total |
| Camelias | La Coposa-Puerto Nerí | 24 | 17 | 41 |
| Total Camelias | | 24 | 17 | 41 |
| El Catorce | El Catorce-La Cancha | 9 | 17 | 26 |
| | El Catorce-Miramar | 10 | 17 | 27 |
| Total El Catorce | | 19 | 34 | 53 |
| El Quince | El Catorce-La Cancha | 43 | 37 | 80 |
| | El Quince-Alto | 15 | 14 | 29 |
| | El Quince-Bajo | 103 | 46 | 149 |
| | El Quince-Centro | 28 | 3 | 31 |
| Total El Quince | | 189 | 100 | 289 |
| La Paulina | El Pescado | 8 | 15 | 23 |
| | Paulinas | 170 | 1 | 171 |
| Total La Paulina | | 178 | 16 | 194 |
| Las Palomas | Palomas | 13 | 9 | 22 |
| | Palomas-IER | 60 | 15 | 75 |
| | Palomas-Lavadero El Moreno | 25 | 9 | 34 |
| Total Las Palomas | | 98 | 33 | 131 |

| Rural settlement | Sector | Infrastructure in the spot of 8,100 m ³ /s | | |
|----------------------------|----------------------|---|------------|------------|
| | | No | Yes | Total |
| Playa Rica | El Catorce-La Cancha | 1 | 0 | 1 |
| | El Quince-Bajo | 20 | 2 | 22 |
| | El Quince-Centro | 16 | 0 | 16 |
| Total Playa Rica | | 37 | 2 | 39 |
| Puerto Raudal | El Pescado | 36 | 17 | 53 |
| | Palomas-IER | 16 | 5 | 21 |
| | Palomas-Potrero | 20 | 8 | 28 |
| | Pescadito | 29 | 6 | 35 |
| | Puerto Raudal 1 | 4 | 11 | 15 |
| | Puerto Raudal 2 | 56 | 29 | 85 |
| Total Puerto Raudal | | 161 | 76 | 237 |
| Total general | | 706 | 278 | 984 |

4.3.1.3. Phase III

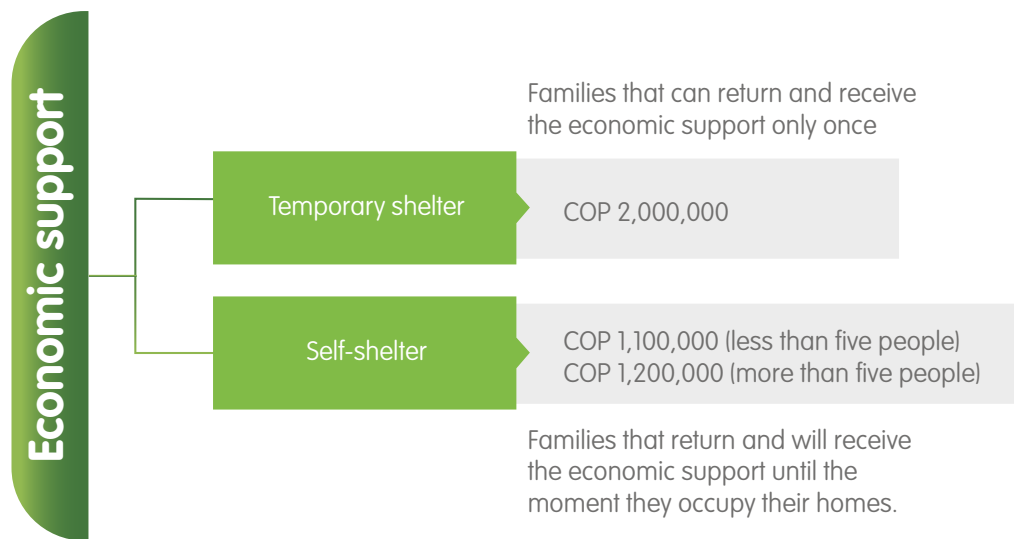
Stage 1: The PMU prioritizes the return of the families in the temporary shelters of the municipality of Valdivia.

Stage 2: Procedure for the return of the families in self-shelters of the municipality of Valdivia.

The following activities will be conducted during the two stages:

- Training in disaster risk management.
- Delivery of economic support.
- Delivery of groceries.
- Psychosocial support.
- Restoration of services for the population.

Economic support for the return of families



Psychosocial support

The psychosocial support will be given to:

- Families that return.
- Families that cannot return.
- Families that cannot return, but already live in their homes.

Restoration of services for the population

- Energy: maintenance and reconnection.
- Water supply: diagnosis and recovery of the Puerto Valdivia water supply system.
- Sanitation: support of Emvarias to EMVAL for the provision of waste collection and cleaning services.
- Health: support to the Valdivia's Secretariat of Health through the provision of mobile units.
- Education: maintenance of RECs.

Around 1,500 families will return to their homes.

4.3.2. Specific action plan

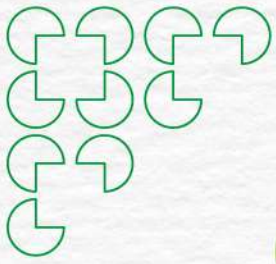
1. The formulation of the plan is the responsibility of the entity that declares the public calamity, in this case, the Antioquia Governor's Office; subsequently, all the competent entities must be articulated and coordinated for the reconstruction and rehabilitation processes.
2. EPM is currently reviewing the plan submitted by the Governor's Office, taking into account:
 - The relevance and responsibility of the activities.
 - Activities in which support is provided.
 - Discretionary activities.

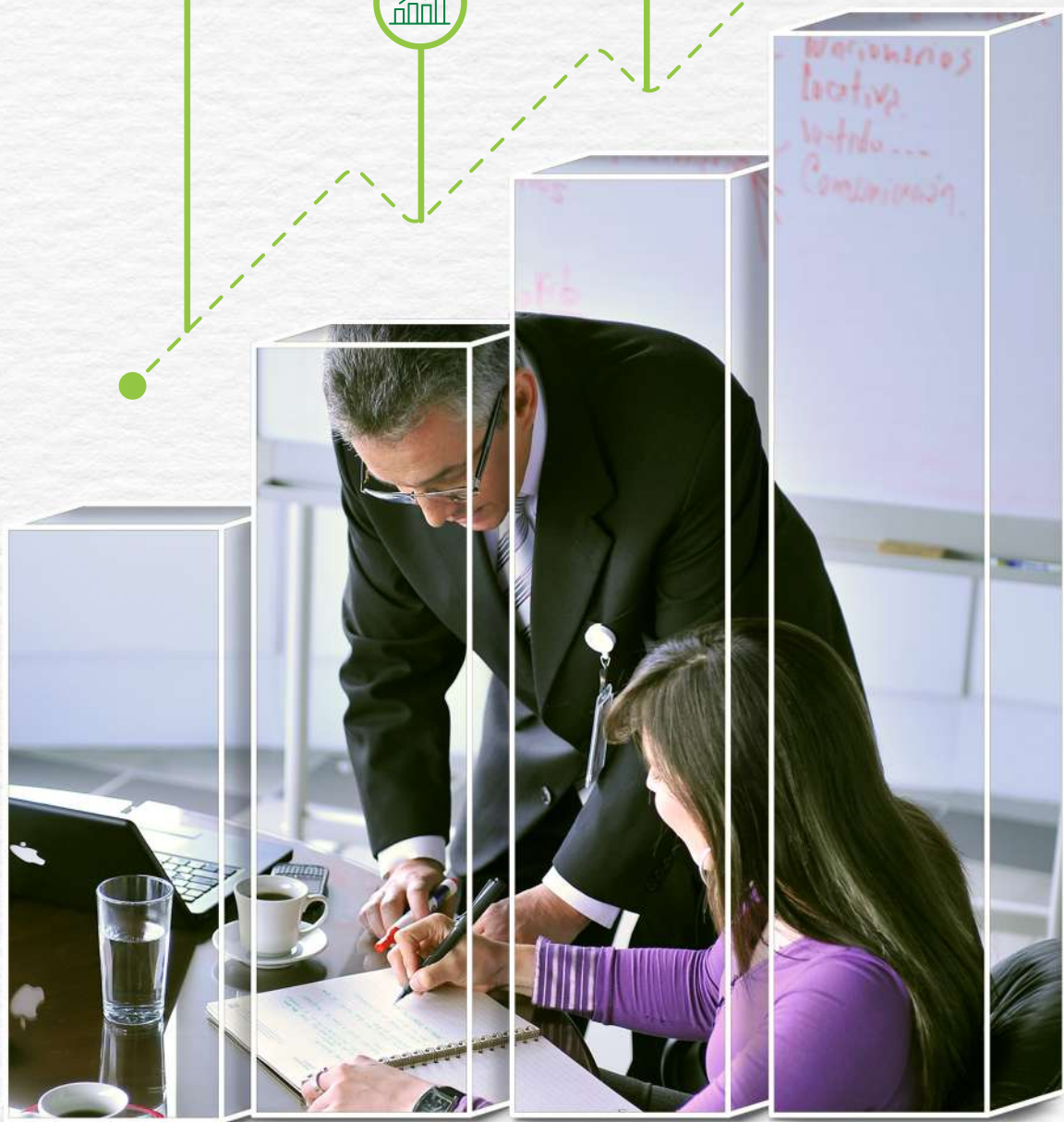
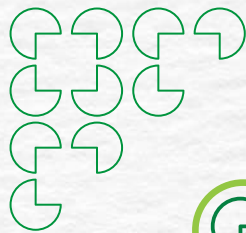
4.3.2.1. Relocation of infrastructure in areas of unmitigable risk

The relocation of infrastructure of Puerto Valdivia is included in the action plan.

EPM also participates in the development of the Governor's Office proposal to resettle families currently located in areas of high unmitigable risk.

Interested parties: National Government-Ministry of Housing, Departmental and Municipal Administration, and EPM.





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**EPM's financial
management**





Empresas Publicas de Medellin E.S.P.

Separate Financial Statements and Notes
December 31, 2018 and 2017

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Notes to the Separate Financial Statements of Empresas Publicas de Medellin E.S.P. for the periods ended as December 31, 2018 and 2017.

(In millions of Colombian pesos, except when indicated otherwise)

Note 1. Reporting Entity

Empresas Publicas de Medellin E.S.P. (hereinafter, "EPM" or "the company") is the holding company of a multi-latin Enterprise group; which, in accordance with International Financial Reporting Standards, has as of December 31, 2018 a consolidation perimeter made up of 47 companies and a structured entity¹, that have presence in the provision of public utilities in Colombia, Chile, El Salvador, Guatemala, Mexico and Panama.

EPM is a municipal-order decentralized entity, created in Colombia through Resolution 58 of August 6, 1955 issued by the Administrative Council of Medellín, as an autonomous public institution. It was transformed into an industrial and commercial government company of municipal-order through Resolution 069 of December 10, 1997 of the Medellín Council. Due to its legal status, EPM is endowed with administrative and financial autonomy, and its own equity according to Article 85 of Law 489 of 1998. The capital stock with which the company was constituted and operates, as well as its equity, is of a public nature, being its only owner is the Municipality of Medellín. Its main corporate domicile is located at Carrera 58 No. 42-125 in Medellín, Colombia. It has not established a term of duration.

EPM provides residential public utilities of aqueduct, sewage, power and combustible gas distribution. It can also provide the domiciliary public utilities of cleaning, waste treatment and utilization, as well as the complementary activities related to each and every public utility service above mentioned. Likewise, it participates in the telecommunications business, segment in which from August 2014 has significant influence, through UNE EPM Telecomunicaciones S.A. and its subsidiaries: Edatel S.A. E.S.P., Orbitel Servicios Internacionales S.A. - OSI, Cinco Telecom Corporation CTC and Colombia Movil S.A.; and Inversiones Telco S.A.S. and its subsidiary Emtelco S.A.; offering voice, data, Internet, professional services, data center, among others.

The separate financial statements of EPM corresponding to the year ended as of December 31, 2018, were authorized by the Board of Directors to be published on March 26, 2019.

1.1 Legal and regulatory framework

The activity of EPM, i.e., providing residential public utilities, is regulated in Colombia mainly by Law 142, Public Utilities Act, and Law 143 of 1993, Electricity Act.

The functions of control, inspection and surveillance of the entities that provide residential public utilities, are exercised by the Superintendencia de Servicios Publicos Domiciliarios (SSPD).

For its status as municipal-order decentralized entity, EPM is subject to political control by the Medellín Council, to fiscal control by the Comptroller General of Medellín and to disciplinary control by the Attorney General's Office.

1.2 Regulation commissions

Decree 1524 of 1994 delegates in the regulation commissions the presidential function of stating general policies of administration and control of efficiencies in residential public utilities.

These entities are:

¹ Autonomous Equity Social Funding. Under International Financial Reporting Standards (IFRS), it is considered a structured entity part of the consolidation perimeter of the financial statements of the EPM Group.

- The Power and Gas Regulatory Commission (CREG, for its Spanish initials), a technical body attached to the Ministry of Mines and Energy (MME), that regulates the sale rates for electric power and the aspects related to the operation of the Wholesale Energy Market (MEM, for its Spanish initials) and, more generally, to the provision of electric power and gas services.
- The Drinking Water and Basic Sanitation Regulatory Commission (CRA, for its Spanish initials), regulates the rates for aqueduct, sewage and cleaning, as well as their providing conditions in the market. It is a technical body attached to the Ministry of Housing, City and Territory.

1.2.1 Regulation by sector

1.2.1.1 Activities for the aqueduct, sewage and waste management sector

Law 142, Public Utilities Act, defined the aqueduct, sewage and cleaning services:

Aqueduct: also called drinking water domiciliary public utility. Activity consisting of the municipal distribution of water which is fit for human consumption, including its connection and measurement. It includes complementary activities such as water catchment and its processing, treatment, storage, conduction and transportation.

Sewage: activity that consists of the municipal collection of waste, mainly liquid, through piping and conduits. It includes the complementary activities of transportation, treatment, and final disposal of such waste.

Waste management: activity consisting of the municipal collection of waste, mainly solid waste. It includes the complementary activities of transportation, treatment, utilization, and final disposal of such waste.

For the first two utilities, the tariff framework is established in Resolutions CRA 688 of 2014 and CRA 735 of 2015. For the public waste management utility, in resolution CRA 720 of 2015. These standards establish indicators of quality and coverage, the achievement of goals is encouraged, and remuneration mechanisms are defined to guarantee the financial sufficiency of the company.

1.2.1.2 Electric power sector activities

Law 143 of 1994 segmented the electric power service into four activities: generation, transmission, distribution, and commercialization, which may be developed by independent companies. The purpose of the legal framework is to supply the demand of electricity under economic and financial feasibility criteria and to tend to an efficient, secure and reliable operation of the sector.

Generation: consists of the production of electric power from different sources (conventional or non-conventional), undertaking this activity either exclusively or combined with another or other activities of the electric sector, regardless of which is the main activity.

Transmission: the national transmission activity is the transportation of energy in the National Transmission System (hereinafter STN). It encompasses the set of lines, with its corresponding connection equipment that operate in voltages equal to or greater than 220 kV. The National Transmitter is the legal entity that operates and transports electric power in the STN or has incorporated a company which purpose is the undertaking of such activity.

Distribution: consists of transporting electric power through a set of lines and substations, with the associated equipment, that operate at voltages lower than 220 kV.

Commercialization: activity that consists of the purchase of electric energy in the wholesale market and its sale to other market participants or to the final regulated and non-regulated users, undertaking this activity either exclusively or combined with other activities of the electric sector, regardless of which of them is the main activity.

1.2.1.3 Activities of the natural gas sector

Law 142 of 1994 defined the legal framework for the provision of domiciliary public utilities, area in which natural gas is defined as a public utility.

Gas: It is the set of activities targeted to the distribution of combustible gas, through pipes or another mean, from a place of collection of large volumes or from a central gas pipeline to the facilities of a final consumer, including their connection and measurement. This Law will also be applied to the complementary activities of commercialization from the production and transportation of gas through a main gas pipeline, or through other means, from the generation site and to that where it connects to a secondary network.

1.3 External Audit

As included in the Code of Good Corporate Governance, the external audit is established as a control mechanism with the purpose of auditing consolidated financial statements and accounting policies in accordance with the International Financial Reporting Standards (IFRS), adopted in Colombia by the General Accountancy of the Nation (CGN, for its Spanish initials), as well as the provision of an independent opinion regarding the reasonableness with which they indicate the company's financial position as of the cut-off date of each accounting year.

Note 2. Significant accounting policies

2.1 Bases for the preparation of financial statements

The separate financial statements of the company are prepared in accordance with the current International Financial Reporting Standards (hereinafter, IFRS) issued by the International Accounting Standards Board (hereinafter, IASB), as well as the interpretations issued by the Interpretations Committee (hereinafter, IFRIC). These financial statements are harmonized with generally accepted accounting principles in Colombia as set out in the Annex to Decree 2420 of 2015 and its subsequent amendments accepted by the General Accountancy of the Nation through Resolution 037 of 2017, this resolution has not accepted some changes to IFRS such as the amendment to IAS 23 of the 2015-2017 Cycle and the interpretation of IFRIC 22, which have already entered into force at the international level or that can be anticipated, however, these changes do not impact financial figures, since they refer more to clarification in the application of the standards, i.e., to treatments already established, reason why it is considered that this will not have a transcendental economic impact in the financial statements.

The presentation of financial statements in conformity with IFRS requires making estimates and assumptions that affect the amounts reported and disclosed in the financial statements, without undermining the reliability of the financial information. Actual results may differ from said estimates. Estimates and assumptions are constantly revised. Revision of accounting estimates is recognized for the period in which the estimates are revised if the revision affects such period or in the revision period and future periods, if it affects both the current and the future period. The estimates made by the Management, in applying the IFRS, that have a material effect on the financial statements, and those that imply significant judgments for the annual financial statements, are described in greater detail on Note 3 - Significant accounting judgments, estimates, and causes of uncertainty in the preparation of financial statements.

EPM presents separate financial statements for compliance before the controlling entities and for internal administrative follow-up purposes and provide information to the investors. Likewise, EPM as the main holding company presents consolidated financial statements under IFRS.

Assets and liabilities are measured at cost or amortized cost, with the exception of certain financial assets and liabilities and the investment properties that are measured at fair value. The financial assets and liabilities measured at fair value correspond to those that: are classified in the category of fair value assets and liabilities through profit, some equity investments at fair value through equity, as well as all financial derivatives, assets and liabilities recognized that are designated as hedged items in a fair value hedging, which value in records is adjusted with the changes in fair value attributed to the risks subject matter of the hedging.

Separate financial statements are presented in their functional currency Colombian pesos and their figures are stated in millions of Colombian pesos.

2.2 Classification of assets and liabilities into current and non-current

An asset is classified as current asset when it is mainly maintained for negotiation purposes or it is expected to be realized over a term not exceeding one year, after the period being reported or it is cash and cash equivalents that is not subject to restrictions for exchange or use in the cancellation of a liability over a term not to exceed one year after the period being reported. All other assets are classified as noncurrent assets.

A liability is classified as current liability when it is mainly kept for negotiation purposes or when it is expected to be liquidated over a term not exceeding one year after the period being reported, or when the company does not have an unconditional right to postpone its liquidation for at least one year after the period being reported. All other liabilities are classified as non-current liabilities.

All derivative instruments for which the hedging accounting does not apply are classified as current or noncurrent, or are divided into current and non-current portions, based upon assessment of the facts and circumstances (i.e., the underlying contractual cash flows):

- When the company keeps a derivative, for which the hedging accounting is not applied, during a term exceeding twelve (12) months as from the presentation date, the derivative is classified as non-current (or divided into current and non-current portions) for it to correspond with the classification of the underlying item.
- Derivative instruments that are designated as hedging instruments and that are effective, are classified coherently with the classification of the underlying hedged item. The derivative instrument is divided into a current portion and another non-current only if such assignment can be made in a reliable manner.

2.3 Cash and cash equivalents

Cash and cash equivalents in the statement of financial position and in the statement of cash flows include the money in cash and banks and the high-liquidity investments, easily convertible in a determined amount of cash and subject to a non-significant risk of changes in their value, with maturity of three months or less from their acquisition date. Callable bank overdrafts that are an integral part of the cash management of the company, represent a cash and cash equivalents component in the statement of cash flows.

2.4 Investments in subsidiaries, associates and joint ventures

A subsidiary is an entity controlled by EPM. The control is obtained when EPM controls the relevant activities of the subsidiary and is exposed, or has the right, to the variable returns of the subsidiary and has the capacity to influence said returns.

An associate is an entity on which EPM Group has significant influence over the financial and operation policy decisions, without getting to have their control or joint control.

A joint venture is an entity that EPM controls jointly with other participants, where the latter keep a contractual agreement that establishes the joint control over relevant activities of the entity.

On the acquisition date, goodwill is included in the recorded value of the investment and is neither amortized nor individually subject to impairment tests of its value.

Investments in subsidiaries are measured in the separate financial statements by the equity method, except if the investment or a portion thereof is classified as held for sale, in which case it is accounted for in accordance with IFRS 5 Non-current assets held for sale and discontinued operations. Through this accounting methodology, the investment is initially recorded at cost and is later adjusted in terms of the changes undergone, after the acquisition, by the portion of the net assets of the entity that corresponds to the investor. Profit for the period

for EPM includes its ownership in the profit for the period of its ownership and the other comprehensive income includes its ownership in the other comprehensive income of its ownership. When there are variations in the percentage of ownership in the subsidiary that do not imply a loss of control, the effect of these changes is recognized directly in equity. When ownership of the company in the loss of a subsidiary exceeds ownership of the company thereon (which includes any long-term ownership that, in substance, forms part of the net investment of the Group in the associate or joint venture), the company ceases to recognize its ownership in future losses. Additional losses are recognized provided that the company has contracted some legal or implied obligation or has made payments in the name of the subsidiary. When the subsidiary subsequently makes a profit, the company resumes recognition of its ownership therein only after its share in the aforementioned profit equals the share of unrecognized losses.

Investments in subsidiaries are accounted for using the equity method from the date when the entity in which the interest is held becomes a subsidiary.

Investments in associates and joint ventures are kept in the separate financial statements at cost.

Dividends received from the subsidiary, are recognized as lower value than the investment, and those received from associate or joint venture are directly recognized in the profit for the period when the right of the company to receive payment is reestablished.

The company analyzes periodically the existence of impairment indicators and if necessary recognizes losses for impairment in the investment of the subsidiary, associate or joint venture. Impairment losses are recognized in the profit for the period and are calculated as the difference between the recoverable value of the subsidiary, associate or joint venture, that being the higher between the value in use and its fair value less the necessary costs for its sale, and its recorded value.

When control over the subsidiary or significant influence over the associate or the joint control over the joint venture is lost, the company measures and recognizes any residual investment that may keep in it its fair value. The difference between the recorded value of the subsidiary, associate or joint venture and the fair value of the retained residual investment, with the value coming from its sale, is recognized in the result for the period.

The company discontinues the use of the equity method from the date on which the investment ceases to be a subsidiary, or the date on which the investment is classified as held for sale. Additionally, the company records all amounts previously recognized in other comprehensive income with relation to that subsidiary on the same basis that would have been required if said subsidiary had directly sold the financial assets or liabilities. Therefore, if a profit or loss previously recognized in other comprehensive income by the subsidiary had been reclassified into profits or losses at the moment of the sale of the related assets or liabilities, the company would reclassify the profit or loss from equity into profits or losses (as a reclassification adjustment) upon discontinuation of the usage of the equity method.

2.5 Joint operations

Is a joint agreement whereby the parties that have joint control of the agreement have the right to the assets and obligations related to the liabilities, related to the agreement.

In joint operations the company recognizes its share as follows: its assets, including its share in the assets jointly held; its liabilities, including its share in the liabilities jointly incurred in; its revenues from ordinary activities coming from the sale of its share in the product that arises from the joint operation; its share in revenues from ordinary activities coming from the sale of the product that is made by the joint operation; and its expenses, including its share in the jointly incurred in expenses. The company records the assets, liabilities, revenues from ordinary activities, and expenses related to its ownership in a joint operation according to the guidelines applicable in particular to the assets, liabilities, revenues from ordinary activities, and expenses.

2.6 Functional and foreign currency

The functional currency of the company is the Colombian peso that is the currency of the main economic environment where it operates, i.e., where it generates and uses cash.

Transactions in foreign currency are initially recorded at the exchange rates of the functional currency in force and effect on the transaction date. Subsequently, the foreign-currency denominated monetary assets and liabilities are translated using the exchange rate of the functional currency, in force and effect as of the period's closing date, the non-monetary items that are measured at their fair value are translated using the exchange rates as of the date when their fair value is determined and the non-monetary items that are measured at historic cost are translated using the exchange rates in force and effect on the date of the original transactions.

All exchange differences are recognized in the statement of comprehensive income in the section Profit for the period, except for adjustments arising from interest costs that are capitalizable and those arising from loans in foreign currency to the extent that they are considered as adjustments to interest costs and the exchange difference arising from the conversion of the financial statements of subsidiaries abroad for the application of the equity method, which is recognized in the other comprehensive income.

2.7 Ordinary income

The ordinary income basically corresponds to the result of the company's main activity, which is the rendering of residential public utilities of aqueduct, sewage, electric power and combustible gas distribution, and are recognized when the service is rendered or at the time of the delivery of the goods, to the extent that they comply to the performance requirements of the company. Income is measured at the value of the consideration received or to be received, excluding taxes and other obligations. Discounts, compensations to customers because of the quality of the service and financial components that are granted, are recorded as lower value of income. The financing component is only recognized when it is significant as a lower value of income, only if the contract with customers has a duration longer than one year.

The most representative incomes for the power business are as follows:

Reliability charge: remuneration paid to a generating agent for the availability of generation assets with the declared characteristics and parameters for the calculation of the steady power for reliability charge (ENFICC, for its Spanish initials), which guarantees compliance with the Steady Power Obligation (OEF, for its Spanish initials) assigned in auction for the assignment of steady power obligations or the mechanism replacing it.

Long-term contracts: a contract for the sale of power between traders and generators which is settled in the power exchange, under this modality of power contract generators and traders freely agree on quantities and prices for the purchase and sale of electric power for periods longer than one day.

For long-term power purchase contracts, with process lower than those of the market and whose intention is not to use the energy purchased in the operation but to resell it in a market to obtain revenue, it is considered that it does not comply with the Exception for own use

Secondary market of steady power or secondary market: A bilateral market in which generators negotiate among themselves a back-up contract to ensure, for a given period of time, partial or total compliance with the steady power obligations acquired by one of them.

Non-regulated market power sales: Is the power sold in the market to customers whose maximum demand exceeds a value in MW (megawatts) or a monthly minimum energy consumption in MWh (megawatt-hour), defined by the regulatory body, by legalized installation, from which it does not use public networks of electric power transport and uses it in the same property or in contiguous estates. Such electricity purchases are made at freely agreed prices between buyer and seller.

Regulated market power sales: Is the power sold to customers whose monthly consumption is less than a predetermined value and is not entitled to negotiate the price paid for it, since both concepts are regulated; usually uses power for its own consumption or as an input for its manufacturing processes and not to undertake marketing activities with it.

Automatic Generation Regulation - AGC: is a system for the control of the secondary regulation, used to accompany the variations of load through power generation, to control the frequency within a range of operation and the programmed exchanges. The AGC can be programmed in centralized, decentralized or hierarchical mode.

Steady Power (or Firm Energy): is the incremental contribution of a company's generation plants to the interconnected system, which is carried out with a 95% reliability and is calculated based on a methodology approved by the commission and the operational planning models used in the national interconnected system.

Gas revenues come from the distribution and sale of natural gas to the regulated and non-regulated market.

In the water business, revenues come from the provision of aqueduct and sewer services.

At the time of recognition of income, the company assesses based on specific criteria in order to identify when it acts as a principal or commission agent and thus determines whether gross or net income must be recognized for marketing activities.

2.8 Contracts with customers

When contract results can be reliably measured, the company recognizes the revenues and expenses associated to contracts with customers, measuring the advance level in the fulfilment of the performance requirements using the resource method, as a function of the ratio represented by the costs earned by the work conducted to that date and the estimated total costs up to its completion.

The incurred cost includes the costs, including loan costs directly related to the contract, until the work has been completed. Administrative costs are recognized in the profit for the period.

On the other hand, the incremental costs incurred by the company to obtain or fulfill contracts with customers are recognized as an asset in the statement of financial position within the Other assets item and are amortized on a lineal basis over the life of the contract, provided that the term of the contract is greater than one year. Otherwise, the company recognizes it directly in the profit for the period.

Payments received from customers before the corresponding work has been carried out, are recognized as a liability in the Statement of Financial Position as other liabilities.

The difference between the revenues recognized in the statement of income for the period and the billing is presented as asset in the statement of financial position denominated Trade debtors and other accounts receivable, or as liability denominated Other liabilities.

For the initial recognition of an account receivable from a contract with a customer, the difference between the measurement of the account receivable and the value of the corresponding revenue is presented as an expense in the statement of comprehensive income called Impairment loss on accounts receivable.

2.9 Government grants

Government grants are recognized at fair value when there is reasonable security that those grants shall be received and that all conditions linked to them shall be met. Grants that pretend to offset costs and expenses already incurred in, without subsequent related costs, are recognized in the statement of profit for the period in which they become enforceable. When the grants related to an asset, it is recorded as deferred revenue and is recognized in the result for the period on a systematic basis throughout the estimated lifespan of the corresponding asset. The benefit of a government loan at an interest rate below market is treated as a government grant, measured as the difference between the amounts received and the fair value of the loan based upon the market interest rate.

2.10 Taxes

The fiscal structure of the country, the regulatory frameworks and the plurality of operations make the company a passive subject, i.e., a payer of taxes, rates and contributions on a national and territorial basis. Those are liabilities generated from the central government, the states/departments, municipal entities and other active subjects, once the conditions foreseen in the corresponding acts and laws issued are met

Amongst the most relevant taxes the income tax, the value-added tax and the wealth tax are detailed:

Income tax

Current: The current income tax assets and liabilities for the period are measured by the amounts that are expected to be recovered or paid to the fiscal authorities. The income tax expense is recognized in the current tax according to the cleaning made between the fiscal income and the recorded profit or loss affected by the income tax rate of the current year and pursuant to the provisions of the tax norms of the country. The tax rates and norms used for computing those values are those that are enacted or substantially approved at the end of the period being reported, in the countries where the company operates and generates taxable profits.

The fiscal profit differs from the gain profit reported in the statement of income for the period due to the revenue and expense items that are impossible or deductible in other years, and items that shall not be taxable or deductible in the future.

Current Income tax assets and liabilities are also offset if they relate to the same fiscal authority and if there is the intention to liquidate them for the net value or to realize the asset and liquidate the liability simultaneously.

Deferred: the deferred income tax is recognized using the liability method calculated on the temporary differences between the fiscal bases of the assets and liabilities and their recorded values. The deferred tax liability is generally recognized for all impossible temporary differences, while the deferred tax asset is recognized for all deductible temporary differences and for the future offsetting of fiscal credits and unused fiscal losses to the extent that it is probable the availability of future tax gains against which they can be imputed. Deferred taxes are not discounted.

The deferred tax assets and liabilities are not recognized if the temporary difference arises from the initial recognition of an asset or a liability in a transaction that is not a business combination and that, at the moment of the transaction, did not affect neither the book gain nor the fiscal profit or loss; and for the deferred tax liability case whenever it arises from the initial recognition of goodwill.

The deferred tax liabilities related to investments made in subsidiaries, associates and ownerships in joint ventures, are not recognized when the revision opportunity of temporary differences can be controlled, and it is probable that those differences will not be reversed in the near future. Deferred tax assets related to investments made in subsidiaries, associates and ownership in joint ventures, shall be recognized only to the extent that it is probable that there will be a reversal in the temporary differences in the near future and that the availability of future taxable profits against which those deductible differences will be imputed is probable.

The recorded value of the deferred tax assets is reviewed in each presentation date and are reduced to the extent that it is no longer probable that there are enough taxable gains profits to use for the entirety or one part of the deferred tax asset. The deferred tax assets that are not recognized are reassessed on each presentation report date and are recognized to the extent that it is probable that future taxable gains profits allow their recovery.

Deferred tax assets and liabilities are measured at the fiscal rates expected to be applied in the period when the asset is realized, or the liability is cancelled, based upon the fiscal rates and norms that were approved on the presentation date, or the approval procedure of which is about to be completed for such date. Measurement of deferred tax assets and liabilities will reflect the fiscal consequences that would be derived from the manner

in which the entity expects, at the end of the period being reported, to recover or liquidate the recorded value of its assets and liabilities.

The deferred tax assets and liabilities must be presented as non-current.

The deferred tax assets and liabilities are offset if there is a legally enforceable right for that and are related to the same tax authority.

The deferred tax is recognized in the profit for the period, except that related to items recognized outside profits; in this latter case it will be presented in the other comprehensive income or directly in equity.

With the purpose of measuring the deferred tax liabilities and the deferred tax assets for investment properties that are measured using the fair value model, the recorded value of those properties is presumed that will be fully recovered through their sale, unless the presumption is challenged. The presumption is challenged when the investment property is depreciable and is kept within a business model which object is to consume, substantially, all the economic benefits that are generated by the investment property through time, and not through sale. Management reviewed the company's investment property portfolio and concluded that none of the company's investment properties is kept under a business model which objective is to consume, substantially, all economic benefits generated by investment properties over time rather than through the sale. Therefore, the management have determined that the presumption of "sale" established in the modifications to IAS 12 Income tax, is not challenged.

Whenever the current tax or deferred tax arises from the initial recording of the business combination, the fiscal effect is considered within the recording of the business combination.

Value-Added Tax - VAT

The company is responsible for this tax in the common regime because it performs sales of movable assets and provides taxed services and obtains exempt revenue for imports. Currently, the power, aqueduct, sewage, and domiciliary gas utilities are excluded from this tax.

For Colombia the general rate is 19% and there is a differential rate of 5%.

In Colombia, the generation of revenue excluded in the particular case of residential public utilities, VAT paid on purchases is part of a higher cost value. Also, when taxable income is generated, that is to say when taxed goods or services are sold, VAT paid on the purchase or acquisition of inputs for these sales will be deductible from the payable tax value. When the company generates income that is excluded from VAT, but at the same time generates income that is exempt and taxed, in that case a proration of paid VAT must be performed to determine the percentage of VAT to be discounted.

Wealth tax

Wealth tax is calculated in accordance with current legal tax provisions. Calculation is made for each year while this tax is in force and is recorded in the statement of comprehensive income as an expense.

2.11 Property, plant and equipment

Property, plant and equipment are measured at cost, net of accrued depreciation and accrued impairment losses, if any. The cost includes the acquisition price; the costs directly related to putting the asset at the necessary place and conditions to operate in the way foreseen by the company, costs corresponding to loans of construction projects that take a substantial period to be completed, recognition requirements are complied with and the present value of the expected cost for the dismantlement of the asset after its use, if the criteria for recognition for a provision are met.

Constructions in progress are measured at cost less any loss for impairment recognized and includes indispensable expenditure and that are directly related to the construction of the asset, such as professional

fees, work supervision, civil works and, in the case of those assets qualified, the borrowing costs are capitalized. Those constructions in progress are classified in the proper categories of property, plant and equipment at the time of their completion and when they are ready to use. The depreciation of these assets starts when they are ready to use in accordance with the same basis as in the case of other elements of property, plant and equipment.

The company capitalizes as greater value of the assets, additions or improvements made thereof, provided that any of the following conditions is met: a) They increase their lifespan, b) They increase their productive capacity and operating efficiency thereof and c) They reduce costs to the Company. All other repair and maintenance costs are recognized in the statement of comprehensive income as incurred.

Inventory of spare parts for specific projects, which are expected to have no turnover in one year and meet the criteria to be capitalized, known as replacement assets, are presented in the other property, plant and equipment. They depreciate considering the permanence time in the warehouse and the technical lifespan of the asset once its use begins.

Depreciation begins when the asset is available for use and is calculated in a linear fashion throughout the estimated lifespan of the asset as follows:

| | |
|--|-----------------|
| Plants, pipelines and tunnels | |
| Civil work | 50 to 100 years |
| Equipment | 10 to 100 years |
| Networks, lines and cables | |
| Electric transmission network | 30 to 40 years |
| Electric distribution network | 30 to 40 years |
| Aqueduct network | 40 to 80 years |
| Sewerage network | 30 to 80 years |
| Gas network | 60 to 80 years |
| Buildings | 50 to 100 years |
| Communication and computer equipment | 5 to 40 years |
| Machinery and equipment | 7 to 40 years |
| Furniture, fixtures and office equipment | 10 to 15 years |

Lifespans are determined considering, among others, the manufacturer's technical specifications, the knowledge of the technicians that operate and maintain the assets, the geographic location and the conditions to which it is exposed.

The company calculates the depreciation by components, which implies depreciating individually the parts of the asset that should have different lifespans. The depreciation method used is the straight-line; the residual value calculated for the assets is not part of the depreciable amount.

A component of property, plant and equipment and any significant part initially recognized, is derecognized once disposed of or when it is not expected to obtain future economic benefits from its use or disposal. The gain or loss at the moment of writing the asset off, calculated as the difference between the net value of the disposal and the recorded value of the asset, is included in the statement of comprehensive income.

Assets temporarily classified as out-of-service continue to depreciate and are tested for impairment within the CGU to which they are assigned.

Any residual values, lifespans and depreciation methods for the assets are revised and adjusted prospectively at each year closing, if required.

2.12 Leases

The determination of whether an agreement constitutes or contains a lease is based upon the essence of the agreement at its initial date, if compliance with the agreement depends upon the use of a specific asset(s), or if the agreement grants a right of use of the asset.

Leases are classified as financial and operating lease. A lease is classified as financial lease whenever all risks and benefits inherent to the ownership of the asset leased are substantially transferred to the lessee; otherwise, it is classified as an operating lease.

EPM as a lessee

Assets leased under financial leases are recognized and presented as assets in the statement of financial position at the beginning of the lease, for the fair value of the asset leased or the present value of the minimum lease payments, whichever is lower. The corresponding liability is included in the statement of financial position as a financial lease liability.

The assets leased under financial leases are depreciated throughout the lifespan of the asset through the straight-line method. However, if there were no reasonable certainty that the company shall get the ownership upon the lease term termination, the asset is depreciated throughout its estimated lifespan or over the lease term, whichever is lower. Lease payments are divided between financial expenses, and debt reduction. The financial cost is recognized in the statement of comprehensive income for the period, unless they could be directly attributable to qualifying assets, in which case they are capitalized in conformity with the entity's policy for borrowing cost. Contingent lease installments, are recognized as expenses in the period where incurred.

Payments for operating leases, including incentives received, are recognized as expenses in the statement of comprehensive income, on a linear basis throughout the lease term, except when another systematic basis for distribution results being more representative because it reflects more adequately the timing pattern of the benefits of the lease for the user.

EPM as a lessor

Assets rented under financial leases are not presented as property, plant and equipment given that the risks associated to the ownership have been transferred to the lessee, a financial asset is instead recognized.

Land and buildings rented under operating leases are presented as investment properties, and the other assets given under operating lease are presented as property, plant and equipment. Initial direct costs incurred in the negotiation of an operating lease are added to the recorded value of the asset leased and are recognized as expenses throughout the lease term on the same basis as the revenues from the lease. Financial lease revenues are distributed during the lease term in order to reflect a constant return rate in the net investment. Contingent leases are recognized in the period when obtained.

Revenues from operating leases on investment properties are recorded on a linear basis over the lease term.

2.13 Borrowing costs

Borrowing costs that are directly attributable to the acquisition, construction or production of an asset that necessarily takes substantial time to be prepared for their destined use or sale, are capitalized as part of the cost of the respective asset until the asset is ready for their intended use. The revenue from the temporary investment in specific loans pending to be consumed in qualified assets is deducted from the borrowing costs that qualify for their capitalization. All other borrowing costs are recorded as expenses in the period when incurred. Borrowing costs consists of interest and other costs incurred in by the company regarding to the loan of funds. To the extent that the funds derive from generic loans and are used to obtain a qualified asset, the

value of the costs susceptible of capitalization is determined by applying a capitalization rate (Weighted average cost of loans applicable to general loans outstanding during the period) to expenditure made in that asset.

The capitalization of borrowing costs begins on the date that the following conditions are met:

- Expenditure made in relation to the asset.
- Loans costs are incurred, and
- The necessary activities to prepare the asset for the intended use or for sale are carried out.

Capitalization of borrowing costs is suspended during periods in which the development of activities of a qualifying asset for periods of more than one year is interrupted. However, the capitalization of borrowing costs over a period is not interrupted if important technical or administrative actions are being undertaken. Neither is capitalization of borrowing costs suspended when a temporary delay is required as part of the process of preparing an asset qualified for its use or sale.

Capitalization of borrowing costs is terminated when all activities necessary to prepare the asset for its use or sale have been substantially completed. When the asset has components that can be used separately while construction continues, the capitalization of borrowing costs on such components is stopped.

2.14 Investment property

Investment property, are lands or buildings or part of a building or both, held to obtain rentals or capital revaluations (including the investment property under construction for said purposes). Investment properties are initially measured at cost, including transaction costs. The recorded value includes de replacement or substitution cost of one part of an existing investment property at the moment when the cost is incurred in, if all criteria for recognition are met; and they exclude the daily maintenance costs of the investment property.

After initial recognition, investment properties are measured at the fair value reflected by market conditions on the presentation date. All profits and losses arising from changes in the fair values of the investment properties are included in the statement of comprehensive income in the section Profit for the period in the period when they arise.

Investment properties are derecognized, either at the moment of disposal, or when they are retired from use on a permanent basis, and no future economic benefit is expected. The difference between the net value of disposal and the recorded value of the asset is recognized in the statement of comprehensive income in the section Profit for the period in the period when it was derecognized.

Transfers to or from investment property are conducted only when there is a change in their use. In the case of a transfer from an investment property to property, plant and equipment, the cost considered for its subsequent posting is the fair value on the date of use change. If a property, plant and equipment become an investment property, it shall be recorded at its fair value, the difference between the fair value and the recorded value shall be recorded as revaluation surplus applying the IAS 16 Property, plant and equipment.

2.15 Intangible assets

Intangible assets acquired separately are measured initially at their cost. The cost of the intangible assets acquired in business combinations is their fair value at the acquisition date. After their initial recognition, the intangible assets are recorded at cost less any accumulated amortization and any accumulated loss for impairment. Intangible assets generated internally are capitalized provided that they meet the criteria for their recognition as asset and the generation of the asset must be classified as: research phase and development phase; if it is not possible to distinguish the research phase from the development phase, expenditure must be reflected in the statement of comprehensive income in the period in which they incurred.

Lifespan of intangible assets are determined as finite or indefinite.

Intangibles assets with finite lifespans are amortized throughout their economic lifespan in a linear fashion and assessed to determine if they presented any impairment, whenever there are indications that the intangible asset may have suffered such impairment. The amortization period and the amortization method for an intangible asset with a finite lifespan are reviewed at least at the end of each year. Changes in the expected lifespan or in the expected pattern of consumption of the future economic benefits of the asset are recorded if the amortization period or method changes, as applicable, and are treated as changes in accounting estimates. The amortization expense of intangible assets with finite lifespans is recognized in the statement of comprehensive income in the section Profit for the period in the expense category that is find consistent with the function of the intangible asset.

Intangibles assets with undefined lifespans are not amortized, but they are subject to annual tests to determine whether they suffer any impairment, either individually or at the cash-generating unit level (CGU). Assessment of the undefined lifespan is revised on an annual basis to determine whether such undefined lifespan continues to be valid. If that is not the case, the change of lifespan from undefined to finite is made prospectively.

An intangible asset is derecognized upon disposal, or whenever future economic benefits are not expected from their use or disposal. The profits or losses arising when an intangible asset is derecognized are measured as the difference between the value obtained in the disposal and the recorded value of the asset, and it is recognized in the statement of comprehensive income in the section Profit for the period.

Research and Development Costs

Research costs are recorded as expenses as incurred. Development outlays in an individual project are recognized as intangible assets whenever the company can demonstrate:

- The technical feasibility of finalizing the intangible asset so that it is available for use or sale.
- Its intention of finalizing the asset and its capacity to use or sell the asset.
- How the asset will generate future economic benefits, considering, among others, the existence of a market for production that generates an intangible asset for the asset itself, or the profit of the asset for the entity.
- The availability of technical and financial resources to complete the asset and to use and sell it.
- The capacity of reliably measuring the expenditure during development.

In the statement of financial position, the development expenditure asset is recognized from the moment the element meets the aforementioned conditions for its recognition, and its cost less accrued amortization and the value impairment accrued losses are recorded.

When the development of an intangible asset related to a power generation project begins, costs are accumulated as constructions in progress.

Amortization of the asset starts when the development has been completed and the asset is available for use. It is amortized throughout the period of the expected future economic benefit. During the development period the asset is subject to annual tests to determine whether there is impairment of its value.

Research costs and development costs that do not qualify to capitalization are recorded as expenses in the statement of comprehensive income, section Profit for the period.

Other intangible assets

Other intangible assets such as concession of services, licenses, software, exploitation rights, trademarks and similar rights acquired by the company are measured at cost less the accumulated amortization and any loss for impairment.

2.16 Financial instruments

Financial assets and liabilities are recognized in the statement of financial position when the company becomes a party according to the contractual conditions of the instrument.

Financial assets and liabilities are initially measured at fair value. Transaction costs that are directly attributable to the acquisition or issuance of financial assets and liabilities (other than the financial assets and liabilities designated at fair value with change in operations) are added to or deducted from the fair value of the financial assets or liabilities, whenever appropriate, at the moment of the initial recognition. All transaction costs directly attributable to the acquisition of financial assets or liabilities designated at fair value with change in operations are immediately recognized in the comprehensive income for the period, section Profit for the period.

Financial assets

The company classifies at the moment of initial recognition its financial assets for subsequent measurement at amortized cost or at fair value (through other comprehensive income or through profits) depending upon the business model of the company for managing financial assets and the characteristics of the contractual cash flows of the instrument.

A financial asset is subsequently measured at amortized cost or at fair value with changes in other comprehensive income, using the effective interest rate² if the asset is maintained within a business with the objective keeping those to obtain contractual cash flows and the contractual terms the assets grant, in specific dates, cash flows that are only payments of the principal and interest on the pending principal amount. Without detriment to the foregoing, the company can designate a financial asset as measured at fair value with changes in operations irrevocably.

Other financial assets different from those at amortized cost are subsequently measured at fair value with changes recognized in the Statement of comprehensive income, section Profit for the period. However, for the investments made on equity instruments that are not maintained for negotiating purposes, the company may choose in the initial recognition and irrevocably to present the profits or losses for the measurement at fair value in Other comprehensive income. In the disposal of investments at fair value through Other comprehensive income, the accrued value of the profits or losses is directly transferred to the withheld profit and is not reclassified to Profit for the period. The dividends received from these investments are recognized in the Statement of comprehensive income, in the section Profit for the period. The company has selected to measure some of its investments in capital instruments at fair value through Other comprehensive income.

In the fair value through profit category includes the investments that are made to optimize liquidity surpluses, i.e., all those resources that are not immediately devoted to the undertaking of those activities that form the company's corporate purpose. The investment of the liquidity surpluses is made under the criteria of transparency, security, liquidity and profitability, under the guidelines of an adequate control and in market conditions without speculative purposes (Decree of the General Manager of EPM No. 2015-DECGGL-2059 of February 6, 2015).

Dividend income is recognized when the company's entitlement to receive payment is established.

² The effective interest rate method is a method for calculating the amortized cost of a financial asset and allocation of income throughout the relevant period. The effective interest rate is the discount rate that exactly equals the future cash flows of a financial asset (including all fees, commissions and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums and discounts) through the instrument's expected lifespan, or if appropriate, a shorter period, at its recorded value or initial recognition.

Impairment of financial instruments

At each reporting date, the company recognizes a correction in value for expected credit losses on financial assets measured at amortized cost or at fair value through changes in Other comprehensive income, including receivables from leases, contract assets or loan commitments and financial guarantee contracts to which the impairment requirements are applied over the life of the asset.

Expected credit loss is estimated considering the probability that an impairment loss by uncollectability may or may not occur and are recognized as profit or loss in the Statement of comprehensive income, section Profit for the period against a lower value of the financial asset. The company assesses the credit risk of accounts receivable on a monthly basis at the time of presenting the reports in order to determine the value correction for expected credit loss on financial assets.

The company applies the impairment requirements for loss to all financial assets that are measured at fair value with changes in Other comprehensive income, which is recognized in Other comprehensive income and does not decrease the recorded value of the financial asset in the Statement of financial position.

The company assesses on a collective basis the expected losses for financial assets that are not individually relevant. When the collective assessment of expected losses is performed, the accounts receivable are gathered by similar credit risk characteristics, allowing the identification of the repayment capacity of the debtor, in accordance with the contractual terms of the accounts receivable.

The company determines that a customer's credit risk increases significantly when there is any default event in the financial agreements by the counterpart, or when information, be it internal or obtained from external sources indicates that debtor's payment unlikely, without considering held securities.

The default in the agreements is measured, in general when you have 2 past-due accounts, however, there are agreements or individual contracts that indicate default immediately when a payment or obligation is not met.

The company determines that a financial asset exhibits credit impairment when:

- Evidence of default in a customers' payment for two (2) or more accounts.
- It is known or there is evidence of the customer entering processes of corporate restructuring or in insolvency or liquidation.
- The rise of social turmoil, be it of public order or natural disasters, which according to experience are directly correlated with the default of accounts.

Credit risk is affected when there are changes in financial assets, the policy of the company to reassess the recognition of credit loss is basically supported on the customer or counterpart payment record. When there is evidence of an improvement in the historical record of a customer payments, a reduction in the risk is recorded and, if there is an increase in the default age of the portfolio, an increment in the impairment of the asset is recorded.

And the asset is derecognized when:

- Registered accounts receivable do not represent certain entitlements, goods or obligations for EPM.
- Entitlements or obligations lack documents and suitable support to allow advancing the due procedures for their collection or payment.
- It is not possible to collect the entitlement or obligation, by coercive or judicial collection, once the pre-judicial collection stage has been exhausted.
- When it is impossible to identify and individualize a natural or legal person, to collect the portfolio.
- When the cost-benefit ratio has been assessed and established and advancing the collection process is costlier than the value of the bond.
- When elapsed the period of limitations for bonds and enforcement orders or at forfeiture of entitlement.

- That, having advanced the executive process, there are no assets to make effective the payment of the obligation.
- When having advanced the liquidation process for natural or legal person in judicial terms, the assets received in lieu of payment are insufficient to cover the totality of the debt; the unpaid balance will be derecognized.

The company derecognizes a financial asset when:

- Possesses information indicating that the counterpart is in severe financial difficulties and there are no realistic prospects of recovery.
- The counterpart has been put into liquidation or has initiated a bankruptcy process or, in the case of accounts receivable.
- when the amounts exceed the two years due, whichever occurs earlier.

When the contractual cash flows of a financial asset are renegotiated or otherwise modified, and the renegotiation or modification does not result in derecognition of that financial asset in accordance with IFRS 9, the company recalculates the gross recorded value of the financial asset and recognizes a profit or loss due to modification in the Profit for the period. The gross recorded value of the financial asset is recalculated as the present value of the modified or renegotiated contractual cash flows that are discounted at the original effective interest rate of the financial asset (or effective interest rate adjusted for credit quality for financial assets with credit deterioration purchased or originated) or, when applicable, the revised effective interest rate. Any cost or commission incurred adjusts the recorded value of the modified financial asset and is amortized over the remaining term of the latter.

The amortized financial assets may still be subject to execution activities under the recovery procedures of the company, considering judicial collection when appropriate. Recoveries performed are recognized in the Profit for the period.

Classification as debt or equity

Debt and equity instruments are classified as financial liabilities or as equity, in conformity with the substance of the contractual agreement and the definitions of financial liability and equity instrument.

Financial liabilities

The company classifies financial liabilities at the moment of the initial recognition for a subsequent measurement at amortized cost or at fair value with changes in profit.

Financial liabilities at fair value with changes in profit include those liabilities held to negotiate, the financial liabilities designated at the moment of their initial recognition as at fair value with changes in profit and the derivatives. The profits or losses for liabilities held to negotiate are recognized in the Statement of comprehensive income in the section Statement of income. In the initial recognition, the company designated financial liabilities as at fair value with changes in profit.

Liabilities at amortized cost are measured using the effective interest rate. All profits and losses are recognized in the Statement of comprehensive income in the section Statement of income whenever the liabilities are derecognized, as well as through the amortization process under the effective interest rate method, that is included as financial cost in the Statement of comprehensive income in the section Statement of income.

Financial guarantee contracts

The financial guarantee contracts issued by the company are those contracts that require the making of a specific payment to reimburse the holder of the loss incurred in when a specified debtor defaults their payment obligation, according to the conditions of a debt instrument. The financial guarantee contracts are initially recognized as a liability at fair value, adjusted by the transaction costs that are directly ascribable to the issuance of the guarantee. Subsequently, the liability is measured at: (i) the amount of the adjustment in value for the expected losses and (ii) the amount initially recognized less, the accrued recognized income.

Derecognition of financial assets and liabilities

A financial asset or part of it, is derecognized from the statement of financial position whenever it is sold, transferred, expires or the company loses control on the contractual rights or on the cash flows of the instrument.

If the entity does not transfer nor substantially retains all the risks and advantages inherent to that property and continues to retain the control of the asset transferred, the entity will recognize its share in the asset and the obligation associated for the amounts that it would have to pay. If the company substantially retains all risks and advantages inherent to the ownership of a financial asset transferred, the entity will continue to recognize the financial asset and will also recognize a loan guaranteed in a collateral fashion for the received revenues.

In the total writing-off of a financial asset measured at fair value with changes in profit, the difference between the recorded value of the assets and the sum of the consideration received and to be received, is recognized in the Statement of comprehensive income, section Profit for the period. In case of financial assets measured at fair value with change in equity, the difference between the recorded value of the asset and the sum of the consideration received and to be received is recognized in the Statement of comprehensive income, section Profit for the period, and the profit or loss that would have been recognized in the Other comprehensive income will be reclassified to accumulated profit.

A financial liability or part of it is derecognized from the Statement of financial position when the contractual obligation has been settled or has expired. If the entity does not transfer nor substantially retains all risks and advantages inherent to the ownership and continues to retain the control of the transferred asset, the entity will recognize its ownership in the asset and the associated obligation for the amounts that it would have to pay. If the group substantially retains all the risks and advantages inherent to the ownership of a financial asset transferred, the entity shall continue to recognize the financial asset and also recognize a guaranteed loan on a collateral way for the incomes received.

Whenever an existing financial liability is replaced by another coming from the same lender under substantially different conditions, or if the conditions of an existing liability are substantially modified, such exchange or modification is treated as a writing-off of the original liability and the recognition of a new liability and the difference in the respective recorded values is recognized in the Statement of comprehensive income in the section Profit for the period. In the event that the changes are not substantial the company recalculates the gross recorded value of the financial liability and recognizes a profit or loss from changes in the Profit for the period. The gross recorded value of the financial liability is recalculated as the current value of the modified or renegotiated contractual cash flows that are discounted at the original effective interest rate of the financial liability or, when applicable, the revised effective interest rate. Any cost or commission incurred adjusts the recorded value of the modified financial liability and is amortized over its remaining term.

Compensation of financial instruments

Financial assets and financial liabilities are subject to compensation in order to inform the net value in the Statement of financial position, only if (i) at the current time, there is a legally enforceable entitlement of compensating the amounts recognized; and (ii) there is the intention of settling them at their net value, or of realizing the assets and cancelling the liabilities simultaneously.

Derivative financial instruments

The company uses derivative financial instruments, like term contracts (Forward), futures contracts, financial barbers (Swaps) and options to hedge several financial risks, mainly the interest rate, exchange rate and commodities price risks. Such derivative financial instruments are initially recognized at their fair values on the date when the derivative contract is entered into, and subsequently they are measured again at their fair value. Derivatives are recorded in the Statement of financial position as financial assets when their fair value is positive, and as financial liabilities when their fair value is negative.

The fair value of the commodity contracts that meet the definition of a derivative, but that are entered into in conformity with the expected purchase requirements of the company, are recognized in the Statement of comprehensive income as cost of sales.

Any gain or loss that arises from the changes in derivatives' fair value is directly recognized in the Statement of comprehensive income in the section Statement of income, except for those that are under hedge accounting.

The derivatives implicit in main contracts are treated as separate derivatives whenever they meet the definition of a derivative and when their risks and characteristics are not closely related to those main contracts and the contracts are not measured at fair value with change in profit.

The derivatives embedded in contracts where the host is a financial asset in the scope of the norm are never split. Instead, the hybrid financial instrument as a whole is assessed for classification as follows: If a hybrid contract contains a host that is not an asset that falls within the scope of IFRS 9, an embedded derivative is separated from the host and is accounted for as a derivative if, and only if: (a) the economic characteristics and the risks of the implicit derivative are not closely related to those of the host contract; (b) a separate instrument with the same conditions as the embedded derivative meets the definition of a derivative; and (c) the hybrid contract is not measured at fair value with changes in fair value recognized in profit or loss (i.e., the derivative that is embedded in a financial liability measured at fair value through profit or loss is not split).

Hedge accounting

At the beginning of a hedging relationship, the company designates and formally documents the hedging relationship to which they want to apply the hedging accounting, and the objective of the risk management and the strategy to carry out the hedging. The documentation includes the identification of the hedging instrument, the item or transaction hedged, the nature of the risk being hedged and how the company shall assess the effectiveness of the changes in fair value of the hedging instrument when offsetting the exposure to changes in the fair value of the hedged item or in the cash flows, attributable to the risk hedged. Such hedges are expected to be highly efficient in achieving the offsetting of changes in the fair value or in the cash flows, and for this end they are permanently assessed throughout the information periods for which they were designated.

For hedging accounting purposes, hedges are classified and recorded as follows, once the criteria for their recording are complied with:

- Fair value hedging, when they hedge the exposure to fair value changes of assets or liabilities recognized or of non-recognized firm commitments.
- A change in the fair value of a derivative that is a hedging instrument is recognized in the Statement of comprehensive income, in the section Profit for the period as financial cost or revenue. A change in the fair value of the item hedged attributable to the risk hedged is recorded as part of the recorded value of the hedged item and is also recognized in the Statement of comprehensive income in the section Profit for the period as financial cost or revenue.
- For the fair value hedging related to items recorded at amortized cost, the adjustments to the recorded value are amortized through the Statement of comprehensive income in the section Profit for the period throughout the remaining term until their expiration. Amortization of the effective interest rate may begin as soon as there is an adjustment to the recorded value of the hedged item, but it must start at the latest when the hedged item is no longer adjusted for their fair value changes ascribable to the risk being hedged.

Amortization of recorded value adjustments is based upon the effective interest rate recalculated on the amortization starting date. If the hedged item is derecognized, the non-amortized fair value is immediately recognized in the Statement of comprehensive income in the section Profit for the period.

- When a non-recognized firm commitment is designated as a hedged item, the subsequent accrued change in the fair value of the firm commitment attributable to the hedged risk shall be recognized as an asset or liability with their corresponding gain or loss recognized in the statement of comprehensive income in the section Profit for the period.
- Cash flow hedging, when they cover the hedging to the attributed cash flow variations exposure, either to a particular risk associated to a recognized asset or liability or to a highly probable foreseen transaction, or to the exchange rate risk in a non-recognized firm commitment.
- The purpose of cash flows hedging accounting is to recognize in the Other comprehensive income (equity) the fair value variations of the hedging instrument to apply them to the income statement accounts when and at the rate that the hedged item affects these.
- The effective portion of the profit or loss for the measurement of the hedging instrument is immediately recognized in the Other comprehensive income, whereas the ineffective portion is immediately recognized in the Statement of comprehensive income in the section Profit for the period as financial cost.
- Values recognized in the Other comprehensive income are reclassified into the Profit for the period when the hedged transaction affects the profit, as well as when the hedged financial revenue or financial expense is recognized, or when the foreseen transaction takes place. When the hedged item constitutes the cost of a non-financial asset or liability, the values recognized in the Other comprehensive income are reclassified at the initial recorded value of the no-financial asset or liability. If the foreseen transaction or the firm commitment is no longer expected to happen, the accrued profit or loss previously recognized in the Other comprehensive income is reclassified into the Profit for the period.
- If the hedging instrument expires or is sold, it is resolved, or is exercised without a replacement or successive renovation of a hedging instrument for another hedging instrument, or if its designation as hedging is revoked, any accrued profit or loss previously recognized in the Other comprehensive income remains in the Other comprehensive income until the operation foreseen or the firm commitment affects the result.
- Hedging of a net investment abroad, when they hedge the exposure to the variations in the translation of foreign businesses into the presentation currency of the company associated to the exchange rate risk.
- The objective of the foreign-currency net investment hedging, is to hedge the exchange rate risks that a Principal or Intermediate Parent Company having businesses abroad may have on the impact on the translation of financial statements from functional currency to presentation currency. The hedging of net investment in foreign currency is a hedging to the exposure in foreign currency, not a hedging of the fair value due to changes in the investment value.
- The gains or losses of the hedging instrument related to the effective portion of the hedging are recognized in Other comprehensive income, whereas any other profit or loss related to the ineffective portion is recognized in the Statement of comprehensive income in the section Profit for the period. For the disposal of the business abroad, the accrued value of the profits or losses recorded in the Other comprehensive income are reclassified in the Profit for the period.

Equity instruments

An equity instrument consists of any contract showing a residual interest on an entity's assets, after deducting all its liabilities. Equity instruments issued by the company are recognized at the revenues received, net of direct issuance costs.

The repurchase of the company's own equity instruments is recognized and directly deducted in equity. No profit or loss is recognized in operations, coming from the purchase, sale, issuance, or cancellation of the company's own equity instruments.

2.17 Inventories

Goods acquired with the intention of selling them during the ordinary course of business or of consuming them in the service rendering process are classified as inventories.

Inventories are valued at cost or net realizable value, whichever is lower. The net realizable value is the estimated sale price in the normal course of business, less the estimated finalization costs and the estimated costs necessary to make the sale.

Inventories include merchandise in stock that do not require transformation, such as power, gas and water meters and procurement goods. They include materials such as minor spare parts and accessories for the rendering of services and the goods in transit and held by third parties.

Inventories are valued using the weighted average method and their cost includes the costs directly related to the acquisition and those incurred in to give them their current conditions and location.

2.18 Impairment value of non-financial assets

As of every presentation date, the company assesses whether they have any indication that a tangible or intangible asset may be impaired. The company estimates the recoverable value of the asset or Cash Generating Unit (CGU), at the moment it detects an indication of impairment, or annually (as November 30 and it is reviewed if there are significant or significant events presented in the month of December that merit analysis and be included in the calculation of impairment) for intangible assets with undefined lifespan and those that are still being used.

The recoverable value of an asset is the greatest value between the fair value less costs of sale, either of an asset or a Cash-Generating Unit (CGU, or UGE for its Spanish initials), and its value in use is determined for an individual asset, except that the asset does not generate cash flows that are substantially independent from the other assets or group of assets, in this case the asset should be grouped into a CGU. When a reasonable and consistent base of distribution is identified, common/corporate assets are also assigned to the individual CGU or distributed to the smallest group of CGU for which it can be identified a reasonable and consistent distribution base. When the recorded value of an asset or of a CGU exceeds its recoverable value, the asset is considered impaired and the value is reduced to its recoverable amount.

When calculating the value of use, the estimated cash flows, either for an asset or a CGU, are discounted at their current value through a discount rate before taxes that reflects the market considerations of the temporary value of money and the specific risks of the asset. An adequate assessment model is used for determining the reasonable value less the costs of sale.

Losses for impairment of continued operations are recognized in the Statement of comprehensive income in the section Profit for the period in those expense categories that correspond to the function of the impaired asset. Losses for impairment attributable to a CGU are assigned proportionately based in the book value of each asset to the non-current assets of the CGU after exhausting goodwill. The CGU is the smallest identifiable group of assets, which generates cash inflows in favor of the company, which are largely, independent of cash flows derived from other assets or groups of assets. The company defined the CGU considering: 1) The existence of revenue and costs for each group of assets, 2) The existence of an active market for the generation of cash flows and 3) the way in which Manage and monitor operations. In order to assess the losses due to impairment, the assets are grouped in the following CGU: Generation, Distribution, Sanitation, Water supply, Gas and Transmission.

The impairment value for goodwill is determined by assessing the recoverable value of each CGU (or group of CGU) to which the goodwill relates. The value impairment losses related to goodwill cannot be reverted in future periods.

For assets in general, excluding the goodwill, on each presentation date an assessment is conducted about whether there is any indication that the impairment losses previously recognized no longer exist or have decreased. If such indication exists, the company makes an estimate of the asset or CGU recoverable value. An impairment loss previously recognized only can be reverted if there was a change in the assumptions used for determining the recoverable value of an asset since the last time when it was recognized the last impairment loss. The reversal is limited in such a way that the recorded value of the asset neither exceeds its recoverable amount, nor exceeds the recorded value that would have been determined, net of depreciation, if no impairment loss had been recognized for the asset in the previous years. Such reversal is recognized in the Statement of comprehensive income in the section Profit for the period.

2.19 Provisions

Provisions are recorded when the company has a current, legal or implicit obligation, as a result of a past event. It is probable that the company has to give off resources that incorporate economic benefit to settle the obligation, and a reliable estimate can be made for the value of the obligation. In cases in which the company expects the provision to be reimbursed as a whole or in part, the reimbursement is recognized as a separate asset, but only in the cases when such reimbursement is practically certain, and the asset amount can be reliably measured. In the company, each provision is only used for dealing with expenditure for which it was initially recognized.

Provisions are measured with the best estimate from management of expenditure necessary to cancel the current obligation, at the end of the period being reported, considering the risks and the corresponding uncertainties. When a provision is measured using the estimated cash flow to cancel the current obligation, its recorded value corresponds to the present value of such cash flow, using for the discount a rate calculated with reference to market yields for the bonds issued by the National Government. In Colombia, yield of TES Bonds (Public Debt Securities issued by the General treasury of the Nation) must be used at the end of the period being reported.

The expense corresponding to any provision is presented in the Statement of comprehensive income in the section Profit for the period net of all reimbursement. The increase in provision due to the time elapsed is recognized as financial expense.

Provisions for dismantling

The company recognizes as part of the cost of a fixed asset in particular, to the extent that there is a legal or implicit obligation of dismantling or restoring, the estimation of the future costs in which the company expects to incur in to perform the dismantlement or restoring and its balancing entry is recognized as a provision for dismantling and restoring costs. The dismantling cost is depreciated over the estimated useful life of the fixed asset.

Dismantlement or restoring costs are recognized at the present value of the expected costs of cancelling out the obligation using estimated cash flows. Cash flows are discounted at a particular rate before taxes, that should be determined by taking as a reference the market yields of the bonds issued by the National Government. In Colombia, regarding risk-free rate, the yield of TES Bonds (Public Debt Securities issued by the General Treasury of the Nation) must be spent.

Future estimated dismantlement or restoration costs are annually revised. Changes in the future estimated costs, in the dates estimated for expenditure or in the discount rate applied are added or deducted from the asset cost, without exceeding the recorded value of the asset. Any surplus is immediately recognized in results for the period. The change in the provision value associated to the time elapsed is recognized as financial expense in the Statement of comprehensive income in the section Profit for the period.

Onerous Contracts

The company recognizes as provisions the current obligations that are derived from an onerous contract, as provisions and its offsetting is in the Statement of comprehensive income in the section Profit for the period. An onerous contract is the one in which the unavoidable costs of complying with the obligations it implies, exceed the economic benefits that are expected to receive therefrom.

Contingent liabilities

The possible obligations that arise from past events and the existence of which shall be only confirmed by the occurrence or non-occurrence of one or more uncertain future events that are not entirely under the company's control or the current obligations, that arise from past events, but that it is not probable, but possible, that an outflow of resources including economic benefits shall be required to liquidate the obligation or the amount of the obligation cannot be measured with enough reliability, are not recognized in the Statement of financial position, they are rather disclosed as contingent liabilities. Contingent liabilities generated in a business combination are recognized at fair value on the acquisition date.

Contingent assets

Assets of a possible nature, that arise from past successes, the existence of which has to be confirmed only by the occurrence, or the non-occurrence, of one or more uncertain events in the future, that are not entirely under the company's control, are not recognized in the Statement of financial position, they are instead disclosed as contingent assets when their occurrence is probable. Whenever the contingent fact is true the asset and the revenue associated are recognized in the Profit for the period. Contingent assets acquired in a business combination are initially measured at their fair values, on the acquisition date. At the end of subsequent periods being reported, those contingent liabilities are measured at the greatest amount it would have been recognized and the amount initially recognized less the accrued amortization recognized.

2. 20 Employee benefits

2.20.1. Post-employment benefits

Defined contribution plans

The contributions to the defined contribution plans are recognized as expenses in the Statement of comprehensive income in the section Profit for the period at the moment when the employee has rendered the service that grants them the right to make the contributions.

Defined benefit plans

Post-employment benefit plans are those in which the company has the legal or implicit obligation to respond for the payments of the benefits that were left to their charge.

For the defined benefit plans, the difference between the fair value of the plan assets and the present value of the plan obligation, is recognized as asset or liability in the Statement of financial position. The cost of giving benefits under the defined benefit plans is determined separately for each plan, through the actuarial assessment method of the projected credit unit, using actuarial assumptions on the date of the period being reported. Plan assets are measured at fair value, which is based upon the market price information and, in the case of quoted securities, it constitutes the published purchase price.

The actuarial profits or losses, the yield of plan assets and the changes in the asset ceiling effect, excluding the securities included in the net interest on the net defined benefits on the liabilities (assets), are recognized in the Other comprehensive income. The actuarial profits or losses include the effects of changes in the actuarial assumptions as well as adjustments due to experience.

The net interest on liabilities (assets) for net defined benefits includes the interest revenue for the plan assets, interest cost for the obligation for defined benefits and interests for the asset ceiling effect.

The current service cost, the past service cost, any settlement or reduction of the plan are immediately recognized in the Statement of comprehensive income in the section Profit for the period in the period when they arise.

2.20.2. Short-term employment benefits

The company classifies as short-term employee benefits those obligations with the employees that it expects to liquidate during the twelve months period following the closing of the accounting period when the obligation was generated, or the service was rendered. Some of these benefits are generated from the current labor legislation, from collective bargaining agreements, or from non-formalized practices that generate implicit obligations.

The company recognizes the short-term benefits at the moment the employee has rendered their services, as the following:

A liability for an amount that shall be repaid to the employee, deducting the amounts already paid before, and its balancing entry as expense for the period, unless another chapter obliges or allows including the payments in the cost of an asset or inventory, for instance, if the payment corresponds to employees the services of whom are directly related to the construction of a work, will be capitalized to that asset.

The amounts values already paid before corresponding, for instance, to advanced payments of salaries, advanced payments of daily allowances, among others, if they exceed the corresponding liability, the company will have to recognize the difference as an asset in the prepaid expenses account, to the extent that the advanced payment gives place to a reduction in the payments to be made in the future or to a cash reimbursement.

According to the foregoing, the accounting recognition of short-term benefits is made upon occurrence of the transactions, regardless of when they are paid to the employee or to the third parties to which the company has entrusted the provision of certain services.

2.20.3. Long-term employee benefits

The company classifies as long-term employee benefits those obligations that it expects to settle after the twelve months following the closing of the accounting year or the period where employees provide the related services, i.e., from the thirteenth month forward; they are different from the short-term benefits, post-employment benefits, and contract termination benefits.

The company measures long-term benefits in the same fashion as post-employment defined benefit plans. Although their measurement is not subject to the same uncertainty level, the same following methodology will be applied for its measurement:

- The Company should measure the surplus or deficit in a long-term employee benefit plan, using the technique applied for post-employment benefits both for estimating the obligation as well as for the plan assets.
- The Company should determine the value of net long-term employee benefits (assets or liabilities) finding the deficit or surplus of the obligation and comparing the asset ceiling.

The benefits that employees receive year after year throughout their working life should not be considered “long term” if at the accounting year closing each year the company has fully delivered them.

2.20.4. Termination benefits

The company recognizes as termination benefits, the considerations granted to the employees, payable as result of the decision of the company to terminate the employment agreement to an employee before the normal retirement date or the decision of an employee to accept the voluntary resignation in exchange for such benefits.

2.21 Service concession agreements

The company recognizes the service concession agreements pursuant to the interpretation requirements of the IFRIC 12 Service Concession Agreements.

This interpretation is applicable to those concessions where:

- The grantor controls or regulates which services the operator with the infrastructure should provide, to whom and at what price.
- The grantor controls, through the ownership, the right of use, or otherwise, any significant residual ownership in the infrastructure at the end of the term of the agreement.

The company does not recognize these infrastructures as property, plant and equipment, it recognizes the consideration received in the contracts that meet the above conditions at its fair value, as an intangible asset to the extent that the company receives an entitlement to make charges to users of the service, provided that these entitlements are conditioned to the service use level, or as a financial asset, to the extent that there is an unconditional contractual right to receive cash or other financial asset, either directly from the assignor or from a third party. In those cases where EPM Group receives payment for the construction services, partly through a financial asset and partly through an intangible asset, each component of the consideration is recorded separately.

Financial assets of service concession agreements are recognized in the Statement of financial position as operating financial assets and subsequently are measured at amortized cost, using the effective interest rate. Assessment of impairment of these financial assets is made according to the value impairment policy of the financial assets.

Intangible assets of service concession agreements are recognized in the Separate statement of financial position as intangible assets denominated “intangible assets for service concession agreements” and are amortized on a linear basis within the term of duration thereof.

Revenues from ordinary activities and costs related to the operating services are recognized according to the accounting policy of ordinary revenues and the services related to construction or improvement services according to the accounting policy of construction contracts. Contractual obligations assumed by the company for maintenance of the infrastructure during its operation, or for its return to the assignor at the end of the concession agreement in the conditions specified therein, to the extent that it does not assume a revenue-generating activity, is recognized following the provisions accounting policy.

2.22 Fair Value

The fair value is the price that would be received when selling an asset or that would be paid when transferring a liability in an orderly transaction between market participants on the measurement date, regardless of whether that price is directly observable or estimated using another assessment technique. When estimating the fair value of an asset or liability, the company considers the characteristics of the asset or liability if the market participants consider these characteristics when valuing the asset or liability on the measurement date.

Fair value for measurement and disclosure purposes in the present financial statements is determined on that basis, except for the transactions of stock-based payments, lease transactions, and the measurements that have certain similarities with the fair value but that are not fair value, such as the net realizable value or the value at use. The fair value of all financial assets and liabilities is determined on the date of presentation of the financial statements, for recognition or disclosure in the notes to the financial statements.

The fair value is determined:

- Based upon prices quoted in active or passive markets identical to those the company can access on the measurement date (level 1).
- Level 2 inputs are inputs other than quoted prices included in Level 1, which are observable for the asset or liability, directly or indirectly.
- Based upon internal assessment techniques of cash flow discounts or other assessment models, using variables estimated by the company that are non-observable for the asset or liability, in the absence of variables observed in the market (level 3).

In the note 42 Measurement of fair value on a recurring and non-recurring basis provides an analysis of the fair values of financial instruments and non-financial assets and liabilities and more detail of their measurement.

2.23 Dividends in cash distributed to the owner of the company

The company recognizes a liability to make the distributions to the owner of the company in cash when the distribution is authorized, and it is no longer at the company's discretion. The corresponding amount is recognized directly in the net equity.

2.24 Changes in estimates, accounting policies and errors

2.24.1. Changes in accounting estimates

As of December 31, 2018, the company recorded no significant changes in its financial statements as a result of a revision to its accounting estimates.

2.24.2. Changes in accounting policies

As of December 31, 2018, the accounting practices applied to the financial statements of the company are consistent with the year 2017, except for the following changes:

New standards implemented and change in voluntary accounting policies

In the current year, the Company has implemented the changes in the IFRS (new standards, amendments or interpretations), issued by the International Accounting Standards Board (IASB) that are mandatory for the accounting period beginning on or after January 1st, 2018.

IFRIC 22 Foreign Currency Transactions and Advance Consideration. Issued in December 2016, this Interpretation deals with how to determine the date of the transaction, to define the exchange rate that will be used in the initial recognition of assets, expense or revenue (or part thereof), in the writing-off of a non-monetary asset or non-monetary liability resulting from the payment or receipt of an advance in foreign currency. In this regard, the Interpretations Committee of the IFRS, reached the following conclusion: the date of the transaction, for purposes of determining the exchange rate, is the date of the initial recognition of the non-monetary advance payment asset or the deferred income liability. If there are several payments or receipts in advance, a transaction date is established for each payment or receipt. This does not apply when an entity

measures the related asset, expense or revenue on initial recognition at its fair value or at the fair value of the consideration paid or received on a date other than the date of the initial recognition of the non-monetary asset or the non-monetary liability derived from the anticipated consideration (for example, the measurement of goodwill in accordance with IFRS 3 Business Combinations). It neither applies to income tax and insurance contracts.

These modifications have no impact on the financial statements, as they correspond to the current practice of the company.

IFRS 9 Financial Instruments. In 2016, the company applied IFRS 9 Financial Instruments (revised July 2014) and the corresponding amendments to other IFRS before their effective dates.

IFRS 9 introduces new requirements for: classification and measurement of financial assets, impairment of financial assets and hedge accounting. The breakdown of these new requirements, as well as their impact on the financial statements are described below:

- Classification and measurement of financial assets: the standard introduces a measurement category for debt instruments denominated "Fair value with changes in other comprehensive income". The Group was not affected by this new approach.
- Impairment of financial assets: the standard introduces the measurement of the correction of value for expected credit loss on financial assets that are measured at amortized cost or fair value with changes in another comprehensive income, accounts receivable for leases, assets of a contract or loan agreement and financial guarantee contract to which the impairment requirements are applied during the asset's lifespan.
- Changes in the accounting policies resulting from the adoption of IFRS 9 have not been restated, in which case the cumulative difference in provision for losses recognized under IFRS 9 is charged against the accumulated results as of January 1st, 2016.
- Resulting from the adoption of IFRS 9, the Company adopted the consequential amendments to IAS 1 Presentation of financial statements, which require that the impairment of financial assets be presented in a separate item in the statement of income and other comprehensive income.
- Hedge accounting: the standard introduces a substantially reformed approach to hedge accounting that aligns it more closely with risk management. The Group was not affected by this new approach.

IFRS 15 Revenue from Contracts with Customers. The company applies the new standard as of January 1, 2018 with special emphasis on the identification of performance obligations included in contracts with customers and the assessment of methods to estimate the amount and timing of variable consideration. The adoption of IFRS 15 did not have a material impact on the financial statements.

This standard was issued in May 2014, it is a new standard applicable to all income agreements of ordinary activities from contracts with customers, except leases, financial instruments and insurance contracts that are regulated by their respective standard. It is a joint project with the Financial Accounting Standards Board - FASB to eliminate differences in revenue recognition between IFRS and US GAAP.

The explanations made in April 2016 to IFRS 15 include the following points:

a. Identification of the action as principal or as agent

When a third party is involved in providing goods or services to a client, the company will determine whether the nature of its commitment is a performance obligation consisting in providing the goods or services specified by itself (i.e., acting as a principal) or in arranging for the third party the supply of those goods or services (i.e., acting as an agent).

b. Variable consideration

Corresponds to any amount that is variable according to the contract. The amount of the consideration may vary due to discounts, refunds, compensations, reimbursements, credits, price reductions, incentives, performance bonuses, penalties or other similar elements. The agreed compensation may also vary if the entitlement of an entity to receive it depends on whether or not a future event occurs, e.g., a consideration amount would be variable if a product with a right of return was sold or a fixed amount is promised as a performance premium at the time of achieving a specified milestone.

c. Application methods

The standard allows the use of two methods for the initial application as follows: Full retrospective method and Modified method. The company applies to this standard following the Modified method.

Modified method. With the modified approach, the accumulated effect of the initial application shall be recognized as an adjustment to the opening balance of the accumulated earnings (or other component of equity, as applicable) of the annual reporting period that includes the initial application date. Under this transition method, an entity applies this Standard retroactively only to contracts that are not completed on the date of initial application (e.g., January 1st, 2018 for an entity with December 31 as the end of the year). Consequently, information presented for 2017 has not been restated and continues to be reported in accordance with IAS 18, IAS 11 and related interpretations. In general, the disclosure requirements of IFRS 15 have not been applied to comparative information.

The Company completed its qualitative and quantitative analysis of the effects for the adoption of IFRS 15 in its financial statements. Assessment included, among others, the following activities:

- Analysis of contracts with clients and their main characteristics,
- Identification of performance obligations in the aforementioned contracts,
- Determination of the prices of transactions and the effects caused by variable considerations,
- Allocation of transaction amounts to each performance obligation,
- Analysis of the appropriateness of the moment in which revenue must be recognized by the company either at a point in time or during the time.
- Analysis of the effects that the adoption of IFRS 15 originated in accounting policies, processes and internal control.

For submission periods that include the initial application date, an entity shall provide all the following additional disclosing information:

(a) The amount for which each item in the financial statements is affected in the current reporting period by the application of this Standard compared to IAS 11 and IAS 18 and related Interpretations that were in effect prior to the change; and

(b) An explanation of the reasons for the significant changes identified.

This new standard aims to improve the inconsistencies and weaknesses of IAS 18 and provide a model that will facilitate the comparability of companies from different industries and regions. It provides a new model for the recognition of more detailed revenue and requirements for contracts with multiple elements. In addition, it requires more detailed disclosures.

The basic principle of IFRS 15 is that an entity recognizes revenue from ordinary activities in a way that it represents the transfer of goods or services committed to customers in exchange for an amount that reflects the consideration to which the entity expects to be entitled to in exchange for said goods or services.

An entity recognizes revenues from ordinary activities in accordance with this basic principle by applying the following steps:

Stage 1: Identify the contract (or contracts) with the customer.

Stage 2: Identify performance obligations in the contract.

Stage 3: Determine the transaction price.

Stage 4: Allocate the transaction price between the performance obligations of the contract.

Stage 5: Recognize revenue from ordinary activities when (or as) the entity satisfies a performance obligation.

Under IFRS 15, an entity recognizes revenue when an obligation is satisfied, for example, when the "control" of the goods or services underlying the execution of the particular obligation are transferred to the customer. More specific guidelines have been added to the standard to handle specific scenarios. Additionally, further disclosures are required.

It will replace the IAS 18 Revenue, IAS 11 Construction Contracts, IFRIC 13 Customer Loyalty Programmes, IFRIC 15 Agreements for the Construction of Real Estate, IFRIC 18 Transfers of Assets from Customers and SIC 31 Barter Transactions Involving Advertising Services.

IAS 28 - Investments in Associates and Joint Ventures. Modification forms part of the annual improvements to the IFRS 2014-2016 Cycle standards issued in December 2016, it clarifies that when an investment in an associate or joint venture is maintained directly or indirectly by an entity that is a venture capital organization or a collective investment fund, investment trust or other similar entity, including insurance funds linked to investments, the entity may choose to measure these investments at fair value through profit or loss in compliance with IFRS 9. An entity must choose this separately for each associate or joint venture at the initial recognition of the associate or joint venture. It also makes clear that if an entity that is not itself an investment entity has an equity in an associate or joint venture that is an investment entity, the entity when applying the equity method may retain the fair value measurement applied by the entity to that associate or joint venture that is an investment entity to the equities of the associate or joint venture that is an investment entity in subsidiaries. This election is made separately for each associated investment entity or joint venture, on the date subsequent to the date on which: (a) the investment in the associate or joint venture is initially recognized; (b) the associated investment or joint venture becomes an investment entity; and (c) the associated investment entity or joint venture first becomes a parent company.

These modifications have no material effect on the financial statements.

IAS 23 Borrowing Costs. The modification forms part of the annual improvements to the IFRS 2015-2017 Cycle standards issued in December 2017, establishes that to the extent that the funds of an entity come from generic loans and it uses them for obtaining a qualifying asset, this will determine the amount of the capitalization costs applicable by applying a capitalization rate to the expenditure made in said asset. The capitalization rate will be the weighted average of the borrowing costs applicable to all the loans received by the entity pending during the period. However, an entity shall exclude from this calculation the borrowing costs applicable to loans specifically agreed to finance a qualifying asset until substantially all the activities necessary to prepare that asset for its intended use or sale are completed. The amount of borrowing costs that an entity capitalizes during the period will not exceed the total borrowing costs incurred during that same period.

These modifications had no effect, since the calculation had been carried out as established.

IAS 40 Investment Property. The amendment made in December 2016, has an effect on the transfer of investment property (reclassifications) caused by "change in its use", elaborating on that last term: a change in use occurs when the property meets, or fails to meet, the definition of investment property and there is evidence of change in use. In isolation, a change in management's intentions for the use of a property does not provide evidence of a change in use. For that, we continue with the examples provided by the standard in paragraphs 57 and 58 (not substantially modified). Paragraphs 84C to 84E and 85G were added to define the transitional provisions when making investment property transfers.

In the company, there was no effect associated with the implementation of said amendment, considering that it is included in the technical and financial definitions.

2.24.3. Application of new and revised standards

Changes to IFRS (new standards, amendments or interpretations), which have been published in the period, but have not yet been implemented by the company, are detailed below:

| Standard | Date of compulsory application | Change type |
|--|--------------------------------|-------------|
| IFRS 17 Insurance Contracts | January 1 st , 2021 | New |
| IFRIC 23 Uncertainty over Income Tax Treatments | January 1 st , 2019 | New |
| IFRS 16 Leases | January 1 st , 2019 | New |
| IAS 28 Investments in Associates and Joint Ventures (Long-Term Investment in Associates and Joint Ventures) | January 1 st , 2019 | Amendment |
| IFRS 9 Financial Instruments (Prepayment Features with Negative Compensation) | January 1 st , 2019 | Amendment |
| IFRS 3 Business Combinations (Annual Improvements to IFRS Standards 2015-2017 Cycle - previously held interests in the assets and liabilities of the joint operation where control was obtained) | January 1 st , 2019 | Amendment |
| IFRS 11 Joint Arrangements (Annual Improvements to IFRS Standards 2015-2017 Cycle - previously held interests in the assets and liabilities of the joint operation where joint control was obtained) | January 1 st , 2019 | Amendment |
| IAS 12 Income Tax (Annual Improvements to IFRS Standards 2015-2017 Cycle - Income Tax Consequences of Payments on Financial Instruments Classified as Equity) | January 1 st , 2019 | Amendment |
| IAS 19 Employee Benefits - Plan Amendment, Curtailment or settlement | January 1 st , 2019 | Amendment |
| IFRS 3 Business Combinations - Amendment, Definition of a Business | January 1 st , 2020 | Amendment |
| IAS 1 Presentation of Financial Statements and IAS 8 Accounting Policies, changes in accounting estimates and errors - Amendment, Definition of Material | January 1 st , 2020 | Amendment |

IFRIC 23 Uncertainty over Income Tax Treatments. Issued in June 2017, this Interpretation attempts to resolve the issue of how to reflect in the financial statements, the uncertainty that arises from the accounting treatment applied in the tax returns, whether or not it is accepted by the tax authority. In the face of such uncertainty, the accounting treatment is considered an "uncertain accounting treatment" assessed to estimate the probability of acceptance by the tax authority. If accepted, the accounting tax position consistent with the tax treatment used or planned to be used in the income tax returns of the entity must be determined and if not, the effect of the uncertainty in the determination of the related accounting tax position must be reflected.

In the latter case, the effect of the uncertainty must be estimated, using either the most probable quantity or the expected value method, depending on which method best predicts the solution of the uncertainty.

The Interpretation allows to apply any of the following approaches for the transition:

- Full retrospective approach: this approach can be used only if possible without the use of retrospective. The application of the new Interpretation will be registered in accordance with IAS 8, which means that the comparative information will have to be restated; or
- Modified retrospective approach: the restatement of comparative information is not required or permitted according to this approach. The cumulative effect of initially applying the Interpretation will be recognized in the opening equity at the date of the initial application, being the beginning of the annual reporting period in which the entity applies the Interpretation for the first time.

The company is assessing the effects that the application of this interpretation could cause.

The interpretation will be of compulsory application for annual periods beginning on January 1st, 2019. Early application is permitted.

IFRS 16 Leases. Issued in January 2016, this new standard introduces an integral model for the identification of leases and accounting contracts for lessees and lessors. It will replace the current standards for the accounting treatment of the leases included in IAS 17 Leases and related interpretations.

The distinction between leases and service contracts is based on the control of the customer over the identified asset. For the lessee, the distinction between operating leases (off-balance sheet) and finance leases (on the balance sheet) is removed and replaced with a model in which an asset (right of use) and its corresponding liability must be recognized for all Leases (i.e., all on the balance sheet), except for short-term leases and leases of low-value assets.

Assets (right of use) are initially measured at cost and subsequently measured at cost (with certain exceptions) less the accumulated depreciation and impairment losses, adjusted for any reassessment of the lease liability. Lease liability is initially measured at the present value of future lease payments. Subsequently, the lease liability is adjusted to interest and lease payments, as well as to the impact of lease modifications, among others. In addition, the classification of cash flows will also be affected since operating lease payments under IAS 17 are presented as operating cash flows; While in model IFRS 16, lease payments will be divided into amortization to capital and a portion of interest that will be presented as cash flow for financing and operation, respectively.

In contrast to lessee accounting, IFRS 16 includes as accounting requirements for the lessor the same as that provided by IAS 17, i.e., it continues to require a lessor to classify a lease as an operating lease or a finance lease.

This new standard requires more detail in the disclosures.

During 2018, the Company built the guidelines, the financial technical definitions and identified the impacts by the adoption of said standard in all fronts: processes, technology, people; In addition, an analysis was made for all the contracts that the Company has to identify those that were affected.

The Company will have an approximate effect by the recognition of assets for right of use and lease liabilities of \$294,000 measured at the present value of the remaining royalties for those contracts that were classified in accordance with IAS 17 in operating leases, discounted using an incremental interest rate on loans; it also includes the update of the asset and the liability for financial leases that were recognized considering IAS 17. For the latter, the asset recognized in property, plant and equipment valued at \$1,738,118 will be reclassified to the asset for right of use.

The Company will adopt the standard using the Modified retrospective approach with recognition of the accumulated effect on retained profit as of January 1st, 2019, without comparative presentation of the financial statements prior to the date of application.

Short-term leases that do not exceed 12 months or that correspond to low-value underlying assets will not be recognized as right-of-use assets, in exchange, the Company will use the practical expedient and recognize those leases in the Statement of comprehensive income.

IAS 28 Investments in Associates and Joint Ventures - Long-Term Investment in Associates and Joint Ventures. The amendment to IAS 28, issued in October 2017, establishes how IFRS 9 must be applied to other financial instruments in Associates or Joint Ventures to which the equity method is not applied. These include long-term interests that, in essence, form part of the entity's net investment in an associate or joint venture. Modifications will be compulsory for annual periods beginning on January 1st, 2019. Early application is permitted.

IFRS 9 Financial Instruments. The amendments to IFRS 9, related to prepayment features with negative compensation, allow companies to measure financial assets, prepaid with negative compensation at amortized cost or fair value, through Other comprehensive income if a specific condition is met; instead of at fair value with profit or loss.

The company is assessing the effects that the application of this amendment could cause.

Amendments will be of compulsory application for annual periods beginning on January 1st, 2019.

IFRS 3 Business Combinations. The amendment to IFRS 3, which is part of the annual improvements to IFRS standards 2015-2017 Cycle issued in December 2017, establishes that when control is obtained of a business where previously it was part of a joint operation and was entitled to assets and liabilities for liabilities relating to that joint operation before the acquisition date, the transaction is a business combination carried out in stages and the interest previously held in the joint operation must be remeasured.

These amendments do not have any material effect on the consolidated financial statements.

Amendments will be of compulsory application for annual periods starting on January 1st, 2019. Early application is permitted.

IFRS 11 Joint Arrangements. The amendment to IFRS 11, which forms part of the annual improvements to IFRS Standards 2015-2017 Cycle issued in December 2017, establishes that when joint control of a business is obtained where previously it was part of a joint operation but did not have joint control, the interest previously held in the joint operation should not be re-measured.

These amendments do not have any material effect on the financial statements.

Amendments will be of compulsory application for annual periods starting on January 1st, 2019. Early application is permitted.

IAS 12 Income Tax. Amendment to IAS 12, which is part of the annual improvements to IFRS standards 2015-2017 cycle issued in December 2017, makes clear that all the consequences of income tax on dividends (distribution of profits) must be recognized in Profits and losses, Other comprehensive income or Equity, depending on the initial recognition of the transaction. Specifically, it establishes that an entity will recognize the consequences of the dividend income tax as defined in IFRS 9 when it recognizes a liability to pay a dividend. The consequences of income tax on dividends are more directly linked to past transactions or events that generated distributable profits, than to distributions made to owners. Therefore, an entity recognizes the consequences of dividends on income tax in Profit for the period, other comprehensive income or Equity depending on where the entity originally recognized those transactions or past events.

The company is assessing the effects that the application of this amendment could cause.

Amendments will be of compulsory application for annual periods starting on January 1st, 2019. Early application is permitted.

IAS 19 Employee Benefits - Plan Amendment, Curtailment or settlement. For the counting of current or actual service cost, both for the components of the defined benefit cost, and for the recognition and measurement of post-employment benefits - defined benefit plans and for other long-term employee benefits, making actuarial assumptions at the beginning of the annual reporting period will be required to determine the cost of current services. However, if an entity measures again the liability (asset) for net defined benefits in accordance with the current fair value of the assets of the plan and the current actuarial assumptions (paragraph 99), it will determine the cost of the services of the present yearly period for the remaining of the annual reporting period following the plan amendment, curtailment or settlement, by using the actuarial assumptions used to remeasure the liability (asset) for defined benefits in accordance with paragraph 99(b) - the benefits offered according to the plan and assets of the plan after plan amendment, curtailment or settlement. When a plan amendment, curtailment or settlement takes place, an entity shall recognize and measure the cost of the past service, or a profit or loss from the settlement.

Regarding the net interest on the net defined benefit liability (asset), it will be determined by multiplying the amount of this liability (asset) by the specified discount rate, i.e., the amount corresponding to the issuing of bond or high-quality corporate bonds in that currency or, failing this, the market yields of government bonds denominated in that currency.

The company is assessing the effects that the application of this amendment could cause.

The interpretation will be of compulsory application for annual periods starting on January 1st, 2019. Early application is permitted.

IFRS 3 Business Combinations. The amendment to IFRS 3, issued in October 2018, clarifies the Definition of a Business, in order to help determine whether a transaction should be accounted for as a business combination or as an asset acquisition. The new business definition is as follows: An integrated set of activities and assets that is capable of being conducted and managed for the purpose of providing goods or services to customers, generating investment income (such as dividends or interest) or generating other income from ordinary activities.

Additionally, this amendment clarifies that, to be considered a business, a set of activities or assets must include at least one input and a substantive process that together contribute significantly to the ability to create products. It eliminates the assessment of whether market participants are able to replace any missing inputs or processes and continue to produce products and includes an optional concentration test that allows a simplified assessment of whether an acquired set of activities and assets is not a business.

The company is assessing the effects that the application of this amendment could cause.

The amendment to IFRS 3 will be of compulsory application for annual periods starting on January 1st, 2020. Early application is permitted.

IAS 1 Presentation of Financial Statements and IAS 8 Accounting Policies, changes in accounting estimates and errors. This amendment, issued in October 2018, modifies the definition of material, the new definition of material is as follows: Information is material if omitting, misstating or obscuring it could reasonably be expected to influence the decisions that the primary users of general-purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity. Additionally, some examples of circumstances that may cause important information to be hidden are included.

The company is assessing the effects that the application of this amendment could cause.

The amendment to IAS 1 AND IAS 8 will be of compulsory application for annual periods starting on January 1st, 2020. Early application is permitted.

2.24.4. Errors in previous periods

As of December 31, 2018, the company did not perform any adjustments to the separate financial statements for errors in previous periods.

2.24.5. Changes in presentation

At the end of the 2018 period, considering the materiality of the figure and the nature of the concept, a change was made in the presentation of the Statement of comprehensive income for the 2017 period. The purpose of the reclassification is to facilitate the reading of the financial statements by the users of these. The item reclassified was the following:

| Concept | Previous statement | Current statement | 2017 |
|--|--------------------|--|--------|
| Reversal loss due to Impairment on accounts receivable | Other income | Impairment loss on accounts receivable | 27,704 |

Figures stated in millions of Colombian pesos

Note 3. Significant accounting judgments, estimates, and causes of uncertainty in the preparation of financial statements

The following are the significant judgments and assumptions, including those that involve accounting estimates that the company's management used in the application of the accounting policies under IFRS, and that have significant effect on the values recognized in the separate financial statements.

Estimates are based upon historic experience and as a function of the best information available on the facts analyzed by the cut-off date. These estimates are used for determining the value of the assets and liabilities in the separate financial statements, when it is not possible to obtain such value from other sources. The company assesses its estimates on a regular basis. Actual results may differ from those estimates.

The significant estimates and judgments made by the company are described below:

– **Assessment of the existence of impairment indicators for the assets, goodwill and assessment of assets for determining the existence of value impairment losses.**

The condition of the assets is revised on each report presentation date, in order to determine whether there are indications that any of them has suffered an impairment loss. If there is impairment loss, the recoverable amount of the asset is affected, if the estimated recoverable amount is lower, its value is reduced to its recoverable value and impairment loss is immediately recognized in Profit for the period.

The assessment of the existence of value impairment indicators is based on external and internal factors, and in turn on quantitative and qualitative factors. Assessment are based on financial results, the legal, social and environmental settings, and the market conditions; significant changes in the scope or fashion in which the asset or CGU is used or expected to be used and evidence about obsolescence or physical deterioration of and asset or CGU, among others.

Determining whether goodwill has suffered impairment implies the calculation of the value at use of the CGUs to which it has been assigned. The calculation of the value at use requires that the entity determines future cash flows that should arise from CGUs and a discount rate appropriate to calculate the current value. When the actual future cash flows are lower than expected, an impairment loss may arise.

– **Hypothesis used in the actuarial estimate of the post-employment obligations with employees.**

The assumptions and hypothesis used in the actuarial studies include: demographic assumptions and financial assumptions, the former refer to the characteristics of the current and past employments, and relate to the mortality rate, employee turnover rates, the latter relate to the discount rate, the increases in future salaries, and the changes in future benefits.

– **Lifespan and residual values of property, plant and equipment and intangibles.**

In the assumptions and hypothesis used for determining the lifespans, technical aspects such as the following are considered: periodical maintenances and inspections made to the assets, failure statistics, environmental conditions and operating environment, protection systems, replacement processes, obsolescence factors, recommendations of manufacturers, climate and geographical conditions, and experience of the technicians that know the assets. Aspects such as market values, reference magazines, and historic sales data are considered for determining the residual value.

– **Assumptions used for calculating the fair value of financial instruments including the credit risk.**

The company discloses the fair value corresponding to each class of financial instrument in such a way it allows comparing it with the recorded values. Macro-economic projections calculated within the company are used. Investment portfolio is valued at market price. In its absence, a similar one is looked for in the market and if not, assumptions are used.

Macro-economic rates are projected using the cash-flow methodology. Derivatives are estimated at fair value. Accounts receivable are estimated at the market rate in force and effect for similar credits. Accounts receivable from employees are valued in a similar way as massive debtors, except for mortgage credits.

The methodology used for equity investments is the cash flow; those quoted in the stock exchange are estimated at market prices; all others, are valued at historic cost.

– **Likelihood of occurrence and value of contingent or uncertain-value liabilities.**

The assumptions used for uncertain or contingent liabilities include the classification of the legal process by the “expert judgment” of the area professionals, the type of contingent liability, the possible legislative changes, and the existence of high-court rulings that applies to the concrete case, the existence of similar cases in the company, the study and analysis of the substance of the issue, the guarantees existing at the time of the events. The Company shall disclose and not recognized in the financial statements those obligations classified as possible; obligations classified as remote are not disclosed nor recognized.

– **Future expenditure for asset dismantlement and retirement obligations.**

In the assumptions and hypothesis used for determining future expenditure for asset dismantlement and retirement obligations, aspects such as the following were considered: estimate of future outlays in which the company must incur for the execution of those activities associated to asset dismantlement on which legal or implicit obligations have been identified, the initial date of dismantlement or restoration, the estimated date of finalization and the discount rates.

– **Determination of the existence of financial or operating leases based on risk transfer and benefits of the leased assets.**

The significant assumptions that are considered to determine the existence of a lease include the assessment of the conditions if the right to control the use of the asset is transmitted for a period of time in exchange for

a consideration, i.e., the existence of an identified asset is assessed; the right to obtain substantially all economic benefits from the use of the asset over the period of use; the right to direct how and for what purpose the asset is used throughout the period of use; the right to operate the asset over the period's use without any changes in the operating instructions.

– **Recoverability of deferred tax assets.**

Deferred tax asset has been generated by the temporary differences that generate future fiscal consequences in the financial position of the company; these differences are essentially represented in fiscal assets that exceed the assets under IFRS, and in fiscal liabilities, lower than the liabilities under IFRS, such as it is the case of the pension liability components, the amortized cost of bonds, financial leasing, and other sundry provisions and contingencies provision.

The company's deferred tax asset is recovered in the net income taxed on the current income tax generated.

– **Assessment of portfolio deterioration**

For the calculation of the expected credit loss, each obligation is assigned an individual probability of non-payment that is calculated from a probability model involving sociodemographic, product and behavior variables.

The model uses a window of twelve months, which is why for an obligation to be provisioned at a certain percentage in the same period is assessed. The model will be applied based on the Scorecard developed considering the information of the company. The models are defined according to the information available and the characteristics of the population groups for each one. Even though the methodology applies to all accounts with balance, some exclusions must be considered, such as: accounts derecognized; self-consumptions; contributions; public lighting and in general charges from third parties. For its calculation, it is previously defined the moment from which it is considered that an obligation was defaulted and will not be recovered.

With this information the calculation of the expected request is made as follows:

$PE = PI \times SE \times PDI$, where:

Probability of Default (PI): this corresponds to the probability that, within a period of twelve months, the debtors of a certain segment and portfolio rating incur in default.

Outstanding Balance of the Asset (SE): corresponds to the balance of capital, balance of interests, and other current charges of the obligations.

Losses due to non-compliance (PDI): defined as the economic deterioration that the entity would incur in the event that any of the non-compliance situations materialize.

- **Revenue estimates**

The Group recognizes income from the sale of goods and the rendering of services to the extent that the performance requirements for the company are met, regardless of the date on which the corresponding invoice is issued, to carry out this estimate information from contracts or agreements with customers is taken and so the value to be recognized in revenue is established.

When the moment at which revenue should be recognized is uncertain, the company determines to recognize the revenue at the moment in which the performance obligation is satisfied, for those performance obligations that are satisfied over time it is common to use the method of the measured resource as the actually executed costs compared to the estimated costs.

For other concepts different from the supply of residential public utilities, the company estimates and recognizes the value of revenues from sales of goods or rendering of services based on the terms or conditions of interest rate, period, etc., of each contract that causes the sale.

In the month after recording the estimated revenue, its value is adjusted by the difference between the value of the actual revenue already known against the estimated revenue.

Note 4. Significant transactions and other relevant aspects during the period

The significant transactions and other relevant aspects that occurred during the period, different from those of the normal business of the company, are related to the contingencies of the Ituango Hydroelectric Project, that took place on April 28, 2018 due to a geological event that blocked the diversion tunnel of the Cauca River with approximately 160 thousand cubic meters of rock and soil, which caused the occluding and flooding of the dam. As a result, EPM has led its decisions prioritizing the protection of the communities and the environment in the first place and after that the infrastructure of the project. Therefore, on May 7, 2018, the decision was made to drain the dammed water through the powerhouse of the future power generation plant for rechanneling it to its traditional flow into the Cauca River and thus lower the water level of the dam. On January 16 and February 5, 2019, the intake gates No. 2 and No. 1, respectively, were closed, thus cutting the waterflow through the powerhouse. From February 8, 2019, the recovery of the flow of the Cauca River began through the flow of water through the tailrace.

In relation to the foregoing, EPM has recognized in its separate financial statements as of December 31, 2018, the following:

- Cost and progress of the construction of the Ituango hydroelectric project for \$9,368,040 (see note 5).
- Provision for \$38,877 for the care of those affected in the Puerto Valdivia municipality, as compensation for emerging damages, lost profits and moral damages, due to the flooding waters of the Cauca River as a result of the blockage of the site on April 28, 2018. In addition to the provision for \$42,917 for the care of people who had to be evacuated as a result of said event (see notes 28.1.6 and 33).
- Provision for \$137,318 of guarantee for the reliability charge covered by the construction and setting up of the Pescadero Ituango Hydroelectric Plant (see notes 28.1.6 and 33).
- Provision for \$31,388 for environmental contingency, established by the specific action plan for the recovery of the parties affected by the occluding events of the diversion tunnel of the Cauca River that happened at the site on April 28, 2018 and by the closing of floodgates that decreased the flow of the river downstream of the site. (see notes 28.1.1 and 33).
- Provision for \$101,797 for the breach, from January to October 2021, to the Intercolombia transporter for the months after the connection infrastructure of the Ituango project comes into operation. (see notes 28.1.6 and 33).
- Loss for \$78,295 corresponding to retirement of assets due to the contingency. (see note 34).
- Other expenses of \$45,639 recognized for the attention of the community affected by the contingency. (see note 34).

Note 5. Property, plant and equipment, net

The breakdown of the recorded value for property, plant and equipment is as follows:

| Property, plant and equipment | 2018 | 2017 |
|--|-------------------|-------------------|
| Cost | 30,963,802 | 26,644,181 |
| Accrued depreciation and impairment loss | (3,923,315) | (3,510,672) |
| Total | 27,040,487 | 23,133,509 |

Figures stated in millions of Colombian pesos

The following is the breakdown of the recorded value for temporarily idle property, plant and equipment:

| Temporarily idle property, plant and equipment | 2018 | 2017 |
|---|---------------|---------------|
| Plants, pipelines and tunnels | 29,833 | 53,719 |
| Land and buildings | 21,508 | 9,076 |
| Machinery and equipment | 105 | 34 |
| Total temporarily idle property, plant and equipment | 51,446 | 62,829 |

Figures stated in millions of Colombian pesos

The most significant variation is due to the components of the small power generation plants: Rio Piedras, and Dolores; For the Dolores power plant, a modernization project is underway, and commissioning is expected in 2019, for Rio Piedras the business is looking at alternatives. The land belongs to the Porce IV project that was not executed and that the company has not yet made decisions on and the project land of Espiritu Santo that has not yet started.

For the 2018 and 2017 periods the company does not possess decommissioned property, plant and equipment that has not been classified as non-current assets held for sale.

The following is the movement of cost, depreciation and impairment of property, plant and equipment:

| 2018 | Networks, lines and cables | Plants, pipelines and tunnels | Construction in progress ¹ | Land and buildings | Machinery and equipment | Communication and computer equipment | Furniture, fixtures and office equipment | Other property, plant and equipment ² | Total |
|---|----------------------------|-------------------------------|---------------------------------------|--------------------|-------------------------|--------------------------------------|--|--|--------------------|
| Initial balance | 5.060.448 | 7.322.713 | 8.450.022 | 5.111.232 | 206.506 | 197.597 | 68.430 | 227.233 | 26.644.181 |
| Additions ³ | 19.864 | 1.632.750 | 2.791.105 | 15.448 | 7.150 | 32.717 | 1.002 | 17.969 | 4.518.005 |
| Advanced payments (amortized) made to third parties | - | - | 28.243 | - | - | - | - | 1.106 | 29.349 |
| Transfers (-/+) | 484.528 | 247.388 | (900.642) | 19.385 | 11.875 | 8.979 | 17.643 | (546) | (111.390) |
| Disposals (-) | (377) | (26.626) | (80.117) | (1.549) | (1.942) | (22.885) | (1.225) | (1.604) | (136.325) |
| Other changes | 68.254 | (74.019) | (17.241) | 48.033 | (96) | 3 | - | (4.954) | 19.980 |
| Final balance | 5.632.717 | 9.102.206 | 10.271.370 | 5.192.549 | 223.493 | 216.411 | 85.850 | 239.204 | 30.963.800 |
| Accrued depreciation and impairment loss | | | | | | | | | |
| Initial balance of accrued depreciation and impairment loss | (1.255.981) | (1.386.950) | - | (569.441) | (89.290) | (124.339) | (28.365) | (56.306) | (3.510.672) |
| Depreciation for the period | (160.573) | (188.192) | - | (58.272) | (10.782) | (24.636) | (6.835) | (5.969) | (455.259) |
| Disposals (-) | 238 | 16.278 | - | 79 | 1.853 | 22.569 | 1.225 | 1.402 | 43.644 |
| Other changes | (633) | 463 | - | (589) | (49) | (146) | (29) | (43) | (1.026) |
| Final balance accrued depreciation and impairment loss | (1.416.949) | (1.558.401) | - | (628.223) | (98.268) | (126.552) | (34.004) | (60.916) | (3.923.313) |
| Total final balance property, plant and equipment | 4.215.768 | 7.543.805 | 10.271.370 | 4.564.326 | 125.225 | 89.859 | 51.846 | 178.288 | 27.040.487 |
| Advanced payments made to third parties | | | | | | | | | |
| Initial balance | - | - | 38.310 | - | - | - | - | 1.195 | 39.505 |
| Movement (+) | - | - | 81.684 | - | - | - | - | 1.524 | 83.208 |
| Movement (-) | - | - | (53.441) | - | - | - | - | (417) | (53.858) |
| Final balance | - | - | 66.553 | - | - | - | - | 2.302 | 68.855 |

Figures stated in millions of Colombian pesos

| 2017 | Networks, lines and cables | Plants, pipelines and tunnels | Construction in progress ¹ | Land and buildings | Machinery and equipment | Communication and computer equipment | Furniture, fixtures and office equipment | Other property, plant and equipment ² | Total |
|---|----------------------------|-------------------------------|---------------------------------------|--------------------|-------------------------|--------------------------------------|--|--|--------------------|
| Initial balance | 4,436,917 | 7,133,077 | 6,647,660 | 5,039,129 | 165,101 | 161,379 | 53,025 | 173,851 | 23,810,139 |
| Additions ³ | 35,251 | 27,982 | 2,762,297 | 24,851 | 9,412 | 37,299 | 925 | 70,284 | 2,968,301 |
| Advanced payments (amortized) made to third parties | - | - | 17,960 | - | - | - | - | 1,195 | 19,155 |
| Transfers (-/+) | 364,046 | 422,611 | (961,753) | 22,310 | 33,672 | 58 | 14,601 | (17,798) | (122,253) |
| Disposals (-) | (356) | (25,117) | (157) | (247) | (1,146) | (1,040) | (121) | (1,717) | (29,901) |
| Other changes | 224,590 | (235,840) | (15,985) | 25,189 | (533) | (99) | - | 1,418 | (1,260) |
| Final balance | 5,060,448 | 7,322,713 | 8,450,022 | 5,111,232 | 206,506 | 197,597 | 68,430 | 227,233 | 26,644,181 |
| Accrued depreciation and impairment loss | | | | | | | | | |
| Initial balance of accrued depreciation and impairment loss | (1,111,517) | (1,205,277) | - | (511,524) | (79,178) | (99,246) | (23,243) | (50,202) | (3,080,187) |
| Depreciation for the period | (144,633) | (190,439) | - | (57,986) | (11,044) | (26,102) | (5,118) | (7,399) | (442,721) |
| Disposals (-) | 192 | 8,795 | - | 82 | 979 | 969 | 117 | 1,467 | 12,601 |
| Other changes | (23) | (29) | - | (13) | (47) | 40 | (121) | (172) | (365) |
| Final balance accrued depreciation and impairment loss | (1,255,981) | (1,386,950) | - | (569,441) | (89,290) | (124,339) | (28,365) | (56,306) | (3,510,672) |
| Total final balance property, plant and equipment | 3,804,467 | 5,935,763 | 8,450,022 | 4,541,791 | 117,216 | 73,258 | 40,065 | 170,927 | 23,133,509 |
| Advanced payments made to third parties | | | | | | | | | |
| Initial balance | - | - | 20,350 | - | - | - | - | - | 20,350 |
| Movement (+) | - | - | 71,536 | - | - | - | - | 1,204 | 72,740 |
| Movement (-) | - | - | (53,576) | - | - | - | - | (9) | (53,585) |
| Final balance | - | - | 38,310 | - | - | - | - | 1,195 | 39,505 |

Figures stated in millions of Colombian pesos

The property, plant and equipment exhibit a variation compared to 2017, mainly due to the construction of infrastructure in the different businesses of the company, of which, the most relevant corresponds to the construction of the Ituango Hydroelectric Project, for \$1,752,025.

¹ Includes capitalization of loans for \$310,419 (2017: \$248,171), the weighted average effective rate used to determine the amount of borrowing costs was 7.85% in Colombian pesos and 5.73% in USA dollars (2017: 8.40% and 4.01%).

² Includes equipment and vehicles of the automotive fleet, medical and scientific equipment, property, plant and equipment in assembly, property, plant and equipment in transit and replacement assets, transportation equipment, traction and elevation, dining equipment, kitchen, pantry and lodging.

³ Includes purchases, capitalized expenditure that meets the recognition criteria, goods received from third parties and costs for dismantling and removing elements of property, plant and equipment. At the end of 2018 and 2017 no grants were received from the Government.

The following are the main projects under construction:

| Project | 2018 |
|---|-------------------|
| Construction project Ituango | 9,368,040 |
| San Fernando Plant Expansion | 86,723 |
| Playas Recovery Project | 63,781 |
| San Antonio de Prado Interconnection | 34,380 |
| Santo Domingo Project | 25,926 |
| Electricity Center Replacement Project | 22,538 |
| Large Central Camps | 21,890 |
| Main Distribution San Nicolas Valley | 20,924 |
| Guatape Transomer Reposition | 19,011 |
| San Nicolas Valey-wastewater | 17,002 |
| Calizas Substation-Associated Lines | 11,497 |
| Control Program - Power-loss Management | 9,808 |
| Others | 569,850 |
| Total | 10,271,370 |

Figures stated in millions of Colombian pesos

⁴ As of December 31, 2018, the Ituango Hydroelectric Project presented a physical advance of 88.2% (2017: 80.5%). It is estimated that the first power generation unit could start operating as of the last quarter of 2021. However, this start date is very dynamic, due to the changes that occur in the technical variables and the evolution and efficiency of the measures implemented to address the contingency of the Ituango Hydroelectric Project, that took place on April 28, 2018 due to a geological event that blocked the diversion tunnel of the Cauca River with approximately 160 thousand cubic meters of rock and soil, which caused the occluding and flooding of the dam. As a result, EPM has led its decisions prioritizing the protection of the communities and the environment in the first place and after that the infrastructure of the project. Therefore, on May 7, 2018, the decision was made to drain the dammed water through the powerhouse of the future power generation plant for rechanneling it to its traditional flow into the Cauca River and thus lower the water level of the dam.

As of the cut-off date of the financial statements, it was not possible to estimate the value of the real damages to the powerhouse, both in the civil works component and in the electromechanical equipment component. Once the passage of water from the reservoir through the facilities can be restricted and the water remaining in the reservoir can be emptied, a clear and precise assessment of the damages

can be performed, and the adjusted estimates can be made regarding the time of interventions, recovery engineering and the works to be implemented to fully recover this component of the project, using updated information.

At the end of the period, impairment testing was performed on assets linked to a CGU and have intangible assets with indefinite useful lives, which did not show impairment.

As of December 31, 2018, there are restrictions on the realization of the property, plant and equipment, associated to some equipment of the automotive fleet for a net recorded value of \$2 (2017: \$6). These restrictions are due to theft, personal injury and garnishments and have been affected as a guarantee for compliance with obligations.

The most significant commitments of acquisition of property, plant and equipment of the company at the cut-off date amount to \$3,452,179 (2017: \$1,123,327).

The following is the historical cost of the fully depreciated property, plant and equipment that continue in operation as of December 31, 2018 and 2017:

| Group | 2018 | 2017 |
|--------------------------------------|---------------|---------------|
| Communication and computer equipment | 19,507 | 30,640 |
| Plants, pipelines and tunnels | 12,602 | 17,852 |
| Machinery and equipment | 10,617 | 7,109 |
| Networks, lines and cables | 5,219 | 4,995 |
| Furniture and fixtures | 3,015 | - |
| Otras propiedades, planta y equipo | 2,971 | 5,820 |
| Buildings | 962 | 1,033 |
| Total | 54,893 | 67,449 |

Figures stated in millions of Colombian pesos

The most significant variation in computer equipment and communications, is due to the losses that have been made by the replacement plan in 2018, likewise, with the revision of annual lifespans it was possible to identify assets that were not in operation and were found totally depreciated, thus were decommissioned.

Note 6. Investment property

The fair value of investment property is based on an appraisal made by experts with recognized professional capacity and recent experience in the category of real estate investments subject to assessment; this value has been determined by the Corporacion Avaluos Lonja Inmobiliaria, Ingenieria y Avaluos S.A.S and Activos e Inventarios Limitada, this activity is performed at least once a year. To determine the fair value of investment property, the comparative or market method is used, which consists of deducting the price by comparing transactions, supply and demand and appraisals of similar or comparable properties, previous adjustments of time, conformation and location; the residual method, which applies only to buildings and is based on the determination of the cost of the updated construction less the depreciation for age and state of conservation; and the income method, which is used to determine the possible value of a good according to its capacity to generate revenue, taking into account the probable monthly royalty value that tenants would be willing to pay in the market of leases. See Note 42 Measurement of fair value on a recurring and non-recurring basis.

| Investment property | 2018 | 2017 |
|--|---------------|----------------|
| Initial balance | 116.823 | 116.628 |
| Net profit or loss due to valuation of fair value ¹ | 1.125 | 9.528 |
| Disposals (-) | (40.034) | (152) |
| Transfers ² (-/+) | (85) | (9.181) |
| Total | 77.829 | 116.823 |

Figures stated in millions of Colombian pesos

¹ See detail in note 20. Accumulated other comprehensive income, note 31. Other income and note 34. Other expenses.

² Includes transfers to property, plant and equipment from investment properties.

As of December 31, 2018, revenue from leases of investment property for the period amounted to \$657 (2017: \$669) and the direct expenses of the period related to investment property amounted to \$61 (2017: \$68).

As of December 31, 2018, and 2017 there were no contractual obligations to acquire, construct or develop investment property or for repairs, maintenance or improvements to them.

As of December 31, 2018, there are no contractual restrictions on investment property.

Note 7. Other intangible assets

The breakdown of the recorded value for intangible assets is as follows:

| Intangibles | 2018 | 2017 |
|---|------------------|------------------|
| Cost | 1,080,396 | 962,868 |
| Goodwill | 260,950 | 260,950 |
| Other intangibles | 819,446 | 701,918 |
| Accrued depreciation and impairment loss | (342,130) | (299,938) |
| Other intangibles | (342,130) | (299,938) |
| Total | 738,266 | 662,930 |

Figures stated in millions of Colombian pesos

The movement of cost, amortization and impairment of intangible assets is detailed below:

| 2018 | Goodwill | Concessions and similar rights | Capitalized development expenses | Software and IT applications | Licenses | Rights | Other intangible assets ¹ | Total |
|---|----------------|--------------------------------|----------------------------------|------------------------------|-----------------|----------------|--------------------------------------|------------------|
| Initial balance cost | 260,950 | 302,217 | 56,676 | 115,570 | 52,918 | 50,003 | 124,534 | 962,868 |
| Additions ² | - | 3,571 | 15,098 | 18,349 | 8,715 | - | 3,639 | 49,372 |
| Transfers (-/+) | - | 75,662 | (47,794) | 37,124 | 10,834 | - | 35,562 | 111,388 |
| Disposals (-) | - | - | - | (2,487) | (2,304) | - | (77) | (4,868) |
| Other changes | - | (199) | - | - | 17 | (42,018) | 3,836 | (38,364) |
| Final balance cost | 260,950 | 381,251 | 23,980 | 168,556 | 70,180 | 7,985 | 167,494 | 1,080,396 |
| Initial balance accrued depreciation and impairment loss | - | (211,233) | - | (61,117) | (23,888) | (1,111) | (2,589) | (299,938) |
| Amortization for the period ³ | - | (15,509) | - | (20,727) | (10,161) | (307) | (1,212) | (47,916) |
| Disposals (-) | - | - | - | 2,450 | 2,263 | - | - | 4,713 |
| Other changes | - | 191 | - | (2) | (69) | - | 891 | 1,011 |
| Final balance accrued depreciation and impairment loss | - | (226,551) | - | (79,396) | (31,855) | (1,418) | (2,910) | (342,130) |
| Final balance intangible assets net | 260,950 | 154,700 | 23,980 | 89,160 | 38,325 | 6,567 | 164,584 | 738,266 |

Figures stated in millions of Colombian pesos

| 2017 | Goodwill | Concessions and similar rights | Capitalized development expenses | Software and IT applications | Licenses | Rights | Other intangible assets ¹ | Total |
|---|----------------|--------------------------------|----------------------------------|------------------------------|-----------------|----------------|--------------------------------------|------------------|
| Initial balance cost | 260,950 | 283,158 | 31,462 | 105,838 | 57,157 | 47,431 | 22,724 | 808,720 |
| Additions ² | - | 1,246 | 25,133 | 16,086 | 5,117 | - | 1,109 | 48,691 |
| Transfers (-/+) | - | 17,813 | - | 2,819 | 227 | - | 101,348 | 122,207 |
| Disposals (-) | - | - | - | (9,092) | (9,583) | - | (424) | (19,099) |
| Other changes | - | - | 81 | (81) | - | 2,572 | (223) | 2,349 |
| Final balance cost | 260,950 | 302,217 | 56,676 | 115,570 | 52,918 | 50,003 | 124,534 | 962,868 |
| Initial balance accrued depreciation and impairment loss | - | (187,479) | - | (54,009) | (26,098) | (804) | (2,270) | (270,660) |
| Amortization for the period ³ | - | (23,754) | - | (15,629) | (6,714) | (307) | (1,211) | (47,615) |
| Disposals (-) | - | - | - | 8,531 | 8,967 | - | - | 17,498 |
| Other changes | - | - | - | (10) | (43) | - | 892 | 839 |
| Final balance accrued depreciation and impairment loss | - | (211,233) | - | (61,117) | (23,888) | (1,111) | (2,589) | (299,938) |
| Final balance intangible assets net | 260,950 | 90,984 | 56,676 | 54,453 | 29,030 | 48,892 | 121,945 | 662,930 |

Figures stated in millions of Colombian pesos

¹ Includes easements, intangibles related to customers and other intangibles corresponding to premiums at gas service stations. In easements, transfers to operation of the Bello Guayabal-Ancon Line, Sierra-Cocorna Line, San Lorenzo projects were submitted.

² Includes purchases, capitalizable expenditure that meets the recognition criteria and concessions. In 2018, the purchases associated with capitalized development expenditure were earmarked for IT projects: OPEN Migration and EAM Asset Management. At the end of 2018 and 2017 no grants were received from the Government.

³ See note 32 Costs of services rendered and note 33 Administrative expenses.

At the end of the period, impairment testing was performed on assets linked to a CGU and have intangible assets with indefinite useful lives, which did not show impairment.

At the end of the periods, impairment testing was performed on assets for those intangibles with an indefinite lifespan. The detail of the impairment recognized in the statement of comprehensive income can be found in note 8. Impairment of assets.

The lifespans of intangible assets are:

| | | |
|----------------------------------|--|---------------|
| Concessions and similar rights | As contract effective term | |
| Easements | Indefinida - Según vigencia del contrato | |
| Capitalized development expenses | Indefinite | |
| Software and IT applications | Finite | 3 to 5 years |
| Licenses | Finite | 3 to 5 years |
| Rights | As contract effective term | |
| Other intangible assets | Finite | 7 to 15 years |

Amortization of intangibles is recognized as costs and expenses in the Statement of comprehensive income, section Profit for the period, in the item Costs of services rendered and administrative expenses.

As of December 31, 2018, and 2017, no restrictions on the realization of intangible assets were identified and no contractual commitments were identified for the acquisition of said assets.

The recorded value at the cut-off date and the remaining amortization period for significant assets is:

| Relevant intangible assets | Lifespan | 2018 | 2017 |
|----------------------------|------------|---------|---------|
| Goodwill Ituango | Indefinite | 177,667 | 177,667 |
| Goodwill Espiritu Santo | Indefinite | 82,980 | 82,980 |
| Easement lines corridor 53 | Indefinite | 63,040 | 61,503 |
| Easement lines corridor 52 | Indefinite | 29,525 | 25,606 |

Figures stated in millions of Colombian pesos

The following intangible assets have an indefinite useful life: goodwill and easements, the latter are agreed in perpetuity. By definition, an easement is the real, perpetual or temporary right over another property, under which it can be used, or exercise certain rights of disposal, or prevent the owner from exercising some of their property rights (Art. 2970 of the Colombian Civil Code). In EPM, easements are not treated individually, since they are constituted for public utility projects, where the general interest prevails over the individual,

considering that the objective is to improve the quality of life of the community; the aforementioned projects do not have a definite temporality, that is why they are constituted in perpetuity supported in their use. However, there are some easements with a definite useful life, because they are tied to the useful life of the main asset required by the easement.

As of December 2018, and 2017 they have a recorded value of \$425,271 and \$382,507 respectively.

| Intangible assets with indefinite lifespans | 2018 | 2017 |
|--|----------------|----------------|
| Goodwill | | |
| Ituango Power Generation Plant Project | 177,667 | 177,667 |
| Espiritu Santo | 82,980 | 82,980 |
| Surtigas Necocli | 303 | 303 |
| Subtotal goodwill | 260,950 | 260,950 |
| Other intangible assets | | |
| Easements | 164,321 | 121,557 |
| Subtotal other intangible assets | 164,321 | 121,557 |
| Total intangible assets with indefinite lifespans | 425,271 | 382,507 |

Figures stated in millions of Colombian pesos

The variation presented by easements is mainly due to the transfers to operations carried out in the following projects: Bello Guayabal-Ancon Line, La Sierra-Cocorna Line and San Lorenzo Line.

Note 8. Impairment of assets

8.1 Impairment of investments in subsidiaries, associates and joint ventures

At the date of presentation of the financial statements no impairment losses were recognized in the Statement of comprehensive income, related to investments in subsidiaries, associates and joint ventures.

The cumulative effect of recognized impairment losses is presented below:

| Investment | Recorded value | |
|------------------------------------|----------------|---------------|
| | 2018 | 2017 |
| Subsidiary | | |
| Hidroecologica del Teribe S.A. HET | 86,963 | 86,963 |
| Aguas de Malambo S.A. E.S.P. | 1,641 | 1,641 |
| Total subsidiarías | 88,604 | 88,604 |

Figures stated in millions of Colombian pesos

8.2 Impairment loss of Cash Generating Units

The recorded value of the goodwill and the intangible assets with indefinite useful life associated with each CGU are broken down below:

| Cash Generating Unit | Recorded value | |
|----------------------------------|----------------|----------------|
| | 2018 | 2017 |
| Power generation | | |
| Goodwill | 260,647 | 260,647 |
| Easements | 444 | 444 |
| CGU - Power generation- | 261,091 | 261,091 |
| Power Transmission | | |
| Easements | 127,023 | 91,861 |
| CGU - Power Transmission- | 127,023 | 91,861 |
| Power Distribution | | |
| Easements | 28,906 | 10,985 |
| CGU - Power Distribution- | 28,906 | 10,985 |
| Gas (Natural gas) | | |
| Goodwill | 303 | 303 |
| Easements | 3,679 | 3,512 |
| CGU - Gas- | 3,982 | 3,815 |
| Water supply | | |
| Easements | 2,919 | 2,861 |
| CGU - Water supply- | 2,919 | 2,861 |
| Sanitation | | |
| Easements | 1,350 | 1,350 |
| CGU - Sanitation- | 1,350 | 1,350 |

Figures stated in millions of Colombian pesos

The description of the CGUs is broken down below:

- CGU Power Generation (Generacion Energia), which activity consists of power generation and the commercialization of large electric power blocks, based on the acquisition or development of a portfolio of power proposals for the market.
- CGU Power Distribution (Distribucion Energia), which activity consists of transporting electric power through a set of lines and substations, with their associated equipment, operating at voltages below 220 KV, the commercialization of power to the end user of the regulated market and the development of related and complementary activities. Includes the Regional Transmission System (STR, for its Spanish initials), the Local Distribution System (SDL, for its Spanish initials), the public lighting utility and the rendering of associated services.
- CGU Power Transmission (Transmision Energia), which activity consists of the transporting of energy in the National Transmission System (STN, for its Spanish initials), composed of the set of lines, with their corresponding connection equipment, which operate at voltages equal to or greater than 220 KV. The National Transmitter (TN, for its Spanish initials) is the legal entity that operates and transports electric power in the STN or has established a company whose purpose is the development of said activity.
- CGU Gas, which activity consists of driving gas from the city gate to the end user, through medium and low-pressure pipes. It includes the sale of gas by different systems, including distribution by network, vehicular natural gas, compressed natural gas and service stations.
- CGU Water Supply (Provision Aguas), which activity consists in conceptualizing, structuring, developing and operating systems for supplying water. It includes carrying out the commercial management of the portfolio of services related to the water supply for different uses, in addition to the use of the productive chain, specifically in the power generation, and the supply of raw water.
- CGU Sanitation (Saneamiento), includes the activities of conceptualizing, structuring, developing and operating wastewater and solid waste management systems.

Goodwill is assigned mainly to the segment/CGU Generation, which presented a balance as of December 31, 2018 for \$260,647 generated as a result of the liquidation of the subsidiary EPM Ituango S.A E.S.P. and Espiritu Santo whose assets were transferred to EPM, additionally, a goodwill in the CGU Gas product of the business combination with the Surtidora de Gas del Caribe S.A. E.S.P. in the municipality of Necocli for \$303.

The intangible easement with indefinite useful life is assigned to the CGU: Generation, Transmission, Distribution, Gas, Water Provision and Sanitation, which present a balance of \$164,321 (2017: \$111,013).

As of December 31, 2018, and 2017, impairment testing was performed on the CGUs with associated intangible assets with an indefinite lifespan, but no impairment was shown associated to them.

The value in use and recorded value of CGUs at the end of 2018 that have an indefinite useful life is detailed below:

| CGU | value in use | Recorded dvalue |
|------------------|-------------------|-------------------|
| Generation | 20,593,115 | 17,117,851 |
| Distribution | 6,904,731 | 3,927,679 |
| Water supply | 3,208,352 | 2,285,798 |
| Sanitation | 1,501,502 | 966,331 |
| Gas | 977,066 | 811,833 |
| Trasmission | 926,097 | 852,669 |
| Total CGU | 34,110,863 | 25,962,161 |

Figures stated in millions of Colombian pesos

Note 9. Investment in subsidiaries

The breakdown of the subsidiaries of the company at the date of the reporting period is the following:

| Name of subsidiary | Location (Country) | Main Activity | Percentage of participation and voting rights | | Date of establishment |
|--|--------------------|---|---|---------|-----------------------|
| | | | 2018 | 2017 | |
| Empresa de energia del Quindio S.A. E.S.P. EDEQ | Colombia | Provides public utilities for electric power purchase, sale and distribution of electricity. | 19.26% | 19.26% | 22/12/1988 |
| Central Hidroeléctrica de Caldas S.A. E.S.P. CHEC | Colombia | Provides public power utilities, operating power generation plants, transmission and sub transmission lines and distribution networks, as well as the commercialization, import distribution and sale of electricity. | 24.44% | 24.44% | 09/09/1950 |
| Electrificadora de Santander S.A. E.S.P. ESSA | Colombia | Provides public utilities of electrical power: purchase, sale and distribution of electric power. | 0.28% | 0.28% | 16/09/1950 |
| Centrales Eléctricas del Norte de Santander S.A. E.S.P. CENS | Colombia | Provides public utilities for electric power, purchase, export, import, distribution and sale. Construction and operation of generating plants, transmission line substations and distribution networks. | 12.54% | 12.54% | 16/10/1952 |
| Hidroecológica del Teribe S.A. HET | Panama | Finances the construction of the Bonyic hydroelectric project required to meet the growing power demand of Panama. | 99.18% | 99.19% | 11/11/1994 |
| Gestión de Empresas Eléctricas S.A. GESA | Guatemala | Renders advice and consulting services to electric power distribution, generation and transmission companies. | 99.98% | 99.98% | 17/12/2004 |
| Aguas Nacionales EPM S.A. E.S.P. ³ | Colombia | Provides public utilities for water, sewage and sanitation, as well as waste management and treatment, complementary activities and engineering services specific to these utilities. | 99.97% | 99.97% | 29/11/2002 |
| Aguas Regionales EPM S.A. E.S.P. | Colombia | Ensures the provision of residential public utilities of water supply and sanitation, and compensate for the lag of the infrastructure of these services in associate municipalities. | 67.25% | 67.25% | 18/01/2006 |
| Empresa de Aguas del Oriente Antioqueño S.A. E.S.P. | Colombia | Ensures the provision of residential public water supply and sanitation utilities as well as other complementary activities related to these utilities. | 56.00% | 56.00% | 22/11/1999 |
| Aguas de Malambo S.A. E.S.P. ¹ | Colombia | Devoted to guarantee the provision of public utilities for sewage and sanitation in the jurisdiction of the Municipality of Malambo, Department of Atlantic. | 97.46% | 96.86% | 20/11/2010 |
| Empresas Públicas de Rionegro S.A. E.S.P. - EP RIO 4 | Colombia | Renders residential public utilities, among them water supply and sewage, as well as the complementary and related activities related to these; specifically, the administration, operation, maintenance and investments of the water supply and sewage systems of the Municipality of Rionegro, the execution of programs and projects on environmental issues and the renewable and non-renewable natural resources; promotes sustainable development. Additionally, the company will provide maintenance to the public lighting network of the Municipality of Rionegro. | 100.00% | 100.00% | 9/12/1996 |
| Empresas Varias de Medellín S.A. E.S.P. | Colombia | Subsidiary dedicated to the provision of the public cleaning utility within the framework of integral management of solid waste. | 64.98% | 64.98% | 11/01/1964 |
| EPM Inversiones S.A. | Colombia | Devoted to the investment of capital in national or foreign companies organized as utility companies. | 99.99% | 99.99% | 25/08/2003 |
| Maxseguros EPM Ltd | Bermuda | Negotiating, contracting and management of reinsurance for policies for equity protection. | 100.00% | 100.00% | 23/04/2008 |
| Panama Distribution Group S.A. PDG | Panama | Capital investment in companies. | 100.00% | 100.00% | 30/10/1998 |
| Distribución Eléctrica Centroamericana DOS S.A. DECA II | Guatemala | Performs capital investments in companies engaged in the distribution and commercialization of electric power and in providing telecommunications services. | 99.99% | 99.99% | 12/03/1999 |
| EPM Capital Mexico S.A. de CV 5 | Mexico | Executes infrastructure projects related to energy, lighting, gas, telecommunications, sanitation, potable water treatment plants, sewage treatment, wastewater treatment, buildings, as well as its operation, studies and services. | 39,36% | 39,36% | 04/05/2012 |
| EPM Chile S.A. ² | Chile | Executes power, lighting, gas, telecommunications, sanitation, sewage treatment plants and sewage treatment projects, as well as providing such services and participating in all types of public and private tenders and auctions. | 99.99% | 99.99% | 22/02/2013 |
| patrimonio Autónomo Financiación Social | Colombia | Manages the resources and payments of the social financing program created to facilitate users the purchase of electric and natural gas appliances and IT related products. | 100.00% | 100.00% | 14/04/2008 |

¹ In November 2018, EPM capitalized Aguas de Malambo S.A. E.S.P. for \$8,000 and in November of 2017 for \$12,499.

- ² In April 2018, EPM capitalized EPM Chile S.A for \$2,453
- ³ In November 2017, EPM capitalized Aguas Nacionales EPM S.A. E.S.P. for \$259,999.
- ⁴ Subsidiary acquired by EPM through the trading of shares transaction perfected on October 31, 2017. Subsequently, it was capitalized in November 2017 for \$14,235. Through Act No. 54 of March 14, 2018, the Company was transformed into a simplified joint stock company, consequently, its corporate name was changed to Empresas Publicas de Rionegro S.A.S. E.S.P., this modification was registered in the commercial registry of the Chamber of Commerce of Eastern Antioquia (Camara de Comercio del Oriente Antioqueno) on April 10, 2018.
- ⁵ In June 2017, EPM capitalized EPM Capital Mexico S.A. of C.V. at \$4,055.

In the subsidiaries in which there is less than 50% direct ownership, control is obtained through indirect ownership of the other EPM Group companies.

The value of investments in subsidiaries at the cut-off date was:

| Subsidiary | 2018 | | | | | 2017 | | | | |
|--|---------------------|------------------|-----------------|------------------|------------------|---------------------|----------------|-----------------|------------------|------------------|
| | Value of investment | | | | Total | Value of investment | | | | Total |
| | Cost | Equity method | Impairment | Dividends | | Costo | Equity method | Impairment | Dividends | |
| EPM Inversiones S.A. | 1,561,331 | 14,117 | - | (139,714) | 1,435,734 | 1,561,331 | (116,317) | - | (136,228) | 1,308,786 |
| Aguas Nacionales EPM S.A. E.S.P. | 1,552,115 | (46,953) | - | - | 1,505,162 | 1,552,115 | (22,645) | - | - | 1,529,470 |
| EPM Chile S.A. | 1,044,935 | (667) | - | - | 1,044,268 | 1,042,481 | (248,292) | - | - | 794,189 |
| Distribucion Electrica Centroamericana DOS S.A. DECA II | 1,009,257 | 1,009,465 | - | (171,850) | 1,846,872 | 1,009,257 | 928,984 | - | (88,810) | 1,849,431 |
| Hidroecologica del Teribe S.A. HET | 346,067 | (196,050) | (86,963) | - | 63,054 | 346,067 | (207,084) | (86,962) | - | 52,021 |
| Panama Distribution Group S.A. PDG | 238,116 | 284,791 | - | (28,401) | 494,506 | 238,117 | 264,733 | - | (33,120) | 469,730 |
| Central Hidroelectrica de Caldas S.A. E.S.P. CHEC | 140,663 | 32,960 | - | (20,677) | 152,946 | 140,663 | 16,719 | - | (12,843) | 144,539 |
| EPM Capital Mexico S.A. de C.V. | 102,774 | (37,257) | - | - | 65,517 | 102,774 | (46,334) | - | - | 56,440 |
| Patrimonio Autonomo Financiacion Social 1 | 69,414 | 67,325 | - | - | 136,740 | 84,414 | 49,788 | - | - | 134,202 |
| Maxseguros EPM Ltd. | 63,784 | 97,024 | - | - | 160,807 | 63,784 | 73,005 | - | - | 136,789 |
| Aguas de Malambo S.A. E.S.P. | 58,718 | (26,904) | (1,641) | - | 30,173 | 50,718 | (25,529) | (1,641) | - | 23,548 |
| Centrales Electricas del Norte de Santander S.A. E.S.P. CENS | 57,052 | (21,927) | - | (2,418) | 32,707 | 57,052 | (23,103) | - | (3,881) | 30,068 |
| Aguas Regionales EPM S.A. E.S.P. | 47,228 | 15,106 | - | - | 62,334 | 47,228 | 9,464 | - | - | 56,692 |
| EMPRESAS PUBLICAS DE RIONEGRO SAS ESP | 46,905 | 9,829 | - | - | 56,734 | 46,904 | 853 | - | - | 47,757 |
| Empresas Varias de Medellin S.A. E.S.P. | 32,967 | 93,179 | - | - | 126,146 | 32,967 | 83,525 | - | - | 116,492 |
| Empresa de Energia del Quindio S.A. E.S.P. EDEQ | 28,878 | 10,638 | - | (4,401) | 35,114 | 28,878 | 10,087 | - | (6,170) | 32,795 |
| Gestion de Empresas Electricas S.A. GESA | 25,782 | 14,766 | - | (3,841) | 36,706 | 25,782 | 14,763 | - | (4,721) | 35,824 |
| Electrificadora de Santander S.A. E.S.P. ESSA | 2,514 | 48 | - | (238) | 2,324 | 2,514 | (177) | - | (216) | 2,121 |
| Empresa de Aguas del Oriente Antioqueno S.A. E.S.P. | 1,564 | 1,022 | - | - | 2,586 | 1,564 | 695 | - | - | 2,259 |
| Total | 6,430,064 | 1,320,511 | (88,604) | (371,540) | 7,290,431 | 6,434,610 | 763,135 | (88,603) | (285,989) | 6,823,153 |

Figures stated in millions of Colombian pesos

1. The decrease of the cost of the investment in the autonomous equity of social financing is due to a refund of contributions made for \$15,000

The breakdown of the equity method recognized in the Profit for the period and in the Other comprehensive income of the period is as follows:

The financial information of the company's subsidiaries as of the date of the reporting period is as follows. All subsidiaries are accounted for using the equity method in the separate financial statements:

| Subsidiary | 2018 | | | 2017 | | |
|--|------------------------------|----------------------------|----------------|------------------------------|----------------------------|----------------|
| | Equity method for the period | | Total | Equity method for the period | | Total |
| | Profit for the period | Other comprehensive income | | Profit for the period | Other comprehensive income | |
| EPM Inversiones S.A. | 225,280 | 41,391 | 266,671 | 145,355 | 5,532 | 150,886 |
| Aguas Nacionales EPM S.A. E.S.P. | (24,308) | - | (24,308) | (2,960) | (0) | (2,960) |
| EPM Chile S.A. | 284,995 | (11,855) | 273,140 | 88,992 | 46,302 | 135,294 |
| Distribucion Electrica Centroamericana DOS S.A. DECA II | 176,749 | 6,495 | 183,244 | 214,359 | 59,831 | 274,190 |
| Hidroecologica del Teribe S.A. HET | (816) | 11,790 | 10,974 | (24,738) | (684) | (25,421) |
| Panama Distribution Group S.A. PDG | 45,905 | 8,312 | 54,217 | 41,018 | 16,237 | 57,254 |
| Central Hidroelectrica de Caldas S.A. E.S.P. CHEC | 29,057 | 27 | 29,084 | 19,388 | (150) | 19,238 |
| EPM Capital Mexico S.A. de CV | 1,648 | 6,430 | 8,079 | (119) | 2,203 | 2,084 |
| Maxseguros EPM Ltd | 10,711 | 13,308 | 24,019 | 9,747 | (588) | 9,160 |
| Centrales Electricas del Norte de Santander S.A. E.S.P. CENS | 5,283 | (226) | 5,057 | 2,214 | (286) | 1,927 |
| Aguas de Malambo S.A. E.S.P. | (1,330) | - | (1,330) | (1,857) | - | (1,857) |
| Aguas Regionales EPM S.A. E.S.P. | 5,642 | - | 5,642 | 5,288 | (0) | 5,288 |
| Empresas Publicas de Rionegro S.A. E.S.P. - EP RIO | 8,967 | - | 8,967 | 853 | - | 853 |
| Empresas Varias de Medellin S.A. E.S.P. | 11,588 | (1,945) | 9,643 | 10,876 | (3,780) | 7,097 |
| Empresa de Energia del Quindio S.A. E.S.P. EDEQ | 6,489 | 232 | 6,721 | 4,721 | (115) | 4,606 |
| Gestion de Empresas Electricas S.A. GESA | 4,334 | 297 | 4,631 | 4,677 | - | 4,677 |
| Electrificadora de Santander S.A. E.S.P. ESSA | 385 | 55 | 440 | 264 | (9) | 256 |
| Empresa de Aguas del Oriente Antioqueno S.A. E.S.P. | 326 | 1 | 327 | 110 | - | 110 |
| Patrimonio Autonomo Financiacion Social | 18,702 | - | 18,702 | 13,871 | - | 13,871 |
| Total | 809,606 | 74,312 | 883,918 | 532,059 | 124,492 | 656,552 |

Figures stated in millions of Colombian pesos

| 2018 | Current assets | Non-current assets | Current liabilities | Non-current liabilities | Ordinary income | Profit for the period | Other comprehensive income | Total comprehensive income |
|--|----------------|--------------------|---------------------|-------------------------|-----------------|-----------------------|----------------------------|----------------------------|
| | | | | | | Continuing operations | | |
| Empresa de energía del Quindío S.A. E.S.P. EDEQ | 66,422 | 193,750 | 51,399 | 39,098 | 233,114 | 33,665 | 1,203 | 34,868 |
| Central Hidroeléctrica de Caldas S.A. E.S.P. CHEC | 190,884 | 864,688 | 151,124 | 339,943 | 681,783 | 118,901 | 111 | 119,012 |
| Electrificadora de Santander S.A. E.S.P. ESSA | 312,774 | 1,427,035 | 293,144 | 790,896 | 1,115,338 | 139,738 | 19,994 | 159,732 |
| Centrales Eléctricas del Norte de Santander S.A. E.S.P. CENS | 173,048 | 909,308 | 231,845 | 621,052 | 688,659 | 42,141 | (1,800) | 40,340 |
| Hidroecológica del Teribe S.A. HET | 15,858 | 475,835 | 39,035 | 369,859 | 50,082 | (1,553) | 7,349 | 5,797 |
| Gestión de Empresas Eléctricas S.A. GESA | 14,114 | - | 146 | - | 6,477 | 4,335 | 297 | 4,632 |
| Agua Nacionales EPM S.A. E.S.P. | 124,446 | 1,612,669 | 161,103 | 66,635 | 32,806 | (21,698) | 0 | (21,698) |
| Agua Regionales EPM S.A. E.S.P. | 19,311 | 120,376 | 23,964 | 23,044 | 50,942 | 8,383 | 0 | 8,383 |
| Empresa de Agua del Oriente Antioqueño S.A. E.S.P. | 1,544 | 3,543 | 255 | 215 | 2,219 | 582 | 1 | 583 |
| Agua de Malambo S.A. E.S.P. | 11,223 | 31,027 | 3,934 | 5,484 | 11,549 | (1,375) | - | (1,375) |
| Empresas Públicas de Rionegro S.A. E.S.P. - EP RIO | 36,751 | 62,810 | 9,989 | 32,837 | 26,617 | 8,967 | - | 8,967 |
| Empresas Varias de Medellín S.A. E.S.P. | 173,838 | 149,178 | 102,784 | 144,515 | 227,427 | 17,916 | (2,994) | 14,922 |
| EPM Inversiones S.A. | 9,317 | 1,374,403 | 7,568 | 5,620 | 0 | 225,240 | 41,375 | 266,615 |
| Maxseguros EPM Ltd | 398,372 | - | 237,564 | - | 8,765 | 10,711 | 13,308 | 24,019 |
| Panama Distribution Group S.A. PDG | 690,582 | 1,946,017 | 948,649 | 1,036,858 | 2,017,192 | 92,800 | 8,438 | 101,238 |
| Distribución Eléctrica Centroamericana DOS S.A. DECA II | 1,006,976 | 2,701,475 | 1,130,243 | 839,050 | 2,862,252 | 220,476 | 6,669 | 227,145 |
| EPM Capital Mexico S.A. de CV | 257,728 | 561,087 | 261,457 | 358,434 | 250,583 | 4,180 | 17,186 | 21,366 |
| EPM Chile S.A. | 336,736 | 3,784,868 | 188,725 | 2,889,541 | 556,070 | 286,314 | (14,690) | 271,623 |

Figures stated in millions of Colombian pesos

| 2017 | Current assets | Non-current assets | Current liabilities | Non-current liabilities | Ordinary income | Profit for the period | Other comprehensive income | Total comprehensive income |
|--|----------------|--------------------|---------------------|-------------------------|-----------------|-----------------------|----------------------------|----------------------------|
| | | | | | | Continuing operations | | |
| Empresa de energía del Quindío S.A. E.S.P. EDEQ | 56,985 | 183,318 | 41,977 | 40,663 | 218,959 | 24,821 | (596) | 24,225 |
| Central Hidroeléctrica de Caldas S.A. E.S.P. CHEC | 236,067 | 840,980 | 164,082 | 382,867 | 653,603 | 79,862 | (614) | 79,248 |
| Electrificadora de Santander S.A. E.S.P. ESSA | 256,755 | 1,277,097 | 282,117 | 669,520 | 1,034,530 | 95,754 | (3,151) | 92,603 |
| Centrales Eléctricas del Norte de Santander S.A. E.S.P. CENS | 185,507 | 839,297 | 222,315 | 594,082 | 615,993 | 17,653 | (2,284) | 15,369 |
| Hidroecológica del Teribe S.A. HET | 15,849 | 451,270 | 57,306 | 332,877 | 43,861 | (25,670) | (379) | (26,048) |
| Gestión de Empresas Eléctricas S.A. GESA | 13,216 | - | 130 | - | 5,885 | 4,678 | - | 4,678 |
| Agua Nacionales EPM S.A. E.S.P. | 261,845 | 1,339,625 | 53,245 | 17,151 | 2,460 | (491) | - | (491) |
| Agua Regionales EPM S.A. E.S.P. | 24,982 | 104,149 | 23,670 | 21,165 | 48,209 | 7,859 | - | 7,859 |
| Empresa de Agua del Oriente Antioqueño S.A. E.S.P. | 1,065 | 3,372 | 162 | 240 | 1,693 | 196 | - | 196 |
| Agua de Malambo S.A. E.S.P. | 13,128 | 22,350 | 3,723 | 5,548 | 11,195 | (1,717) | - | (1,717) |
| Empresas Públicas de Rionegro S.A. E.S.P. - EP RIO | 40,781 | 45,550 | 10,794 | 27,779 | 5,015 | 853 | - | 853 |
| Empresas Varias de Medellín S.A. E.S.P. | 175,917 | 129,672 | 96,700 | 148,111 | 212,061 | 16,750 | (5,816) | 10,934 |
| EPM Inversiones S.A. | 1,732 | 1,245,110 | 875 | 2,337 | 4 | 145,084 | 5,391 | 150,476 |
| Maxseguros EPM Ltd | 303,929 | - | 167,141 | - | 8,229 | 9,747 | (588) | 9,160 |
| Panama Distribution Group S.A. PDG | 499,842 | 1,730,440 | 1,023,433 | 619,404 | 1,875,827 | 82,425 | 15,987 | 98,412 |
| Distribución Eléctrica Centroamericana DOS S.A. DECA II | 724,078 | 2,486,491 | 573,092 | 917,525 | 2,723,268 | 268,086 | 60,014 | 328,100 |
| EPM Capital Mexico S.A. de CV | 271,749 | 553,562 | 259,386 | 394,062 | 174,794 | (890) | 1,935 | 1,045 |
| EPM Chile S.A. | 274,832 | 3,796,453 | 224,742 | 3,051,762 | 535,137 | 90,110 | 45,096 | 135,206 |

Figures stated in millions of Colombian pesos

9.1 Changes in ownership in subsidiaries that did not result in loss of control

During 2018, there were changes in ownership of the following subsidiaries:

The percentage of ownership in Agua de Malambo S.A. E.S.P. increased to 97.46%, by capitalization of EPM. This variation had an effect on the application of the equity method, reducing the investment by \$44, recognized directly in equity.

During 2017, there were changes in ownership of the following subsidiaries:

The percentage of ownership in Agua de Malambo S.A. E.S.P. increased to 96.86%, by EPM capitalization. This variation had an effect on the application of the equity method, reducing the investment by \$104, recognized directly in equity.

The percentage of ownership in EPM Capital Mexico S.A. of C.V. increased to 39.36%, by capitalization of EPM. This variation had an effect on the application of the equity method, reducing the investment by \$1,515, recognized directly in equity.

Note 10. Investment in associates

The breakdown of investment in associates of EPM at the date of the reporting period is the following:

| Name of the associate | Location (country) | Main activity | Percentage of participation and voting rights | | Date of establishment |
|--|--------------------|---|---|--------|-----------------------|
| | | | 2018 | 2017 | |
| Hidroeléctrica Ituango S.A. E.S.P. | Colombia | Promotion, design, construction operation, maintenance and electric power sales at the national and international scale from the Ituango Hydroelectric Power Plant. | 46.33% | 46.33% | 29/12/1997 |
| Hidroeléctrica del Río Aures S.A. E.S.P. | Colombia | Generation and sale of electric power through a hydroelectric power plant located in the municipalities of Abejorral and Sonson, in the Department of Antioquia. | 32.99% | 42.04% | 14/05/1997 |
| UNE EPM Telecomunicaciones S.A. | Colombia | Renders telecommunications and ITC utilities, information services and complementary activities. | 50.00% | 50.00% | 29/06/2006 |
| Inversiones Telco S.A.S. | Colombia | Invest in companies whose corporate purpose is the provision of telecommunications utilities, TIC, information services and complementary activities, as well as in companies that render services of business processes outsourcing. | 50.00% | 50.00% | 5/11/2013 |

¹ As of December 31, 2018, the percentage of EPM decreased due to capitalizations made by other shareholders.

The value of investments in associates at the cut-off date was:

| Associate | 2018 | | | | 2017 | | | |
|--|---------------------|------------|------------------|---------------|---------------------|------------|------------------|-----------|
| | Value of investment | | | Dividends | Value of investment | | | Dividends |
| | Cost | Impairment | Total | | Cost | Impairment | Total | |
| Hidroeléctrica Ituango S.A. E.S.P. | 34,227 | - | 34,227 | - | 34,227 | - | 34,227 | - |
| Hidroeléctrica del Río Aures S.A. E.S.P. | 2,478 | - | 2,478 | - | 2,478 | - | 2,478 | - |
| UNE EPM Telecomunicaciones S.A. | 2,342,488 | - | 2,342,488 | 38,483 | 2,342,488 | - | 2,342,488 | - |
| Inversiones Telco S.A.S. | 55,224 | - | 55,224 | 3,442 | 55,224 | - | 55,224 | - |
| Total investment in associates | 2,434,417 | - | 2,434,417 | 41,924 | 2,434,417 | - | 2,434,417 | - |

Figures stated in millions of Colombian pesos

Note 11. Investment in joint ventures

The breakdown of joint ventures of EPM at the cut-off date is as follows:

| Name of the joint venture | Location (Country) | Main Activity | Percentage of participation and voting rights | | Date of establishment |
|-------------------------------------|--------------------|--|---|------|-----------------------|
| | | | 2018 | 2017 | |
| Parques del Rio S.A.S. ¹ | Medellín | Construction, operation, management and sustainment of the Parques del Rio Medellin project, as well as acting as urban project manager. | 33% | 33% | 26/12/2015 |

- ¹ Joint venture constituted on November 26, 2015, in which the Municipality of Medellín, Interconexión Eléctrica S.A. E.S.P. (ISA), Massive Transport Company of Valle de Aburrá Ltda. (Metro) and EPM. The Entity seeks to be the manager of the next urban developments in the city, the department and the country, taking advantage of synergies in the areas of infrastructure, mobility, environmental and social, among others.

The value of investments in joint ventures at the cut-off date was:

| Name of the joint venture | 2018 | | 2017 | |
|---|---------------------|-----------|---------------------|-----------|
| | Value of investment | | Value of investment | |
| | Cost | Total | Cost | Total |
| Parques del Rio S.A.S. | 99 | 99 | 99 | 99 |
| Total investment in joint ventures | 99 | 99 | 99 | 99 |

Figures stated in millions of Colombian pesos



Note 12. Trade and other receivables

The breakdown of trade and other receivables at the date of the reporting period is as follows:



| Trade and other receivables | 2018 | 2017 |
|--|------------------|------------------|
| Non-current | | |
| Public utilities debtors | 319.038 | 302.514 |
| Impairment loss public utilities | (93.776) | (84.493) |
| Economic associates | 1.652.922 | 1.688.594 |
| Employee loans | 89.353 | 80.779 |
| Impairment loss employee loans | (11) | (0) |
| Other debtors receivable | 46.166 | 19.086 |
| Impairment loss other debtors receivable | (910) | (130) |
| Total non-current | 2.012.782 | 2.006.350 |
| Current | | |
| Public utilities debtors | 1.410.316 | 1.325.815 |
| Impairment loss public utilities | (193.238) | (182.091) |
| Economic associates | 120.601 | 45.195 |
| Employee loans | 29.519 | 27.583 |
| Dividends and participations receivable | 46.687 | 20.482 |
| Impairment loss employee loans | (322) | (286) |
| Construction contracts | 782 | 246 |
| Other debtors receivable | 273.170 | 329.753 |
| Impairment loss other debtors receivable | (59.027) | (43.174) |
| Total current | 1.628.488 | 1.523.523 |
| Total | 3.641.270 | 3.529.873 |

Figures stated in millions of Colombian pesos

The non-current portion shows an increase of \$6,432, justified by the combined effect of the increase in the balance of receivables for the sale of assets associated with the sale of land to Pro-mobiliaria, the increase in debtor balances of public utilities and the decrease in the balance of loans to economic associates; the latter explained by the payment received by EPM Chile

The current portion increased by \$104,965 is justified by the increase in the balances of debtors of public utilities, especially the distribution service of power, aqueduct and prepaid products.

Accounts receivable for \$782, associated with construction contracts, correspond to the collections made to the Support fund for rural energization in interconnected areas (FAER, for its Spanish initials). This under a contract signed with the Colombian Ministry of Mines and Energy.

Accounts receivable from public utilities debtors do not generate interest and the term for collection depends on the type of use of the same. In residential use, the collection of invoices is projected to take place 10 days after the invoice is generated. Individual contracts with large customers or the energy sector contemplate deadlines agreed in particular negotiations. In the latter case, the period is generally 30 days.

48.71% of the total balance corresponds to loans to economic associates for \$1,773,524: Hidrosur for \$1,090,680 (2017: \$906,848), Hidroecologica del Teribe for \$406,120 (2017: \$233,970), EPM Chile for \$258,640 (2017: \$187,075) and EPM Transmision Chile for \$18,083 (2017: No debt).

Impairment of portfolio

The Company measures the value correction for expected losses during the lifespan of the asset using the simplified approach, which consists in taking the current value of credit loss arising from all possible default events at any time during the lifetime of the operation.

This alternative is taken given that the volume of clients handled by the Company is very high and the measurement and control of the risk by stages can lead to errors and to an underassessment of the impairment.

The expected loss model corresponds to a forecasting tool that projects the probability of default (non-payment) in a period of one year. Each obligation is assigned an individual probability of non-payment calculated from a probability model that involves sociodemographic, product and behavioral variables.

At the cut-off date, the ageing analysis of accounts receivable at the end of the reporting period that are impaired is:

| | 2018 | | 2017 | |
|---------------------------------------|----------------------|---------------------------------------|----------------------|---------------------------------------|
| | Gross recorded value | Lifetime expected credit losses value | Gross recorded value | Lifetime expected credit losses value |
| Public utilities debtors | | | | |
| Not past due nor impaired | 1,433,607 | (106,629) | 1,249,274 | (91,396) |
| Less than 30 days | 94,207 | (7,074) | 152,456 | (2,452) |
| 30-60 days | 16,339 | (2,242) | 37,170 | (1,734) |
| 61-90 days | 8,114 | (2,497) | 8,046 | (2,069) |
| 91-120 days | 5,857 | (2,597) | 8,232 | (1,857) |
| 121-180 days | 7,284 | (4,578) | 7,171 | (3,122) |
| 181-360 days | 11,783 | (10,555) | 11,812 | (10,651) |
| Greater than 360 days | 152,164 | (150,842) | 154,168 | (152,933) |
| Total public utilities debtors | 1,729,354 | (287,014) | 1,628,329 | (266,214) |
| Other debtors | | | | |
| Not past due nor impaired | 2,186,065 | (4,688) | 2,159,126 | (4,412) |
| Less than 30 days | 7,130 | (1,266) | 10,159 | (1,913) |
| 30-60 days | 9,491 | (3,633) | 5,288 | (1,744) |
| 61-90 days | 2,172 | (588) | 626 | (200) |
| 91-120 days | 1,152 | (483) | 447 | (190) |
| 121-180 days | 14,530 | (13,880) | 636 | (460) |
| 181-360 days | 11,272 | (8,576) | 2,800 | (2,679) |
| Greater than 360 days | 27,390 | (27,155) | 32,635 | (32,363) |
| Total other debtors | 2,259,201 | (60,270) | 2,211,718 | (43,960) |
| Total receivables | 3,988,555 | (347,284) | 3,840,047 | (310,174) |

Figures stated in millions of Colombian pesos

Impairment of accounts receivable from public utilities exhibits an increase of \$20,430 in relation to 2017, mainly explained by the recognized losses in the portfolio of customers linked to prepaid products, due to change from the traditional service to this alternative generates that the accumulated provision is adjusted to 100% of the exposed balance and is recognized in the age range Without Default

Impairment of the portfolio balances associated to other debtors also exhibited an increase equivalent to \$16,680, mainly explained by the recognition of the expected loss in accounts receivable from: Comercial Energetica del Oriente and the Superintendence of Public Utilities.

The reconciliation of the expected credit loss of the portfolio is as follows:

| Lifetime expected credit losses | 2018 | 2017 |
|--|------------------|------------------|
| Adjustment at the beginning of the period | (310.174) | (303.178) |
| Changes in impairment of receivables held at the beginning of the period | (25.757) | (16.527) |
| Financial assets not written-off during the period | 2.677 | 2.899 |
| New financial assets originated or purchased | (83.701) | (20.976) |
| write-offs | 69.721 | 27.703 |
| Other changes | (51) | (96) |
| Final balance | (347.284) | (310.174) |

Figures stated in millions of Colombian pesos

Impairment showed an increase corresponding to the recognition of expected losses in portfolio balance associated with power distribution products, the prepaid products and the drinking water treatment service.

For the reconciliation the other movements of employee loans, rendering of services, sales of goods, accounts receivable of procurement services, among others are considered.

Portfolio reconciliation is as follows:

| Portfolio balance | 2018 | 2017 |
|--|------------------|------------------|
| Initial balance of financial assets | 3.840.047 | 3.630.390 |
| New financial assets originated or purchased | 11.790.763 | 10.480.677 |
| Financial assets write-offs | (10.983.903) | (10.268.121) |
| Derecognition of financial assets | (2.677) | (2.899) |
| Other changes - Include change description - | (655.675) | - |
| Final balance | 3.988.555 | 3.840.047 |

Figures stated in millions of Colombian pesos

The Company derecognizes, against the impairment of value recognized in an allowance account, the values of impaired financial assets when it becomes apparent that some obligations can not be recovered through executive action, coercive collection or ordinary means. These actions must be supported with additional files where the requests for writing off is documented.

The grounds for requesting the approval of the portfolio derecognition in EPM are the following:

- Registered accounts receivable do not represent certain rights, goods or obligations for EPM.
- The rights or obligations lack adequate documentation and support to allow the undertaking of relevant procedures for payment collection.
- It is not possible to collect the right or obligation, by coercive or judicial collection, once the pre-legal collection stage has been exhausted.
- When it is impossible to identify and individualize the natural or legal person to collect the portfolio.
- When once assessed and established the cost-benefit relationship, results more expensive advancing the collection process than the amount of the obligation.
- When prescribing the asset title and executive title or upon expiration of the right.
- When having advanced the executive process, there are no assets to make effective the settlement of the obligation.
- When having advanced the liquidation process for natural or legal person in judicial terms, and the assets received for dation in payment do not cover the entire debt; in this case the unpaid balance is derecognized.

Bodies responsible for derecognizing

The writing-off of impaired portfolio EPM is approved by the Portfolio Writing-Off Committee, which is chaired by the Manager of Accounting and Financial Services, the assistance of the Director of Financial Transactions and the head of the Credit and Management Portfolio Unit. The Committee meets periodically or when a particular situation warrants it.

Note 13. Other financial assets

The breakdown of the other financial assets at the closing of the period is as follows:

| Other financial assets | 2018 | 2017 |
|--|------------------|------------------|
| Non-current | | |
| Derivatives designated as hedging instruments under hedge accounting | | |
| Swap Agreements | 173,989 | 14,150 |
| Total derivatives designated as hedging instruments under hedge accounting | 173,989 | 14,150 |
| Financial assets measured at fair value through changes in profit for the period | | |
| variable-yield securities | 64,547 | 55,314 |
| Fiduciary rights | 402,067 | 353,669 |
| Total financial assets measured at fair value through changes in profit for the period | 466,614 | 408,983 |
| Financial assets measured at fair value through changes in other comprehensive income | | |
| Equity instruments | 1,581,092 | 1,605,902 |
| Total financial assets measured at fair value through changes in other comprehensive income | 1,581,092 | 1,605,902 |
| Total other non-current financial assets | 2,221,695 | 2,029,035 |
| Current | | |
| Derivatives designated as hedging instruments under hedge accounting | | |
| Swap Agreements | 12,241 | - |
| futures contracts | - | 96 |
| Total derivatives designated as hedging instruments under hedge accounting | 12,241 | 96 |
| Financial assets measured at fair value through changes in profit for the period | | |
| Fixed income securities | 972,788 | 57,494 |
| Pledged investments | 5,647 | 5,434 |
| Total financial assets measured at fair value through changes in profit for the period | 978,435 | 62,928 |
| Total other current financial assets | 990,676 | 63,024 |
| Total other assets | 3,212,371 | 2,092,059 |

Figures stated in millions of Colombian pesos

Conventional purchases and sales of financial assets are recorded applying the trading date.

13.1 Financial assets designated at fair value through Other comprehensive income

The breakdown of equity investments designated at fair value through other comprehensive income is:

| Equity Investment | 2018 | 2017 |
|---|------------------|------------------|
| Interconexion Electrica S.A. E.S.P. ¹ | 1,574,226 | 1,598,999 |
| Other investments | 6,866 | 6,903 |
| Total | 1,581,092 | 1,605,902 |
| Dividends recognized during the period related to investments that are recognized at the end of the period ² | 102,968 | 44,157 |
| Dividends recognized during the period | 102,968 | 44,157 |

Figures stated in millions of Colombian pesos

¹ As of December 31, 2018 the market price of Interconexion Electrica S.A. E.S.P. closed at \$13,980 (2017: \$14,200) Colombian pesos.

² In December 2018 UNE EPM Telecomunicaciones S.A. decreed dividends for \$38,483 payable on January 29, 2019.

Equity investment stated in the previous table are not maintained for negotiating purposes, instead, they are maintained for strategic purposes in the medium and long term. The management of the company considers that classification for these strategic investments provides more reliable financial information, which reflects the changes in their fair value immediately in the result of the period.

Note 14. Leases

14.1. Financial lease as lessee

As of the cut-off date, the recorded value for property, plant and equipment under financial leasing is as follows:

| 2018 | Land and buildings | Communication and computer equipment | Machinery and equipment | Plants, pipelines and tunnels | Total assets |
|----------------------|--------------------|--------------------------------------|-------------------------|-------------------------------|------------------|
| Cost | 200,084 | 2,379 | 2,063 | 1,610,257 | 1,814,783 |
| Accrued depreciation | (73,938) | (1,557) | (1,143) | - | (76,638) |
| Total | 126,146 | 822 | 920 | 1,610,257 | 1,738,145 |

Figures stated in millions of Colombian pesos

| 2017 | Land and buildings | Communication and computer equipment | Machinery and equipment | Total assets |
|----------------------|--------------------|--------------------------------------|-------------------------|----------------|
| Cost | 200,057 | 2,380 | 2,063 | 204,500 |
| Accrued depreciation | (69,600) | (1,465) | (1,077) | (72,142) |
| Deterioro de valor | - | - | - | - |
| Total | 130,457 | 915 | 986 | 132,358 |

Figures stated in millions of Colombian pesos

The most relevant financial lease agreements are:

- Lease of the property called " Edificio Empresas Publicas de Medellin". The agreement has a term of 50 years counted from December 2001, automatically renewable for an equal term if neither party expresses otherwise. The fee is \$1,500 monthly, which will be readjusted each year by the Consumer Price Index (IPC, for its Spanish initials).
- The implicit-lease in the interconnection contract signed with the subsidiary Aguas Nacionales for the Aguas Claras Wastewater Treatment Plant. The agreement has an estimated duration of 40 years as of December 2018, with an estimated monthly fee of \$9,414 which integrates a component that is readjusted by the Consumer Price Index (IPC) and another component that grows to a 15% annual rate.

At the cut-off date, the minimum future payments and the current value of the minimum financial lease payments are distributed as follows:

| Financial lease | 2018 | | 2017 | |
|--|-------------------|---|------------------|---|
| | Minimum payments | Present value of the minimum lease payments | Minimum payments | Present value of the minimum lease payments |
| One year | 131,284 | 124,558 | 18,000 | 17,181 |
| More than one year and up to five years | 533,935 | 398,745 | 72,000 | 55,613 |
| More than five years | 15,521,707 | 1,282,276 | 522,000 | 123,514 |
| Total leases | 16,186,926 | 1,805,579 | 612,000 | 196,308 |
| Minus - value of unearned interest | (14,381,347) | - | (415,692) | - |
| Present value of the minimum lease payments | 1,805,579 | 1,805,579 | 196,308 | 196,308 |

Figures stated in millions of Colombian pesos

The total of future minimum non-cancellable sublease payments of assets acquired in finance leases that the company expects to receive at the cut-off date is \$2,396 (2017: \$2,022). The expense for contingent leases of financial leases recognized in Profit for the period is \$20,782 (2017: \$18,692).

14.2 Operating lease as lessor

The most significant operating lease agreements are for the electrical infrastructure for the installation of networks by telecommunications operators. The contingent installments of these leases are determined based on the updating of the Producer Price Index (IPP, for its Spanish initials) and IPC variables as well as the updating of the lease payments and these contracts can be renewed.

The value of non-cancelable payments for operating leases is as follows:

| Leases | 2018 | 2017 |
|---|---------------------------------|---------------------------------|
| | Non-cancelable operating leases | Non-cancelable operating leases |
| One year | 47,656 | 41,452 |
| More than one year and up to five years | 13,610 | 8,598 |
| More than five years | 15,208 | 14,069 |
| Total leases | 76,474 | 64,119 |

Figures stated in millions of Colombian pesos

Revenue from contingent leases recognized in Profit for the period is \$23,576 (2017: \$24,003).

The company as a lessor does not have contracts adopting the legal figure of a lease and that in essence do not constitute it.

14.3 Operating lease as lessee

The most significant operating lease agreements are for premises for customer service offices in the different municipalities of Antioquia and the Metropolitan Area, spaces for installations and operation of antennas in meteorological stations, office equipment and accessories, user printing infrastructure, equipment for virtual meetings, among others, which have no restrictions. The contingent installments of these leases are determined based on the CPI as well as the updating of the lease payments and these contracts can be renewed.

As of the cut-off date, minimum future payments for operating leases, which cannot be canceled, are distributed as follows:

| Leases | 2018 | 2017 |
|---|---------------------------------|---------------------------------|
| | Non-cancelable operating leases | Non-cancelable operating leases |
| One year | 6,642 | 13,748 |
| More than one year and up to five years | 11,501 | 16,943 |
| Total leases | 18,143 | 30,691 |

Figures stated in millions of Colombian pesos

The total of future minimum non-cancellable sublease payments of assets acquired under operating leases is \$25 (2017: \$18). The expense for contingent leases recognized in the result of the period is \$164, (2017: \$133).

Operating lease payments recognized as expenses for the period are \$10,662 (2017: \$10,716).

The company as a lessee does not have contracts adopting the legal figure of a lease and that in essence do not constitute it.

Note 15. Warranties

The company has not granted warranties in which the third party is authorized to sell or pledge without default by the company.

The company has not received warranties in which it is authorized to sell or pledge without default by the owner of the warranty.

Note 16. Other assets

The breakdown of other assets at the end of the periods being reported is as follows:

| Concept | 2018 | 2017 |
|---|----------------|----------------|
| Non-current | | |
| Advance payments ¹ | 14,892 | 25,820 |
| Employee benefits | 42,414 | 39,545 |
| Advance payments to suppliers ² | 19,868 | 9,522 |
| Deferred loss from leaseback | 22,283 | 22,958 |
| Goods received as dation in payment | 1,285 | 1,285 |
| Total other non-current assets | 100,742 | 99,130 |
| Current | | |
| Advance payments ¹ | 59,569 | 55,408 |
| Advance payments to suppliers ² | 43,422 | 45,160 |
| Other recoverables due to other taxes | 1,400 | - |
| Other advance payments or recoverables due to taxes and contributions | 92 | - |
| Total other current assets | 104,483 | 100,568 |
| Total other assets | 205,225 | 199,698 |

Figures stated in millions of Colombian pesos

¹The non-current portion includes insurance for \$5,381 (2017: \$15,369) comprised of the full-risk-policies of the Ituango Hydroelectric Project for \$5,349 (2017: \$15,151) and civil non-contractual liability for \$32 (2017: \$228),

both valid through March 15, 2020, which are being amortized; the premium in legal stability contracts for \$8,249 (2017: \$9,141) and leases for \$1,262 (2017: \$1,310).

The current portion includes insurance for \$52,823 (2017: \$46,982), comprised mainly of the full-risk-policies for \$29,740 (2017: \$27,405), of which \$9,150 (2017: \$9,459) are from the Ituango Hydroelectric Project, and other insurances for \$23,083 (2017 : \$19,577) of which \$12,985 (2017: \$13,414) correspond to climate change insurance; goods and services for \$2,941 (2017: \$3,076) and leases and maintenance for \$3,804 (2017: \$5,349).

²Corresponds to resources given for management, mainly of the agreements with: Urban Development Company (EDU, for its Spanish initials) for \$18,407 (2017: \$6,893) and Corporacion Parque Arvi for \$1,544 (2017: \$1,152).

Note 17. Inventories

Inventories at the end of the period were represented as follow:

| Inventories | 2018 | 2017 |
|--|----------------|----------------|
| Materials for the rendering of services ¹ | 113,983 | 113,740 |
| Goods in stock ² | 2,956 | 2,149 |
| Goods in transit | 395 | 595 |
| Total inventories at cost or at net realizable value, whichever is less | 117,334 | 116,484 |

Figures stated in millions of Colombian pesos

¹ Includes materials for the rendering of services held by third parties, which are those delivered to contractors that perform activities related to the rendering of services.

² Includes goods in stock that do not require transformation, such as power, gas and water meters, and supply goods, as well as those held by third parties.

Inventories were recognized for \$92,222 (2017: \$100,512) as the cost of the merchandise sold or cost to provide the service during the period. The inventory decline recognized as an expense during the period amounted to \$3 (2017: \$114).

The company has not generated value losses when comparing the net realizable value with the average cost of the inventories.

The company has not committed inventories in warranty for liabilities.

Note 18. Cash and cash equivalents

The composition of cash and cash equivalents at the end of the period is as follows:

| Cash and cash equivalents | 2018 | 2017 |
|--|----------------|----------------|
| Cash on hand and in banks | 537,618 | 106,520 |
| Other cash equivalents | 298,161 | 128,006 |
| Total cash and cash equivalents reported in the statement of financial position | 835,779 | 234,526 |
| Cash and cash equivalents reported in the statement of cash flows | 835,779 | 234,526 |
| Restricted cash | 79,823 | 116,250 |

Figures stated in millions of Colombian pesos

Treasury securities expire within a period equal to or less than three months from their acquisition date and earn market interest rates for this type of investments.

The company has restrictions on cash and cash equivalents as detailed below. As of December 31, 2018, the fair value of restricted cash equivalents is \$79,823 (2017: \$116,250).

| Fund or convention | Intent | 2018 | 2017 |
|--|--|--------|--------|
| Fondo de Vivienda Sinpro | Contribute to the acquisition and improvement of housing, to the beneficiaries of the convention subscribed between EPM and the unions. | 17,936 | 17,525 |
| Fondo de Vivienda Sintraemdes | Contribute to the acquisition and improvement of housing, to the beneficiaries of the convention subscribed between EPM and the unions. | 17,002 | 20,410 |
| Convenio Area Metropolitana del Valle de Aburra | Convention suscribed between the metropolitan area of the valley of aburra and Empresas Publicas de Medellin E.S.P., Act of execution No. 4 of the framework agreement No. CT 2015-000783 of 2015 | 8,006 | - |
| Ministerio de Minas y Energia - Fondo Especial Cuota Fomento | Convention for construction co-financing: infrastructure for the distribution and connection to lower income users in the municipalities of Amaga, Santafe de Antioquia, Sopetran, San Jeronimo and Ciudad Bolivar. Compressed Natural Gas and connection to users of Don Matias, Entrerrios, San Pedro, Santa Rosa and Yarumal. Convention No. 106: construction of the connection infrastructure for users of the Aburra Valley, La Ceja, La Union and El Retiro. Convention 179: includes the municipality of Sonson. | 5,443 | 5,245 |
| Banco Bogota INCODER | Aunar esfuerzos y recursos entre EPM y el INCODER para llevar a cabo el proyecto "estudio de factibilidad para la construccion del distrito de riego y drenaje en parte de la region del uraba antioqueno" con alcance multiproposito. | 4,791 | 9,989 |
| Departamento de Antioquia, Convenio construccion via el Aro - Municipio de Ituango | Managing the resources contributed by the Government of Antioquia to co-finance the construction of the El Aro road - Connection via Puerto Valdivia site of the dam - Ituango municipality. | 2,605 | 7 |
| Credito BID 2120 | Disbursement for the construction of the Aguas Claras plant for the treatment of wastewater (PTAR Bello). | 2,289 | 166 |
| Fondo de Educacion Sinpro | Promote the welfare of employees to meet the payment needs for fees, textbooks and equipment for advancing their own studies or the studies of family members. | 2,258 | 2,140 |
| Fondo de Educacion Sintraemdes | Promote the welfare of employees to meet the payment needs for fees, textbooks and equipment for advancing their own studies or the studies of family members. | 2,107 | 2,010 |

Figures stated in millions of Colombian pesos

| Fund or convention | Intent | 2018 | 2017 |
|---|--|-------|--------|
| Municipio de Guatapé y Cornare | Join efforts for the improvement of technical, economic and social conditions for the execution of the phase 1 of the project to improve the environmental and landscape infrastructure of the Malecon San Juan del Puerto, for the development of sustainable tourism in the Municipality of Guatapé. | 1,994 | 2,334 |
| Fondo Entidad Adaptada de Salud y Fondo Fosyga | Mechanism for the control and monitoring of contributions collected by Contributive Regime of Social Security and Healthcare. | 1,857 | 1,610 |
| Corporacion Autonoma de Guatapé | Join efforts for the improvement of technical, economic and social conditions for the execution of the phase 1 of the project to improve the environmental and landscape infrastructure of the Malecon San Juan del Puerto, for the development of sustainable tourism in the Municipality of Guatapé. | 1,742 | 2,111 |
| Convenio puntos SOMOS | Provide services for the operation of the key capacities associated with the item Points of the Loyalty Program on a large scale for the EPM Group. | 1,651 | 1,522 |
| Transacciones internacionales de energia | Guarantee corresponding to the "compensation" that must be made between the invoice of stock exchange transactions and the advance payments, looking for real payment to be made to XM . | 1,636 | 10,721 |
| Fondo de Calamidad Sintraemdes | Promote the welfare of employees to meet the payment for urgent and unforeseen needs or those of their close family group. | 1,613 | 1,551 |
| Convenios tasas de alumbrado publico y de aseo con los municipios | Convention to manage the resources of territorial entities for the payment to municipalities with agreements of collection of the rates of public lighting and cleaning, these are resources exempt of the 4x1000 tax in Colombia. | 1,571 | 3,308 |
| Fondo de Calamidad Sinpro | Promote the welfare of employees to meet the payment for urgent and unforeseen needs or those of their close family group. | 1,310 | 1,293 |
| CONVENIO INTERADMINISTRATIVO CT -2017-001388 (460007009) | Convention for the construction of 7 indigenous schools in 5 municipalities. | 1,057 | - |

Figures stated in millions of Colombian pesos

| Fund or convention | Intent | 2018 | 2017 |
|--|--|------|-------|
| Programa Aldeas | Usage of the wood that completes its maturation cycle in the forests planted by EPM around its dam reservoirs, to build social housing in the municipalities of Antioquia outside the Valley of Aburra and deliver them to low-income families, preferably in a displacement situation, be it forced or voluntary. | 732 | 1,165 |
| CONTRATO INTERADMINISTRATIVO Numero Pc-2017-001532 De 2017, | Interventory construction of connections for aqueduct and sewerage networks in the neighborhoods Pepe Sierra I, Barrios de Jesus, El Progreso and La Canada del nino: | 494 | - |
| Fondo de Reparacion de motos | Promote the welfare of official workers who work in the regional market and use motorcycles of their property for the performance of their work. | 406 | 381 |
| Municipio de Medellin - Aguas | Comprehensive management of water for human consumption of the inhabitants of the municipality of Medellin | 382 | 879 |
| Ministerio de Minas y Energia | Contributions from the Ministry of Mines and Energy in accordance with the provisions of contract FAER GGC 430 of 2015 for rural electrification works in the Municipality of Ituango. | 191 | 643 |
| Convenio construccion de infraestructura en Madera para Emvarias | Resource management for the construction of infrastructure in Madera for Emvarias in the La Pradera sanitary landfill. | 124 | - |
| Municipio de Caldas | Manage the resources allocated by the municipality of Caldas for the development of the project "Construction, replacement and modernization of aqueduct and sewerage networks and their complementary works, in the urban area of the municipality of Caldas". | 116 | 168 |
| Aporte Municipios de Pueblorrico y Ciudad Bolivar | Convention for the construction of 7 indigenous schools. | 90 | - |
| Distrito Termico | Agreement with the Ministry of Environment and Sustainable Development for the execution of the activities of the La Alpujarra Thermal District. | 71 | 167 |

Figures stated in millions of Colombian pesos

| Fund or convention | Intent | 2018 | 2017 |
|---|---|---------------|----------------|
| Municipio de Barbosa - Subsidios | Agreement to partially subsidize the connection of users in strata 1 and 2 in the municipality of Barbosa. | 62 | 59 |
| Espiritu Santo | EPM - Settlement of the Espiritu Santo project | 60 | 58 |
| Depositos Ley 820 | Guarantee required by the leesor to the lessee, for the payment of public utilities, according to Article 15 of Law 820 of 2003 and regulatory decree 3130 of 2003. | 59 | 53 |
| Municipio de Medellin - Terrenos | Acquisition of properties identified and characterized within the zones of protection of hydrographic basins supplying aqueduct systems in the municipality of Medellin. | 58 | 56 |
| Cuenca Verde | Manage the resources allocated for the fulfillment of the objectives of the Corporacion Cuenca Verde. | 40 | 13 |
| Convenio Marco Municipio Medellin No. 4600049285 | Construction by EPM of walkways and other road elements in the downtown of Medellin, taking advantage of the Centro Parrilla project, that is, the renovation of aqueduct and sewerage networks. | 39 | 37 |
| Bogota Galeria Bolivar | Adjust the Carrera 51 (Bolívar road) between the Calle 44 (San Juan avenue) and 57 (La Paz street) and transform this road segment into what is called La Galeria Bolivar. | 23 | 7,102 |
| Municipio de Medellin - Moravia | Construction, repair work and replacement of aqueduct and sewage networks and paving in the municipality of Medellin of the roads affected by these works in the Moravia neighborhood. | 3 | 3 |
| IDEA convenio 4600003912 | Inter-administrative agreement to join efforts for the design and construction of electricity generation and distribution systems in rural areas in the department of Antioquia. | 2 | 2 |
| Bogota Convenio parques del rio | Transfer of public utilities networks for the development of the project called Parques del Rio Medellin. | 1 | 1 |
| IDEA Convenio 4600003283 | Join efforts for the construction of residential gas connections in the different subregions of the department of Antioquia under the framework program "Gas without Borders". | 1 | 22,373 |
| Subsidios Gobernacion 2016 | Manage resources to subsidize the connections of lower income users in the department of Antioquia. | - | 526 |
| Convenio Interadministrativo Plaza del Tomatero en el Municipio del Penol | Join efforts to improve the technical, economic, environmental and social conditions to boost development and counteract the effect generated, for the municipality of Penol, of the reduction levels of the Penol-Guatape dam reservoir. | - | 369 |
| Fondo multilateral del protocolo de Montreal | Collaboration agreement with the Ministry of Environment and Sustainable Development for the development of activities within the framework of the implementation in Colombia of the Montreal Protocol. | - | 248 |
| Convenio Municipio de Itagui Colector Ajizal | Manage the resources allocated by the Municipality of Itagui for the construction of the stabilization works for the channel of the creek the sesteadero for the Ajizal collector. | - | 5 |
| Total restricted resources | | 79,823 | 116,250 |

Figures stated in millions of Colombian pesos

Note 19. Equity

19.1 Capital

The company does not have its capital divided into shares and did not have increases or decreases in capital in the reported period.

19.2 Reserves

Of the accounts that make up equity, the reserves at the cut-off date were constituted by:

| Reserves | 2018 | 2017 |
|---|------------------|------------------|
| Legal reserves | | |
| Initial balance | 2,370,045 | 2,505,608 |
| Release | (990,610) | (135,563) |
| Final balance of legal reserves | 1,379,435 | 2,370,045 |
| Occasional reserves | | |
| Initial balance | 574,008 | 574,008 |
| Final balance of occasional reserves | 574,008 | 574,008 |
| Other reserves | | |
| Initial balance | 7,591 | 7,591 |
| Final balance of other reserves | 7,591 | 7,591 |
| Total reserves | 1,961,034 | 2,951,644 |

Figures stated in millions of Colombian pesos

The nature and purpose of the company's equity reserve are described below:

Legal reserve

The company has constituted the legal reserves, in compliance with the tax provisions of Colombia that were contained in Articles 130 of the Tax Code, which was repealed by Law 1819 of 2016 (reserve of 70% for the excess of tax depreciation over the accountable) and Decree 2336 of 1995 (for revenue incorporated to profits in the application of the equity method applied under local regulation).

Occasional reserves

In compliance with article 211 of the Colombian Tax Code, the company has gathered the required reserves in order to enjoy the special tax treatment and obtain cut in the income and complementary taxes.

Other reserves

Includes equity funds (appropriate resources prior to 1999 to grant housing loans to workers, Financing Plan, Self-insurance fund, housing fund).

¹The Board of Directors, in its sessions of March 20, 2018 and March 14, 2017, approved:

- The release of reserves for \$990,610 (2017: \$135,563) gathered in previous periods by authorization of the Board of Directors.

19.3 Retained profit

The movement of retained profit during the period was as follows:

| Retained profit | 2018 | 2017 |
|-------------------------------------|-------------------|-------------------|
| Initial balance | 15,569,351 | 14,766,986 |
| movement of reserves | 990,610 | 135,563 |
| Surpluses or dividends decreed | (1,203,504) | (1,609,136) |
| Equity method for changes in equity | (24,111) | 14,621 |
| Other movement for the period | - | 73,128 |
| Total cumulative profit | 15,332,346 | 13,381,162 |
| Net profit for the period | 2,344,822 | 2,188,189 |
| Total retained profit | 17,677,168 | 15,569,351 |

Figures stated in millions of Colombian pesos

The surplus paid during the year was \$1,503,504 (2017: \$1,309,136), \$656,457 (2017: \$550,438) ordinary and \$547,047 (2017: \$458,698) extraordinary and the payment for \$300,000 (2017: \$300,000) for the sale of ISAGEN.

Note 20. Accumulated other comprehensive income

The breakdown of each component of the other comprehensive income for the separate statement of financial position and the corresponding tax effect is as follows:

| Accumulated other comprehensive income | 2018 | | | 2017 | | |
|---|------------------|------------------|------------------|------------------|------------------|------------------|
| | Gross | Tax effect | Net | Gross | Tax effect | Net |
| Reclassification of property, plant and equipment and other assets to investment property | 13,439 | (1,360) | 12,079 | 13,439 | (1,360) | 12,079 |
| new measurements of defined benefit plans | (11,995) | 7,027 | (4,968) | (12,367) | 5,010 | (7,357) |
| Equity investments measured at fair value through equity | 2,280,287 | (127,822) | 2,152,465 | 2,305,097 | (131,202) | 2,173,895 |
| participation in other comprehensive income of subsidiaries | 826,024 | 5,169 | 831,193 | 750,761 | 6,215 | 756,976 |
| cash flow hedges | (26,103) | (47,553) | (73,656) | (28,880) | 20,211 | (8,669) |
| Total | 3,081,652 | (164,539) | 2,917,113 | 3,028,050 | (101,126) | 2,926,924 |

Figures stated in millions of Colombian pesos

During the year 2018, net gains from changes in the fair value of hedging instruments were reclassified to the results of the period for \$168,298.

Below, a reconciliation of the initial and final balances to the cut-off date is presented for each component of comprehensive income:

20.1 Component: Reclassification of property, plant and equipment to investment property

The component of Reclassification property, plant and equipment to investment properties of Other comprehensive income corresponds to transfers from property, plant and equipment to investment property, which are measured at fair value. Changes in fair value do not reclassify to Profit for the period.

| Reclassification of property, plant and equipment to investment property | 2018 | 2017 |
|--|---------------|---------------|
| Initial balance | 12,079 | 12,079 |
| Total | 12,079 | 12,079 |

Figures stated in millions of Colombian pesos

20.2 Component: New measurements of defined benefit plans

The component of new measures of defined benefit plans represents the accumulated value of actuarial profits or losses, the return on plan assets and changes in the effect of the asset ceiling, excluding the values included in the net interest on the liability (asset) of net defined benefits. The net value of the new measurements is transferred to retained profit and does not reclassify to the results of the period.

| Component: new measurements of defined benefit plans | 2018 | 2017 |
|--|----------------|----------------|
| Initial balance | (7,357) | 2,736 |
| Profit for the period due to new measurements of defined benefit plans | 372 | (18,735) |
| Associated income tax (or equivalent) | 2,017 | 8,642 |
| Total | (4,968) | (7,357) |

Figures stated in millions of Colombian pesos

20.3 Component: Equity investments measured at fair value through equity

The component of other comprehensive income from equity investments measured at fair value through equity represents the accumulated value of the profits or losses from the assessment at fair value less the values transferred to retained profit when these investments have been sold. Changes in fair value do not reclassify to the result of the period.

| Equity investments measured at fair value through equity | 2018 | 2017 |
|--|------------------|------------------|
| Initial balance | 2,173,895 | 1,742,477 |
| Net earnings due to changes in the fair value of investment property | (24,810) | 475,220 |
| Associated income tax (or equivalent) | 3,380 | (43,802) |
| Total | 2,152,465 | 2,173,895 |

Figures stated in millions of Colombian pesos

20.4 Component: Participation in other comprehensive income of subsidiaries

The component of participation in other comprehensive income of subsidiaries represents the accumulated value of the application of the equity method to the profits and losses of other comprehensive income of the subsidiaries. The accumulated value of the profits or losses will be reclassified to the results of the period or to the accumulated profits, depending on the items that originated the equity method, when once these investments are sold.

| Participation in other comprehensive income of subsidiaries | 2018 | 2017 |
|--|----------------|----------------|
| Initial balance | 756,976 | 632,908 |
| New measurements of defined benefit plans | (2,215) | (10,007) |
| Equity investments measured at fair value through equity | (38,347) | 124,381 |
| Hedging operations | 137 | (100) |
| Profit due to conversion of business abroad | 115,502 | 10,319 |
| Associated income tax (or equivalent) | (765) | (101) |
| Total other comprehensive income for the period | 74,312 | 124,492 |
| Cumulative profit (loss) transferred to retained profit/loss for the period -New measurements of defined benefit plans | 133 | 644 |
| Profit transferred to cumulative income for the period -Equity investments measured at fair value through equity | 29 | (12) |
| Cumulative loss transferred to cumulative income for the period -Profit due to conversion of business abroad | 23 | (1,506) |
| Associated income tax (or equivalent) - Cumulative profit (loss) transferred to cumulative income/loss for the period | (280) | 450 |
| Total cumulative other comprehensive income | (95) | (424) |
| Total | 831,193 | 756,976 |

Figures stated in millions of Colombian pesos

20.5 Component: Cash flow hedges

The component of other comprehensive cash flow hedges represents the accumulated value of the effective portion of the profits or losses that arise from changes in the fair value of hedged items in a cash flow hedge. The accumulated value of the profits or losses will reclassify to the results of the period only when the covered transaction affects the result of the period or the highly probable transaction is not expected to occur, nor to be included, as part of its recorded value, in a non-financial hedged item.

| Cash flow hedges | 2018 | 2017 |
|--|-----------------|----------------|
| Initial balance | (8,669) | (11,904) |
| Losses due to changes in the fair value of hedging instruments | 171,076 | (93,080) |
| Associated income tax (or equivalent) | (77,717) | 8,377 |
| Cumulative losses due to changes in the fair value of hedging instruments reclassified as profit/loss for the period | (168,299) | 87,938 |
| Associated income tax (or equivalent) | 9,953 | - |
| Total | (73,656) | (8,669) |

Figures stated in millions of Colombian pesos

Note 21. Credits and loans

The following is the breakdown of the recorded value of credits and loans:

| Credits and loans | 2018 | 2017 |
|--|-------------------|-------------------|
| Non-current | | |
| Commercial banks loans | 844.579 | 781.470 |
| Multilateral banks loans | 3.249.965 | 1.093.597 |
| Development banks loans | 1.778.009 | 802.370 |
| Other bonds and securities issued | 6.177.480 | 7.785.050 |
| Total other credits and loans non-current | 12.050.033 | 10.462.487 |
| Current | | |
| Commercial banks loans | 559.344 | 331.686 |
| Multilateral banks loans | 615.310 | 574.672 |
| Development banks loans | 175.734 | 117.552 |
| Bonds and securities issued | 374.717 | 469.370 |
| Other bonds and securities issued | 2.029.387 | 455.148 |
| Loans to economic associates | 40.088 | 36.415 |
| Total other credits and loans current | 3.794.580 | 1.984.843 |
| Total other credits and loans | 15.844.613 | 12.447.330 |

Figures stated in millions of Colombian pesos

During 2018, the following disbursements of long-term credits were made:

Long-term credit with EDC (Export Development Canada) with the following conditions: LIBOR rate + 1.40% and a term of 6 years:

- January USD 110 million
- April USD 100 million.
- May USD 90 million.

Long-term credit with CAF (Development Bank of Latin America) with the following conditions: LIBOR rate + 3.1% and a term of 18 years:

- June USD 100 million.
- August USD 100 million.

Long-term credit with the National Bank for Economic and Social Development - BNDES with the following conditions: fixed rate: 4.887% and for a term of 23.5 years:

- February USD 11 million.
- March USD 4 million.

Long-term credit with IDB-2120 with the following conditions: LIBOR rate and a term of 25 years:

- May USD 23 million.
- August USD 9 million.
- September USD 48 million.

Long-term credit with IDB INVEST, a disbursement was made in December for USD 450 million, assigned to tranches A and B, with financial conditions: LIBOR rate + 2.75%, a term of 12 years, LIBOR rate + 2.1125%, a term of 8 years.

During 2018, the following short-term credits were obtained:

- January, with Bancolombia for 170,000, with an IBR rate of + 1.59% and Banco Popular for \$100,000, with an IBR rate of + 1.80%. Both with a term of 1 year.
- February, with Bancolombia for \$130,000, with an IBR rate of + 1.59% and a term of 1 year.
- November, with EMVARIAS for \$40,000, with an IBR rate of + 2.1% and a term of 1 year.
- December, with COLPATRIA for \$100,000 with an IBR rate of + 1.78% and for a term of 1 year.
- December, with BBVA for \$35,000, with an IBR rate of 1.79% and a term of 1 year.

The breakdown of credits and loans of the entity is as follows:

| Institution or loan | Original currency | Initial date | Term | Nominal interest rate | 2018 | | | 2017 | | | | |
|-------------------------------|-------------------|--------------|------|-----------------------|--------|-------------------|----------------------|-------------------|--------|-------------------|----------------------|-------------------|
| | | | | | IRR | Nominal value | Amortized cost value | Total amount | IRR | Nominal value | Amortized cost value | Total amount |
| 2218 BID 800- RELIQUIDADO | USD | 14/07/1994 | 25 | LIBOR + 1.43% | 2.43% | 26,312 | 827 | 27,139 | 2.29% | 48,320 | 1,672 | 49,992 |
| 1665 BID-1664-1 | COP | 9/12/2005 | 20 | 7.8% | 9.24% | 332,231 | 4,367 | 336,598 | 9.46% | 379,692 | 3,935 | 383,627 |
| 2179 BANK OF TOKYO-MITSUB | USD | 29/09/2008 | 15 | LIBOR + 0.95% | 2.07% | 270,782 | 14,372 | 285,154 | 1.17% | 298,376 | 16,760 | 315,136 |
| 1256 BONOS TASA FIJA | COP | 20/11/2008 | 10 | 13.8% | 0.00% | - | - | - | 13.79% | 58,000 | 853 | 58,853 |
| 1254 BONOS IPC | COP | 20/11/2008 | 10 | IPC + 5.37% | 0.00% | - | - | - | 10.49% | 174,410 | 3,563 | 177,973 |
| 1257 BONOS IPC II TRAMO | COP | 22/01/2009 | 10 | IPC + 5.8% | 9.16% | 138,600 | 2,366 | 140,966 | 10.25% | 138,600 | 2,447 | 141,047 |
| 1259 BONOS TF II TRAMO | COP | 22/01/2009 | 10 | 10.8% | 10.79% | 74,700 | 7,558 | 82,258 | 10.79% | 74,700 | 7,564 | 82,264 |
| 1220 BID 2120 | USD | 25/03/2009 | 25 | LIBOR + 0% | 3.62% | 374,249 | (1,614) | 372,635 | 3.33% | 111,903 | (55) | 111,848 |
| 2021 BID 2120-1 | COP | 25/03/2009 | 25 | 6.272% | 7.25% | 190,295 | (2,591) | 187,704 | 7.05% | 190,295 | (1,892) | 188,403 |
| 2022 BID 2120-2 | COP | 25/03/2009 | 25 | 7.5% | 8.06% | 388,096 | 1,624 | 389,720 | 8.04% | 413,134 | 4,607 | 417,741 |
| 2023 BID 2120-3 | COP | 25/03/2009 | 25 | 6.265% | 6.56% | 193,216 | 2,134 | 195,350 | 6.56% | 205,681 | 826 | 206,507 |
| 1261 BONOS IPC III TRAMO | COP | 21/04/2009 | 15 | IPC + 6.24% | 9.63% | 198,400 | 4,260 | 202,660 | 10.55% | 198,400 | 4,374 | 202,774 |
| 1262 BONOS INTERNACIONALE | USD | 29/07/2009 | 10 | 7.625% | 8.25% | 1,624,875 | 49,306 | 1,674,181 | 8.17% | 1,492,000 | 39,894 | 1,531,894 |
| 1264 BONOS IPC IV TRAM 2 | COP | 14/12/2010 | 12 | IPC + 4.2% | 7.58% | 119,900 | 515 | 120,415 | 8.74% | 119,900 | 113 | 120,013 |
| 1265 BONOS IPC IV TRAM 3 | COP | 14/12/2010 | 20 | IPC + 4.94% | 8.40% | 267,400 | 548 | 267,948 | 9.37% | 267,400 | (57) | 267,343 |
| 1266 GLOBAL 2021 COP | COP | 31/01/2011 | 10 | 8.375% | 8.70% | 1,250,000 | 88,210 | 1,338,210 | 8.69% | 1,250,000 | 85,144 | 1,335,144 |
| 1013 AFD | USD | 10/08/2012 | 14 | 4.311% | 4.47% | 824,287 | 13,588 | 837,875 | 4.47% | 840,978 | 13,693 | 854,671 |
| 1267 BONOS IPC V TRAMO I | COP | 4/12/2013 | 5 | IPC + 3.82% | 0.00% | - | - | - | 8.55% | 41,880 | 83 | 41,963 |
| 1268 BONOS IPC V TRAMO II | COP | 4/12/2013 | 10 | IPC + 4.52% | 8.17% | 96,210 | (311) | 95,899 | 9.10% | 96,210 | (529) | 95,681 |
| 1269 BONOS IPC V TRAM III | COP | 4/12/2013 | 20 | IPC + 5.03% | 8.62% | 229,190 | (1,541) | 227,649 | 9.54% | 229,190 | (1,819) | 227,371 |
| 5765 AGRARIO | COP | 20/05/2014 | 16 | IPC + 4.7% | 8.38% | 116,000 | (1,234) | 114,766 | 9.22% | 116,000 | (1,098) | 114,902 |
| 1270 BONOS IPC VI TRAMO I | COP | 29/07/2014 | 6 | IPC + 3.57% | 7.36% | 125,000 | 740 | 125,740 | 8.31% | 125,000 | 322 | 125,322 |
| 1271 BONOS IPC VI TRAMO II | COP | 29/07/2014 | 12 | IPC + 4.17% | 7.78% | 125,000 | 166 | 125,166 | 8.70% | 125,000 | 42 | 125,042 |
| 1272 BONOS IPC VI TRAM III | COP | 29/07/2014 | 20 | IPC + 4.5% | 8.08% | 250,000 | (100) | 249,900 | 8.99% | 250,000 | (191) | 249,809 |
| 1273 GLOBAL 2024 COP | COP | 3/09/2014 | 10 | 7.625% | 7.74% | 965,745 | 17,243 | 982,988 | 7.73% | 965,745 | 16,659 | 982,404 |
| 1274 BONOS IPC V TRAM IV | COP | 20/03/2015 | 10 | IPC + 3.65% | 8.01% | 130,000 | 362 | 130,362 | 8.94% | 130,000 | 192 | 130,192 |
| 1275 BONOS IPC VII TRAMO I | COP | 20/03/2015 | 5 | IPC + 2.72% | 6.13% | 120,000 | 167 | 120,167 | 7.11% | 120,000 | (102) | 119,898 |
| 1276 BONOS IPC VII TRAMO II | COP | 20/03/2015 | 12 | IPC + 3.92% | 7.34% | 120,000 | 146 | 120,146 | 8.25% | 120,000 | (67) | 119,933 |
| 1277 BONOS IPC VII TRAM III | COP | 20/03/2015 | 20 | IPC + 4.43% | 7.83% | 260,000 | 949 | 260,949 | 8.86% | 260,000 | 367 | 260,367 |
| 2015 CLUB DEAL BANK OF TOKYO | USD | 29/12/2015 | 5 | LIBOR + 1.4% | 4.94% | 763,691 | 6,548 | 770,239 | 4.00% | 701,240 | (3,567) | 697,673 |
| 2016 BNDES | USD | 26/04/2016 | 24 | 4.887% | 5.22% | 132,517 | (4,144) | 128,373 | 5.22% | 76,971 | (3,092) | 73,879 |
| 1014 EDC | USD | 4/08/2016 | 6 | LIBOR + 1.4% | 4.65% | 974,925 | 10,059 | 984,984 | 0.00% | - | - | - |
| 1015 CAF | USD | 3/10/2016 | 18 | LIBOR + 3.1% | 6.28% | 649,950 | 5,285 | 655,235 | 0.00% | - | - | - |
| EMVARIAS | COP | 6/07/2017 | 1 | DTF + 2.44% | 0.00% | - | - | - | 8.20% | 35,000 | 1,415 | 36,415 |
| 1278 GLOBAL 2027 COP | COP | 31/10/2017 | 10 | 8.375% | 8.46% | 2,300,000 | 15,626 | 2,315,626 | 8.46% | 2,300,000 | 13,925 | 2,313,925 |
| 6015 COLPATRIA | COP | 12/12/2017 | 1 | IBR + 1.65% | 0.00% | - | - | - | 6.38% | 100,000 | 324 | 100,324 |
| 6016 COLPATRIA | COP | 21/12/2017 | 1 | IBR + 1.65% | 0.00% | - | - | - | 6.36% | 100,000 | 170 | 100,170 |
| 6014 POPULAR | COP | 26/12/2017 | 1 | IBR + 1.8% | 0.00% | - | - | - | 6.47% | 100,000 | 87 | 100,087 |
| 1230 IDB INVEST tramo 12 años | USD | 29/12/2017 | 12 | LIBOR + 2.75% | 6.37% | 1,218,656 | (36,582) | 1,182,074 | 0.00% | - | - | - |
| 1231 IDB INVEST tramo 8 años | USD | 29/12/2017 | 8 | LIBOR + 2.125% | 5.88% | 243,731 | (7,346) | 236,385 | 0.00% | - | - | - |
| 6017 POPULAR | COP | 15/01/2018 | 1 | IBR + 1.8% | 6.06% | 100,000 | 1,312 | 101,312 | 0.00% | - | - | - |
| 6018 Bancolombia | COP | 22/01/2018 | 1 | IBR + 1.59% | 5.87% | 100,000 | 1,110 | 101,110 | 0.00% | - | - | - |
| 6019 Bancolombia | COP | 29/01/2018 | 1 | IBR + 1.59% | 5.87% | 70,000 | 697 | 70,697 | 0.00% | - | - | - |
| 6020 Bancolombia | COP | 19/02/2018 | 1 | IBR + 1.59% | 5.89% | 130,000 | 873 | 130,873 | 0.00% | - | - | - |
| 1016 EMVARIAS | COP | 8/11/2018 | 1 | IBR + 2.1% | 6.38% | 40,000 | 88 | 40,088 | 0.00% | - | - | - |
| 1019 COLPATRIA | COP | 19/12/2018 | 1 | IBR + 1.78% | 6.06% | 100,000 | 199 | 100,199 | 0.00% | - | - | - |
| 1020 BBVA | COP | 20/12/2018 | 1 | IBR + 1.793% | 6.07% | 35,000 | 59 | 35,059 | 0.00% | - | - | - |
| Total | | | | | | 15,668,958 | 195,841 | 15,864,799 | | 12,254,026 | 206,565 | 12,460,591 |

Figures stated in millions of Colombian pesos

Transaction costs of contracted credits that have not been disbursed were \$20,185 (2017: \$13,264).

The interest paid for credit operations was \$925,980 (2017: \$766,640).

The Net loss (profit) for difference in exchange was \$503,317 (2017: \$59,255).

| Subseries | Original currency | Initial date | Term | Nominal interest rate | 2018 | | | | 2017 | | | | amount awarded | | | | | |
|--------------------|-------------------|--------------|------|-----------------------|--------|------------------|----------------------|------------------|--------|------------------|----------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | | | | | IRR | Nominal value | Amortized cost value | Total amount | IRR | Nominal value | Amortized cost value | Total amount | Amount 2017 | Amount 2016 | Amount 2015 | Amount 2014 | Amount 2013 | Amount 2012 |
| A10a | COP | 20/11/2008 | 10 | IPC + 5.37% | 0.00% | 0 | 0 | 0 | 10.49% | 174,410 | 3,563 | 177,973 | 174,410 | 174,410 | 174,410 | 174,410 | 174,410 | 174,410 |
| A10a | COP | 22/01/2009 | 10 | IPC + 5.8% | 9.16% | 138,600 | 2,366 | 140,966 | 10.25% | 138,600 | 2,447 | 141,047 | 138,600 | 138,600 | 138,600 | 138,600 | 138,600 | 138,600 |
| A10a | COP | 4/12/2013 | 10 | IPC + 4.52% | 8.17% | 96,210 | -311 | 95,899 | 9.10% | 96,210 | -529 | 95,681 | 96,210 | 96,210 | 96,210 | 96,210 | 96,210 | 0 |
| A10a | COP | 20/03/2015 | 10 | IPC + 3.65% | 8.01% | 130,000 | 362 | 130,362 | 8.94% | 130,000 | 192 | 130,192 | 130,000 | 130,000 | 130,000 | 130,000 | 0 | 0 |
| A12a | COP | 14/12/2010 | 12 | IPC + 4.2% | 7.58% | 119,900 | 515 | 120,415 | 8.74% | 119,900 | 113 | 120,013 | 119,900 | 119,900 | 119,900 | 119,900 | 119,900 | 119,900 |
| A12a | COP | 29/07/2014 | 12 | IPC + 4.17% | 7.78% | 125,000 | 166 | 125,166 | 8.70% | 125,000 | 42 | 125,042 | 125,000 | 125,000 | 125,000 | 125,000 | 125,000 | 0 |
| A12a | COP | 20/03/2015 | 12 | IPC + 3.92% | 7.34% | 120,000 | 146 | 120,146 | 8.25% | 120,000 | -67 | 119,933 | 120,000 | 120,000 | 120,000 | 120,000 | 0 | 0 |
| A15a | COP | 21/04/2009 | 15 | IPC + 6.24% | 9.63% | 198,400 | 4,260 | 202,660 | 10.55% | 198,400 | 4,374 | 202,774 | 198,400 | 198,400 | 198,400 | 198,400 | 198,400 | 198,400 |
| A20a | COP | 14/12/2010 | 20 | IPC + 4.94% | 8.40% | 267,400 | 548 | 267,948 | 9.37% | 267,400 | -57 | 267,343 | 267,400 | 267,400 | 267,400 | 267,400 | 267,400 | 267,400 |
| A20a | COP | 4/12/2013 | 20 | IPC + 5.03% | 8.62% | 229,190 | -1,541 | 227,649 | 9.54% | 229,190 | -1,819 | 227,371 | 229,190 | 229,190 | 229,190 | 229,190 | 229,190 | 0 |
| A20a | COP | 29/07/2014 | 20 | IPC + 4.5% | 8.08% | 250,000 | -100 | 249,900 | 8.99% | 250,000 | -191 | 249,809 | 250,000 | 250,000 | 250,000 | 250,000 | 250,000 | 0 |
| A20a | COP | 20/03/2015 | 20 | IPC + 4.43% | 7.83% | 260,000 | 949 | 260,949 | 8.86% | 260,000 | 367 | 260,367 | 260,000 | 260,000 | 260,000 | 260,000 | 0 | 0 |
| A5a | COP | 4/12/2013 | 5 | IPC + 3.82% | 0.00% | 0 | 0 | 0 | 8.55% | 41,880 | 83 | 41,963 | 41,880 | 41,880 | 41,880 | 41,880 | 41,880 | 0 |
| A5a | COP | 20/03/2015 | 5 | IPC + 2.72% | 6.13% | 120,000 | 167 | 120,167 | 7.11% | 120,000 | -102 | 119,898 | 120,000 | 120,000 | 120,000 | 120,000 | 0 | 0 |
| A6a | COP | 29/07/2014 | 6 | IPC + 3.57% | 7.36% | 125,000 | 740 | 125,740 | 8.31% | 125,000 | 322 | 125,322 | 125,000 | 125,000 | 125,000 | 125,000 | 125,000 | 0 |
| CT0a | COP | 22/01/2009 | 10 | 10.8% | 10.79% | 74,700 | 7,558 | 82,258 | 10.79% | 74,700 | 7,564 | 82,264 | 74,700 | 74,700 | 74,700 | 74,700 | 74,700 | 74,700 |
| CT0a | COP | 20/11/2008 | 10 | 13.8% | 0.00% | 0 | 0 | 0 | 13.79% | 58,000 | 853 | 58,853 | 58,000 | 58,000 | 58,000 | 58,000 | 58,000 | 58,000 |
| Bono internacional | USD | 29/07/2009 | 10 | 7.625% | 8.25% | 1,624,875 | 49,306 | 1,674,181 | 8.17% | 1,492,000 | 39,894 | 1,531,894 | 1,492,000 | 1,500,355 | 1,574,735 | 1,196,230 | 963,415 | 884,115 |
| Bono internacional | COP | 31/01/2011 | 10 | 8.375% | 8.70% | 1,250,000 | 88,210 | 1,338,210 | 8.69% | 1,250,000 | 85,144 | 1,335,144 | 1,250,000 | 1,250,000 | 1,250,000 | 1,250,000 | 1,250,000 | 1,250,000 |
| Bono internacional | COP | 3/09/2014 | 10 | 7.625% | 7.74% | 965,745 | 17,243 | 982,988 | 7.73% | 965,745 | 16,659 | 982,404 | 965,745 | 965,745 | 965,745 | 965,745 | 965,745 | 0 |
| Bono internacional | COP | 31/10/2017 | 10 | 8.375% | 8.46% | 2,300,000 | 15,626 | 2,315,626 | 8.46% | 2,300,000 | 13,925 | 2,313,925 | 2,300,000 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | | | | | | 8,395,020 | 186,210 | 8,581,230 | | 8,536,435 | 172,780 | 8,709,215 | 8,536,435 | 6,244,790 | 6,319,170 | 5,310,665 | 3,612,105 | 3,165,525 |

Figures stated in millions of Colombian pesos, the exchange rate used was the MRR at the closing of each period

Debt/EBITDA Covenant

EPM has several financial covenants, established in the loan agreements signed with the French Agency for Development (AFD), Inter-American Development Bank, Development Bank of Latin America (CAF), National Bank for Economic and Social Development (BNDES), HSBC, IDB Invest, 2009 international bond issue and warranty by the Japan Bank for International Cooperation (JBIC).

The loss (profit) of these indicators to December 2018 is broken down below:

| Covenant | Credit type | 2017 | 2018 | Limit | Meets |
|------------------------------------|------------------------------|--------|--------|-------|-------|
| EBITDA/FINANCIAL EXPENSES | BNDES, AFH, HSBC, Bonds 2019 | 5,49 | 5,45 | 3,00 | ✓ |
| Monthly accrued EBITDA | | 4.732 | 5.115 | | |
| Monthly accrued financial expenses | | 863 | 939 | | |
| EBITDA/FINANCIAL EXPENSES NET | CAF, IDB Invest | 6,91 | 7,06 | 3,00 | ✓ |
| Monthly accrued EBITDA | | 4.732 | 5.115 | | |
| Monthly accrued financial expenses | | 863 | 939 | | |
| Monthly accrued financial revenue | | 177 | 214 | | |
| DEBT/EBITDA LTM | JIBD, AFD, BID, Bonds 2019 | 3,43 | 3,86 | 3,50 | ✗ |
| Financial liability * | | 16.211 | 19.736 | | |
| EBITDA last twelve months | | 4.732 | 5.115 | | |
| NET DEBT/EBITDA LTM | CAF, IDB Invest, HSBC | 3,16 | 3,34 | 4,00 | ✓ |
| Financial liability * | | 16.211 | 19.736 | | |
| Cash and cash equivalents ** | | 1.272 | 2.645 | | |
| EBITDA last twelve months | | 4.732 | 5.115 | | |
| LONG-TERM DEBT/EQUITY | JBIC, BNDES, BID | 0,69 | 0,74 | 1,50 | ✓ |
| Long-term debt | | 14.315 | 16.265 | | |
| Equity | | 20.868 | 22.034 | | |

Figures stated in millions of Colombian pesos

* The financial liability for the Debt/EBITDA calculation does not consider treasure credit and transitories, amortized cost and pension bonds

** Cash and cash equivalents plus other financial assets less restricted-use funds

*** Long-ter debt does not include pension bonds

Regarding long-term financial debt to EBITDA ratio, as of December 2018, the value of the indicator is 3.86.

Contractually, one of the management structures to avoid defaulting on these types of covenants is the issuance of waivers by creditors.

It should be noted that the fact that EPM exceeds the agreed covenant Debt/EBITDA does not generate a direct activation of the declaration of non-compliance by the banking entities, nor of early payment, for being an action contractually subject to the bank(s) decision to exercise or not such declaration and additionally to the fact of having remedial periods agreed in the contracts to attend a possible default.

EPM must report compliance with the Long-Term Financial Debt/EBITDA indicator as follows: to the Japan Bank for International Cooperation (JBIC) quarterly, to the French Development Agency (AFD) semiannually and to the Inter-American Development Bank (IDB) annually. For the results of December 2018, a waiver was granted by the AFD and the IDB, as for the JBIC, it expressed its intention to contractually modify the covenant or give

a waiver of default, depending on the analyzes carried out internally once the official Financial Statements for the year are published.

Due to the periodicity of measurement, the waivers delivered by AFD and IDB cover the 2019 term, while JBIC will review the compliance of said indicator quarterly.

Regarding the 2009 International Bonds and the HSBC credit, these have agreed on the Financial Debt/EBITDA and Net Financial Debt/EBITDA indicators, respectively, but they are inactive, given that EPM has two credit risk ratings at an investment grade level.

Default events

During the reporting period, the company has not defaulted on any principal or interest payment of its loans.

Note 22. Creditors and other accounts payable

The creditors and other accounts payable consist of:

| Creditors and other accounts payable | 2018 | 2017 |
|---|------------------|------------------|
| Non-current | | |
| Adquisition of goods and services | 628 | 628 |
| Deposits received as collateral | 43 | 37 |
| Resources received for management | 3,224 | 8,635 |
| Construction contracts | 588 | 6,653 |
| Total creditors and other accounts payable non-current | 4,483 | 15,953 |
| Current | | |
| Creditors ¹ | 462,460 | 731,104 |
| Adquisition of goods and services | 529,266 | 591,525 |
| Allocated grants | 6,961 | 2,542 |
| Deposits received as collateral | 310 | 310 |
| Received advanced payments | 506 | 506 |
| Resources received for management | 22,422 | 36,429 |
| Other accounts payable | 853 | 762 |
| Construction contracts | (6,950) | (1,514) |
| commission due | 2,110 | 2,110 |
| Total creditors and other accounts payable current | 1,017,938 | 1,363,774 |
| Total creditors and other accounts payable | 1,022,421 | 1,379,727 |

Figures stated in millions of Colombian pesos

¹ As of December 2017 the report included the financial surplus payable to the Municipality of Medellín for \$300,000 for the sale of the shares of ISAGEN, which were paid in 2018.

The term for payment to suppliers is generally of 30 calendar days, with exceptions documented in the processes and determined, among others, by the type of obligation and contract.

Note 23. Other financial liabilities

The other financial liabilities consist of:

| Other financial liabilities | 2018 | 2017 |
|--|------------------|----------------|
| Non-current | | |
| Financial leases (see note 14) | 1,804,509 | 195,329 |
| Pension bonds ¹ | 250,253 | 270,413 |
| Derivatives not under hedge accounting | - | 3,592 |
| Cash flow hedge derivatives (see note 24) | - | 18,913 |
| Total other financial liabilities non-current | 2,054,762 | 488,247 |
| Current | | |
| Financial leases (see note 14) | 1,070 | 979 |
| Pension bonds ¹ | 284,797 | 264,266 |
| Derivatives not under hedge accounting | - | 10,269 |
| Cash flow hedge derivatives (see note 24) | - | 33,367 |
| Total other financial liabilities current | 285,867 | 308,881 |
| Total other financial liabilities | 2,340,629 | 797,128 |

Figures stated in millions of Colombian pesos

Conventional purchases and sales of financial liabilities are recorded applying the trading date.

¹The variation is accounted for by the amortized cost and the payments made during the period.

23.1 Default events

During the reporting period, the company has not defaulted on any principal or interest payment of its loans.

Note 24. Derivatives and hedges

The company has a cash flow hedge that consists of hedging the variation in future cash flows assignable to certain risks, such as interest rate and exchange rate that may impact profits, whose fair values at the end of the reporting period amount to a right of \$186,230 (2017: 38,131 Obligation). The risks hedged in these operations are:

| hedge classification | Description | Risk Covered | trench | Hedged item | Recorded value of hedged item | Recorded value of hedging instrument | Changes in fair value of the hedging instrument for the period | Changes in fair value of the hedged item for the period | Hedge effectiveness recognized in the profit for the period | Hedge effectiveness recognized in the other comprehensive income | Reclassification of other comprehensive income to profit for the period ¹ |
|--------------------------|---------------------|--|---------------------------------------|--------------------------------------|-------------------------------|--------------------------------------|--|---|---|--|--|
| Cash flow hedging | | | | | | | | | | | |
| Swaps | Cross Currency Swap | USD/COP Exchange rate and LIBOR/fixed rate for debt services | Part of the Club Deal and AFD credits | Credit in U.S. dollars | 2,593,098 | (186,230) | (169,970) | 20,068 | N.A | (169,970) | (191,712) |
| Futures | Derivex | Precio de Venta en bolsa de energia -> Sale price of power in the stock market | N.A. | Sales of power: highly probable item | N.A | - | 314 | N.A | N.A | 314 | 411 |

Figures stated in millions of Colombian pesos

¹ The reclassification of Other Comprehensive income to Profit for the period, for swap instruments, affected interests item, difference in exchange, difference in interest and capital of the right; and for the instruments futures contracts affected the item of power sales in the stock market. Additionally, \$23,823 were capitalized as borrowing costs mainly to the Ituango project.

Cash Flow hedging

The characteristics of the main cash flow hedging instruments that are under hedge accounting are the following:

| Characteristics | Club Deal credit | Club Deal credit | Club Deal credit | Club Deal credit | Club Deal credit | Club Deal credit | AFD Credit | AFD Credit | AFD Credit | AFD Credit | AFD Credit | EDC Credit | EDC Credit | EDC Credit |
|----------------------|------------------------|------------------------|-------------------------------|----------------------|----------------------|----------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Hedged underlying | Club Deal credit | Club Deal credit | Club Deal credit | Club Deal credit | Club Deal credit | Club Deal credit | AFD Credit | AFD Credit | AFD Credit | AFD Credit | AFD Credit | EDC Credit | EDC Credit | EDC Credit |
| Trench No. | 2 | 3 | 8 | 9 | 14 | 12 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 |
| Closing date | 24-May-16 | 26-May-16 | 20-Jun-16 | 8-Jul-16 | 21-Jul-16 | 8-Aug-16 | 3-Feb-17 | 6-Feb-17 | 10-Feb-17 | 24-Mar-17 | 30-Mar-17 | 23-Mar-18 | 3-Apr-18 | 11-May-18 |
| Derivative type | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS |
| Counterpart | JP Morgan | JP Morgan | Bank of America Merrill Lynch | BNP Paribas | BNP Paribas | BNP Paribas | BNP Paribas | BNP Paribas | BNP Paribas | CITI BANK | CITI BANK | Goldman Sachs | Goldman Sachs | Goldman Sachs |
| Nominal amount (USD) | 50,000,000 | 50,000,000 | 60,000,000 | 40,000,000 | 5,000,000 | 30,000,000 | 64,750,000 | 47,381,250 | 85,312,500 | 13,164,375 | 85,312,500 | 110,000,000 | 100,000,000 | 90,000,000 |
| Spot exchange rate | 3,058 | 3,053 | 2,976 | 2,965 | 2,924 | 2,990 | 2,850 | 2,855 | 2,850 | 2,899 | 2,878 | 2,847 | 2,776 | 2,816 |
| Obligation (COP) | 152,900,000,000 | 152,650,000,000 | 178,560,000,000 | 118,600,000,000 | 14,620,000,000 | 89,700,000,000 | 184,537,500,000 | 135,273,468,750 | 243,140,625,000 | 38,163,523,125 | 245,529,375,000 | 313,170,000,000 | 277,600,000,000 | 253,440,000,000 |
| EPM pays | IBR + 2.17 | IBR + 2.17 | 9.30% | 8.42% | 8.48% | 8.44% | IBR + 0,83 | IBR + 0,33 | IBR + 0,69 | IBR + 0,379 | IBR + 0,479 | IBR + 0,432 | IBR + 0,4071 | IBR + 0,3286 |
| | IBR OIS compound 1 day | IBR OIS compound 1 day | | | | | IBR OIS compound 1 day | IBR OIS compound 1 day | IBR OIS compound 1 day | IBR OIS compound 1 day | IBR OIS compound 1 day | IBR OIS compound 1 day | IBR OIS compound 1 day | IBR OIS compound 1 day |
| EPM receives | LIBOR 6 months + 140 | LIBOR 6 months + 140 | LIBOR 6 months + 140 | LIBOR 6 months + 140 | LIBOR 6 months + 140 | LIBOR 6 months + 140 | Fixed rate 4,50% | Fixed rate 4,04% | Fixed rate 4,32% | Fixed rate 4,25% | Fixed rate 4,32% | Libor +0% | Libor +0% | Libor +0% |
| | Forward starting | Forward starting | Forward starting | Forward starting | Back starting | Back starting | Back starting | Back starting | Back starting | Back starting | Back starting | Back starting | Back starting | Back starting |
| Expiring date | 29-Dec-20 | 29-Dec-20 | 29-Dec-20 | 29-Dec-20 | 29-Dec-20 | 29-Dec-20 | 31-Jul-22 | 31-Jul-22 | 31-Jul-22 | 31-Jul-22 | 31-Jul-22 | 4-Aug-22 | 4-Aug-22 | 4-Aug-22 |
| Initial exchange | No | No | No | No | No | No | No | No | No | No | No | No | No | No |
| Final exchange | SI | SI | SI | SI | SI | SI | No | No | No | No | No | No | No | No |
| Modality | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery |

* CCS : Cross Currency Swap

Early termination of hedging

The company had reclassified to non-cash flow hedge accounting two instruments swaps that were canceled in February 2018. The characteristics of the canceled operations are as follows:

| Characteristics | Trench 1 | Trench 11 |
|------------------------------------|-----------------------------|----------------------|
| Contract date | 24-May-16 | 21-Jul-16 |
| Hedged underlying | Club Deal credit | Club Deal credit |
| Derivative type | CCS | CCS |
| Counterpart | Merrill Lynch International | BNP Paribas |
| Nominal amount (USD) | 50,000,000 | 25,000,000 |
| Spot exchange rate | 3,058 | 2,924 |
| Obligation (COP) | 152,900,000,000 | 73,100,000,000 |
| EPM pays | IBR + 2.1077 | 8.48% |
| | IBR OIS compound 1 day | |
| EPM receives | LIBOR 6 months + 140 | LIBOR 6 months + 140 |
| Periodicity | half-yearly | half-yearly |
| Expiring date | 29-Dec-20 | 29-Dec-20 |
| Initial exchange | No | No |
| Final exchange | Yes | Yes |
| Cancelation date | 12-Feb-18 | 12-Feb-18 |
| Cancelation exchange rate | 2,887 | 2,898 |
| EPM (Pays / Receives) | Pays | Pays |
| Amount of reported liquidity (USD) | 3,720,000 | 1,630,000 |

* CCS : Cross Currency Swap

Embedded derivatives

The company has not formalized contracts that contain embedded derivatives.

Note 25. Changes in liabilities for financing activities

The conciliation of the liabilities that arise from the financing activities is as follows:

| Reconciliation of financing activities 2018 | Initial balance | Cash flows | Changes other than cash | | Other changes ¹ | Total |
|---|-------------------|------------------|---------------------------|------------------|----------------------------|-------------------|
| | | | Foreign currency movement | Fair Value | | |
| Long-term credits and loans (See note 21) | 12,447,331 | 2,845,884 | 281,444 | - | 269,954 | 15,844,613 |
| Short-term credits and loans (See note 21) | | | | | | |
| Liabilities for leases (See notes 13 and 23) | 196,310 | (987) | - | - | 1,610,257 | 1,805,580 |
| Derivative and hedging instrument (See notes 13, 23 and 24) | 51,891 | - | - | (162,670) | (75,451) | (186,230) |
| Dividends or surplus paid (See note 19) | 300,000 | (1,503,504) | - | - | 1,203,504 | 0 |
| Other cash flows due to financing activities | - | 7,324 | - | - | (7,324) | - |
| Total liabilities due to financing activities | 12,995,532 | 1,348,717 | 281,444 | (162,670) | 3,000,940 | 17,463,963 |

Figures stated in millions of Colombian pesos

| Reconciliation of financing activities 2017 | Initial balance | Cash flows | Changes other than cash | | Other changes ¹ | Total |
|---|-------------------|----------------|---------------------------|----------------|----------------------------|-------------------|
| | | | Foreign currency movement | Fair Value | | |
| Long-term credits and loans (See note 20) | 9,532,101 | 3,782,524 | 39,997 | - | (2,892,135) | 10,462,487 |
| Short-term credits and loans (See note 20) | 1,288,588 | (2,269,889) | 19,259 | - | 2,946,885 | 1,984,843 |
| Liabilities for leases (See notes 12 and 22) | 197,214 | (906) | - | - | - | 196,308 |
| Derivative and hedging instrument (See notes 12, 22 and 23) | 70,933 | (12,384) | - | 126,209 | (132,864) | 51,895 |
| Dividends or surplus paid (See note 18) | - | (1,309,136) | - | - | 1,609,136 | 300,000 |
| Total liabilities due to financing activities | 11,088,836 | 190,209 | 59,256 | 126,209 | 1,531,022 | 12,995,532 |

Figures stated in millions of Colombian pesos

¹ Includes interest paid during the year for \$1,002,253 (2017: \$853,437), which are classified according to the company's policy as operating activities in the statement of cash flow; variation in the measurement at amortized cost of credits and loans \$919,927 (2017: \$784,976); credits to economic associates for \$40,088 (2017: \$36,414), which are classified as investment activities in the statement of cash flow; and the dividends caused and not paid during the year.

Note 26. Employee benefits

The item of employee benefits recognized at the cut-off date, presents the following composition:

| Employee benefits | 2018 | 2017 |
|--|----------------|----------------|
| Non-current | | |
| Post-employment benefits | 262,950 | 243,726 |
| Long-term benefits | 42,745 | 38,971 |
| Total employee benefits non-current | 305,695 | 282,697 |
| Current | | |
| Short-term benefits | 89,285 | 83,726 |
| Post-employment benefits | 50,212 | 48,091 |
| Termination benefits | | |
| Total employee benefits current | 139,497 | 131,817 |
| Total | 445,192 | 414,514 |

Figures stated in millions of Colombian pesos

26.1 Post-employment benefits

Covers the defined benefit plans and the defined contribution plans detailed below:

26.1.1. Defined benefit plans

| Defined benefit plans | Pensions ¹ | | Retroactive severances ² | | Educational assistance plan ³ | | Total | |
|--|-----------------------|----------------|-------------------------------------|---------------|--|-----------|----------------|----------------|
| | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| Current value of liabilities due to defined benefits | | | | | | | | |
| Initial balance | 446,297 | 444,543 | 99,348 | 92,609 | 71 | 104 | 545,716 | 537,256 |
| Current service cost | - | - | 3,471 | 3,452 | - | - | 3,471 | 3,452 |
| Profit (or loss) due to interests | 29,529 | 29,938 | 6,105 | 6,387 | 3 | 5 | 35,637 | 36,330 |
| Assumptions by experience | 4,820 | 13,479 | (7,886) | 1,313 | 39 | (7) | (3,027) | 14,785 |
| Financial assumptions | 450 | 5,700 | 1,214 | 5,445 | | | 1,664 | 11,145 |
| Payments made by the plan ⁵ | (37,754) | (47,428) | (12,644) | (9,858) | (32) | (31) | (50,430) | (57,317) |
| Other changes | 73 | 65 | 67 | | - | - | 140 | 65 |
| Current value of liabilities as of December 31 | 443,415 | 446,297 | 89,675 | 99,348 | 81 | 71 | 533,171 | 545,716 |
| Fair value of plan assets | | | | | | | | |
| Initial balance | 253,899 | 273,288 | - | - | - | - | 253,899 | 273,288 |
| Payments made by the plan ⁵ | (48,522) | (44,746) | - | - | - | - | (48,522) | (44,746) |
| Profit due to interests | 15,622 | 18,160 | - | - | - | - | 15,622 | 18,160 |
| Expected plan yields (excluding profits due to interests) | (989) | 7,197 | - | - | - | - | (989) | 7,197 |
| Fair value of plan assets as of December 31 | 220,010 | 253,899 | - | - | - | - | 220,010 | 253,899 |
| Surplus or (deficit) of the defined benefit plan | 223,405 | 192,398 | 89,675 | 99,348 | 81 | 71 | 313,161 | 291,817 |
| Net assets (or liabilities) of the defined benefit plan | 223,405 | 192,398 | 89,675 | 99,348 | 81 | 71 | 313,161 | 291,817 |
| Total defined benefits | 223,405 | 192,398 | 89,675 | 99,348 | 81 | 71 | 313,161 | 291,817 |

Figures stated in millions of Colombian pesos

¹Includes a retirement pensions plan recognized prior to the validity of the General Pension System of Law 100 of 1993 with their respective substitutions, that are distributed in the actuarial calculation by groups differentiating the life annuities, those shared with Colpensiones, the pension substitutions and those that generate a pension share. The plan is made up of EPM retirees and retirees belonging to the pension commutation for the liquidation of the Empresa Antioqueña De Energia EADE. It includes contributions to social security and burial insurance. Retirement pensions are legal under the parameters of Law 6 of 1945 and Law 33 of 1985. No risks have been identified for EPM, generated by this plan. During the period, the plans have not undergone Employee Benefits - Plan Amendment, Curtailment or settlements that represent a reduction in the present value of the obligation.

²Includes a plan for retroactive severance pay; it is a post-employment benefit that applies approximately to the 8.5% of EPM employees and consists in the recognition of an average monthly salary multiplied by the number of years of service, payable through advances and at the time of termination of contract. The source that gives rise to the plan is the “Sixth Law of 1945 whereby some provisions are issued on labor conventions, professional associations, collective conflicts and special labor jurisdiction” and National Decree 1160 of 1989, whereby Law 71 of 1988 is partially regulated, and whereby regulations on pensions and other provisions are issued. For the retroactive severance plan, neither possible risks nor significant amendments are identified during the period.

³Includes an educational aid plan granted to each of the children of EPM retirees, including aid for preparatory, technical school or university studies. It has its origin in Article 9 of Law 4 of 1976, by which rules on pension matters are issued in the public, official, semi-official and private sectors and provides that companies or employers will grant scholarships or aid for preparatory, technical school or university students, to the children of their retired staff, under the same conditions as those granted or established for the children of active workers.

The weighted average of the duration in years, of the obligations by defined benefit plans at the cut-off date, is presented below:

| Benefit | 2018 | | 2017 | |
|----------------------------|------|------|------|------|
| | From | To | From | To |
| EPM Pension | 8.4 | 11.4 | 8.6 | 11.4 |
| Educationla assistance EPM | 1.6 | 1.6 | 1.7 | 1.7 |
| Retroactive severances | 6.1 | 6.1 | 6.6 | 6.6 |

⁴I Includes \$50,430 (2017: \$57,317) of securities paid for settlements of the plan, corresponding to pensions, retroactive severances and educational aid plan.

The company has no restrictions on the current realization of the defined benefit plan surplus.

The company did not make any contributions for defined benefits during 2018 and does not expect to make contributions for the next year period.

Fair value of the plan assets is composed as follows:

| Assets that support the plan | 2018 | | 2017 | |
|---|-----------------|----------------|-----------------|----------------|
| | Participation % | Fair value | Participation % | Fair value |
| Cash and cash equivalents | 0.40% | 873 | 2.24% | 5,676 |
| Debt instruments | | | | |
| AAA | 89.84% | 197,649 | 84.26% | 213,934 |
| AA | 6.80% | 14,950 | 9.74% | 24,720 |
| Investment funds ¹ | 2.97% | 6,538 | 3.77% | 9,569 |
| Total debt instruments | 99.60% | 219,137 | 97.76% | 248,223 |
| Total assets that support the plan | 100.00% | 220,010 | 100.00% | 253,899 |

Figures stated in millions of Colombian pesos

¹Comprises a collective investment fund with a conservative profile, with immediate availability of resources called Rentalíquida, managed by Fiduciaria Davivienda, with a balance of \$1,522 and an Exchange Trade Fund (ETF), which follows the Colcap behavior, with a balance of \$5,016.

The main actuarial assumptions used to determine the obligations under the defined benefit plans are as follows:

| Assumptions | Concept | |
|-------------------------------------|---------------------------|-------------|
| | 2018 | 2017 |
| Discount rate (%) | 6.90 - 5.00 | 5.40 - 7.10 |
| Yearly salary increase rate (%) | 4.6 | 4.00 - 4.70 |
| Real rate of return on plans assets | 3.14 | 5.76 |
| Future yearly pension increase rate | 3.5 | 3.5 |
| Yearly inflation rate (%) | 3.5 | 3.5 |
| Mortality rate tables | Valid rentiers 2008 table | |

The following table shows the effect of a variation for more than 1% and less than 1% in the salary increase, in the discount rate and in the increase in the benefit over the obligation for post-employment defined benefit plans:

| Supuestos | Increase in discount rate by +1% | Decrease in discount rate by -1% | Salary increase by +1% | Salary decrease by -1% | Increase in benefit incrementation by +1% | Decrease in benefit incrementation by -1% |
|---------------------------------------|----------------------------------|----------------------------------|------------------------|------------------------|---|---|
| EPM Pension | 308,059 | 360,361 | | | | |
| Social security contributions EPM | 25,461 | 29,554 | | | | |
| Educationla assistance EPM | 80 | 82 | | | 82 | 80 |
| EADE Pension | 74,110 | 91,988 | | | | |
| Social security contributions EADE | 940 | 1,112 | | | | |
| Retroactive severances | 85,077 | 94,547 | 98,016 | 81,736 | | |
| Total post-employment benefits | 493,726 | 577,645 | 98,016 | 81,736 | 82 | 80 |

Figures stated in millions of Colombian pesos

The methods and assumptions used to prepare the sensitivity analysis of the Present Value of the Defined Benefit Obligations (DBO) was made using the same methodology that for the actuarial calculation as of December 31, 2018: Projected Unit of Credit (PUC) method. The sensibility does not present neither limitations nor changes in the methods or assumptions used to prepare the analysis of the current period.

Calculation of pension liabilities and pension commutations according to fiscal requirements

Resolution 037 of 2017 issued by the General Accountancy of the Nation established the obligation to disclose the calculation of pension liabilities in accordance with the parameters established in Decree 1625 of 2016 and Decree 1833 for pension commutations; therefore, the figures presented below do not correspond to the IFRS requirements.

Pension liabilities

The actuarial calculation of pensions was prepared with the following technical bases:

| Actuarial assumptions - Pension obligation | 2018 | 2017 |
|--|---------------------------|------|
| Real technical interest rate | 4.8 | 4.8 |
| Salary increase rate | 5.09 | 5.74 |
| Pension increase rate | 5.09 | 5.74 |
| Mortality rate table | Valid rentiers 2008 table | |

The following table is the calculation of the pension liabilities with the previous parameters:

| Concept | 2018 | | 2017 | |
|--|------------------|--------------------------|------------------|--------------------------|
| | Number of people | Amount of the obligation | Number of people | Amount of the obligation |
| Personnel pensioned entirely by the company | 652 | 161,125 | 670 | 162,821 |
| Personnel pensioned with amounts shared with Colpensiones (state pension system) | 439 | 65,322 | 375 | 54,553 |
| Personnel benefit shared with Colpensiones | 457 | 61,614 | 466 | 62,486 |
| Personnel pensioned with amounts shared with other institutions | 271 | 34,489 | 300 | 45,040 |
| Total | 1,819 | 322,550 | 1,811 | 324,900 |

Figures stated in millions of Colombian pesos

Below are the pension bonuses related to pension obligations:

| Concept | 2018 | | 2017 | |
|--------------------------------------|------------------|-----------------------|------------------|-----------------------|
| | Number of people | Amount of the reserve | Number of people | Amount of the reserve |
| Retirement payment type A modality 1 | 246 | 2,524 | 250 | 2,399 |
| Retirement payment type A modality 2 | 4,210 | 172,172 | 4,284 | 169,374 |
| Retirement payment type B | 2,324 | 305,588 | 2,506 | 319,937 |
| Retirement payment type T | 5 | 340 | 5 | 393 |
| Other - Contributions Law 549 | 178 | 4,925 | 178 | 4,636 |
| Difference | 6,963 | 485,549 | 7,223 | 496,739 |

Figures stated in millions of Colombian pesos

Following, the differences between the pension liabilities calculated under IFRS and the fiscal pension liabilities are shown:

| | 2018 | 2017 |
|--------------------------------|------------------|------------------|
| Pension liabilities under IFRS | 359.774 | 361.986 |
| Fiscal pension liabilities | 808.098 | 821.638 |
| Difference | (448.324) | (459.652) |

Figures stated in millions of Colombian pesos

Pension commutation liabilities

The actuarial calculation of pension commutation was prepared with the following technical bases:

| Actuarial assumptions - Pension-switching | 2018 | 2017 |
|---|---------------------------|------|
| Real technical interest rate | 4.8 | 4.8 |
| Salary increase rate | 5.09 | 5.74 |
| Pension increase rate | 5.09 | 5.74 |
| Mortality rate table | Valid rentiers 2008 table | |

The following table is the calculation of the pension commutation with the previous parameters:

| Concept | 2018 | | 2017 | |
|---|------------------|--------------------------|------------------|--------------------------|
| | Number of people | Amount of the obligation | Number of people | Amount of the obligation |
| Personnel pensioned entirely by the company | 109 | 23,558 | 151 | 31,288 |
| Personnel pensioned with amounts shared with Colpensiones | 340 | 42,781 | 312 | 35,451 |
| Personnel benefit shared with Colpensiones | 34 | 2,757 | 31 | 2,435 |
| Personnel pensioned with amounts shared with other institutions | 44 | 3,576 | 44 | 4,547 |
| Total | 527 | 72,672 | 538 | 73,721 |

Figures stated in millions of Colombian pesos

Below are the pension bonuses related to the pension commutation liability:

| Concept | 2018 | | 2017 | |
|--------------------------------------|------------------|-----------------------|------------------|-----------------------|
| | Number of people | Amount of the reserve | Number of people | Amount of the reserve |
| Retirement payment type A modality 1 | 12 | 35 | 12 | 33 |
| Retirement payment type A modality 2 | 262 | 10,398 | 267 | 9,787 |
| Retirement payment type B | 226 | 21,795 | 229 | 21,199 |
| Retirement payment type T | 3 | 149 | 3 | 219 |
| Other - Contributions Law 549 | 3 | 107 | 3 | 101 |
| Difference | 506 | 32,484 | 514 | 31,339 |

Figures stated in millions of Colombian pesos

Differences between the pension commutation liability as calculated under IFRS and the tax pension commutation liability are shown below:

| | 2018 | 2017 |
|--|-----------------|-----------------|
| pension-switching liabilities under IFRS | 83,240 | 83,972 |
| Fiscal pension-switching liabilities | 105,157 | 105,059 |
| Difference | (21,916) | (21,087) |

Figures stated in millions of Colombian pesos

26.1.2. Defined contribution plans

The company made contributions to defined contribution plans for \$54,462 (2017: \$53,012), recognized in the Profit for the period as an expense \$15,731 (2017: \$14,412), cost \$31,846 (2017: \$28,341), and investment projects.

26.2 Long-term employee benefits

| Long-term benefits | seniority premium ¹ | |
|---|--------------------------------|---------------|
| | 2018 | 2017 |
| Current value of liabilities due to other long-term benefits | | |
| Initial balance | 38,971 | 35,375 |
| Past service costo de servicio pasado | 4,218 | 3,282 |
| Profit (or loss) due to interests | 2,613 | 2,454 |
| Assumptions by experience | 588 | 1,838 |
| Financial assumptions | 433 | 965 |
| Payments made by the plan | (4,078) | (4,943) |
| Final balance of current value of liabilities | 42,745 | 38,971 |
| Net liabilities due to long-term benefits | 42,745 | 38,971 |

Figures stated in millions of Colombian pesos

For these benefits, the company does not have assets that support the plan.

¹Includes a plan of seniority premium. It is a long-term benefit granted to employees through the Collective Labour Agreements, in EPM it is granted considering the years of continuous or discontinuous service. It is

recognized and paid only once in the respective period and in accordance with the established terms: every 5 years will be paid 12, 17, 23, 30, 35 and 40 days of basic salary, respectively. The form of payment can be in cash, in leisure time or a combination of both at the employee's choice. For the staff that resign the company to access the old-age or disability pension, they have the right to a proportional payment for the time of service, if they have less than one year to complete the next five years at the time of disengagement. For the plan of seniority premium, no possible risks are identified.

The weighted average duration in years, of the obligations for long-term benefit plans at the report date, is as follows:

| Benefit | 2018 | | 2017 | |
|-------------------|------|-----|------|-----|
| | From | To | From | TO |
| seniority premium | 6.6 | 6.6 | 6.7 | 6.7 |

The company does not expect to make contributions to the plan for the next year period.

The main actuarial assumptions used to determine the obligations for long-term employee benefit plans are the following:

| Assumptions | Concept | |
|---------------------------------|--------------------------|------|
| | 2018 | 2017 |
| Discount rate (%) | 6.7 | 6.7 |
| Yearly salary increase rate (%) | 4.85 | 4.7 |
| Yearly inflation rate (%) | 3.5 | 3.5 |
| Mortality rate tables | Valid renters 2008 table | |

The following table shows the effect of a variation for more than 1% and less than 1% in the salary increase, in the discount rate and in the increase in the benefit over the obligation for long-term benefit plans:

| Assumptions | Increase in discount rate by +1% | Decrease in discount rate by -1% | Salary increase by +1% | Salary decrease by -1% |
|---------------------------------|----------------------------------|----------------------------------|------------------------|------------------------|
| seniority premium | 40,237 | 45,574 | 45,815 | 39,980 |
| Total long-term benefits | 40,237 | 45,574 | 45,815 | 39,980 |

Figures stated in millions of Colombian pesos

The methods and assumptions used to prepare the sensibility analysis of the current value of Defined Benefit Obligations (DBO) were done using the same methodology as for the actuarial calculation as of December 31, 2018: Forecasted Credit Unit (FCU). The sensibility does not present any limitations, or amendments in the methods and assumptions used to prepare the analysis of the current period.

26.3 Short-term employee benefits

The composition of the short-term benefits is as follows:

| Short-term benefits | 2018 | 2017 |
|----------------------------------|---------------|---------------|
| Payroll payable | 6,745 | 7,579 |
| Severances | 34,325 | 31,065 |
| Interests on severances | 4,062 | 3,572 |
| Vacations | 14,053 | 13,235 |
| Vacations bonus | 28,363 | 26,629 |
| Holidays (Christmas) bonus | 25 | 36 |
| Bonuses | 1,712 | 1,610 |
| Total short-term benefits | 89,285 | 83,726 |

Figures stated in millions of Colombian pesos

Note 27. Taxes, contributions and rates

The detail of taxes, contributions and rates, other than income tax, is as follows:

| Taxes, contributions and rates | 2018 | 2017 |
|---|----------------|----------------|
| Current | | |
| Withholding tax on income and stamp duty | 60,051 | 52,316 |
| Unified property tax | 1 | 132 |
| Industry and commerce tax | 21,884 | 16,593 |
| Appreciation tax | 136 | - |
| Custom tax and charges | 1,126 | 10,024 |
| Contributions | 4,866 | 4,806 |
| Rates | 15,545 | 16,137 |
| National consumption tax | 4 | 3 |
| Other national taxes | 696 | 696 |
| Other municipal taxes | 7 | 5 |
| Value added tax (VAT) | 3,879 | 3,366 |
| Total taxes, contributions and rates current | 108,195 | 104,078 |
| Total taxes, contributions and rates | 108,195 | 104,078 |

Figures stated in millions of Colombian pesos

Note 28. Provisions, Contingent Liabilities and Contingent Assets

28.1 Provisions

The reconciliation of provisions is as follows:

| Concept | dismantling and restoration ¹ | onerous contracts ² | Lawsuits ³ | Business combinations ⁴ | Other provisions ⁵ | Total |
|-------------------------------------|--|--------------------------------|-----------------------|------------------------------------|-------------------------------|----------------|
| Initial balance | 16,959 | 89,416 | 179,440 | 144,453 | 21,827 | 452,095 |
| Additions | 31,476 | - | 6,399 | - | 312,248 | 350,123 |
| Uses | (1,815) | (28,864) | (2,314) | (572) | 21,710 | (11,855) |
| unused amounts reversed (-) | (15) | (2,246) | (14,507) | (4,902) | (55,661) | (77,331) |
| Adjustment for changes in estimates | (2,382) | - | 77,483 | - | 36,006 | 111,107 |
| Exchange Difference | | | (485) | 10,983 | - | 10,498 |
| Other changes | 609 | 2,745 | 7,511 | 3,707 | 760 | 15,332 |
| Final balance | 44,832 | 61,051 | 253,527 | 153,669 | 336,890 | 849,969 |
| Non-current | 13,201 | 31,463 | 50,629 | 144,622 | 121,002 | 360,917 |
| Current | 31,631 | 29,588 | 202,898 | 9,047 | 215,888 | 489,052 |
| Total | 44,831 | 61,051 | 253,527 | 153,669 | 336,890 | 849,969 |

Figures stated in millions of Colombian pesos

¹Increase due to the execution of the environmental action plan corresponding to the recovery of affectations, downstream, caused by the occluding and flooding of the Ituango Project in April 2018 (detail in number 28.1.1).

²Decrease due to the payments made to TGI, and to the proximity to the contract's end date.

³Increase due to the change of claims of 9 labour lawsuits which plaintiffs are former employees of EADE.

⁴Increase due to the contingency of the Ituango project and the "Guayabal 230 kV Connection and Associated Works" project (detail in section 28.1.6).

28.1.1 Dismantling

- In 2018 EPM includes the provision arising from the contingency of the Ituango project for \$ 31,388 for environmental contingency, established by the specific action plan for the recovery of the parties affected by the events of the occluding of the Cauca river diversion tunnel that presented the project. on April 28, 2018; by the closing of floodgates in 2019 that decreased the flow of the river downstream of the project; and for the events that may arise due to the technical milestones still to be reached, specific to the contingency, as well as the execution of the project itself.

The specific action plan for recovery must consider three framework programs:

- Recovery of affected marshes
- Recovery of the affected fish fauna
- Restoration of aquatic habitats located in the affected area

These three programs correspond to the environmental component as an answer to the identification of the caused effects, as well as discretionary actions. It also includes social programs, economic activities, infrastructure, risk management, among others.

The different actions are planned to be developed between the municipalities of Valdivia to Nechi, however, if they are identified in the municipalities that are part of La Mojana, they will also be subject to intervention.

EPM is compelled to incur costs of dismantling or restoring its facilities and assets. Currently, there are three provisions for dismantling or restoration:

- Withdrawal of transformers containing PCBs (polychlorinated biphenyls): EPM has committed to the dismantling of these assets from 2014 to 2026 covered by Resolution 222 of December 15, 2011 of the Ministry of Environment and Sustainable Development and the Stockholm Convention of May 22 of 2008. The provision is recognized by the present value of the expected costs to settle the obligation using estimated cash flows. The main assumptions considered for calculating the provision are: estimated costs, CPI and fixed rate TES. To date it has been shown that the provision will be affected given that it is expected to complete the dismantling in a shorter time than estimated, while the estimated costs decrease since the dismantling peak has already ended.
- Amaga Mine: with Resolution 130 AS-1106242 of October 21, 2011 issued by CORANTIOQUIA, the environmental component of the closure plan for the coal mines of the mining title is approved and for this purpose construction contracts have begun. Among those are: Miscellaneous civil works, urban planning and monitoring in the coal mines with mining title, code RPP 434 in the area of the Amaga municipality.

The main assumptions considered for calculating the provision are: estimated costs, CPI and fixed rate TES. Currently the company is in the final stage of the actions contemplated in the aforementioned resolution and awaiting a pronouncement by CORANTIOQUIA on the matter, which could involve more monitoring. However, it is clear that independent of this pronouncement, EPM must carry out the necessary actions for the return of the title and that includes legal and technical processes and the framing of decisional structures. To date, it has been shown that the provision will be affected, given that, depending on the qualification of the existing risk, it is imperative to continue monitoring the gases from the mines in the Amaga area for the coming year 2019.

- Environmental provision in the construction of infrastructure projects: arises as a legal obligation derived from the granting of an environmental licenses to compensate for the loss of biodiversity during the construction phase, as well as compensation for the taking of reserve areas, the effect on protected species and forest use; obligations that are formalized through the resolutions of National Authority of Environmental Licenses (ANLA), Regional Autonomous Corporation (CAR) and/or the Ministry of Environment and Sustainable Development (MADS).

The executions of the biotic environmental compensations of the project stretch beyond the time in which the asset begins technical operation, being necessary to implement the figure of the provision with the intention that these expenditures will remain as a greater value for the construction in progress. The company is committed to compensate the loss of biodiversity, taking and closure from 2016 to 2019 according to the resolutions: Res. 1313/2013 ANLA, Res. 519/2014 ANLA, Res LA. 0882/04/08/2014 ANLA, Res. 1166/2013 MADS, Res. 1852/2013 CAR, Res. 2135/2014 CAR, Resolution 1189/22/07/2104 MADS, Res. 1120907/17-03-2015 CORNARE, Res. 141011206/16-10-2014 CORANTIOQUIA, Res LA. EIA1-9872 21/04/2014 CVS, among others. The provision is recognized by the present value of the expected costs to settle the obligation using estimated cash flows. The main assumptions considered in the calculation of the provision are: estimated costs, CPI and fixed rate TES.

28.1.2. Contracts for valuable consideration

As of December 31, 2018, the company has recognized \$61,051 (2017: \$89,414) for the contract of fuel supply and transportation signed between EPM and TGI-Transportadora de Gas Internacional S.A. E.S.P., with the objective of supporting the Termo Sierra plant and obtaining the income from the reliability charge established by the Energy and Gas Regulatory Commission.

The main assumptions considered for calculating the provision are: costs associated to the contract with the stated conditions, utilization factor or suspension of payments for contract maintenance, LIBOR rate, fixed rate in Colombian pesos TES, Market Representative Rate (TRM, for its Spanish initials) for the quarter and macroeconomic environment.

The main hypothesis used for future events are: from 2018 to 2020 the following assumptions are maintained: Suspension of the contract for 30 days every year and utilization of the contract only for 15 days each year for generation for the Termo Sierra plant and the rest of the time would be paid without using the contract (only fixed costs).

28.1.3. Lawsuits

This provision covers the estimated probable losses related to labour, civil, administrative and tax lawsuits that arise in the operations of EPM. The main assumptions considered for calculating the provision are: Average CPI to actual data in previous years and projected data in future years, fixed rate TES in Colombian pesos to discount, estimated value to be paid, and the estimated payment date for those lawsuits rated as probable. As of today, no future events have been foreseen that may affect the calculation of the provision.

In order to minimize the uncertainty that may arise regarding estimated dates of payment and values to be paid in a lawsuit rated as probable, the company uses business rules based on statistical to obtain the average length of processes per action as well as case law to estimate the maximum amounts the law defines for the value of the extra-economic or intangible claims when they exceed their amount, as described below:

Average length of processes per action

Administrative and tax processes

| Type of legal action or procedure | Average length (in years) |
|--|------------------------------|
| Abbreviated | 4 |
| Petition for compliance | 4 |
| Group action | 6 |
| Representative actions | 4 |
| Conciliation (pre-trial) | 2 |
| Partie civile proceedings | 4 |
| Contractual (Breach of contract) | 13 |
| Survey and demarcation | 5 |
| Executive | 5 |
| Singular executive | 3 |
| Expropriation | 4 |
| Comprehensive reparation incident (criminal) | 2 |
| Imposition of easements | 4 |
| Nullification of administrative acts | 5 |
| Nullification and reinstatement of rights | 10 |
| Nullification and reinstatement of labour rights | 11 |
| Ordinary litigation | 7 |
| Ordinary of membership | 5 |
| Accusatorial criminal (Law 906 of 2004) | 4 |
| Division's lawsuit | 4 |
| Protection of consumer rights | 6 |
| Police Grievance | 3 |
| Right to reclaim | 7 |
| Direct compensation | 12 |
| Oral | 5 |

Labour processes

| Type of legal action or procedure | Average length (in years) |
|---|---------------------------|
| Labor Solidarity | 3.5 |
| Pension | 3.5 |
| Extra hours | 3.5 |
| Job reinstatement | 4 |
| Salary scale equalization | 3.5 |
| Unfair dismissal compensation | 3.5 |
| Reassessment of social benefits | 3.5 |
| Compensation work accident | 4 |
| Refund of the health/pension contribution | 4 |

Application of case law

Typology: the values of claims for compensation of extra-patrimonial damages will be recorded according to the following typology:

- Non-material damage.
- Damage to health (physiological or biological damage), derived from a physical or psychophysical injury.
- Damage to relationship life.
- Damage to constitutional and conventional property.

The values of other extra-patrimonial damage claims not recognized by case law will not be recorded, unless by the claim can be inferred that, despite being otherwise denominated, it corresponds to one of the accepted typologies. Neither will claims for extra-patrimonial compensation for damages to property be recorded.

Quantification: The amounts of extra-patrimonial damage claims will be recorded uniformly as follows, regardless of its typology:

| | |
|------------------------------|---|
| Direct victim compensation | 100 Monthly Minimum Legal Wage Enforced (MMLWE) |
| Indirect victim compensation | 50 Monthly Minimum Legal Wage Enforced (MMLWE) |

The following are the recognized lawsuits:

| Third party (Plaintiff) | Complaint | Amount in COP |
|--|---|----------------|
| Oscar Elías Arboleda Lopera | Includes 173 plaintiffs who worked for EADE and express that in the dissolution and liquidation of that company there was employer substitution, which makes the company liable for all the labor obligations. | 161,007 |
| John Walter Jaramillo | Nullification for the dismissal, with the respective salaries and their increases, the social benefits during all the time they remain disengaged; in the same way it will be on behalf of the demander the contributions to the social security until it is effectively reinstated. | 7,241 |
| Oliver Antonio Aguirre Soto | Nullification for the record of conciliation signed under duress (defect) and consequently order the job reinstatement, the reimbursement, the payment of all the salaries and benefits not received, similarly, the payment of all contributions to social security from the moment of dismissal and until the actor is effectively reinstated. | 3,058 |
| Víctor Vergara | Job reinstatement for former EADE worker | 2,596 |
| Jenifer Andrea Marcelo Jiménez | Order Empresas Publicas de Medellin E.S.P. jointly and severally, to the compensation for all material damages for loss of profit, past and future, as well as the moral and serious alterations to the conditions of existence due to a work accident. | 2,442 |
| Francisco Javier Muñoz Usman | Nullification for the dismissal, with the respective salaries and their increases, the social benefits during all the time they remain disengaged; in the same way it will be on behalf of the demander the contributions to the social security until it is effectively reinstated. | 1,515 |
| Carlos Olimpo Cardona | The plaintiff to be reinstated to the same positions or offices or another of the same or higher category that they had been performing, that as a consequence of the compensation, all the salaries and legal social benefits that were not perceived must be compensated as well, in addition to all the contributions caused in favor of the Comprehensive Social Security System. | 1,240 |
| Varios laborales | Other processes of less than \$ 1,240 million pesos. | 15,041 |
| Consorcio Dragados Porce II | Compensate the plaintiffs the amounts resulting from the return of the illegally deducted compensation by EPM in the contracting process No. CD002376. | 27,427 |
| Fiduciaria Colpatria S.A. | Issue payment order against EPM and in favor of Fiduciaria Colpatria S.A. acting as spokesperson for the Autonomous Trust FC - Enertotal. | 4,708 |
| Consorcio Dragados Porce II | That EPM be ordered to recognize and pay the amount of damages caused in the good name of the companies that constituted the CONSORTIUM DRAGADOS CONCRETO PORCE II | 3,888 |
| Unión Temporal Energía Solar S.A. y Estructuras Arbi Ltda. | It be declared that the bid submitted by the plaintiffs to the tender N ° ES-2043-GI convened by EPM, was legally suitable to take it into account at the moment of awarding the respective contract of the tender N ° ES-2043-GI. | 1,865 |
| Construcciones Pico y Pala Ltda. | Nullification of resolutions 95070 of 05/04/1999, from EPM, by means of which contract 1 / DJ-682/15 between EPM and Consortium Trainco S.A. was unilaterally terminated, and 113701 of 03/15/2000, from EPM, by means of which the appeal for reversal filed against resolution 95070 of 04/05/1999 was resolved negatively. | 1,786 |
| Accesorios y Sistemas S.A. | Nullification of resolution 3077 of 11/12/200, issued by the General Manager of EPM, by means of which it was decided to declare the risk realization of quality and correct operation of the vehicles object of the contract 090321557. | 1,133 |
| TRAINCO S.A. | Nullification of resolutions 161052 of 03/05/2001, from EPM, by means of which contract 2101870 between EPM and Trainco SA was unilaterally terminated. and 178702 of 06/07/2001. | 1,038 |
| Didier De Jesús Restrepo Montoya | The plaintiffs claim compensation for moral damages allegedly caused by the eviction of their homes installed in a property owned by EPM, for the construction of the Porce III Hydroelectric Project, by which they were the object of eviction ordered by the Mayor's Office of the Municipality of Anori. | 1,017 |
| Consorcio Dragados Porce II | Registration difference in account change 271005 Litigation No. 14000857 | (486) |
| Varios Administrativos | Other processes of less than \$1,016 million pesos. | 11,521 |
| Municipio de Yumbo (Valle) | Industry and commerce and its complementary, posters and boards and public lighting. | 4,393 |
| Varios fiscales | Other processes of less than \$4,392 million pesos. | 1,097 |
| Total recognized lawsuits | | 253,527 |

Figures stated in millions of Colombian pesos

28.1.4. Business combination

Corresponds to contingent considerations related to the acquisition of the following group of assets that constitute a business: Espiritu Santo Energy S. de R.L. subsidiary and Empresas Varias de Medellin S.A. E.S.P. (EMVARIAS) subsidiary, the balance as of December 31, 2018 amounted to \$135,082 (2017: \$125,428) and \$18,587 (2017: \$19,025), respectively.

The main assumptions considered for calculating the contingent consideration related to the acquisition of Espiritu Santo are: estimated date of occurrence of milestones associated to the contingent payment, probability of occurrence associated, and additionally the discount of the flows of payments applying a discount rate (LIBOR Rate) according to the risk of the liability. As of this date no future events have been revealed that may affect the calculation of the provision.

The main hypothesis used in the future events of the contingent consideration related to the acquisition of EMVARIAS are: ongoing lawsuits against EMVARIAS at the date of the transaction, definition of the year of materialization of each lawsuit, definition of the related amount to each of the disputes, estimate of future contingent expenses related to the litigation estimated for each year and discount rate (TES fixed rate) to discount future contingent expense flows. To date, there have been no future events that could affect the calculation of the provision.

28.1.5. Implicit subsidiary obligations

Corresponds to the implicit obligation of the Hydroecological of Teribe S.A. (HET) subsidiary derived from the application of the equity method.

28.1.6. Other provisions

– For 2018 EPM includes the following provisions derived from the contingency of the Ituango project:

1. Provision of \$38,877 for the contingency of the Ituango project that caused the flood of the Cauca River because of the occluding that the project suffered on May 12, 2018. For the attention of those affected in the Puerto Valdivia municipality, for Compensation of emerging damage, lost profits and moral damages, \$25,807 were allocated; and, \$13,070 for the destruction caused to community infrastructure. Due to adjustments and payments, this provision ended, in December 2018, at \$38,815.
2. Provision of \$42,917 for the recovery of families affected and evacuated by the total losses of their homes and economic activities as a result of the flooding Cauca River, caused by the occluding of the Ituango project, on April 28, 2018. This provision includes all maintenance costs for the shelters and the payment of financial support, this estimate was projected until March 2019, the official estimated date of the red alert.
3. Provision for the warranty of the reliability charge of \$137,318 to cover the construction and commissioning of the Hydroelectric Power Plant and its monthly readjustments.

Establishment of the provision for warranty No. 10090002278 - Reliability charge which amount is USD 42.3 million (COP \$137,318). According to Resolution CREG 061 of 2017, the warranties of the reliability charge for the entry of new generation projects are executed when the commercial operation of the plant is delayed for more than one year. The contingencies presented in the diversion tunnel make the Ituango Hydroelectric project incur in this type of delay and, therefore, under the current regulations, the execution of this warranty.

EPM is negotiating with the CREG and the Government in general, a modification to the regulation of warranties of reliability charge that provides some opportunity to continue with the obligations of steady power and that in turn avoids the execution of the warranty in matter. The main actions are: a) making feasible several auctions of annual reconfiguration of the amount, b) seek for support in other generation assets, such as generation with the Termo Sierra power station and c) looking for new power plants that increase the country's power supply.

4. Provision of \$101,797 for the default, from January to October of 2021, to the Intercolombia transporter for the months following the entry into operation of the connection infrastructure of the Ituango project.

- **Performance guarantee:** for \$14,947 to the project "Conexion Proyecto Guayabal 230 kV and Associated Works" (associated with the Bello-Guayabal-Ancon project) of the EPM distributor for the breach of obligations that covers the guarantee, which also guarantees the date of operation (date completed), the taking of power from the system during the first ten (10) months, at a value equal to or greater than 90% of the energy demand that was projected to consume (which was not fulfilled).
- EPM keeps other provisions oriented to the welfare and quality of life of its employees and family group, such as: employer's policy, multiplier points, Somos program, technical reserve and provision for high-cost and catastrophic illness.

The main assumptions considered for calculating the welfare and Quality of Life provision are:

Management premium: Awarded to the members of EPM management as an extra-legal benefit. An aggregate deductible was contracted from November 1st, 2016 through December 31, 2018, for \$5,500. The main assumptions considered for calculating of each type of provision are the provision are: discount rate TES fixed rate, estimated value to be paid and estimated date of payment. To date, there have been no future events that could affect the calculation of this provision.

Multiplying points: Points obtained throughout the year must be recognized at the request of the interested party or by decision of the Human Talent Development Directorate each accounting closing for the period and must be disbursed along with the payroll. The value of each point is equivalent to 1% of the Monthly Minimum Legal Wage Enforced (MMLWE) and the points should not be accumulated from one year to the next.

Somos Program: The program operates under the modality of point accumulation. Depending on behavior of the statistics the points are accounted for with a cashing probability of 80%.

Technical reserve: The calculating basis for this reserve is that corresponding to all the authorization of services issued and that on the closing date in which the reserve is calculated have not been collected, except those that correspond to authorizations with over twelve months of issuance or to those that after at least 4 months of having been issued, there is evidence they have not been used.

high-cost and catastrophic illness: The calculating basis for this provision is that corresponding to the analysis of the entire population served of affiliates and beneficiaries of the Entidad Adaptada de Salud (EAS) of EPM, that suffer of any of the previously authorized illnesses.

28.1.7. Estimated payments

The estimate of the dates on which the company will have to disburse payments related to the provisions included in this notes to the separate statement of financial situation at the cut-off date, is the following:

| Estimated payments | Dismantling and restoration | Onerous contracts | Lawsuits | Business combinations | Other | Total |
|--------------------|-----------------------------|-------------------|----------------|-----------------------|----------------|----------------|
| 2019 | 37,072 | 29,681 | 207,926 | 47,894 | 215,408 | 537,981 |
| 2020 | 7,584 | 31,463 | 36,700 | 124,384 | 104,297 | 304,428 |
| 2021 | 55 | - | 4,671 | - | 2,403 | 7,129 |
| 2022 y otros | 209 | - | 16,851 | 20,238 | 3,452 | 40,750 |
| Total | 44,920 | 61,144 | 266,148 | 192,516 | 325,560 | 890,288 |

Figures stated in millions of Colombian pesos

28.2 Contingent liabilities and assets

The breakdown of contingent liabilities and contingent assets is as follows:

| Description | Contingent liabilities | Contingent assets | Net |
|--------------|------------------------|-------------------|------------------|
| Lawsuits | 727,479 | 331,918 | (395,561) |
| Total | 727,479 | 331,918 | (395,561) |

Figures stated in millions of Colombian pesos

The company has lawsuits or procedures that are currently in process with the legal, administrative and arbitration bodies. Considering the reports of the legal advisors, it is reasonable to consider that such lawsuits will not affect/significantly affect the financial situation or the solvency, even in the case of unfavorable conclusion of any of them.

The main lawsuits pending of resolution and judicial and extrajudicial disputes in which the company is a party to as of the report date, are indicated below:

Contingent liabilities

| Third party (Plaintiff) | Complaint | Amount in COP |
|---------------------------------------|--|----------------|
| ISAGEN S.A. E.S.P. | Order EPM to compensate ISAGEN for the damages suffered as a result of the aforementioned fire and the consequent unavailability of the Guatape Power Plant. | 252,804 |
| Federacion Nacional de Cafeteros | Recognition and payment of investments made by the National Federation of Coffee Growers of Colombia (Federacion Nacional de Cafeteros de Colombia) in electrical infrastructure works. | 107,393 |
| Compania Minera La Cuelga Ltda. | Compensation of all economic damages caused to the La Cuelga Mining Company, caused for the works of execution and filling of the reservoir and commissioning of the Porce III hydroelectric project. | 38,955 |
| Reinaldo De Jesus Jaramillo Sucerquia | Economic liability by HIDROITUANGO S.A ESP be declared for the damages and losses caused to the plaintiffs (606 people), due to the impediment to work, due to the violation of the right to work, caused by the construction works of the Ituango Hydroelectric Power Plant. | 38,117 |
| Aura De Jesus Salazar Mazo | Compensation by the impediment to perform the mining activity 100 MMLWE; and, for moral damages that they assess, in an equivalent to 200 MMLWE for each of the people in the group, about 113 people. | 37,996 |
| Aura De Jesus Salazar Mazo | Collective right for about 113 people each claiming \$ 1,133,400 for loss of income and \$ 78,753,854 for future loss of income, for destroying, interrupting and cutting the ancestral horseshoe paths that lead from the "Alto Chiri" village in the municipality of Briceno to the "Valley of Toledo" parish. | 27,253 |
| Yalida Maria Madrigal Ochoa | For the eleven defendants, pledging damages to their social and family life due to the death of Nicolas Alberto Moreno Trujillo. | 11,506 |
| Varios administrativos | Other processes of less than \$11,505 million pesos. | 198,149 |
| Jesus Evelio Garces Franco | Nullification to the resolutions that resolves appeal for reconsideration by EPM, and by the Public Utilities Superintendency (SSPPD, fr its Spanish initials); EPM be declared administratively responsible to reinstatement of rights to the plaintiff for undue payment of alleged works in connection with the aqueduct. | 161 |
| Demandas laborales | Job reinstatement, Salary scale equalization, Extra hours, Convention acquired rights, etc. | 15,145 |
| Total contingent liabilities | | 727,479 |

Figures stated in millions of Colombian pesos

Regarding the uncertainty in the estimated date of payment and amount to be paid, for contingent liabilities the same business rules indicated in note 28.1.3 Lawsuits apply.

EPM possesses too as contingent liability, an Environmental Sanctioning Procedure, with the following information:

| Third party (Plaintiff) | Complaint | Amount in COP |
|---|--|--------------------------------------|
| National Authority of Environmental Licenses (ANLA, Autoridad Nacional de Licencias Ambientales) | Sanction against EPM for obstructing the river flow, when closing the bottom discharge valves of the Porce III Hydroelectric Power Plant, to perform repair works in the slopes of the discharging basin of the tailgate, in the dam and the discharge of the ecological flow without knowing the concept by the competent environmental authority. | Not possible to determine the amount |
| National Authority of Environmental Licenses (ANLA, Autoridad Nacional de Licencias Ambientales) | For the disposal of waste material from the excavation activities of the construction of the Via Puerto Valdivia (Dam site - Ituango) on the riverstream and protection strip of the Tamara ravine; and, for having made the substitution of bridges located along Via Puerto Valdivia to build two (2) Box Culverts without the authorization for it; and, for having made wastewater discharges to an infiltration field in the "El Ciruelar" property. | Not possible to determine the amount |
| National Authority of Environmental Licenses (ANLA, Autoridad Nacional de Licencias Ambientales) | Perform construction and operation of a tunnel (Dam Site - Ituango); and, having made the disposal of waste material from the excavation the margin of the road that leads from the Municipality of San Andres de Cuerquia to the Corregimiento del Valle parish, without having the respective license or having previously obtained the modification of the granted environmental license. | Not possible to determine the amount |
| National Authority of Environmental Licenses (ANLA, Autoridad Nacional de Licencias Ambientales) | For occupying the Ituango river channel, for the installation of a pumping system without having the respective license; and, having carried out the water collection from the Ituango river source by pumping without having previously obtained the modification of the environmental license. | Not possible to determine the amount |
| National Authority of Environmental Licenses (ANLA, Autoridad Nacional de Licencias Ambientales) | <p>Usage of inadequate practices regarding surface water sources in the project area; collection of water from the "El Roble", "Burunda", "Bolivia" and "Guacimal" ravines, at higher flows than those granted and/or authorized for the development of the project; for not installing in each of the concessioned water bodies the infrastructure to monitor the remaining flows, in order to be presented in environmental compliance reports; not performing and submitting water quality and hydrobiological monitoring for the communities in the Cauca river, under the conditions established in the environmental license.</p> <p>For not performing reconfiguration and recovery of the riverstream of the San Andres river and its flood zone to its natural conditions, within the period granted; for using materials from the San Andres River, without the updated environmental licenses; for not submitting the results of sediment monitoring in the Cauca river, in order to establish the comparison baseline at the beginning phase of operation of the project.</p> <p>Exceeding the maximum allowed levels of PST (particulate matter) and air pollutants in the asphalt plant located in the Industrial Zone "El Valle"; for not constructing the necessary facilities and infrastructures in the chimney of the asphalt plant to monitor emissions from stationary sources; for not complying with the management measures of the "Waste management and disposal and disposal zones scheme" when disposing plant material mixed with inert material inside the deposits and lack of signaling of the active disposal zones.</p> <p>All this in the project area of the "construction, filling and operation of the Pescadero Hydroelectric-Ituango Project" ...</p> | Not possible to determine the amount |

| Third party (Plaintiff) | Complaint | Amount in COP |
|--|--|--------------------------------------|
| National Authority of Environmental Licenses (ANLA, Autoridad Nacional de Licencias Ambientales) | Increase in 78L/s the catchment flow of water from the San Andres River; for the industrial use in the operation of the crushing plant and concrete without having the respective license or having previously obtained the modification of the license granted for the development of the Project "Construction and Operation of the Hydroelectric Plant Pescadero-Ituango Project", putting at risk the water and hydrobiological resources; and, for not implemented the environmental management measures for the addition of the slopes on which the geomembrane was installed and the waterproofing of the soil putting at risk the hydric and hydrobiological resource. | Not possible to determine the amount |
| National Authority of Environmental Licenses (ANLA, Autoridad Nacional de Licencias Ambientales) | For not performing the environmental management measures established in the Environmental License granted for the Development of the Project "Construction and Operation of the Hydroelectric Plant Pescadero-Ituango Project" for the proper management and disposal of waste material from the excavation and construction of the Puerto Valdivia highway, disposing the material at the slopes of the road and the water sources "Cauca River" and "La Guamera Ravine"; and, having formed the deposits "La Planta" and "Cacharime" at less than thirty meters (30 Mts) from the water source "Cauca River". No haber implementado las medidas de manejo ambiental establecidas en la Licencia Ambiental otorgada para el Desarrollo del Proyecto "Construccion y Operacion Hidroelectrico Pescadero - Ituango relacionadas con el manejo y la debida disposicion del material sobrante de excavacion de la construccion de la via Puerto Valdivia arrojando los mismos sobre taludes de la via y las fuentes hidricas "Rio Cauca" y "Quebrada la Guamera"; y, haber conformado los depositos "La Planta" y "Cacharime" a menos de treinta metros (30 Mts) de la fuente hidrica "Rio Cauca". | Not possible to determine the amount |
| Direccion de Bosques, Biodiversidad y Servicios Ecosistemicos del Ministerio de Ambiente y Desarrollo Sostenible | For the intervention of 100 Hectares that contained forest species subject to a national ban without the prior Resolution that authorizes their removal and that were in the area of the reservoir of the Hydroelectric Project Ituango. | Not possible to determine the amount |
| National Authority of Environmental Licenses (ANLA, Autoridad Nacional de Licencias Ambientales) | For obstructing the riverstream of the "Tenche Ravine" by filling it with stony material. | Not possible to determine the amount |
| National Authority of Environmental Licenses (ANLA, Autoridad Nacional de Licencias Ambientales) | For the activities related to the construction of the Auxiliary System of Deversion (SAD) and its associated infrastructure, within the "Construction and Operation of the Hydroelectric Plant Pescadero-Ituango Project", without previously processing and obtaining the modification to the environmental license ... " | Not possible to determine the amount |

Contingent assets

| Third party (Plaintiff) | Complaint | Amount in COP |
|--|---|----------------|
| Comisión de Regulación de Energía y Gas - CREG | Nullification of the administrative act issued by CREG, and the memorandum MMECREG-438 of 28-02-98 by which response to the right to petition presented by EPM. | 85,756 |
| Ministerio del Medio Ambiente y Desarrollo Territorial | Nullification, decreed that within the costs related to the construction and operation of the Porce III Hydroelectric Project, EPM may include the costs related to readjustments and other concepts. | 4,728 |
| Interconexión Eléctrica S.A. E.S.P. ISA | For the recognition of EPM for the amounts corresponding to the compensation that ISA received between 1995 and 1999, for the line modules that correspond to the STN's use assets in the Playas and Guatapé substations (civilly responsible). | 3,365 |
| Poblado Club Campestre Ejecutivo S.A. | Liability for the damage to the collector owned by EPM, which collects and transports wastewater from the sanitation basin of the La Honda Ravine in the municipality of Envigado. | 3,150 |
| Otros administrativos | Processes of less than \$3,150 million pesos. | 6,928 |
| Municipio de Bello | Complete nullification of the complex administrative act contained in Resolutions 2717 of 2009 and 0531 of 2010. PTAR Bello. | 112,258 |
| Municipio de Bello | Reimbursement (of payments) by EPM, for determining and settlement of capital gains, PTAR Bello. | 107,079 |
| Otros Fiscales | Processes of less than \$3,221 million pesos. | 2,145 |
| La Nación Ministerio de Salud y Protección Social | The Ministry of Health and Social Protection (MINSALUD), has the legal and constitutional obligation to recognize and pay the amounts for services provided to members in relation to medicines and/or procedures, interventions or elements not included in the Mandatory Health Plan (POS, for its Spanish initials). | 6,509 |
| Total contingent assets | | 331,918 |

Figures stated in millions of Colombian pesos

As of December 31, 2018, the value determined by the experts to be compensated is \$331,918 (2017: \$329,058).

Estimated payments and collections

The estimate of the dates on which the company will have to disburse payments related to contingent liabilities or will collect payments for contingent assets provisions included in this notes to the separate statement of financial situation at the cut-off date, is the following:

| Year | Contingent liabilities | Contingent assets |
|-----------------|------------------------|-------------------|
| 2019 | 168,240 | 97,194 |
| 2020 | 12,491 | 124,268 |
| 2021 | 8,837 | 9,299 |
| 2022 and others | 1,010,355 | 135,617 |
| Total | 1,199,923 | 366,378 |

Figures stated in millions of Colombian pesos

Note 29. Other liabilities

The breakdown other liabilities is as follows:

| Other liabilities | 2018 | 2017 |
|---|----------------|----------------|
| Non-current | | |
| Revenue Received in Advance | 2,892 | 3,099 |
| Assets received from customers or third parties | 8,076 | 8,161 |
| Other deferred credit | 21,159 | 21,229 |
| Collection in favour of third parties | 9 | 10 |
| Subtotal other liabilities non-current | 32,136 | 32,499 |
| Current | | |
| Revenue Received in Advance | 51,956 | 58,067 |
| Collection in favour of third parties | 82,252 | 76,165 |
| Subtotal other liabilities current | 134,208 | 134,232 |
| Total | 166,344 | 166,731 |

Figures stated in millions of Colombian pesos

29.1 Revenue received in advance

The breakdown of Revenue received in advance at the cut-off date is as follows:

| Revenue received in advance | 2018 | 2017 |
|--|---------------|---------------|
| Non-current | | |
| Leases | 2,203 | 2,375 |
| Power utilities sales | 689 | 724 |
| Total revenue received in advance non-current | 2,892 | 3,099 |
| Current | | |
| Leases | 173 | 172 |
| Sales | 8,674 | 9,581 |
| Power utilities sales | 40,862 | 33,553 |
| Natural gas utilities sales | 5,406 | 8,329 |
| Other revenue received in advance | (3,159) | 6,432 |
| Total revenue received in advance current | 51,956 | 58,067 |
| Total revenue received in advance | 54,848 | 61,166 |

Figures stated in millions of Colombian pesos

Note 30. Revenue from ordinary activities

The company, for presentation purposes, disaggregates its revenue for the services it renders, in accordance with the business lines in which it participates and the way in which the administration analyzes them. The breakdown of revenue from ordinary activities is as follows:

| Revenue from ordinary activities | 2018 | 2017 |
|------------------------------------|------------------|------------------|
| Sales of goods | 30 | - |
| Rendering of services | | |
| Power utility ¹ | 3,002,126 | 2,589,311 |
| Power transmission service | 151,184 | 205,859 |
| Power distribution service | 2,975,226 | 2,777,404 |
| Natural gas utility ³ | 851,597 | 735,005 |
| Sanitation utility | 419,580 | 400,591 |
| Aqueduct utility ⁴ | 571,677 | 492,044 |
| IT services | 7,172 | 4,581 |
| Construction contracts | 22,899 | 32,714 |
| Other services | 42,216 | 38,202 |
| Refunds ⁵ | (194,289) | (178,068) |
| Total rendering of services | 7,849,418 | 7,097,643 |
| Leases | 47,536 | 48,277 |
| Gain on sale of asset ⁶ | 23,596 | 1,040 |
| Total | 7,920,550 | 7,146,960 |

Figures stated in millions of Colombian pesos

¹Revenue from the power generation service showed higher sales to large customers, an increase in quantities, mainly due to the new demand from Ecopetrol Rubiales, Grupo Femsa, Corona and Grupo Exito.

²Revenue from the power distribution service increased due to the higher unit cost and the increase in consumption.

³The increase is mainly due to higher sales in the secondary market and higher demand of the termicas de la Costa.

⁴The increase is explained by higher consumption, users and rates.

⁵ Refunds presented an increase due to a greater refund of the reliability charge associated with greater power generation.

⁶The increase is due to the sale of land that the company made to the subsidiary Promobiliaria S.A. for the execution of a real estate project.

The company recognized the following amounts for the period, for the contracts in force at the cut-off date described in the previous paragraph:

| 2018 | Carrying value of asset at the beginning of the period | Carrying value of asset at the end of the period | Carrying value of liability at the beginning of the period | Carrying value of liability at the end of the period |
|---|--|--|--|--|
| Contract of uniform conditions for regulated utilities ¹ | 316.578 | 352.720 | 18.883 | 14.086 |
| Non-regulated market - (NRM) or large customers ¹ | 115.837 | 136.800 | 25.575 | 34.642 |
| Total | 432.415 | 136.800 | 44.458 | 48.728 |

| 2017 | Carrying value of asset at the beginning of the period | Carrying value of asset at the end of the period | Carrying value of liability at the beginning of the period | Carrying value of liability at the end of the period |
|---|--|--|--|--|
| Contract of uniform conditions for regulated utilities ¹ | 312,193 | 316,578 | 43,017 | 18,883 |
| Non-regulated market - (NRM) or large customers ¹ | 99,387 | 115,837 | 11,033 | 25,575 |
| Total | 411,580 | 432,415 | 54,050 | 44,458 |

Figures stated in millions of Colombian pesos

¹ contracts with uniform conditions are those through which EPM, provides residential public utilities in exchange for a price in cash, which will be set according to the rates in force, and to the use that is given to the service by the users, subscribers or owners of real estate and users, who when benefiting from the utilities provided by EPM, accept and abide by all the provisions defined thereof.

² The Resolution 131 of December 23 of 1998 by the Commission for Power and Gas Regulation (CREG, for its Spanish initials) establishes the conditions of power supply and levels for large consumers and indicates in its article 2 the electric power limits for a user to contract the power supply in the competitive market; The aforementioned resolution allows the draw up of contracts with large consumers to establish by common agreement the prices of power supply; the purpose of these contracts is to supply electric power to the consumer, as an unregulated user, to meet their own demand.

Another important agreement is the representation contract with XM, which at the end of December 2018 does not report balances for assets and liabilities of the contract.

In contracts with customers, no revenue from performance obligations rendered in previous periods was recognized during this period.

For these contracts it is not possible to identify the outstanding value of performance obligations not satisfied considering that these are contracts without a termination date.

Note 31. Other revenue

The breakdown of the other revenue, which are part of the revenue from ordinary activities, is as follows:

| Other revenue | 2018 | 2017 |
|---|----------------|----------------|
| Compensations ¹ | 105,932 | 9,462 |
| Recoveries ² | 65,819 | 182,472 |
| Commissions | 28,995 | 27,229 |
| Other ordinary revenue | 19,393 | 10,144 |
| Utilization | 6,106 | 6,212 |
| Professional fees | 5,060 | 1,749 |
| Tender sale | 2,521 | 653 |
| Valuation of investment property | 1,596 | 9,941 |
| Government grants | 1,145 | - |
| Contracts for public utilities management | 89 | 268 |
| Total | 236,656 | 248,130 |

Figures stated in millions of Colombian pesos

¹In 2018, \$67,966 was included as compensation for emerging damage caused by the events that occurred in 2017 at the Playas Hydroelectric Plant; for damages in the transportation of some equipment of the Ituango Project in 2016 and for damages in the Porce Hydroelectric Power Plant and compensation for lost profits of \$16,150. In addition, the income tax was accrued for \$15,000 from the non-contractual civil liability policy for the affectation to third parties by the Ituango Project in accordance with the letter from the insurance company with the reserves for claims in process that must be made by the insurance companies. In 2017 it included \$5,908 for the compensation of damages related to the Playas plant.

²In 2017, the return for overpayment for the wealth tax in the 2011-year period is included for \$127,205.

Note 32. Costs of services rendered

The breakdown of Costs of services rendered is as follows:

| Costs of services rendered | 2018 | 2017 |
|---|------------------|------------------|
| Cost of goods and public services (utilities) for sale ¹ | 2,636,154 | 2,177,226 |
| Personal services | 484,878 | 433,246 |
| Depreciations | 425,876 | 415,504 |
| Orders and contracts for other services | 277,371 | 273,807 |
| Licenses, contributions and royalties | 135,845 | 145,905 |
| Orders and contracts for maintenance and repairs | 127,275 | 138,615 |
| Materials and other operating expenses | 107,793 | 104,403 |
| Insurances | 81,786 | 77,942 |
| General | 59,421 | 61,384 |
| Amortizations | 29,740 | 36,507 |
| Taxes and rates | 33,782 | 30,709 |
| Consumption of direct inputs | 23,557 | 27,466 |
| Professional fees | 22,772 | 32,232 |
| Others | 15,786 | 15,624 |
| Total | 4,462,036 | 3,970,570 |

Figures stated in millions of Colombian pesos

¹Includes the value of electrical power purchases in block and on the stock exchange, connection cost, use of lines and pipelines, cost for sales and distribution of natural gas, among other costs. The increase compared to the previous period is mainly due to the use of networks due to greater sales to large customers, greater purchases of power in the stock market and in the long term and higher sales of gas in the secondary market.

Note 33. Administrative expenses

The breakdown of Administrative expenses is as follows:

| Administrative expenses | 2018 | 2017 |
|--|------------------|----------------|
| Personnel expenses | | |
| Payroll expenses | 201,611 | 194,161 |
| Social security expenses | 74,720 | 75,123 |
| Pension expenses | 14,101 | 12,109 |
| Other post-employment benefit plans different from pension | 1,354 | 1,329 |
| Other long-term benefits | 2,466 | 2,686 |
| Benefits in interest rates to employees | 6,183 | 5,102 |
| Total personnel expenses | 300,435 | 290,510 |
| Other miscellaneous provisions ¹ | 310,230 | 37,060 |
| Provision for contingencies ² | 121,646 | 116,087 |
| Taxes, contributions and rates | 103,197 | 113,450 |
| Charges, fees and services | 54,139 | 63,276 |
| maintenance | 42,286 | 41,799 |
| Intangibles | 33,059 | 27,443 |
| Provision for dismantling, removal or rehabilitation | 31,388 | 90 |
| Impairment of property, plant and equipment | 29,384 | 27,217 |
| Other general expenses | 26,865 | 27,052 |
| Amortization of intangibles | 18,175 | 11,107 |
| Studies and projects | 15,386 | 17,732 |
| Christmas lights | 9,681 | 14,525 |
| General insurances | 7,544 | 5,581 |
| Promotion and publications | 6,792 | 11,578 |
| Publicity and advertising | 6,780 | 9,060 |
| Surveillance and private security | 6,695 | 7,276 |
| Public utilities | 5,250 | 5,952 |
| Services of cleaning, cafeteria, restaurant and laundry | 5,225 | 5,553 |
| Provision for onerous contracts | 4,796 | 5,856 |
| Total general expenses | 838,518 | 547,694 |
| Total | 1,138,953 | 838,204 |

Figures stated in millions of Colombian pesos

¹Includes provisions for \$137,318 for the guarantee that covers the construction and commissioning of the Ituango Pescadero Hydroelectric Plant, \$101,797 for the Ituango connection, \$42,917 to maintain assistance to evacuees due to the contingency of the project and \$31,388 for the environmental contingency.

²Includes the update in the change of claims for 9 labour lawsuits of EADE and provision for \$38,877 for the assistance to those affected by the contingency in the Ituango Hydroelectric Project that happened on April 28, 2018.

Note 34. Other expenses

The breakdown of Other expenses is as follows:

| Other expenses | 2018 | 2017 |
|--|----------------|---------------|
| Loss on asset disposal ¹ | 91,325 | 18,252 |
| Otros gastos ordinarios ² | 54,428 | 1,919 |
| Contributions to non-corporate entities | 15,024 | 21,158 |
| Arbitral awards and extrajudicial conciliations | 11,737 | 1,307 |
| Loss due to changes in fair value in investment property | 471 | 414 |
| Court rulings | 82 | 108 |
| Loss on sale of assets | 33 | 10 |
| Total | 173,100 | 43,168 |

Figures stated in millions of Colombian pesos

¹Includes \$78,295 for asset retirement due to the contingency of the Ituango Hydroelectric Project.

²Includes \$45,639 recognized for the assistance to the community affected by the contingency of the Ituango Hydroelectric Project.

Note 35. Financial income and expenses

35.1 Financial income

The breakdown of Financial income is as follows:

| Financial income | 2018 | 2017 |
|--|----------------|----------------|
| Interest revenue: | | |
| Debtors and default interests | 205,119 | 193,398 |
| utility trust rights | 21,631 | 33,799 |
| Gain on valuation of financial instruments at fair value | 17,132 | 18,386 |
| Depósitos bancarios | 15,769 | 13,611 |
| Others | 2,566 | 3,056 |
| Total financial income | 262,217 | 262,250 |

Figures stated in millions of Colombian pesos

35.2 Financial expenses

The breakdown of Financial expenses is as follows:

| Financial expenses | 2018 | 2017 |
|--|----------------|----------------|
| Interest expenses: | | |
| Interest on financial lease liabilities | 39,570 | 35,785 |
| Other interest expenses | 3,227 | 245 |
| Total interests | 42,797 | 36,030 |
| Total expense due to interest on financial liabilities not measured at fair value through change in profits and losses | 1,030,950 | 904,926 |
| Less interest capitalized on eligible assets | (334,242) | (279,974) |
| Other financial expenses: | | |
| Charges | 575 | 755 |
| Other financial expenses ¹ | 77,468 | 136,041 |
| Total gastos financieros | 817,548 | 797,778 |

Figures stated in millions of Colombian pesos

¹Includes in 2017 the assessment of financial instruments at fair value of the hedges that are not under hedge accounting because the underlying was canceled in November 2017.

Note 36. Net exchange difference

The effect of transactions in foreign currency was as follows:

| Exchange difference | 2018 | 2017 |
|---|------------------|----------------|
| Exchange difference revenue | | |
| Own position | | |
| For goods and services and other | 4,163 | 1,189 |
| for liquidity | 52,933 | 28,456 |
| Accounts receivable | 119,941 | 73,348 |
| Other adjustments in exchange difference | - | 3,368 |
| Total Own position | 177,037 | 106,361 |
| Financial | | |
| Gross income | 5,249 | 14,416 |
| Debt hedging | (42) | (330) |
| Total Financial | 5,207 | 14,086 |
| Total exchange difference revenue | 182,244 | 120,447 |
| Exchange difference expenses | | |
| Own position | | |
| For goods and services and other | 12,852 | 3,068 |
| Accounts receivable | 77,055 | 12,347 |
| Other adjustments in exchange difference | 13,130 | 548 |
| Total Own position | 103,037 | 15,963 |
| Financial | | |
| Gross expenditure | 508,566 | 73,672 |
| Debt hedging | (221,915) | (33,859) |
| Total Financial | 286,651 | 39,813 |
| Total exchange difference expenses | 389,688 | 55,776 |
| Exchange difference, net | (207,444) | 64,671 |

Figures stated in millions of Colombian pesos

Rates used for the exchanging foreign currency in the separate financial statements are:

| Currency | Numeric code | Exchange to USD as of December 31 | | Exchange rate as of December 31 | | Average exchange rate | |
|----------------------|--------------|-----------------------------------|--------|---------------------------------|----------|-----------------------|----------|
| | | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| United States Dollar | USD | 1.37 | 1.25 | 3,249.75 | 2,984.00 | 2,956.43 | 2,951.32 |
| Guatemalan quetzal | GTQ | 7.74 | 7.34 | 420.03 | 406.27 | 393.01 | 401.49 |
| Mexican peso | MXN | 19.69 | 19.57 | 165.01 | 152.51 | 153.78 | 156.51 |
| Chilean peso | CLP | 694.00 | 614.98 | 4.68 | 4.85 | 4.61 | 4.55 |
| Euro | EUR | 0.87 | 0.83 | 3,714.95 | 3,583.19 | 3,486.87 | 3,335.21 |
| Japanese yen | JPY | 109.72 | 112.65 | 29.62 | 26.50 | 26.77 | 26.32 |
| Pound sterling | GBP | 0.79 | 0.74 | 4,138.88 | 4,036.61 | 3,941.13 | 3,803.77 |
| Swiss franc | CHF | 0.99 | 0.97 | 3,296.56 | 3,062.09 | 3,021.12 | 2,999.08 |

Note 37. Effect of participation on equity investment

The effect by participation in equity investments is as follows:

| Participation on equity investment | 2018 | 2017 |
|---|----------------|---------------|
| Dividends and participations ¹ | 102,968 | 44,157 |
| Profit due to business combination ² | - | 32,669 |
| Profit due to sales of equity investment | - | 20 |
| Total | 102,968 | 76,846 |

Figures stated in millions of Colombian pesos

¹ Includes dividends from financial instruments for \$102,968 (2017 \$44,157) (see note 13. Other financial assets).

² During the 2017-year, a profit due to business combination for \$ 32,669 was recognized, for the acquisition of control on November 1, 2017 of the subsidiary Empresas Publicas de Rionegro S.A. E.S.P. (EP RIO), originated by the difference between the consideration transferred and the fair value of the net identifiable acquired assets³.

The consideration transferred was established based on the assessment of the company that considers future investments (investments in capital assets - capex- that are executed when a business invests in the purchase of a fixed asset or to add value to an existing asset) that must be carried out to guarantee its viability and an adequate provision of public utilities; which generates a negative value.

Note 38. Income tax

38.1 Tax provisions

Tax provisions applicable and in effect, establish the following:

- The nominal rate of the income tax is 33% and a surtax of 4%.
- Accordance to current tax regulations, the Company is subject to income tax and complementary taxes. The applicable rates are the following: 34% in 2017 and 33% in 2018, plus a surcharge of 6% in 2017 and 4% in 2018. Said surcharge is applicable when the taxable base of the tax is greater than or equal to \$ 800 million pesos.
- Income taxes for occasional income tax are taxed at the 10% rate.
- Residential public utilities in Colombia are excluded from determining the income tax by the system or presumptive income calculated based on the net tax equity of the immediately preceding year.

Below are some fiscal considerations with impact on taxation in the Republic of Colombia.

³ Established based on IFRS 13 fair value measurement.

Financing Bill Colombia

During 2018, the National Government presented a financing bill to the Congress of the Republic, whose purpose, according to the explanatory memorandum, is to cover additional requirements received during the approval process of the General National Budget Law (PGN, fir its Spanish initials) for 2019 in the Congress of the Republic, whose additional resources required amount to \$14,000⁴ billion Colombian pesos. This corresponds to an austere budget, but that allows the continuation of social and economic programs of vital importance for the country's fairness and economic growth.

The initiative is supported by information collected by the Ministry of Finance and Public Credit that collects the opinion of citizens, associations, companies, academic and territorial entities, and public entities of different nature against the creation of new income and the modification of existing ones.

Under this scenario and after exhausting the stages required for the inception of the bill within the Colombian legal system, on December 28, 2018, Law 1943 of 2018 "By which financing laws for the restoration of the equilibrium in the national budget and other provisions are dictated" was enacted.

Thus, among the main modifications, the following can be highlighted:

General rate of income tax and complementary

The rates of income tax and complementary are modified, as follows:

- Year 2019: Thirty-three percent (33%)
- Year 2020: Thirty-two percent (32%)
- Year 2021: Thirty-one percent (31%)
- Year 2022 and forward: Thirty percent (30%)

Presumptive income

Shall have a phasing-out, as follows:

- Year 2018: 3.5%
- Years 2019 and 2020: 1.5%
- Year 2021 and forward: 0%

Value-Added Tax (VAT) or Sales tax

- The general rate of 19% will remain in force.
- The rate of 5% for electric vehicles and their components, parts and accessories will remain in force, as well as for components and spare parts for the natural gas-powered vehicle plan.
- The VAT rule of article 192 of Law 1819 of 2016 remains in force, according to which, the VAT rate of contracts in which a public entity is contracting will correspond to the date of the resolution or award act, or subscription of the respective contract, the rates will increase once they are added.

⁴ Translator note: In Spanish one billion is 1,000,000,000,000 (10¹²), while in English is 1,000,000,000 (10⁹). The stated amount is 14,000,0000,0000,0000.

Other elements

- It is allowed to take as tax deductions in the income tax the VAT paid in the acquisition, import, construction and forming of real productive fixed assets, including the required services to put the good in use conditions, and those assets acquired through leasing.
- The possibility of taking as a tax deduction of 50% of the industry and commerce tax is incorporated. It is expected that, starting in 2022, this discount will be of 100%.
- The tax on dividends received by national companies is applied to the general rate of 7.5% by way of withholding tax on income, that will be transferable and imputable to the resident natural person or investor resident abroad.
- The sale of electric power generated based on wind energy, biomass or agricultural waste, solar, geothermal or ocean will be exempt income tax for a period of 15 years according to the definitions of Law 1715 of 2014 and Decree 2755 of 2003.
- Article 264 of Law 223 of 1995 that allows taxpayers to support their actions in the written concepts issued by the DIAN is repealed, now they continue to be mandatory for the entity's officials; in the case of taxpayers, they can only defend their actions based on the law.
- The Colombian Holding Companies (CHC) framework is created as an instrument to promote foreign investment in the country.
- Tax benefits are implemented through the figure of Mega-Investments (Mega-Inversiones) with the possibility of accessing a stable tax regime.
- The subcapitalization rule that limited the deductibility of the interest paid when there is overindebtedness is modified, specifying that such limitations only apply with respect to the debts contracted between national economic associates.

38.2 Reconciliation of the effective rate

The reconciliation between the applicable tax rate and the effective rate and the composition of the income tax expense for the 2018 and 2017 periods is as follows:

| Income tax and complementary | 2018 | % | 2017 | % |
|---|------------------|------------|------------------|------------|
| Earnings before taxes | 2.493.178 | | 2.671.396 | |
| Theoretical Tax | | | | |
| Items that increase income | <u>3.185.762</u> | 128% | <u>1.455.195</u> | 54% |
| Wealth tax | 0 | | 27.842 | |
| Dividends actually received from controlled companies | 391.940 | | 343.806 | |
| Other -Provisions and non-deductible expenses | 1.989.159 | | 420.505 | |
| IFRS valuations | 53.302 | | 99.715 | |
| Adjustment Amortized cost | 751.361 | | 563.327 | |
| Less items that decrease income | <u>4.314.278</u> | 173% | <u>3.359.367</u> | 126% |
| Deduction Real productive fixed assets | 781.121 | | 792.906 | |
| Non-taxed dividends | 304.495 | | 203.495 | |
| Excess of accounting depreciation over fiscal depreciation | | | 393.401 | |
| Non-taxed recovery | 112.578 | | 126.995 | |
| Others | 1.372.077 | | 407.841 | |
| Equity method | 831.434 | | 480.589 | |
| Bank expenses, commissions and credit operation tax | 691.343 | | 592.784 | |
| IFRS revenue | 116.343 | | 206.040 | |
| Settlement of derivatives | 76.265 | | 127.612 | |
| Recoveries by impairment | 28.622 | | 27.704 | |
| Liquid income for the year | 1.364.662 | 55% | 767.224 | 29% |
| Less Tax-exempt income | 38.476 | | 54.118 | |
| Liquid Taxable income | 1.326.186 | 53% | 713.106 | 27% |
| Income tax rate | 33% | | | 34% |
| Surtax rate | 3% | | | 6% |
| Occasional income tax rate | 10% | | | 10% |
| Income tax | 437.641 | 18% | 242.852 | 9% |
| Surtax | 40.586 | 2% | 44.425 | 2% |
| Occasional income tax | 539 | 0% | 0 | 0% |
| Less tax discounts | (5.570) | 0% | (124.778) | -5% |
| Adjustments recognized in the current period related to the current income tax of previous periods | (97.923) | -4% | 13.933 | 1% |
| Current tax | 375.273 | 15% | 176.432 | 7% |
| Detail of current and deferred expenses | | | | |
| Current tax | 375.272 | 15% | 176.432 | 7% |
| Deferred tax | (226.916) | -9% | 306.775 | 11% |
| Income tax | 148.356 | 6% | 483.207 | 18% |

Figures stated in millions of Colombian pesos

38.3 Income tax recognized in profit or loss

The most significant components of the income tax at the cut-off date are the following:

| Income tax | 2018 | 2017 |
|--|------------------|----------------|
| Current income tax | | |
| Expenses (revenue) due to current income tax | 478,766 | 287,277 |
| Adjustments recognized in the current period related to the current income tax of previous periods | (97,923) | 13,933 |
| Tax benefits for tax losses, tax credits or temporary differences used in the period | (5,570) | (124,778) |
| Total Current income tax | 375,273 | 176,432 |
| Deferred tax | | |
| Net expenses (revenue) due to deferred tax related to the origin and reversal of temporary differences | (8,966) | 306,775 |
| Net expenses (revenue) due to deferred tax related to changes in income tax or regulations | (217,951) | - |
| Total deferred tax | (226,917) | 306,775 |
| Income tax | 148,356 | 483,207 |

Figures stated in millions of Colombian pesos

The rates used to determine the deferred tax are:

| Year | 2018 | 2019 | 2020 | 2021 | 2022 |
|-------------------|------------|------------|------------|------------|------------|
| Income | 33% | 33% | 32% | 31% | 30% |
| Surtax | 4% | - | - | - | - |
| Total rate | 37% | 33% | 32% | 31% | 30% |

38.4 Temporary differences that do not affect the deferred tax

The deductible temporary differences and the unused tax losses and credits, for which the company has not recognized deferred tax assets, are detailed below:

| Concept | 2018 | 2017 |
|--|--------------|----------------|
| Asset (or liability) for current income tax | | |
| Total Asset current income tax | 2,037 | 237,389 |
| Recoverable balances of income tax | 2,037 | 237,389 |
| Total Asset (or liability) for income tax | 2,037 | 237,389 |

Figures stated in millions of Colombian pesos

38.5 Income tax recognized in other comprehensive income

The detail of the tax effect corresponding to each component of “other comprehensive income” of the Consolidated Statement of comprehensive income is the following:

| Other comprehensive income of the Statement of comprehensive income | 2018 | | | 2017 | | |
|--|---------------|-----------------|----------------|----------------|-----------------|----------------|
| | Gross | Tax effect | Net | Gross | Tax effect | Net |
| Items that will not be reclassified after profit for the period | | | | | | |
| New measurements of defined benefit plans | 372 | 2,017 | 2,389 | (18,735) | 8,642 | (10,093) |
| Equity investments measured at fair value through equity | (24,810) | 3,380 | (21,430) | 475,220 | (43,802) | 431,418 |
| Participation in other comprehensive income of subsidiaries | (40,562) | (712) | (41,274) | 114,374 | (122) | 114,252 |
| Items that can be reclassified after profit for the period | | | | | | |
| Cash flow hedges | 2,777 | (67,764) | (64,987) | (5,142) | 8,377 | 3,235 |
| Participation in other comprehensive income of subsidiaries | 115,639 | (53) | 115,586 | 10,219 | 21 | 10,240 |
| Total | 53,416 | (63,132) | (9,716) | 575,936 | (26,884) | 549,052 |

Figures stated in millions of Colombian pesos

38.6 Deferred Tax

The breakdown of the Deferred tax is as follows:

| Deferred tax | 2018 | 2017 |
|-------------------------------|--------------------|--------------------|
| Deferred tax asset | 656,975 | 1,400,719 |
| Deferred tax liability | 2,813,803 | 3,722,095 |
| Total net deferred tax | (2,156,828) | (2,321,376) |

Figures stated in millions of Colombian pesos

38.6.1. Deferred tax asset

| Deferred tax asset | Initial balance 2017 | Net changes included in Profit for the period 2017 | Changes included in Other Comprehensive Income 2017 | Final balance 2017 | Net changes included in Profit for the period 2018 | Changes included in Other Comprehensive Income 2018 | Final balance 2018 |
|--|----------------------|--|---|--------------------|--|---|--------------------|
| Assets | 655.401 | (176.066) | - | 479.335 | (295.873) | - | 183.462 |
| Property, plant and equipment | 305.595 | (64.369) | - | 241.226 | (200.666) | - | 40.560 |
| Intangibles | 1.550 | 14.944 | - | 16.494 | (9.375) | - | 7.119 |
| Investment property | 2.699 | (105) | - | 2.594 | (2.594) | - | - |
| Investments and derivative instruments | 96.182 | (80.995) | - | 15.187 | (15.187) | - | - |
| Accounts receivable | 211.941 | (22.002) | - | 189.939 | (70.058) | - | 119.881 |
| Inventories | 3.658 | (3.652) | - | 6 | (6) | - | - |
| Other assets | 33.777 | (19.888) | - | 13.889 | 2.013 | - | 15.902 |
| Liabilities | 747.105 | 163.672 | 10.607 | 921.384 | (449.887) | 2.017 | 473.514 |
| Credits and loans | 243.761 | (166.584) | - | 77.177 | 135.500 | - | 212.677 |
| Accounts payable | 36.366 | 16.105 | - | 52.471 | (52.471) | - | - |
| Employee benefits | 91.556 | 181.352 | 2.230 | 275.138 | (258.994) | 2.017 | 18.161 |
| Derivative operations | 12.082 | 4.526 | 8.377 | 24.985 | (24.762) | - | 223 |
| Provisions | 162.272 | (3.712) | - | 158.560 | (528) | - | 158.032 |
| Other liabilities | 201.068 | 131.985 | - | 333.053 | (248.632) | - | 84.421 |
| Deferred tax asset | 1.402.506 | (12.395) | 10.607 | 1.400.719 | (745.760) | 2.017 | 656.976 |

Figures stated in millions of Colombian pesos

38.6.2. Deferred tax liability

| Deferred tax liability | Initial balance 2017 | Net changes included in Profit for the period 2017 | Changes included in Other Comprehensive Income 2017 | Final balance 2017 | Net changes included in Profit for the period 2018 | Changes included in Other Comprehensive Income 2018 | Final balance 2018 |
|---|----------------------|--|---|--------------------|--|---|--------------------|
| Assets | 2.920.486 | 138.477 | 43.801 | 3.102.764 | (484.617) | 64.384 | 2.682.531 |
| Property, plant and equipment | 2.623.752 | 102.451 | - | 2.726.203 | (311.302) | - | 2.414.901 |
| Intangibles | 26.973 | 17.450 | - | 44.424 | (20.481) | - | 23.943 |
| Investment property | 6.150 | 1.309 | - | 7.459 | (6.099) | - | 1.360 |
| Investments and derivative instruments | 113.526 | 60.829 | 43.801 | 218.155 | (83.475) | 64.384 | 199.064 |
| Accounts receivable | 104.372 | (11.020) | - | 93.352 | (60.051) | - | 33.301 |
| Inventories | 3.253 | (3.247) | - | 7 | (7) | - | - |
| Other assets | 42.459 | (29.295) | - | 13.164 | (3.202) | - | 9.962 |
| Liabilities | 469.838 | 155.905 | (6.412) | 619.331 | (488.059) | - | 131.272 |
| Credits and loans | 121.414 | (112.640) | - | 8.774 | (8.774) | - | - |
| Accounts payable | 112.274 | 12.378 | - | 124.652 | (55.396) | - | 69.256 |
| Employee benefits | 148.719 | 90.550 | (6.412) | 232.857 | (228.570) | - | 4.287 |
| Derivative operations | - | - | - | - | 57.729 | - | 57.729 |
| Provisions | 5.792 | (474) | - | 5.318 | (5.318) | - | - |
| Other liabilities | 81.639 | 166.091 | - | 247.730 | (247.730) | - | - |
| Deferred tax liability | 3.390.324 | 294.382 | 37.389 | 3.722.095 | (972.676) | 64.384 | 2.813.803 |
| Total deferred tax asset/liability | 1.987.819 | 306.776 | 26.782 | 2.321.376 | (226.916) | 62.367 | 2.156.827 |

Figures stated in millions of Colombian pesos

The relevant differences in the deferred asset and liability, are presented mainly by the application of the new rates introduced by Law 1943/2018, meaning, a recovery of the tax.

Another significant item is the exchange difference not performed by the application of the exchange rate at the end of the reporting period, which when compared to the exchange rate established by the fiscal rule, generates a temporary difference greater than that reported in the calculation of the deferred tax of the previous year.

38.6.3 Temporary differences

Temporary differences associated with investments in subsidiaries, associates and joint ventures, for which deferred tax liabilities have not been recognized, amount to \$4,884,192 (2017: \$4,352,416).

The most significant concepts on which temporary differences were presented are the following:

In assets, the largest effects on the deferred tax arise from temporary differences in property, plant and equipment, in accounts receivable in relation to portfolio provisions due to the difference in the portfolio cleaning-up provision under tax-law and the impairment of portfolio under IFRS and as a result of the assessment at amortized cost of accounts receivable. The unrealized rate difference in the cxc is another representative item in the temporary differences, a concept introduced by Law 1819/2016.

Regarding liabilities, the items that affect the calculation of the deferred tax are, mainly, the settlement of the provision corresponding to installments of pension bonds, the actuarial calculation in pensions and pension commutation of EADE and the credits and loans for the assessment at amortized cost of bonds, securities issued, credits and loans. The unrealized difference in accounts payable is another representative item in temporary differences, a concept also introduced by Law 1819/2016.

The temporary differences over which no deferred tax was generated were, among others, investments in subsidiaries, associates and joint ventures, according to paragraph 39 of IAS 12; likewise, in the items that do not have future tax consequences, as it is the case of liabilities for taxes and for the financial returns generated in the assets of the plan, because these classify as exempt income.

The approval of dividends after the revelation date and before the financial statements were authorized for publication, does not generate income tax consequences since it is established as a policy for the national subsidiaries that only tax-free profits and reserves are distributed. The tax effects that may be generated by

the dividends decreed by the foreign subsidiaries, with the entry into force of Article 69 of Law 1943/2018, shall be considered as income exempt capital under the Colombian Holding Companies (CHC) framework.

Note 39. Information to be disclosed about related parties

EPM is a decentralized entity of the municipal order, whose only owner is the Municipality of Medellín. The capital with which it was constituted and operates, as well as its equity, is of public nature. The Mayor of Medellín presides the Board of Directors of EPM.

As related parties of EPM are considered the subsidiaries, associates, joint ventures, including the subsidiaries of the associates and joint ventures, key management personnel, as well as the entities on which the key management personnel may exercise control or joint control and the post-employment benefit plans for employee welfare.

The total value of the transactions made by the company with its related parties during the corresponding period is presented as follows:

| Transactions and balances with related parties | Revenue ¹ | costs and expenses ² | Amounts receivable ³ | Amounts payable ⁴ | Guarantees received |
|--|----------------------|---------------------------------|---------------------------------|------------------------------|---------------------|
| Group EPM subsidiaries | | | | | |
| 2018 | 438,352 | 250,162 | 1,575,289 | 89,870 | |
| 2017 | 498,247 | 145,825 | 1,438,242 | 55,476 | |
| Group EPM associates: | | | | | |
| 2018 | 57,912 | 32,760 | 44,831 | 12,176 | |
| 2017 | 37,519 | 29,772 | 2,251 | 7,046 | |
| key management personnel: | | | | | |
| 2018 | | 8,191 | 894 | 1,065 | 317 |
| 2017 | | 7,024 | 1,597 | 1,173 | |
| Other related parties: | | | | | |
| 2018 | 23,231 | 67,728 | 9,805 | 214,522 | |
| 2017 | 103,389 | 77,558 | 9,837 | 575,524 | |

Figures stated in millions of Colombian pesos

Transactions between EPM and its related parties were made in conditions equivalent to those that exist in transactions between independent parties, as refers to their object and conditions.

¹ The detail of the revenue obtained by the company from its related parties is as follows:

| | Revenue | 2018 | 2017 |
|-----------------------|---|---------|---------|
| Subsidiaries | Sale of goods and rendering of services | 298,512 | 398,565 |
| | Interests | 108,475 | 79,252 |
| | Professional fees | 8,730 | 4,445 |
| | Other | 22,636 | 15,984 |
| Associates | Sale of goods and rendering of services | 14,691 | 36,755 |
| | Other | 43,221 | 764 |
| Other related parties | Sale of goods and rendering of services | 22,465 | 96,898 |
| | Interests | 351 | 80 |
| | Professional fees | 23 | 96 |
| | Other | 393 | 6,315 |

Figures stated in millions of Colombian pesos

² The detail of the costs and expenses incurred by the company with its related parties is as follows:

| | Costs and expenses | 2018 | 2017 |
|-----------------------|--------------------------------|---------|---------|
| Subsidiaries | Purchase of goods and services | 173,911 | 144,445 |
| | Professional fees | 797 | 1,380 |
| | Other | 75,454 | |
| Associates | Purchase of goods and services | 29,035 | 29,043 |
| | Professional fees | 3,725 | 729 |
| | Other | 0 | |
| Other related parties | Purchase of goods and services | 42,553 | 42,147 |
| | Interests | 2 | |
| | Professional fees | 907 | 696 |
| | Other | 24,266 | 34,715 |

Figures stated in millions of Colombian pesos

³ The detail of the loans granted by the company to its related parties is as follow:

| | Granted loans | Original currency | Term | Nominal interest rate | 2018 | | | 2017 | | |
|---|---------------|-------------------|------------|-----------------------|---------------|----------------------|--------------|---------------|----------------------|--------------|
| | | | | | Nominal value | Amortized cost value | Total amount | Nominal value | Amortized cost value | Total amount |
| Hidroecologica del Teribe S.A. HET | Loan 1 | USD | 23 Years | LIBOR 3M + 4.43 | 375,160 | 30,959 | 406,119 | 355,095 | 30,922 | 386,017 |
| EPM Chile S.A. | Loan 1 | USD | 15.7 Years | LIBOR 6M + 3.80 | 258,333 | 307 | 258,640 | 287,648 | 26 | 287,674 |
| Inversiones y Asesorias South Water Service SpA | Loan 1 | USD | 7 Years | LIBOR 12M +3.140 | - | - | - | 585,794 | 5,097 | 590,891 |
| | Loan 2 | USD | 7 Years | LIBOR 12M +3.750 | - | - | - | 462,895 | 6,312 | 469,207 |
| HIDROSUR | Loan 1 | CLP | 8,5 Years | 0.072 | 1,091,371 | (690) | 1,090,681 | | | |
| EPM Chile Transmision | Loan 1 | USD | 8 Years | LIBOR 6M + 3.40 | 18,076 | 7 | 18,083 | | | |

Figures stated in millions of Colombian pesos

⁴ The detail of the loans received by the company from its related parties is as follows:

| | Received loans | Original currency | Term | Nominal interest rate | 2018 | | | 2017 | | |
|---|----------------|-------------------|--------|-----------------------|---------------|----------------------|--------------|---------------|----------------------|--------------|
| | | | | | Nominal value | Amortized cost value | Total amount | Nominal value | Amortized cost value | Total amount |
| Empresas Varias de Medellin S.A. E.S.P. | Loan 1 | COP | 1 Year | DTF + 2.44% | - | - | - | 35,000 | 1,415 | 36,415 |
| | Loan 2 | COP | 1 Year | IBR + 2.1% | 40,000 | 88 | 40,088 | | | |

Figures stated in millions of Colombian pesos

Transactions and balances with related government entities

The total of financial surpluses paid to the Municipality of Medellin to December 2018 was \$1,503,504 (2017: \$1,309,136).

Remuneration to the Board of Directors and key personnel of the company:

Members of the key management personnel in the company include:

| Concept | 2018 | 2017 |
|---|--------------|--------------|
| Wages and other short-term employee benefits | 7,335 | 6,323 |
| Other long-term employee benefits | 856 | 701 |
| compensation to key management personnel | 8,191 | 7,024 |

Figures stated in millions of Colombian pesos

The amounts disclosed are those recognized as cost or expense during the period report for compensation to key management personnel.

Note 40. Capital Management

The capital of the company includes indebtedness through the capital market, commercial banks, development banks, development agencies and multilateral banks, at a national and international level.

The company manages its capital in order to plan, manage and assess the attainment of financial resources in the national and international financial markets, for strategic investments, and investment projects, through different options that optimize costs, that guarantee the stability of adequate financial indicators and adequate credit rating, and minimize financial risk. For this, the following capital management policies and processes have been defined:

Financial management: Financial management corresponds to the performance of all long-term credit operations, in order to guarantee the timely availability of the resources required for the normal operation of the company and to materialize the investment and growth decisions, striving to optimizing financing costs.

The company has not made any changes to its objectives, policies and capital management processes during the period ended as of December 31, 2018 and December 2017.

In order to face the changes in the economic conditions, the company implements proactive management mechanisms for their financing, enabling as far as it is feasible, different financing alternatives, so that at the time performance of any long-term credit operation is required, there will be access to the source that each time has availability of competitive market conditions at the required time.

Following are presented the values that the company manages as capital:

| | 2018 | 2017 |
|----------------------------------|-------------------|-------------------|
| Bonds and loan | | |
| Other bonds and debt securities | 8,206,867 | 8,240,198 |
| Commercial bank loans | 1,403,924 | 1,113,156 |
| Multilateral bank loans | 3,865,275 | 1,668,269 |
| Development bank loans | 1,953,742 | 919,922 |
| Issued bonds and debt securities | 374,717 | 469,370 |
| Other loans | 40,088 | 36,415 |
| Total debt | 15,844,613 | 12,447,330 |
| Total capital | 15,844,613 | 12,447,330 |

Figures stated in millions of Colombian pesos

Note 41. Financial risk management objectives and policies

The company is exposed to the financial risk, which is defined as the possibility of occurrence of an event that affects negatively the financial results, among which are market risk, liquidity risk, credit risk and operating risk.

Market risk refers to the changes or volatility of market variables that can generate economic losses. The market variables refer to exchange rates, interest rates, securities, commodities, among others; and their changes may impact, for example, the financial statements, cash flow, financial indicators, contracts, project viability and investments.

Credit risk refers to the possible default of payment obligations by third parties derived from contracts or financial transactions performed.

Liquidity risk is the scarcity of funds and the inability to obtain the resources at the time they are required to cover the contractual obligation and carry out investment strategies. The scarcity of funds leads to the need to sell assets or contract financing operations in unfavorable market conditions.

Finally, operating risk, from a financial standpoint, is defined as deficiencies or failures in the processes, technology, infrastructure, human resources or occurrence of unforeseen external events.

41.1 Market Risk

Market Risk is the risk that the fair value of the future cash flows of a financial instrument may fluctuate due to changes in market prices. The company has identified that financial instruments affected by market risk include:

- Cash and cash equivalents
 - o Fiduciary charges
- Other financial assets:
 - o Fixed income securities
 - o Investments pledged as collateral
 - o Swaps

The methods and hypotheses used when preparing the sensitivity analysis consist of:

- For cash and cash equivalents, fixed income securities and Investments pledged as collateral: the methodology used to measure market risk is the Value at Risk (VaR), consisting of the quantification of the maximum loss that the portfolio could present in a month with a level of confidence of 95%. For the quantification of the VaR, is used a methodology defined within the EPM Group.
- For swaps, sensitivity analyzes were performed under the assumption of keeping agreed hedges constant according to their indexation rates.
-

41.2. Interest rate risk

Interest Rate Risk is the risk that the fair value or future cash flows of a financial instrument may fluctuate as a result of changes in market interest rates. EPM has identified that financial instruments affected by interest rate risk include:

- Cash and cash equivalents
 - o Fiduciary charges
- Other financial assets:
 - o Fixed income securities
 - o Investments pledged as collateral
 - o Swaps
- Credits and loans
- Trade debtors and other accounts receivable

The concentration of interest rate risk appears when there are large individual exposures and significant exposures to counterparties whose probability of default is determined by factors such as the economic sector, currency and credit ratings. Interest rate risk management seeks to preserve capital and maintain or increase profitability. EPM has defined policies on risk in interest rates, through the identification of risks, the determination of the position of rates and the simulation of possible hedging strategies. This assist decision making, oriented to maintaining the position to hedge it, and later the results of the executed strategies are assessed.

Sensibility analysis to interest rates

The following table indicates the sensibility to a possible reasonable change in the interest rates of financial instruments exposed to this risk, without considering the effect of hedge accounting. Keeping all other variables constant, the pre-tax profit/loss and EPM's equity would be affected by changes in variable interest rates as follows:

| | Increase/decrease in basic points | Financial effect | |
|---|-----------------------------------|--------------------------|-----------|
| | | In earnings before taxes | In equity |
| 2018 | | | |
| Financial assets measured at fair value with change in profit | | | |
| Investments at fair value with change in profit | 100 | (14,054) | (11,243) |
| | (100) | 14,054 | 11,243 |
| Financial assets measured at amortized cost | | | |
| Accounts receivable in foreign currency | 100 | 6,828 | 5,463 |
| | (100) | (6,828) | (5,463) |
| Financial liabilities measured at amortized cost | | | |
| Credits and loans | 100 | (38,243) | (30,594) |
| | (100) | 38,243 | 30,594 |
| Financial liabilities measured at fair value with change in other comprehensive income | | | |
| Derivative instruments | 100 | (3,991) | (3,193) |
| | (100) | 3,991 | 3,193 |
| 2017 | | | |
| Financial assets measured at fair value with change in profit | | | |
| Investments at fair value with change in profit | 100 | 31 | (31) |
| | (100) | 24 | (24) |
| Financial assets measured at amortized cost | | | |
| Accounts receivable in foreign currency | 100 | 17,338 | 13,870 |
| | (100) | (17,338) | (13,870) |
| Financial liabilities measured at amortized cost | | | |
| Credits and loans | 100 | (91,839) | (73,471) |
| | (100) | (91,839) | (73,471) |
| Financial liabilities measured at fair value with change in other comprehensive income | | | |
| Derivative instruments | 100 | 303 | (11,956) |
| | (100) | (303) | 12,576 |

Figures stated in millions of Colombian pesos

The company considers that the sensibility analysis is representative in respect to the exposure of the interest rate risk.

41.3. Exchange risk

Exchange risk is the risk that the fair value or future cash flows of a financial instrument may fluctuate as a result of changes in exchange rates.

EPM has identified that financial instruments affected by exchange risk include:

- Cash and cash equivalents
- Other financial assets:
 - o Fixed income securities
 - o Swaps
- Credits and loans
- Trade debtors and other accounts receivable
- Loans to economic associates

The exposure to exchange risk relates, first, to financing activities in a currency other than the functional currency and with the hedging operations contracted. The company manages its exchange risk through hedging operations over a medium-term period. It is EPM's policy not to close speculative hedging transactions, so that the conditions of the hedging derivative instruments replicate the conditions of the underlying with the purpose of maximizing hedge effectiveness. EPM hedges its exposure to fluctuations in exchange rates using different hedging instruments, including Swaps, Forwards and Options at different terms.

Sensitivity analysis to Exchange rates

The following table indicates the sensibility to a possible reasonable change of 100 Colombian pesos in the exchange rate to American Dollars without considering the effect of hedge accounting. The effect is caused by the variation in monetary and non-monetary assets. Keeping other variables constant profit/loss before taxes and the company's assets would be affected by changes in exchange rates as follows:

| | Increase/decrease in basic points | Financial effect | |
|---|-----------------------------------|--------------------------|-----------|
| | | In earnings before taxes | In equity |
| 2018 | | | |
| Financial assets measured at fair value with change in profit | | | |
| Other financial assets - fixed-rate bonds | 100 | 28,773 | 23,019 |
| | (100) | (28,773) | (23,019) |
| Cash and cash equivalents | 100 | 8,244 | 6,595 |
| | (100) | (8,244) | (6,595) |
| Financial assets measured at amortized cost | | | |
| Accounts receivable in foreign currency | 100 | 3,799 | 3,039 |
| | (100) | (3,799) | (3,039) |
| Financial liabilities measured at amortized cost | | | |
| Credits and loans | 100 | 482,159 | 385,727 |
| | (100) | (482,159) | (385,727) |
| Financial liabilities measured at fair value with change in other comprehensive income | | | |
| Derivative instruments | 100 | 64,773 | 51,819 |
| | (100) | (64,773) | (51,819) |
| 2017 | | | |
| Financial assets measured at fair value with change in profit | | | |
| Other financial assets - fixed-rate bonds | 100 | 30 | 24 |
| | (100) | (30) | (24) |
| Cash and cash equivalents | 100 | 251 | 201 |
| | (100) | (251) | (201) |
| Financial assets measured at amortized cost | | | |
| Accounts receivable in foreign currency | 100 | 6,505 | 5,204 |
| | (100) | (2,854) | (2,283) |
| Financial liabilities measured at amortized cost | | | |
| Credits and loans | 100 | (121,820) | (97,456) |
| | (100) | 121,820 | 97,456 |
| Financial liabilities measured at fair value with change in other comprehensive income | | | |
| Derivative instruments | 100 | 59,183 | 47,346 |
| | (100) | (59,183) | (47,346) |

Figures stated in millions of Colombian pesos

The company considers that the sensibility analysis is representative in respect to the exposure of the exchange risk.

41.4 Credit Risk

Credit risk is the risk that one of the counterparts does not comply with the obligations derived from a financial instrument or purchase contract and that this will translate in a financial loss. EPM has identified that the financial instruments affected by credit risk include:

- Cash and cash equivalents
- Other financial assets:
 - Fixed income securities
 - Investments pledged as collateral
 - Swaps
- Trade debtors and other accounts receivable

Credit risk management by type of financial instrument is detailed below:

- **Cash and cash equivalents, fixed income securities and Investments pledged as collateral:** For credit risk management, EPM assigns limits by issuer, by counterpart and by intermediary considering the financial, risk and fundamental assessment of the entities, emphasizing on capitalization levels of shareholders. The methodology considers the characteristics proper of the investments portfolio and applicable regulations. The credit risk concentration is limited since it is due to the provisions of the business rules manual for treasury operations. The description of the factors that define the risk concentration is detailed below:
 - The limits are updated quarterly based on the latest financial statements available of the assessed entities.
 - When the value of the consolidated investment portfolio exceeds the equivalent of 10,000 Monthly Minimum Legal Wage Enforced (MMLWE), no more than 20% of this value should not be concentrated in a single issuer, counterpart or intermediary with the exception of securities issued by governments that comply with the regulations in effect.
 - Stock market intermediaries, other than the monitored banking institutions, may act as counterparts to perform operations, but cannot be considered as eligible issuers.
 - Stock broker companies that act as counterpart of the treasury operations must have at least the second risk rating in strength or quality in portfolio administration.
 - Stock broker companies backed by banks, that is, banked counterparts, must have a minimum equity of 30,000 MMLWE.

Finally, the actions to avoid risk concentration are intended to establish, assess, follow up and control the limits, for which they control the limits in effects and the status of utilization thereof. On the other hand, the justifications related to the need to override the limits temporarily are submitted to approval.

The investments to which are referred are constituted with banking establishments that have the following risk rating, according to the term of the investment, as follows:

- For investments with a term equal to or less than one (1) year, the banking institution must have a current rating corresponding to the maximum category for the short-term according to the scales used by the rating agencies and at least the second-best current rating for the long-term;
- For investments with a term greater than one (1) year, the banking institution must have the highest current long-term rating according to the scale used by the rating agencies and the maximum rating for the short-term according to the scale used for such term.
- Swaps: EPM is exposed to the risk that a counterparty does not recognize the right and in order to mitigate it, previously assessing of risk levels for each entity with which it expects to perform an operation.
- Trade debtors and other account receivables: EPM is exposed to the risk that users of residential public utilities will default or not pay for such utilities. Accounts receivable from debtors of residential public utilities are divided in two large groups: customers that defaulted their payments and customers that made financing or payment agreements made as a portfolio recovery strategy or for obtaining new customers.

EPM assesses the behavior and amounts of accounts receivable at the end of each period to determine if there is objective evidence that the receivable is impaired and identify its possible impact on future cash flows. The criteria used to determine that there is objective evidence of an impairment loss are:

- Customers that default in two (2) or more bills.
- Knowledge or evidence of the customer entering processes of corporate restructuring, insolvency or liquidation.
- The rise of social turmoil, be it of public order or natural disasters, which according to experience are directly correlated with the default of accounts.

In order to avoid an excessive concentration of risk, EPM has developed and put into operation various strategies that allow it to mitigate the risk of default, among which are:

- Persuasive collection by making phone calls and sending letters to customers with assistance from specialized collection agencies.
- Segmentation of customers to identify those with the highest risk, based on the amounts, to execute personalized collection activities.
- Possibility of payment agreements or partial payments that lead to the recovery of exposed capital.
- Compensation of receivables and payables by EPM with customer that are also suppliers.
- When the former strategies do not generate satisfactory results, coercive collection actions are implemented through suspension of the service.
- If the former strategies do not generate satisfactory results, the collection of receivables through the judicial process is proceeded.

Likewise, expanding the product portfolio to customers in such a way as to facilitate debt payment is encouraged, e.g., prepaid power and water.

As mentioned, EPM makes payment or financing agreements, which are executed as a strategic portfolio recovery or for obtaining new customers. These give right to fixed or determinable payments and are included

in current assets, except those expired with more than 12 months from the date of generation of the report, in which case they are classified as non-current assets.

In general terms, in order to guarantee the debts of customers, blank promissory notes with letters of instructions are issued, and once the financed amount exceeds certain pre-established amounts in the internal regulations, real or bank guarantees are requested, and in cases where the client is a state entity, is proceeded to the pledge of resources that EPM, prior agreement, collects from the client.

For credit risk management of accounts receivable in its different stages (risk cycle), methodologies, procedures, guidelines and business rules are incorporated, complying with commercial and financial policies, in order to achieve a comprehensive and sustainable vision of the clients.

To leverage the stages of the credit risk cycle, there are different statistical methodologies that allow obtaining an estimate of the future payment behavior of the accounts. These methodologies are described below:

- **CREDIT SCORING**

Allows obtaining a customer's risk profile based on payment behavior and specific characteristics, which allows the segmentation of the population, suggesting the optimal candidates for offering basic services and/or value-added products.

- **SCORING OF APPROVAL FOR VALUE-ADDED PRODUCTS**

Profiles customers that request a value-added credit, assigning a risk level to the applicants and according to the established business rules assists in making the final approval-or-denial decision.

- **PORTFOLIO CLASSIFICATION MODEL**

Assigns the probability of short-term default (2 months) of the services subscribed, in order to design collection prioritization strategies.

- **EXPECTED LOSS CALCULATION MODEL**

Allows finding the probability that the subscribed services may enter into default within a period of 12 months, which is then used to calculate the expected loss of the accounts.

The company considers that the value that best represents its exposure to credit risk at the end of the period, without considering any guarantee taken or other credit enhancements is:

| Concept | 2018 | 2017 |
|--|------------------|------------------|
| Cash and cash equivalents | 835,779 | 234,526 |
| Investments in debt instruments | 978,435 | 62,927 |
| Investments in equity instruments | 1,581,092 | 1,605,902 |
| Accounts receivable | (287,014) | (266,584) |
| Other accounts receivable | (60,270) | (43,590) |
| Maximum exposure to credit risk | 3,048,022 | 1,593,181 |

Figures stated in millions of Colombian pesos

41.5 Liquidity Risk

Liquidity Risk refers to the possibility of insufficient resources for the timely payment of operations and commitments of the entity, and thus EPM would be forced to obtain liquidity in the market or to liquidate investments in an onerous manner. It is also understood as the possibility of not finding buyers for offered bonds.

The Group has identified that the financial instruments affected by the liquidity risk include:

- Cash and cash equivalents
- Other financial assets:
 - o Fixed income securities
 - o Investments pledged as collateral
 - o Swaps
- Trade debtors and other accounts receivable

To control liquidity risk, time-series comparisons of figures are made of benchmark indicators and of liquidity levels at different time-frames. From that assessment, investment strategies that do not affect the liquidity of the companies are formulated, considering the cash-budget and the market risk analyses to consider the diversification of the funding fund sources, the capacity to sell assets and the creation of contingency plans.

The main aspects considered in the analysis are:

- Liquidity of securities: analyses characteristics of the issuer, amount, and negotiation volume.
- Market liquidity: analyses the market's general behavior and forecasts rates to infer future behavior.
- Portfolio liquidity: cash flows are coordinated to determine investment strategies according to future requirements of liquidity, and diversification is sought to avoid the concentration of securities by issuer, rates and/or terms.

The following table shows the analysis of contractual expirations remaining for non-derivative financial liabilities and assets:

| | Average effective interest rate | Less than 1 year | From 1 to 2 years | From 2 to 3 years | From 3 to 4 years | More than 4 years | Total contractual obligation |
|--|---------------------------------|------------------|-------------------|-------------------|-------------------|-------------------|------------------------------|
| 2018 | | | | | | | |
| Non-derivative Financial liabilities with variable interest rate | 7.94% | 1,876,128 | 176,553 | 1,426,553 | 176,553 | 4,487,658 | 8,143,445 |
| Non-derivative Financial liabilities with fixed interest rate | 6.17% | 818,213 | 1,092,793 | 93,483 | 1,455,151 | 4,065,843 | 7,525,483 |
| Non-derivative Financial assets | 7.39% | 953,136 | 12,500 | 8,000 | 1,100 | - | 974,736 |
| Non-derivative Financial assets- portfolio | 7.39% | 141,611 | 201,399 | 264,558 | 265,406 | 1,610,953 | 2,483,927 |
| Total | | 3,789,088 | 1,483,245 | 1,792,594 | 1,898,210 | 10,164,454 | 19,127,591 |
| 2017 | | | | | | | |
| Non-derivative Financial liabilities with variable interest rate | 7.20% | 631,969 | 219,279 | 1,008,559 | 68,119 | 2,078,902 | 4,006,828 |
| Non-derivative Financial liabilities with fixed interest rate | 7.93% | 227,063 | 1,735,763 | 169,063 | 1,421,144 | 4,694,164 | 8,247,197 |
| Non-derivative Financial assets | 6.44% | 33,617 | 8,402 | 7,000 | 8,000 | 2,000 | 59,019 |
| Non-derivative Financial assets- portfolio | 6.03% | 304,630 | 100,422 | 202,163 | 460,332 | 1,273,855 | 2,341,402 |
| Total | | 1,197,279 | 2,063,866 | 1,386,785 | 1,957,595 | 8,048,920 | 14,654,446 |

Figures stated in millions of Colombian pesos

Values included in the tables above for non-derivative financial liabilities and assets may change in view of fluctuations in the interest rate with variable respect to the interest rate estimated at the end of the reporting period. The company considers that cash flows cannot occur earlier than indicated above.

The following table shows the analysis of contractual expirations remaining for derivative financial liabilities:

| | Less than 1 year | From 1 to 2 years | From 2 to 3 years | From 3 to 4 years | More than 4 years | Total contractual obligation |
|----------------|------------------|-------------------|-------------------|-------------------|-------------------|------------------------------|
| 2018 | | | | | | |
| Swap Contracts | 21,520 | (45,843) | 12,165 | (192,984) | - | (205,142) |
| Total | 21,520 | (45,843) | 12,165 | (192,984) | - | (205,142) |
| 2017 | | | | | | |
| Swap Contracts | 45,094 | 30,857 | (14,388) | (3,037) | (5,480) | 53,046 |
| Total | 45,095 | 30,857 | (14,388) | (3,037) | (5,480) | 53,046 |

Figures stated in millions of Colombian pesos

The main method for the assessment and follow-up of liquidity is the projection of the cash flow that is performed at EPM and is consolidated in the cash budget. From this, a daily follow-up and projections of this cash position are continuously made, in order to:

- Follow up the liquidity needs related to the operating and investment activities associated to the acquisition and disposal of long-term assets.
- Pay, prepay, refinance and/or obtain new credits, according to the cash flows generation capacity in EPM.

These projections consider debt financing plans of EPM, fulfillment of ratios, compliance with organizational objectives and applicable regulations.

Note 42. Measurement of fair value on a recurring and non-recurring basis

The methodology established in IFRS 13 Fair value measurement specifies a hierarchy in the assessment techniques based on whether the variables used in the determination of the fair value are observable or not. The company determines the fair value on a recurring and non-recurring basis, as well as for disclosure purposes:

- Based upon prices quoted in active or passive markets identical to those the company can access on the measurement date (level 1).
- Based upon assessment techniques commonly used by the market participants and that use variables different from prices quoted which are observable for the asset or liability, directly or indirectly (level 2).
- Based upon internal assessment techniques of cash flow discounts or other assessment models, using variables estimated by the company that are non-observable for the asset or liability, in the absence of variables observed in the market (level 3).

During 2018 and 2017 in EPM no transfers have been made between the fair value hierarchy levels, either for transfers in and out of the levels.

Assessment techniques and variables used in the company for measurement of fair value for recognition and disclosure:

Cash and cash equivalents: includes money in cash and banks and highly liquid investments, easily convertible into a certain amount of cash and subject to an insignificant risk of changes in value, with a maturity of three months or less from the date of acquisition. EPM uses the market approach as assessment technique for this item, these items are classified in level 1 of the fair value hierarchy.

Investments at fair value through profit and loss and through equity: includes investments made to optimize the liquidity surpluses, i.e., all those resources that are not immediately allocated to the performance of the activities that constitute the corporate object of the companies. EPM uses the market approach as assessment technique, these items are classified in level 1 of the fair value hierarchy.

Derivative instruments - Swaps: EPM uses derivative financial instruments, such forwards, futures, swaps and options to hedge financial risks, mainly Interest rate risk, Exchange risk and commodities prices. Such derivative financial instruments are recognized initially at their fair value as of the date when the derivatives agreement is executed and are later reassessed at their fair value. EPM uses as assessment technique for the swaps the discounted cash flow, with an income approach. The variables used are: interest rate swap curve for rates denominated in US dollars, to discount cash flow in US dollars; and external interest rate swap curve rates denominated in Colombian pesos, to discount cash flows in pesos. These items are classified in level 2 of the fair value hierarchy.

The following table shows for each of the fair value hierarchy levels, the assets and liabilities of the company, measured at fair value on a recurring basis to the cut-off date, as well as the total value of the transfers between level 1 and level 2 occurred during the period:

| Measurement at fair value on a recurring basis 2018 | Level 1 | Level 2 | Level 3 | Total |
|---|------------------|---------------|--------------|------------------|
| Assets | | | | |
| Cash and cash equivalents | 218,338 | - | - | 218,338 |
| | 218,338 | - | - | 218,338 |
| Other investments in debt titles | | | | |
| Fixed income securities | 972,788 | - | - | 972,788 |
| Variable income securities | 64,547 | - | - | 64,547 |
| Investments pledged as collateral | 5,647 | - | - | 5,647 |
| | 1,042,982 | - | - | 1,042,982 |
| Other equity investments | | | | |
| Variable income securities | 1,574,359 | - | 6,733 | 1,581,092 |
| | 1,574,359 | - | 6,733 | 1,581,092 |
| Fiduciary trust rights | | | | |
| Fiduciary in administration | 402,067 | - | - | 402,067 |
| | 402,067 | - | - | 402,067 |
| Derivative | | | | |
| Swaps | - | 186,230 | - | 186,230 |
| | - | 186,230 | - | 186,230 |
| Investment property | | | | |
| Urban and Rural Land | - | 70,040 | - | 70,040 |
| Buildings and houses | - | 7,789 | - | 7,789 |
| | - | 77,829 | - | 77,829 |
| Derivatives | | | | |
| Swaps | - | 192,484 | - | 192,484 |
| | - | 192,484 | - | 192,484 |
| Total | 3,237,746 | 71,575 | 6,733 | 3,316,054 |
| | 98% | 2% | 0% | |

Figures stated in millions of Colombian pesos

The recorded value and the estimated fair value of assets and liabilities of the company that are not recognized at fair value in the separate statement of financial position, but require their disclosure at fair value, as of December 31, 2018 and 2017 is as follows:

| Measurement at fair value on a recurring basis 2018 | Level 1 | Level 2 | Level 3 | Total |
|---|------------------|-----------------|--------------|------------------|
| Assets | | | | |
| Cash and cash equivalents | 11,755 | - | - | 11,755 |
| | 11,755 | - | - | 11,755 |
| Other investments in debt titles | | | | |
| Fixed income securities | 57,492 | - | - | 57,492 |
| Variable income securities | 55,315 | - | - | 55,315 |
| Investments pledged as collateral | 5,435 | - | - | 5,435 |
| | 118,242 | - | - | 118,242 |
| Other equity investments | | | | |
| Variable income securities | 1,599,169 | - | 6,733 | 1,605,902 |
| | 1,599,169 | - | 6,733 | 1,605,902 |
| Fiduciary trust rights | | | | |
| Fiduciary in administration | 353,668 | - | - | 353,668 |
| | 353,668 | - | - | 353,668 |
| Derivative | | | | |
| Futures contracts | - | 97 | - | 97 |
| Swaps | - | 14,150 | - | 14,150 |
| | - | 14,247 | - | 14,247 |
| Investment property | | | | |
| Urban and Rural Land | - | 108,456 | - | 108,456 |
| Buildings and houses | - | 8,367 | - | 8,367 |
| | - | 116,823 | - | 116,823 |
| Derivados | | | | |
| Swaps | - | 66,138 | - | 66,138 |
| | - | 66,138 | - | 66,138 |
| Contingent considerations | | | | |
| Provisions-business combination | - | 144,453 | - | 144,453 |
| | - | 144,453 | - | 144,453 |
| Total | 2,082,834 | (79,521) | 6,733 | 2,010,046 |
| | 104% | -4% | 0% | |

Figures stated in millions of Colombian pesos

| Concept | 2018 | | 2017 |
|-----------------------------------|---------------------|---------------------|--------------------|
| | Recorded value | Estimate fair value | |
| | | Level 2 | Level 2 |
| Assets | | | |
| Public utilities | 1,442,340 | 1,449,122 | 1,626,491 |
| Employees | 118,539 | 121,740 | 110,297 |
| Associates | 1,773,523 | 1,773,524 | 1,733,789 |
| Other accounts receivable | 306,868 | 307,956 | 59,669 |
| Total assets | 3,641,270 | 3,652,342 | 3,530,246 |
| Liabilities | | | |
| Other Issued bonds and securities | 8,206,867 | 8,206,866 | 8,240,198 |
| Commercial bank loans | 1,403,924 | 1,403,924 | 1,113,156 |
| Multilateral bank loans | 3,865,275 | 3,865,274 | 1,668,269 |
| Development bank loans | 1,953,742 | 1,953,742 | 919,922 |
| Issued bonds and securities | 374,717 | 374,719 | 469,370 |
| Loans to economic associates | 40,088 | 40,088 | 36,415 |
| Total liabilities | 15,844,613 | 15,844,613 | 12,447,330 |
| Total | (12,203,343) | (12,192,271) | (8,917,084) |
| | | 100% | 100% |

Figures stated in millions of Colombian pesos

As of December 31, 2018, and 2017, there were no items in levels 1 and 3.

Note 43. Service Concession Arrangements

As of December 31, 2018, the company manages as operator several concessions that contain provisions for the construction, operation and maintenance of facilities, as well as the provision of public utilities such as water supply, collection and treatment of waste water, according to application regulations.

The remainder term of the concessions where the company acts as operator is detailed below:

| Entity/Agreement | Activity | Country | Concession period | Initial remaining period |
|--|---|----------|-----------------------|--------------------------|
| Empresas publicas de Medellin - Municipio de Caldas | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years (extendable) | 10 years |
| Empresas publicas de Medellin - Municipio de Sabaneta | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 10 years (extendable) | 6 years |
| Empresas publicas de Medellin - Municipio de La Estrella | Execution of works and rendering of the supply of drinking water and sewage utilities. | Colombia | 10 years (extendable) | 6 years |
| Empresas publicas de Medellin - Municipio de Envigado | Rendering of water supply and sewage utilities. | Colombia | 10 years (extendable) | 9 |
| Empresas publicas de Medellin - Municipio de Itagui | Construction of aqueduct and sewage networks to render the utilities to the assigned neighborhoods. | Colombia | 30 years (extendable) | 29 |
| Empresas publicas de Medellin - Municipio de Bello | Execution of works and rendering of the supply of water (aqueduct) and sewage utilities. | Colombia | 10 years (extendable) | 5 years |
| Empresas publicas de Medellin - Municipio de Copacabana | Execution of works for the supply of drinking water, sewage and the rendering of such utilities. | Colombia | 20 years (extendable) | 12 years |
| Empresas publicas de Medellin - Municipio de Girardota | Prestacion del servicio de acueducto y alcantarillado. | Colombia | 20 years (extendable) | 14 years |
| Empresas publicas de Medellin - Municipio de Barbosa | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years (extendable) | 9 years |

At the cut-off date, no revenues and costs incurred by the exchanged construction services for a financial asset or an intangible asset have been recognized.

Service Concession Arrangements

The concession agreements between EPM and the Municipalities, establish the conditions under which the aqueduct and sewerage networks are managed, operated and maintained for the supply of drinking water utility and sanitation of wastewater to its inhabitants, under the terms, conditions and rates established by the Commission for the Regulation of Drinking Water and Basic Sanitation (CRA).

In the agreements the following rights and obligations for EPM as operator in the service concession agreement are stated:

- The right to receive from the Municipality the whole of aqueduct and sewerage networks and to have exclusivity as system operator.

- Obligation to make exclusive use of the aqueduct and sewerage networks for the purposes for which they are intended, maintain them and return them under the conditions of use in which they were received.
- Some concession agreements have an automatic renewal option for equal periods unless one of the parties expresses the intention of not continuing with it.
- Concession agreements do not establish the obligation to construct elements of property, plant and equipment.

Upon termination of the concession, EPM must return the aqueduct and sewerage networks without any consideration to the Municipalities. No changes have occurred in the terms of the concession contract during the period.

For these agreements, the intangible asset model is applicable. See Note 7 Other intangible assets.

Note 44. Events occurred after the period being reported

On March 1, 2019, the Norwegian-Chilean firm Skava Consulting delivered the results of the root cause analysis of the contingency of the Ituango hydroelectric project. The study, which was conducted independently and is based on the scientific method, was aimed at analyzing the root cause of a specific event: the occluding of the auxiliary diversion tunnel (GAD, Galería Auxiliar de Desviación), a structure that was in operation since September 2017 and in April 2018 it was the only water outlet of the Cauca River while the dam and tailrace were completed, among other main works of the project.

The auxiliary diversion tunnel (GAD, for its Spanish initials) was built as a temporary alternative that, once it came into operation, would allow the technical and ultimate sealing of the original diversion tunnels.

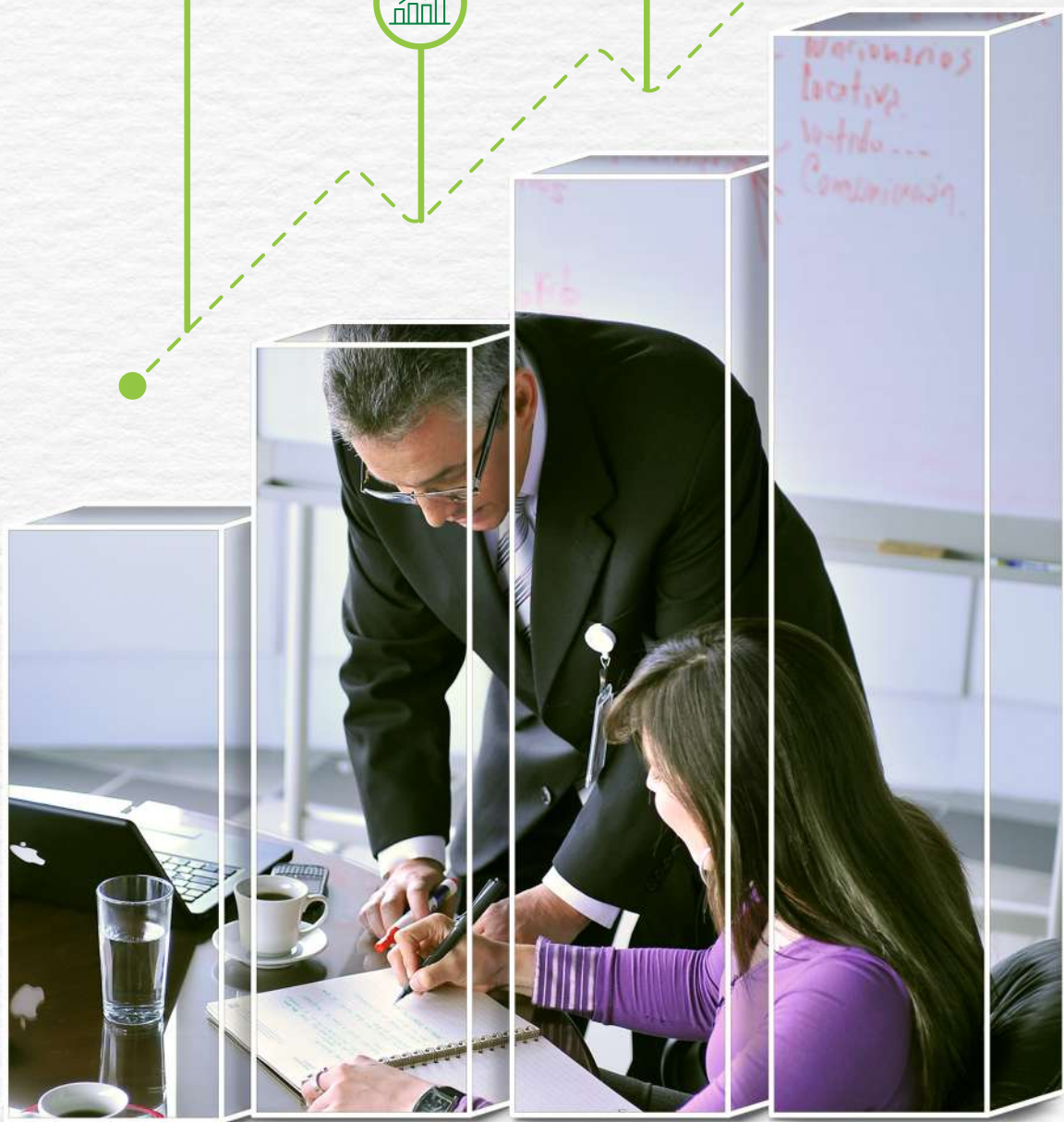
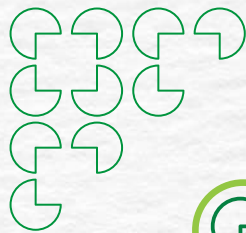
The consulting team that participated in the root cause investigation was composed of 7 German, Swiss and Chilean engineers. Among them 3 professionals with more than 25 years of experience in this industry, 2 with a doctorate degree and 2 with a master's degree, experts in geotechnical engineering with experience in tunnels and dams, and in rock, geology, hydrology and civil engineering for mining projects, metro systems and hydroelectric power plants.

Based on the available documental and analytical evidence, Skava Consulting considered as most probable hypothesis that the obstruction of the auxiliary diversion tunnel (GAD), was due to the "progressive erosion in weak areas of the rock", located on the floor of the tunnel, that were not properly addressed due to a design deficiency during the advisory stage.

To the date of presentation of the separate financial statements, the financial effect of the results of the root cause analysis for the contingency of the project is not estimated.

EPM continues the recovery of the Ituango project, always with the priority of reducing the risks for the people who live downstream from the main works.

After the revelation date of the consolidated financial statements and before the authorization for publication date, no relevant events occurred that imply adjustments to the figures.



Grupo·epm[®]



**EPM's
certifications**



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Carrera 43 A No. 16 A Sur – 36
Medellin – Colombia

Teléfono 57 (4) 3556060
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INDEPENDENT AUDITOR'S REPORT

To the Board of Directors
Empresas Publicas de Medellin E.S.P.:

We have audited the separate financial statements of Empresas Publicas de Medellin E.S.P. (the Company), which comprise the separate statement of financial position as of December 31, 2018, and the separate statements of income and other comprehensive income, changes in equity and cash flows for the year ended on that date and their respective notes, which include significant accounting policies and other explanatory information.

Management's Responsibility for the Separate Financial Statements

Management is responsible for the preparation and fair presentation of these separate financial statements in accordance with Financial Reporting Standards approved by the General Accountancy of the Nation and for such internal control as Management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these separate financial statements based on our audit. We conduct our audit in accordance with International Standards on Auditing accepted in Colombia. Those standards require that we comply with ethical requirements and that we plan and perform the audit to obtain reasonable assurance about whether the separate financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the separate financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the separate financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the separate financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the separate financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our qualified audit.



Opinion

In our opinion, the accompanying separate financial statements referred above, present fairly, in all material respects, the separate financial position of the Company as of December 31, 2018, its separate financial performance and its separate cash flows for the year then ended, in accordance with Financial Reporting Standards approved by the General Accountancy of the Nation, applied in a consistent manner with the preceding year.

Emphasis of Matter

Without qualifying our opinion, we draw attention to:

- a) In the year 2010, Hidroeléctrica Ituango S.A. E.S.P. concluded with EPM Ituango S.A. E.S.P., a BOOMT (Build, Operate, Own, Maintenance and Transfer) Contract, for the construction of the Ituango Hydroelectric Project, which was assigned to Empresas Públicas de Medellín E.S.P. in 2013. Through this contract Empresas Públicas de Medellín E.S.P. is required to make the necessary investments for the financing, construction, operation, maintenance and commissioning of the hydroelectric power plant and then transfer it back to Hidroeléctrica Ituango S.A. E.S.P. after 50 years. The Ituango Hydroelectric Project is located over the Cauca River, in the northwest area of the department, some 170 kilometers from the city of Medellín. It sits on property of the municipalities of Ituango and Briceno where the main works are being built, and of Santa Fe de Antioquia, Buritica, Peque, Liborina, Sabanalarga, Toledo, Olaya, San Andrés de Cuerquia, Valdivia and Yarumal. This power plant will generate 2,400 MW, which represents 17% of the country's electricity demand. The dam will have a height of 225 meters, 20 million m³ of volume and a ridge of 550 meters in length; It is located at about 8 km downstream of the Pescadero bridge, on the Cauca river, on the road to Ituango, on the site of the Ituango river mouth at the Cauca river.

As indicated in note 4 to the separate financial statements, a contingency was presented in the Ituango Hydroelectric Project; in chronological order the description of the main events:

- April 28, 2018: due to a geological event that blocked the diversion tunnel of the Cauca River with approximately 160 thousand cubic meters of rock and soil, impoundment of water was generated upstream of the dam.
- May 7, 2018: to protect the communities, the environment and the infrastructure of the project, the decision was made to release the impounded water through the power house of the Ituango Hydroelectric Project.
- On January 16 and February 5, 2019: intake gates # 2 and # 1, respectively, were closed, with which the flow of water through the powerhouse was suspended, what caused a reduction of the water flow of the Cauca river.



- February 8, 2019: began the recovery of the Cauca River flow through the water flow through the spillway.
- March 1, 2019: Skava Consulting delivers the results of the root cause analysis of the contingency.

The events described above are under evaluation by the Company and by control and surveillance bodies, therefore, at the date of issuing our opinion, not all the related financial and environmental effects, responsibilities, deterioration and costs are known, aside from those indicated in note 4, for this reason, the separate financial statements do not fully reflect the effects resulting from this situation.

- b) Note 21 to the separate financial statements, which indicates that Empresas Publicas de Medellin E.S.P. obtained waivers from the Inter-American Development Bank (IDB) and the French Development Agency (FDA) related to the fulfillment of the financial covenant, in accordance with the provisions of the multilateral banking contracts, measured in relation to the financial indicators of long-term financial debt on EBITDA as of December 31, 2018 of the consolidated financial statements of Empresas Publicas de Medellin E.S.P and Subsidiaries. In relation to the obligation with the Bank of Tokyo-Mitsubishi financial institution for \$ 285,154 million, which guarantor is the Japan Bank for International Cooperation (JBIC), the waiver has not been obtained, thus reclassification of the total financial long-term debt to short term was made, according to the provisions of the Financial Reporting Standards approved by the General Accountancy of the Nation given the breach of the covenant; The JBIC indicated that once the consolidated financial statements of Empresas Publicas de Medellin E.S.P and Subsidiaries are known, it will evaluate the possibility of modifying the contract or granting the waiver.

Other Matter

The separate financial statements at and for the year ended December 31, 2017 are presented for comparative purposes only, were audited by another independent auditor whose report dated March 20, 2018 expressed an unmodified opinion on those statements.

(Autograph signature of the partner) (Manually write: KPMG S.A.S.)

Gonzalo Alonso Ochoa Ruiz

Partner

March 26, 2019

Medellin



Certification of the legal representative and the accountant of EPM

March 26, 2019


**Board of Directors
Empresas Públicas de Medellín E.S.P.**

The undersigned legal representative and accountant of Empresas Públicas de Medellín E.S.P. certify that the balances of the financial statements of Empresas Públicas de Medellín E.S.P. as of December 31, 2018 and 2017, were faithfully taken from the accounting books, which were prepared in accordance with the International Financial Reporting Standards (IFRS)—published and applicable for the period and included in the Public Accounting System—and that the disclosed information reflects the financial, economic, social, and environmental situation and operation of Empresas Públicas de Medellín E.S.P. and subsidiary companies in a reliable manner. Furthermore, they note that the information appearing on the aforementioned consolidated financial statements was verified, regarding:

- a) All the transactions that have been made in the covered years have been accurately registered on the respective periods, pursuant to the appropriate acknowledgement of the proper quantities and accounts, measured by the reasonable costs, and appropriately revealed.
- b) The transactions were disclosed pursuant to the provisions of the current IFRS issued by the International Accounting Standards Board (IASB) and to the interpretations issued by the IFRS Interpretations Committee. Such financial statements are aligned with the accounting principles generally accepted in Colombia, recorded in the annex of Decree 2420 of 2015 and its subsequent modifications adopted by the Colombian General Accounting Office through Ruling 037 of 2017.
- c) All the assets, liabilities, and net equity of the financial statements reflect the existence of rights and obligations of Empresas Públicas de Medellín E.S.P.
- d) The disclosures or accounting notes were prepared with clarity and in accordance with the IFRS.

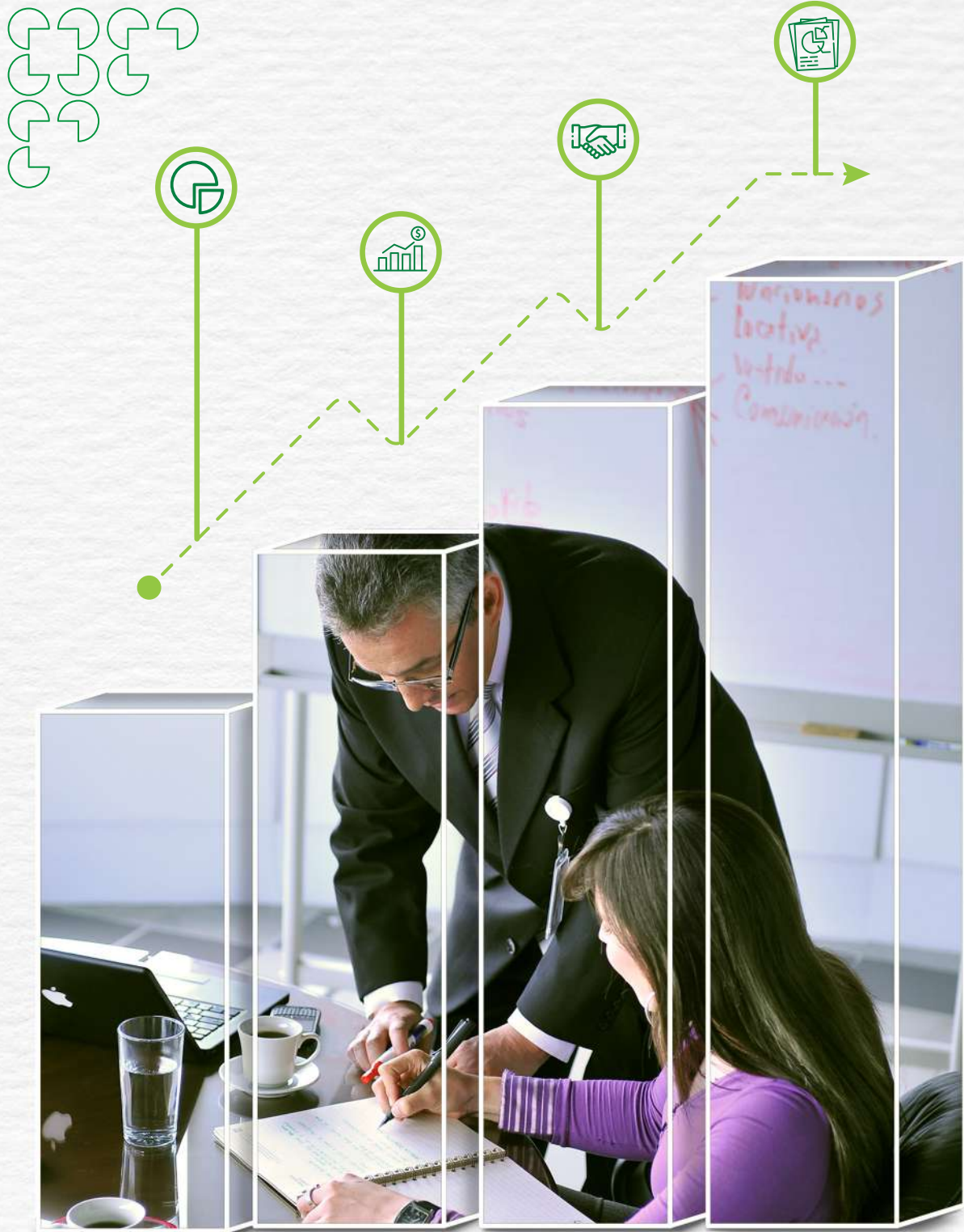
The consolidated financial statements do not contain flaws, inaccuracies, or errors that may prevent the actual financial position and financial performance of the entity from being known.


Jorge Londoño De la Cuesta
CEO


John Jaime Rodríguez Sosa
Director of Accounting and Costs
Professional license: 144842-T

estamos ahí.

Empresas Públicas de Medellín E.S.P.
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Medellín - Colombia
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Empresas Públicas de Medellín E.S.P. and Subsidiaries

Consolidated Financial Statements and Notes
December 31, 2018 and 2017

EMPRESAS PUBLICAS DE MEDELLIN E.S.P. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF FINANCIAL POSITION

Periods ended as of December 31, 2018 and 2017

Amounts stated in millions of Colombian pesos

| | Notes | 2018 | 2017 |
|--|-------|-------------------|-------------------|
| Asset | | | |
| Non-Current Asset | | | |
| Property, Plant and Equipment, Net | 5 | 34,488,599 | 31,480,096 |
| Investment Property | 6 | 91,382 | 126,740 |
| Goodwill | 7 | 3,032,267 | 3,060,672 |
| Other Intangible Assets | 7 | 2,315,958 | 2,076,453 |
| Investments in Associates | 11 | 1,746,487 | 1,804,827 |
| Investments in Joint Ventures | 12 | 82 | 82 |
| Deferred Tax Asset | 40 | 249,700 | 225,317 |
| Trade and Other Receivables | 13 | 929,475 | 874,751 |
| Other Financial Assets | 14 | 2,312,368 | 2,105,782 |
| Other Assets | 17 | 112,192 | 115,581 |
| Cash and Cash Equivalents | 19 | 22,343 | - |
| Total Non-Current Asset | | 45,300,853 | 41,870,301 |
| Current Asset | | | |
| Inventories | 18 | 409,665 | 372,240 |
| Trade and Other Accounts Receivables | 13 | 3,284,742 | 2,752,912 |
| Asset for Current Income Tax | 40 | 118,400 | 415,669 |
| Other Financial Assets | 14 | 1,234,305 | 265,938 |
| Other Assets | 17 | 453,411 | 388,561 |
| Cash and Cash Equivalent | 19 | 1,576,039 | 1,191,214 |
| Total Current Asset | | 7,076,562 | 5,386,534 |
| Total Assets | | 52,377,415 | 47,256,835 |
| Debit Balances of Deferred Regulatory Accounts | 31 | 111,868 | 48,842 |
| Total Assets and Debit Balances of Deferred Regulatory Accounts | | 52,489,283 | 47,305,677 |
| Equity | | | |
| Capital | 20 | 67 | 67 |
| Reserves | 20 | 2,560,657 | 3,479,283 |
| Other Accumulated Comprehensive Income | 21 | 2,894,627 | 2,864,172 |
| Accumulated Profits | 20 | 13,392,190 | 11,505,849 |
| Net Profit for the Year | 20 | 2,258,293 | 2,186,302 |
| Other Components of Equity | 20 | (23,323) | (25,118) |
| Equity Attributable to Non-controlling Interests | | 21,082,511 | 20,010,555 |
| Non-controlling Interests | | 953,707 | 857,654 |
| Total Equity | | 22,036,218 | 20,868,209 |

EMPRESAS PUBLICAS DE MEDELLIN E.S.P. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF FINANCIAL POSITION

Periods ended as of December 31, 2018 and 2017

Amounts stated in millions of Colombian pesos

| | Notes | 2018 | 2017 |
|--|-------|-------------------|-------------------|
| Liability | | | |
| Non-Current Liability | | | |
| Credits and Loans | 22 | 16,029,141 | 14,116,243 |
| Creditors and Other Accounts Payable | 23 | 502,769 | 264,530 |
| Other Financial Liabilities | 24 | 491,571 | 538,470 |
| Employee Benefits | 26 | 858,515 | 849,558 |
| Income Tax Payable | 40 | 33,701 | - |
| Deferred Tax Liability | 40 | 2,556,008 | 2,854,341 |
| Provisions, Contingent Assets and Contingent Liabilities | 28 | 474,148 | 384,345 |
| Other Liabilities | 29 | 119,527 | 118,607 |
| Total Non-Current Liability | | 21,065,380 | 19,126,094 |
| Current Liability | | | |
| Credits and Loans | 22 | 4,805,659 | 2,842,480 |
| Creditors and Other Accounts Payable | 23 | 2,698,694 | 2,948,403 |
| Other Financial Liabilities | 24 | 347,100 | 364,878 |
| Employee Benefits | 26 | 251,260 | 237,959 |
| Income Tax Payable | 40 | 91,264 | 148,088 |
| Taxes, Contributions and Rates Payable | 27 | 191,281 | 181,740 |
| Provisions, Contingent Assets and Contingent Liabilities | 28 | 778,219 | 400,026 |
| Other Liabilities | 29 | 190,648 | 173,147 |
| Total Current Liability | | 9,354,125 | 7,296,721 |
| Total Liability | | 30,419,505 | 26,422,815 |
| Deferred Tax Liabilities related to Balances of Deferred Regulatory Accounts | 31 | 33,560 | 14,653 |
| Total Liability and Credit Balances of Deferred Regulatory Accounts | | 30,453,065 | 26,437,468 |
| Total Liability and Equity | | 52,489,283 | 47,305,677 |

The accompanying notes are an integral part of the financial statements

Jorge Londoño De la Cuesta
 General Manager

Certification Attached

Jorge Andrés Tabares Ángel
 Executive Vice-president of Corporate Finance,
 Risk Management and Investments

John Jaime Rodríguez Sosa
 Director of Accounting and Costs
 P.C. 144842-T

Certification Attached

EMPRESAS PUBLICAS DE MEDELLIN E.S.P. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

For the periods between January 1 to December 31, 2018 and 2017
 Figures stated in millions of Colombian pesos

| | Notes | 2018 | 2017 |
|---|---------|-------------------|-------------------|
| Continued Operations | | | |
| Sale of Goods | 32 | 18,266 | 52,045 |
| Rendering of Services | 32 | 15,885,888 | 14,444,599 |
| Lease | 32 | 83,110 | 76,992 |
| Other Income | 33 | 326,768 | 342,633 |
| Income from Ordinary Activities | | 16,314,032 | 14,916,269 |
| Gain on Sale of Assets | 32 | 7,311 | 1,647 |
| Total income | | 16,321,343 | 14,917,916 |
| Costs of services Rendered | 34 | (10,733,975) | (9,697,215) |
| Administrative Expenses | 35 | (1,724,479) | (1,451,442) |
| Impairment Loss on Accounts Receivable | 13 | (69,461) | (76,800) |
| Other Expenses | 36 | (199,528) | (79,262) |
| Financial Income | 37.1 | 270,836 | 252,902 |
| Financial Expenses | 37.2 | (1,049,793) | (1,022,277) |
| Net Exchange Difference | 38 | (264,117) | 158,730 |
| Equity Method in Associates and Joint Ventures | | (18,017) | (8,802) |
| Dividends on Equity Investments | 39 | 65,167 | 82,465 |
| Earnings for the Period Before Taxes | | 2,597,976 | 3,076,215 |
| Income Tax | 40 | (217,394) | (785,960) |
| Profit for the Period after Continued Operations Tax | | 2,380,582 | 2,290,255 |
| Profit for the Period before Net Movement in Balances of Deferred Regulatory Accounts | | 2,380,582 | 2,290,255 |
| Net Movement in balances of Net Regulatory Accounts related to Profit for the Period | 31 | 52,884 | 33,643 |
| Net Movement in Deferred Tax related to Deferred Regulatory Accounts related to Profit for the Period | 31 | (15,928) | 3,204 |
| Net Profit for the Period and Net Movement in Balances of Deferred Regulatory Accounts | | 2,417,538 | 2,327,102 |
| Other Comprehensive Income | | | |
| Items that will not be Reclassified after Income for the Period: | | | |
| New Measurements of Defined Benefit Plans | 21 | (2,422) | (32,292) |
| Equity Investments Measured at Fair Value through Equity | 21 | (3,990) | 475,218 |
| Income Tax related to Items that will not be Reclassified | 21 y 40 | 8,567 | (33,274) |
| Equity Method in Associates and Joint Ventures | 21 | (444) | (4,239) |
| | | <u>1,711</u> | <u>405,413</u> |
| Items that may be Reclassified after Profit for the Period: | | | |
| Cash Flow Hedges | | | |
| Recognized Profit for the Period | 21 | 3,283 | (5,449) |
| Reclassification Adjustment | 21 | 171,581 | (93,387) |
| Exchange Difference for Conversion of Business Abroad | 21 | (168,298) | 87,938 |
| Income Tax Related to Items that may be Reclassified | 21 y 40 | 100,380 | 15,225 |
| Equity Method in Associates and Joint Ventures | 21 | (67,928) | 8,442 |
| | | <u>(615)</u> | <u>1,058</u> |
| | | <u>35,120</u> | <u>19,276</u> |
| Other Comprehensive Income, Net of Taxes | | 36,831 | 424,689 |
| Total Comprehensive Income for the Period | | 2,454,369 | 2,751,791 |
| Profit for the Period attributable to: | | | |
| Controlling Interests | | 2,258,293 | 2,186,302 |
| Non-Controlling Interests | | 159,245 | 140,800 |
| | | <u>2,417,538</u> | <u>2,327,102</u> |
| Total Comprehensive Income attributable to: | | | |
| Controlling Interests | | 2,288,787 | 2,612,229 |
| Non-Controlling Interests | | 165,582 | 139,562 |
| | | <u>2,454,369</u> | <u>2,751,791</u> |

The accompanying notes are an integral part of the financial statements

Jorge Londoño De la Cuesta
 General Manager

Certification Attached

Jorge Andrés Tabares Ángel
 Executive Vice-president of Corporate Finance,
 Risk Management and Investments

John Jaime Rodríguez Sosa
 Director of Accounting and Costs
 P.C. 144842-T

Certification Attached

EMPRESAS PUBLICAS DE MEDELLIN E.S.P. AND SUBSIDIARIES
 COMPREHENSIVE STATEMENT OF CHANGES IN EQUITY
 For the periods between January 1 to December 31, 2018 and 2017
 Figures stated in millions of Colombian pesos

| | Other Comprehensive Income | | | | | | | | | | | | |
|--|----------------------------|------------------|---------------------------------|----------------------------|-------------------|------------------------|-----------------|---------------------|--|--|---------------------------------------|---------------------------|-------------------|
| | Capital Issued | Reserves | Accumulated Earnings and Profit | Other Components of Equity | Equity Investment | Definite Benefit Plans | Cash Flow Hedge | Exchange Difference | Reclassification of Property, Plant and Equipment to Investment Property | Accumulated Interests of Associates and Joint Ventures in Other Comprehensive Income | Attributable to Controlling Interests | Non-Controlling Interests | Total |
| | Note 20.1 | Note 20.2 | Note 20.3 | Note 20.4 | Note 21.3 | Note 21.2 | Note 21.5 | Note 21.6 | Note 21.1 | Note 21.4 | | Note 20.5 | |
| Balance as of January 1, 2017 | 67 | 3,604,789 | 12,959,786 | (25,014) | 1,745,876 | (14,949) | (8,262) | 705,283 | 12,079 | 189 | 18,979,844 | 803,461 | 19,783,305 |
| Profit for the Period | - | - | 2,186,302 | - | - | - | - | - | - | - | 2,186,302 | 140,800 | 2,327,102 |
| Other Comprehensive Income for the Period, Net of Income Tax | - | - | - | - | 431,519 | (20,674) | 3,041 | 15,221 | - | (3,180) | 425,927 | (1,238) | 424,689 |
| Comprehensive Income for the Period | - | - | 2,186,302 | - | 431,519 | (20,674) | 3,041 | 15,221 | - | (3,180) | 2,612,229 | 139,562 | 2,751,791 |
| Surpluses and Dividends Decreed | - | - | (1,609,136) | - | - | - | - | - | - | - | (1,609,136) | (86,328) | (1,695,464) |
| Appropriation of Reserves | - | (92,217) | 92,217 | - | - | - | - | - | - | - | - | - | - |
| Income Tax related to Transactions with Owners | - | - | (1,681) | - | - | - | - | - | - | - | (1,681) | (1,605) | (3,286) |
| Other Movements for the Period | - | (33,289) | 64,663 | (104) | (4,049) | 6,066 | (568) | (3,830) | - | 410 | 29,299 | 2,564 | 31,863 |
| Balance as of December 31, 2017 | 67 | 3,479,283 | 13,692,151 | (25,118) | 2,173,346 | (29,557) | (5,789) | 716,674 | 12,079 | (2,581) | 20,010,555 | 857,654 | 20,868,209 |
| Balance as of January 1, 2018 | 67 | 3,479,283 | 13,692,151 | (25,118) | 2,173,346 | (29,557) | (5,789) | 716,674 | 12,079 | (2,581) | 20,010,555 | 857,654 | 20,868,209 |
| Profit for the Period | - | - | 2,258,293 | - | - | - | - | - | - | - | 2,258,293 | 159,245 | 2,417,538 |
| Other Comprehensive Income for the Period, Net of Income Tax | - | - | - | - | (5,111) | 1,032 | (64,714) | 100,377 | - | (1,059) | 30,525 | 6,306 | 36,831 |
| Comprehensive Income for the Period | - | - | 2,258,293 | - | (5,111) | 1,032 | (64,714) | 100,377 | - | (1,059) | 2,288,818 | 165,551 | 2,454,369 |
| Surpluses and Dividends Decreed | - | - | (1,203,504) | - | - | - | - | - | - | - | (1,203,504) | (106,956) | (1,310,460) |
| Appropriation of Reserves | - | (918,626) | 918,626 | - | - | - | - | - | - | - | - | - | - |
| Purchase and Sales to Non-Controlling Participations | - | - | 2 | (35) | - | - | - | - | - | - | (33) | 33 | - |
| Transfers to Retained Earnings | - | - | (51) | - | 69 | - | - | - | - | - | 18 | - | 18 |
| Income Tax related to Transaction with Owners | - | - | (341) | - | - | - | - | - | - | - | (341) | (326) | (667) |
| Equity Method for Equity Variations | - | - | - | 1,837 | - | - | - | - | - | - | 1,837 | - | 1,837 |
| Other Movements for the Period | - | - | (14,693) | (7) | - | 144 | - | - | (283) | - | (14,839) | 37,751 | 22,912 |
| Balance as of December 31, 2018 | 67 | 2,560,657 | 15,650,483 | (23,323) | 2,168,304 | (28,381) | (70,503) | 817,051 | 11,796 | (3,640) | 21,082,511 | 953,707 | 22,036,218 |

The accompanying notes are an integral part of the financial statements

Jorge Londoño De la Cuesta
 General Manager

Certification Attached

Jorge Andrés Tabares Ángel
 Executive Vice-president of Corporate Finance,
 Risk Management and Investments

John Jaime Rodríguez Sosa
 Director of Accounting and Costs
 P.C. 144842-T

Certification Attached

EMPRESAS PUBLICAS DE MEDELLIN E.S.P. AND SUBSIDIARIES
CONSOLIDATED STATEMENT OF CASH FLOWS
For the periods between January 1 to December 31, 2018 and 2017
Figures stated in millions of Colombian pesos

| | Notes | 2018 | 2017 |
|--|---------|--------------------|--------------------|
| Cash Flows for Operation Activities: | | | |
| Net Profit for the Year | | 2,417,538 | 2,327,102 |
| Adjustments to Reconcile the Net Profit for the Year to the Net Cash Flow used in Operation Activities: | | | |
| Depreciation and Amortization of Property, Plant and Equipment and Intangible Assets | 34 y 35 | 992,108 | 948,481 |
| Impairment Loss of Property, Plant and Equipment and Intangible Assets | 34 | 6,052 | 62,944 |
| Impairment Loss of Trade and Other Receivables | 13 | 122,614 | 109,232 |
| Reversal for Impairment Loss of Accounts Receivable | 33 | (53,153) | (32,432) |
| Profit due to Exchange Difference, Net | | 264,117 | (158,730) |
| Gain for Valuation of Investment Property | 6 | (4,352) | (10,848) |
| Loss due to Valuation of Financial Instruments and Hedge Accounting | | 24,479 | 72,615 |
| Provisions, Post-Employment and Long-Term Definite Benefit Plans | | 541,557 | 228,554 |
| Applied Government Grants | | (2,091) | (928) |
| Deferred Income Tax | 40 | (357,497) | 312,817 |
| Current Income Tax | 40 | 574,890 | 473,143 |
| Profit due to Equity Method in Associates and Joint Ventures | | 18,017 | 8,802 |
| Interest Gains | 37 | (214,351) | (177,287) |
| Interest Expenses | 37 | 929,969 | 853,412 |
| Profit for Disposal of Property, Plant and Equipment, Intangibles and Investment Property | | (3,148) | 5,674 |
| Profit for Disposal of Financial Instruments | | 3,043 | (32) |
| Profit (loss) due to Business Combination | 10 | - | (32,669) |
| Dividends from Investments | 39 | (68,209) | (49,764) |
| Other Revenue and Expenses Non-Effective, Net | | 38,816 | (54,599) |
| | | 5,230,399 | 4,885,487 |
| Net Changes in Operating Assets and Liabilities: | | | |
| Variation in Inventories | | 2,386 | 21,024 |
| Variation in Debtors and Other Accounts Receivable | | (514,522) | (328,546) |
| Variation in Other Assets | | 105,108 | (494,654) |
| Variation in Creditors and Other Accounts Payable | | 197,318 | 635,994 |
| Variation in Labour Obligations | | (32,979) | (42,803) |
| Variation in Provisions | | (38,476) | (24,863) |
| Variation in Other Liabilities | | (21,268) | 393,963 |
| Paid Interest | | (1,268,260) | (1,118,565) |
| Paid Income Tax | | (741,178) | (707,078) |
| Income Tax - Refund | | 374,974 | - |
| Net Cash Flows Originated by Operation Activities | | 3,293,502 | 3,219,959 |
| Cash Flows for Investment Activities: | | | |
| Acquisition of Subsidiaries or Businesses | | - | 19,234 |
| Acquisition of Property, Plant and Equipment | | (3,704,438) | (4,301,594) |
| Disposal of Property, Plant and Equipment | | 138,953 | 32,423 |
| Acquisition of Intangible Assets | | (90,759) | (114,843) |
| Disposal of Intangible Assets | | 19,433 | 1,805 |
| Acquisition of Associates and Joint Ventures | | - | (76) |
| Acquisition of Investments in Financial Instruments | | (1,604,528) | - |
| Disposal of Investments in Financial Instruments | | 612,789 | 617,513 |
| Government Grants | | - | 442 |
| Received Interests | | 4,498 | - |
| Dividends Received from Subsidiaries, Associates and Joint Ventures | | - | 49,764 |
| Other Dividends Receive | | 64,488 | - |
| Other Cash Flows from Investment Activities | | 95,823 | (14,045) |
| Net Cash Flows used by Investment Activities | | (4,463,741) | (3,709,377) |
| Cash Flows for Financing Activities: | | | |
| Obtaining of Public Credit and Treasury | | 6,700,282 | 5,074,675 |
| Payment of Public Credit and Treasury | | (3,455,320) | (3,194,085) |
| Transaction Costs for Issuance of Debt Instruments | | (65,212) | (10,084) |
| Payment of Liabilities for Financial Leasing | | (1,040) | (935) |
| Dividends or Surpluses Paid to the Municipality of Medellin | | (1,503,504) | (1,309,136) |
| Dividends or Surpluses paid to Non-Controlling Interests | | (126,389) | (86,328) |
| Capital Grants | | 353 | - |
| Payment of Derivative Principal for Hedging | | - | (12,384) |
| Other Cash Flows for Financing Activities | | 83,899 | (3,450) |
| Net Cash Flows from Financing Activities | | 1,633,069 | 458,273 |
| Net Increase/(Decrease) in Cash and Cash Equivalent | | 462,830 | (31,145) |
| Effect of Exchange Rates Variation in Cash and Cash Equivalents | | (55,663) | 27,860 |
| Cash and Cash Equivalents at the Beginning of the Period | | 1,191,214 | 1,194,499 |
| Cash and Cash Equivalents at the End of the Period | | 1,598,381 | 1,191,214 |
| Restricted Resources | | 173,375 | 183,609 |

The accompanying notes are an integral part of the financial statements

Jorge Londoño De la Cuesta
General Manager

Certification Attached

Jorge Andrés Tabares Ángel
Executive Vice-president of Corporate Finance,
Risk Management and Investments

John Jaime Rodríguez Sosa
Director of Accounting and Costs
P.C. 144842-T

Certification Attached

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Notes to the Consolidated financial Statements of the EPM Group for the periods ended as December 31, 2018 and 2017

(In millions of Colombian pesos, except when indicated otherwise)

Note 1. Reporting Entity

Empresas Públicas de Medellín E.S.P. and subsidiaries (hereinafter, "EPM Group" or "the Group") is the Holding Company of a multi-latin Enterprise group; which, in accordance with International Financial Reporting Standards, has as of December 31, 2018 a consolidation perimeter made up of 47 companies and a structured entity¹, with a presence in the provision of public utilities in Colombia, Chile, El Salvador, Guatemala, Mexico and Panama.

EPM is a municipal-order decentralized entity, created in Colombia through Resolution 58 of August 6, 1955 issued by the Administrative Council of Medellín, as an autonomous public institution. It was transformed into an industrial and commercial government company of municipal-order through Resolution 069 of December 10, 1997 of the Medellín Council. Due to its legal status, EPM is endowed with administrative and financial autonomy, and its own equity according to Article 85 of Law 489 of 1998. The capital stock with which the company was constituted and operates, as well as its equity, is of a public nature, being its only owner is the Municipality of Medellín. Its main corporate domicile is located at Carrera 58 No. 42-125 in Medellín, Colombia. It has not established a term of duration.

EPM provides residential public utilities of aqueduct, sewage, power and combustible gas distribution. It can also provide the domiciliary public utilities of cleaning, waste treatment and utilization, as well as the complementary activities related to each and every public utility service above mentioned.

The Group provides services in the following sectors:

- Power: includes Power Generation, Transmission, Distribution and Commercialization, and Natural Gas Distribution businesses.
- Water: integrated by the Aqueduct, Wastewaters and Cleaning businesses.
- Others segment: Consisting of the investment vehicles, Distribución Eléctrica Centroamericana II S.A. (DECA II), EPM Capital Mexico S.A. de C.V., EPM Chile S.A., EPM Inversiones S.A., EPM Latam S.A., Inversiones y Proyectos Hidrosur SpA (former Inversiones y Asesorias South Water Services SpA)², Panama Distribution Group S.A. (PDG). It additionally includes Maxseguros EPM Ltd., captive reinsurer established to negotiate, contract, and provide reinsurance services.
- Furthermore, EPM Group participates in the telecommunications business, in which it has significant influence since August 2014, through UNE EPM Telecomunicaciones S.A. and its affiliates: Edatel S.A. E.S.P, Orbitel Servicios Internacionales S.A. (OSI), Cinco Telecom Corporation (CTC) and Colombia Movil S.A.; and Inversiones Telco S.A.S. and its affiliate Emtelco S.A.; providing voice, data and Internet utilities, professional services, and data center, among others.

The Consolidated Financial Statements of the Group corresponding to the year ended as of December 31, 2018, were authorized by the Board of Directors to be published on March 26, 2019. The Group main activities are described in Note 46. Operating Segments.

1.1 Legal and Regulatory Framework

The activities of EPM Group, i.e., providing residential public utilities, are regulated in Colombia, Chile, El Salvador, Guatemala, Mexico and Panama. The most significant regulatory aspects that apply are:

¹ Autonomous Equity Social Funding. Under International Financial Reporting Standards (IFRS), it is considered a structured entity part of the consolidation perimeter of the financial statements of the EPM Group.

² It changed its company name on November 26, 2018, through public deed No. 34.861-2018 of Notary 27 of Santiago de Chile.

1.1.1 Regulation for Colombia

The rendering of residential public utilities in Colombia is regulated mainly by Law 142, Public Utilities Act, and Law 143 of 1993, Electricity Act.

The functions of control, inspection and surveillance of the entities that provide residential public utilities, are exercised by the Superintendencia de Servicios Públicos Domiciliarios (SSPD).

For its status as municipal-order decentralized entity, EPM is subject to political control by the Medellín Council, to fiscal control by the Comptroller General of Medellín and to disciplinary control by the Attorney General's Office.

1.1.1.1 Regulation commissions

Decree 1524 of 1994 delegates in the regulation commissions the presidential function of stating general policies of administration and control of efficiencies in residential public utilities.

These entities are:

- The Power and Natural Gas Regulatory Commission (CREG), a technical body attached to the Ministry of Mines and Energy (MME), that regulates the sale rates for electric power and the aspects related to the operation of the Wholesale Energy Market (MEM) and, more generally, to the provision of electric power and gas services.
- The Drinking Water and Basic Sanitation Regulatory Commission (CRA), regulates the rates for aqueduct, sewage and cleaning, as well as their providing conditions in the market. It is a technical body attached to the Ministry of Housing, City and Territory.

1.1.1.2 Regulation by Sector

1.1.1.2.1 Activities for the Aqueduct, Sewage and Waste Management Sector

Law 142, Public Utilities Act, defined the aqueduct, sewage and cleaning services:

Aqueduct: also called drinking water domiciliary public utility. Activity consisting of the municipal distribution of water which is fit for human consumption, including its connection and measurement. It includes complementary activities such as water catchment and its processing, treatment, storage, conduction and transportation.

Sewage: activity consisting of the municipal collection of waste, mainly liquid, through piping and conduits. It includes the complementary activities of transportation, treatment, and final disposal of such waste.

Waste management: activity consisting of the municipal collection of waste, mainly solid waste. It includes the complementary activities of transportation, treatment, utilization, and final disposal of such waste.

For the first two utilities, the tariff framework is established in Resolutions CRA 688 of 2014 and CRA 735 of 2015. For the public waste management utility, in resolution CRA 720 of 2015. These standards establish indicators of quality and coverage, the achievement of goals is encouraged, and remuneration mechanisms are defined to guarantee the financial sufficiency of the company.

1.1.1.2.2 Electric Power Sector Activities

Law 143 of 1994 segmented the electric power service into four activities: generation, transmission, distribution, and commercialization, which may be developed by independent companies. The purpose of the legal framework is to supply the demand of electricity under economic and financial feasibility criteria and to tend to an efficient, secure and reliable operation of the sector.

Generation: consists of the production of electric power from different sources (conventional or non-conventional), undertaking this activity either exclusively or combined with another or other activities of the electric sector, regardless of which is the main activity.

Transmission: the national transmission activity is the transportation of energy in the National Transmission System (hereinafter STN). It encompasses the set of lines, with its corresponding connection equipment that operate in voltages equal to or greater than 220 kV. The National Transmitter is the legal entity that operates and transports electric power in the STN or has incorporated a company which purpose is the undertaking of such activity.

Distribution: consists of transporting electric power through a set of lines and substations, with the associated equipment, that operate at voltages lower than 220 kV.

Commercialization: activity that consists of the purchase of electric energy in the wholesale market and its sale to other market participants or to the final regulated and non-regulated users, undertaking this activity either exclusively or combined with other activities of the electric sector, regardless of which of them is the main activity.

1.1.1.2.3 Natural Gas Sector Activities

Law 142 of 1994 defined the legal framework for the provision of domiciliary public utilities, area in which natural gas is defined as a public utility.

Natural Gas: it is the set of activities targeted to the distribution of Natural Combustible Gas, through pipes or another mean, from a place of collection of large volumes or from a central gas pipeline to the facilities of a final consumer, including their connection and measurement. This Law will also be applied to the complementary activities of commercialization from the production and transportation of gas through a main gas pipeline, or through other means, from the generation site and to that where it connects to a secondary network.

1.1.2. Regulation for Chile

1.1.2.1 Electric Power Sector Activities

The activities of generation, transmission and distribution regulated by the Electric Services General Act (LGSE, Ley General de Servicios Eléctricos) are identified in the Chilean electric power market.

In Chile there are four interconnected electric systems: two smaller systems that provide power for the south of the country, the Aysen and the Magallanes systems, that respectively concentrate 0.29% and 0.62% of the country's installed capacity, and two larger systems, the Interconnected System of Norte Grande (SING, Sistema Interconectado del Norte Grande) and the Central Interconnected System (SIC, Sistema Interconectado Central), that respectively concentrate 28.06% and 71.03% of the installed capacity and have a coordinated cargo dispatch operating since 2017.

Reforms in the Chilean electric power sector started back in 1978 with the creation of the National Power Commission (Comisión Nacional de Energía) and were formalized with the approval of the Electric Power Act (Ley Eléctrica) in 1982. Due to the privatization of the sector in Chile, from 1980 there has been no State involvement.

1.1.2.2 Water Sector Activities

The Water Sector (Sector Sanitario) is made up by the group of entities with functions related to the services of production and distribution of drinking water and the collection and disposal of waste water, i.e., the companies in charge of providing said services and the Superintendence of Water Services (Superintendencia de Servicios Sanitarios), regulatory and overseeing entity of this sector.

1.1.2.3. Regulatory Framework

Electric Power: according to the Electric Power Utilities General Act (LGSE, Ley General de Servicios Eléctricos), the National Power Commission (Comisión Nacional de Energía) is the competent authority to calculate the rates through the technical reports of node-price setting (fijación de precio de nudo) that are subsequently established by decree of the Ministry of Economy, Development and Reconstruction. Current legislation establishes as a basic premise that rates must represent the actual costs of electricity generation, transmission and distribution so that an optimal development of the electric systems can be obtained.

The legal framework of the Chilean electric power sector mainly consists of:

- Decree with Force of Law (DFL) No. 1 DFL of 1982. The Electric Utilities General Act establishes the fundamental dispositions for the development of the economic activity in the electric industry. It may be only modified at the National Congress and its most relevant modifications are those that are applied through Law N° 19.940 of 2004 Short Act I (Ley Corta I), that reformed the regulatory framework of the Transmission, and Law N° 20.018 of 2005 Short Act II (Ley Corta II), that reformed the commercialization regime between generators and distributors for the supply of regulated clients. The regulations, in turn, are elaborated by the sectorial bodies of the Executive Power and must be submitted to the dispositions established in the Law.
- Decree with Force of Law (DFL) No. 4 DFL of 2007. Approves modifications to the Decree with Force of Law No. 1 of 1982, General Law of Electric Services, on the subject of electric power.
- Law No 20.257 of 2008. Introduces modifications to the Electric Power Utilities General Act (LGSE) in respect to the generation of electric power by non-conventional renewable energy sources.
- Law No. 20.402 of 2009. Creates the Ministry of Energy (Ministerio de Energía), establishing modifications to Decree Law No. 2.224 and to other legal bodies.
- Law No. 20.936 of 2016. Modifies Law 20.018 of 2005, establishing a new electric power transmission system and creating a new coordinating body independent of the national electric power system.

Water: in the regulation scheme in effect, where the regulatory and monitoring function of the State is separated from the producing function, the Superintendence of Water Utilities (Superintendencia de Servicios Sanitarios) is created as the regulating and monitoring body for the sector. This body is a decentralized entity with own legal status and equity, subject to the supervision of the President of the Republic through the Ministry of Public Works. It performs the regulatory and monitoring functions for the activity of companies operating in this sector.

The regulatory model highlights two crucial aspects to introduce the economic rationality in the operation of the sector: the rates and the concessions regime, both aspects are contained in the legal framework under which the operation of the sector is regulated, being function of the Superintendence of Sanitary Services the application and enforcement of the provisions for the respective legal bodies: Decree with Force of Law No. 70 of 1988, Rates Act and the Decree with Force of Law No. 382 of 1988, Water Utilities General Act (Ley General de Servicios Sanitarios).

The legal framework of the Chilean water sector mainly consists of:

- Superintendence of Water Utilities Act - Law 18.902 of 1990 (Modified by Law No. 19.549 of 1998 and Law No. 19.821 of 2002): Creates the Superintendence of Water Utilities as a functionally decentralized service, with own legal status and equity, subject to the supervision of the President of the Republic through the Ministry of Public Works.

To the Superintendence of Water Utilities will correspond the monitoring of the providers of water utilities, of compliance with rules related to water utilities and the control of industrial liquid waste

related to the rendering of services of sanitary companies, capable either officially or at the request of any interested party of inspecting the sanitary infrastructure works made by the providers.

- Regulation of the Water Utilities General Act, Supreme Decree (DS, Decreto Supremo) of the Ministry of Public Works (MOP, Ministerio de Obras Públicas) No. 1199, Dec, 2004 - Published in the Official Gazette (DO, Diario Oficial) on November 9, 2005: approves the regulations for water concessions for production and distribution of drinking water, and for collection and disposal of wastewater, and of the standards on the quality of service to users of these utilities.
- Water Utilities Rates Act (Ley de tarifas de los servicios sanitarios): Decree with Force of Law MOP No. 70 of 1988 - Published in the Official Gazette on March 30, 1988.
- Code of Waters (Codigo de Aguas) and its modifications: in DFL No. 1.122 are regulated the property and the right of the use of water. The latest modifications are: Law No. 20.017 of 2005 and Law No 20.099 of 2006.
- Regulation of the Water Utilities General Act, Supreme Decree MOP No. 1199 of December, 2004: approves the regulations for water concessions for production and distribution of drinking water and for collection and disposal of wastewater, and of the standards on the quality of service to users of these utilities.

1.1.2.4 Regulatory Bodies

Some of the main regulatory bodies for the electric power sector in Chile are:

- **Ministry of Energy (Ministerio de Energía):** the higher body of collaboration to the President of the Republic in the functions of governance and administration of the energy sector. This public body is responsible for determining the schemes, policies and norms for the development of the electric power sector. Furthermore, it grants concessions for hydroelectric power plants, transmission lines, substations, and electric power distribution zones. The National Energy Commission (CNE, Comisión Nacional de Energía) is attached to the Ministry of Energy.
- **National Energy Commission (CNE, Comisión Nacional de Energía):** public decentralized body with its own equity and full capacity to acquire and exercise rights and obligations, that relates to the President of the Republic through the Ministry of Energy. In particular, the National Energy Commission leads the rate fixation processes to the electric power and natural gas companies of the network. It is responsible for designing technical standards and calculating the regulated prices established in the Law. Likewise, oversees and projects the current and expected operation of the electric power sector, through the generation of the works scheme that constitutes an indicative guide for the ten-year expansion of the system. Likewise, proposes to the Ministry of Energy the legal and regulatory norms that required in matters of its competence.
- **Superintendence of Electricity and Fuels (SEC, Superintendencia de Electricidad y Combustibles):** public body in charge of overseeing the adequate operation of the electric power, natural gas and fuels utilities, in terms of their safety, quality and prices. It also sets technical standards. Its main objective is auditing and overseeing compliance with the legal and regulatory dispositions for the generation, production, storage, transportation and distribution of liquid fuels, natural gas and electricity, in order to verify that the quality of services rendered to users comply with said standards and do not represent any danger to people or their property. The institutional framework of the SEC is Law 18.410 of 1985, modified by Law 20.402 of 2009.
- **Independent Coordinator of the National Electric System (CISEN, Coordinador Independiente del Sistema Eléctrico Nacional):** through Law 20.936, is created this coordinator charged with preserving the security of the service in the electric system, guaranteeing an economic operation, guaranteeing open access to the transmission systems, coordinating and determining the economic transfers between companies. The Coordinator is an autonomous, non-profit entity and its board of directors is elected by the Essential Nominating Committee (Comite esencial de nominaciones), its members are independent of the coordinated companies.
- **The Panel of Experts (El Panel de Expertos):** is an autonomous collegiate body created in 2004 by Law No. 19.940 with the function of ruling on the gaps in understanding, conflicts or non-conformities

that result from the application of the electric legislation between electric power companies and other entities, and that these companies submit to its considerations. The opinions of this entity are binding for the parties.

Some of the main regulatory bodies for the water (drinking water and sewage) sector in Chile are:

- **Ministry of Public Works (MOP, Ministerio de Obras Públicas):** grants the concessions and promotes the supply of water and sanitation in rural zones through its Sanitation Programs Department (Departamento de Programas de Saneamiento). Besides its own functions, in respect to the water sector, to it corresponds the administration of the legislation on the subject of water resources, the assignment of water rights and the approval of the concession rights to establishing, constructing and exploiting water services.
- **Superintendence of Water Utilities (SISS, Superintendencia de Servicios Sanitarios):** Chilean State body that regulates and monitors the companies that provide the drinking water utility as well as the collection and treatment of wastewater from the urban population.
- **Ministry of Health (Ministerio de Salud):** oversees the quality of water in the water utility that are not under the jurisdiction of the Superintendence (non-public water utility) and officializes the quality standards under provisions of the National Standardization Institute (Instituto Nacional de Normalización).
- **Ministry of Economy, Development and Reconstruction (Ministerio de Economía, Fomento y Reconstrucción):** designs and oversees the implementation of public policies that affect the competitiveness of the country; It promotes and oversees activities in the sectors of industry, services and commerce. Its major lines of action are related to the design and promotion of Innovation and Entrepreneurship Policies. Its main function regarding the water sector is the determination of regulated prices, at proposal from the Superintendence.

1.1.3. Regulation for El Salvador

A restructuring process of the electric power sector was undertaken in El Salvador, which was materialized in a juridical and institutional framework that aims to promote the competition and necessary conditions to assure the availability of an efficient power supply, capable of meeting demand under technical, social, economic, environmental and financial feasibility criteria.

In the 90's, El Salvador pushed a process of reforms in the power sector that consisted on the restructuring of the hydrocarbons and electricity sectors, the privatization of most government companies that provided power-related goods or services and the deregulation of the markets.

1.1.3.1. Regulatory Framework

The legal framework of the Salvadorian electric sector is formed by the General Superintendence of Electricity and Telecommunications (SIGET, Superintendencia General de Electricidad y Telecomunicaciones) Creation Act, issued through Legislative Decree 808 of September 12, 1996, that gave legal life to the regulatory entity; as well as by the General Electricity Act (LGE, Ley General de Electricidad), issued through Legislative Decree 843 of October 10, 1996, and by the regulations of the General Electricity Act, established through Executive Decree 70 of July 25, 1997, including its modifications.

As a result of the restructuring process of the electrical sector, the Transactions Unit (UT, Unidad de Transacciones S.A.), that manages the Wholesale Market of Electric Power, and the El Salvador Transmission Company (ETESAL, Empresa de Transmisión de El Salvador) were created, while simultaneously carried out the privatization of power distribution and thermal generation companies. Furthermore, the hydro-electrical and geothermal power generation activities were separated, and a private partner was incorporated to the latter.

1.1.3.2. Regulatory Bodies

Some of the main regulatory bodies for the electric power sector in El Salvador are:

- **Ministry of Economy (MINEC, Ministerio de Economía):** central government body with the purpose of promoting economic and social development through the increase of production, productivity, and the rational use of resources. Among its responsibilities is the definition of the commercial policy for the country, and the overseeing and development of the Central American economic integration. It has under its command the Direction of Electric Power (Dirección de Energía Eléctrica) and the Social Investment Fund for Local Development (Fondo de Inversión Social para el Desarrollo Local); furthermore, it chairs the National Energy Council (Consejo Nacional de Energía). Likewise, it contributes to the development of the competence and competitiveness of productive activities, both for the domestic and the international markets.
- **General Superintendence of Electricity and Telecommunications (SIGET, Superintendencia General de Electricidad y Telecomunicaciones):** not-profit public service autonomous body with administrative and financial autonomy, it is the competent body for applying the international treaties on electricity and telecommunications adopted by El Salvador, as well as national laws and regulations that rule the electricity and telecommunications sectors, and to know of non-compliance.
- **Transactions Unit (UT, Unidad de Transacciones):** among its functions are the transparent and efficient management of the wholesale electric power market and the operation of the transmission system, maintaining its security and quality, and providing market operators with satisfactory responses for the undertaking of their activities. Likewise, it coordinates with the Regional Operator Body (EOR, Ente Operador Regional) the energy transactions that El Salvador carries out with other countries at Central American and international levels. Finally, it identifies responsibilities in case of system failures.

1.1.4 Regulation for Guatemala

The Political Constitution of the Republic of Guatemala of 1985 declared the electrification of the country as national urgency, based upon plans formulated by the State and the municipalities, in a process that could rely on the participation of private initiatives.

1.1.4.1 Regulatory Framework

With the Political Constitution as a legal substrate, General Electricity Act (Ley General de Electricidad) was decreed in 1996, and through it the fundamental judicial laws were established to facilitate the operation of the different electric power system sectors.

1.1.4.2 Regulatory Bodies

Some of the main regulatory bodies for the electric power sector in Guatemala are:

- **Ministry of Energy and Mines (Ministerio de Energía y Minas):** the most relevant Guatemalan government body in the electric power sector. It is responsible for enforcing the General Electricity Act (Ley General de Electricidad) and its related regulations, while coordinating the policies between National Commission of Electric Power (CNEE, Comisión Nacional de Energía Eléctrica) and the Wholesale Market Administrator (AMM, Administrador del Mercado Mayorista). This state office has the authority to grant permits to companies for power generation, transmission and distribution.
- **National Electrical Power Commission (CNEE, Comisión Nacional de Energía Eléctrica):** the Guatemalan electric sector is regulated by the CNEE, a regulatory body created in accordance with the General Electricity Act, as a technical body of the Ministry of Energy and Mines and subordinated to it. It consists of three members appointed by the President of the Republic from groups-of-three proposed by the Presidents of the Universities, the Ministry of Energy and Mines and the Wholesale Market Agents. The duration of each directorate is five years.
- **Wholesale Market Administrator (AMM, Administrador del Mercado Mayorista):** body charged with managing the Guatemalan wholesale market, a private entity created by the General Electricity Act that coordinates the operation of generating facilities, international interconnections, and the transmission lines that conform the national electric power system. Meanwhile, it is responsible for the system's safety and operation by conducting an economically sound delivery and managing the electric power resources, for minimizing the operating costs, including the costs of failures, within

the restrictions imposed by the transmission system and the service quality requirements. Likewise, the AMM is responsible for the scheduling of the supply and delivery of electricity. Regulations issued by the AMM are subject to approval by the CNEE. If a generation, transmission or distribution company, or an electric power agent or large user does not operate their facilities in conformity with the regulations established by the AMM, the CNEE has capacity to sanction it and, in case of severe violation, it may require it to disconnect from the national electricity system.

1.1.5 Regulation for Mexico

1.1.5.1 Regulatory Framework for the Water and Sanitation Sector

In the government scene, each of the 32 federative entities (States) has its respective water regulations, with sensibly equal purposes in spite of the diverse designations. The modifications to the government legislation associated to the provision of water and sanitation utilities mainly derived from a series of initiatives promoted by the National Water Commission (CAN, Comisión Nacional de Aguas) in the 90's.

Below is a summary of the evolution undergone by the legal state regime from that era to the beginning of this decade regarding water and sanitation:

- Reforms of 1983 to Article 115 of the Constitution, with which the municipal character of the water and sanitation services was ratified and strengthened, what forced to target the State bodies role in this matter, assigning them a subsidiary and somehow regulatory role.
- Government policies were established in order to promote the creation of decentralized bodies Creation Decrees (Decretos de Creación) for Municipal Administration (Administración Municipal), with the technical capacity, administrative and financial autonomy, all necessary for the efficient provision of the utilities, while introducing participation schemes for the private sector.
- Greater participation of State authorities in the administration of the national water resources, through covenants that, pursuant to the provisions of Article 116 of the Constitution, can be established between the federation with the state governments in order for the latter to execute or exercise different tasks or attributions of exclusive competence of the federal government. This possibility was reinforced even further with the reforms and additions to the National Water Act that entered into force and effect in 2004.

1.1.5.2 Regulatory Bodies

Some of the main regulatory bodies for the water and sanitation sector in Mexico are:

- **Environment and Natural Resources Secretariat (SEMARNAT, Secretaría de Medio Ambiente y Recursos Naturales):** in the different scenes of society and public function, it incorporates criteria and instruments that assure the optimal protection, preservation, and utilization of the country's natural resources, thus forming an integral and inclusive environmental policy that allows achieving sustainable development, provided that they are not expressly entrusted to another office; moreover, in matters of ecology, environmental sanitation, water, environmental regulation of urban development and fishing activity, with the interest that shall correspond to other offices and entities.
- **National Water Commission (CONAGUA, Comisión Nacional del Agua):** with participation of society, it manages and preserves the national water to achieve the sustainable use of the resource with the co-responsibility of the three orders of government and society as a whole. It is established as the authority with technical quality and promoter of the government orders in the integrated management of the water resource and its inherent public goods while protecting water bodies to guarantee a sustainable development and the preservation of the environment.
- **Social Development Secretariat (SEDESOL, Secretaría de Desarrollo Social):** defines commitments of the administration to advance in the achievement of an effective social development. Formulates and coordinates the solidary and subsidiary social policy of the federal government, aiming at the common good, and executes it in a co-responsible fashion with society.

1.1.6 Regulation for Panama

The electric power sector in Panama is divided into three activity areas: generation, transmission and distribution. The country has established a regulatory structure for the electrical industry, based upon the legislation that was approved between 1996 and 1998. This framework creates an independent regulator, the Autoridad Nacional de los Servicios Públicos de Panamá (ASEP), and also creates a transparent process for setting the rates for the sale of energy to regulated customers.

1.1.6.1 Regulatory Framework

The regulatory framework consists of the following norms:

- **Law 6 of February 3, 1997:** dictates the regulatory and institutional framework for the provision of the electric power public utility. It establishes the regime to which the electrical power distribution, generation, transmission and commercialization activities shall be subject.
- **Law 57 of October 13, 2009:** several modifications are made to Law 6 of 1997; among them, the obligation of the generating companies to participate in the power purchase processes, the compulsoriness for Empresa de Transmisión Eléctrica S.A. (ETESA) for purchasing power in representation of distributing companies, and the increase in fines that the regulator may impose of up to \$20 million Balboas, and at the same time establishes the right of customers to refrain from paying for the portion they claim and grants a 30-day term to claim before the regulator in case of not being satisfied with the response given by the distribution company.
- **Law 58 of May 30, 2011:** modifies articles related to rural electrification, among which there are: the modification of subsidies calculation that the Rural Electrification Office (OER, Oficina de Electrificación Rural) must pay to distributors for a 4-year period (formerly paid to 20 years) and the creation of a rural electrification fund for 4 years, which shall be formed with the contributions of the market agents that sell electric power and shall not exceed 1% of their net profit before tax.

1.1.6.2 Regulatory Bodies

Some of the main regulatory bodies for the electric power sector in Panama are:

- **The Energy Secretariat (Secretaría de Energía):** its mission is to formulate, propose and promote the national energy policy with the goal of guaranteeing supply security, the rational and efficient usage of resources and energy in a sustainable fashion, according to the National Development Plan (Plan de Desarrollo Nacional). Currently is processing before the Empresa de Transmisión Eléctrica S.A. (ETESA) the conforming of a power grid with greater and more varied renewable and clean resources (wind, natural gas, etc.).
- **Autoridad Nacional de los Servicios Públicos de Panamá (ASEP):** established according to the Public Utilities Regulatory Body Act (ley del ente regulador de los servicios Públicos) of 1996. It is an autonomous Government body responsible of regulating, controlling, and auditing the provision of water and sewage, telecommunications, radio and television, electricity and natural gas utilities.

On February 22, 2006, through Decree-Law 10, the Public Utilities Regulatory Body (ERSP, Ente Regulador de los Servicios Públicos) was restructured and changed its name; because of that, since April 2006 it is known as the ASEP, with the same responsibilities and functions that the regulatory entity had, but with a general administrator and an executive director, each designated by the President of the Republic of Panama and ratified by the National Assembly. Likewise, it has three national directors under the authority of the general administrator: one for the electricity and water sector, one for the telecommunications sector, and one for the user support sector. The national directors are responsible for issuing resolutions related to their respective industries and the appeals thereto are solved by the general administrator as final stage of the administrative process.

- **The Planning Unit of the Empresa de Transmisión Eléctrica (ETESA):** creates the reference expansion schemes and projects the global requirements of energy and ways to satisfy such requirements, including the development of alternative energy sources and establishing programs to preserve and optimize the use of energy. The public service companies are called to prepare and present their expansion schemes to ETESA.

- **The National Dispatch Center (CND, Centro Nacional de Despacho):** operated by ETESA. Plans, supervises and controls the integrated operation of the National Interconnected System (Sistema Interconectado Nacional). Receives offers of electric power generating companies that participate in the power sale market (spot), it determines the spot power prices, manages the transmission network, and provides the liquidation values between suppliers, producers, and consumers, among others.
- **The Rural Electrification Office (OER, Oficina de Electrificación Rural):** is responsible for promoting the electrification in non-served, non-profitable and non-franchised rural areas.

1.2. External Audit

As included in the Code of Good Corporate Governance, the external audit is established as a control mechanism with the purpose of auditing consolidated financial statements and accounting policies in accordance with the International Financial Reporting Standards (IFRS), adopted in Colombia by the General Accountancy of the Nation (CGN, Contaduría General de la Nación). as well as the provision of an independent opinion regarding the reasonableness with which they indicate the Group's financial position as of the cut-off date of each accounting year.

Note 2. Significant Accounting Policies

2.1 Bases for the Preparation of Financial Statements

The Consolidated financial statements of the company are prepared in accordance with the current International Financial Reporting Standards (hereinafter, IFRS) issued by the International Accounting Standards Board (hereinafter, IASB), as well as the interpretations issued by the Interpretations Committee (hereinafter, IFRIC). These financial statements are harmonized with generally accepted accounting principles in Colombia as set out in the Annex to Decree 2420 of 2015 and its subsequent amendments accepted by the General Accountancy of the Nation through Resolution 037 of 2017, this resolution has not accepted some changes to IFRS such as the amendment to IAS 23 of the 2015-2017 Cycle and the interpretation of IFRIC 22, which have already entered into force at the international level or that can be anticipated, however, these changes do not impact financial figures, since they refer more to clarification in the application of the standards, i.e., to treatments already established, reason why it is considered that this will not have a transcendental economic impact in the financial statements.

The presentation of financial statements in conformity with IFRS requires making estimates and assumptions that affect the amounts reported and disclosed in the financial statements, without undermining the reliability of the financial information. Actual results may differ from said estimates. Estimates and assumptions are constantly revised. Revision of accounting estimates is recognized for the period in which the estimates are revised if the revision affects such period or in the revision period and future periods, if it affects both the current and the future period. The estimates made by the Management, in applying the IFRS, that have a material effect on the financial statements, and those that imply significant judgments for the annual financial statements, are described in greater detail on Note 3. Significant accounting judgments, estimates, and causes of uncertainty in the preparation of financial statements.

EPM and each of its subsidiaries present separate or individual financial statements, as applicable, for compliance before the controlling entities and for internal administrative follow-up purposes and provide information to the investors.

Assets and liabilities are measured at cost or amortized cost, with the exception of certain financial assets and liabilities and the investment properties that are measured at fair value. The financial assets and liabilities measured at fair value correspond to those that: are classified in the category of fair value assets and liabilities through profit, some equity investments at fair value through equity, as well as all financial derivatives, assets and liabilities recognized that are designated as hedged items in a fair value hedging, which value in records is adjusted with the changes in fair value attributed to the risks subject matter of the hedging.

Consolidated financial statements are presented in Colombian pesos and their figures are stated in millions of Colombian pesos.

2.2 Consolidation Principles

The consolidated financial statements include the financial statements of EPM and of its subsidiaries as of December 31, 2018 and December 31, 2017. Using the global integration method, EPM consolidates the financial results of the companies on which control is exercised, and which are detailed in Note 9. Investment in subsidiaries.

The control is obtained when any of the companies of the Group controls the relevant activities of the subsidiary, generally operation and financing activities, it is exposed, or has the right, to the variable returns of the subsidiary and has the capacity to leverage its power over the subsidiary to influence its returns.

The general presumption is that a majority of voting rights results in taking control. To support this presumption, and when the Group has less than the majority of the voting or similar rights on an investee, the Group considers all the pertinent facts and circumstances to evaluate whether it has the power over an investee, including contractual agreements with other vote holders in the investee, rights arising from other contractual agreements, and voting rights of the Group as potential voting rights. If the facts and circumstances suggest that one or more of the three controlling elements have changed, the Group must review again whether it controls an investee.

The consolidated financial statements of the Group are presented in Colombian pesos, which is the functional and presentation currency of EPM, which is the controlling company of the Group. Each subsidiary of the Group determines their own functional currency and includes the items in their financial statements using that functional currency.

All the companies of the Group prepare and present their financial statements under IFRS according to the Group's accounting policies, except for the international companies that, due to their own country's regulation cannot apply IFRS, in which case they must harmonize their local practices to the Group's accounting policies at the moment of reporting information for the consolidation of the financial statements.

For consolidation purposes, the financial statements of the subsidiaries are prepared under the Group accounting policies and are included in the consolidated financial statements from the acquisition date to the date when the Group loses control.

Intragroup assets, liabilities, equity, revenue, costs, expenses and cash flows are eliminated in the preparation of the consolidated financial statements; i.e., those related to transactions between the Group Companies, including unrealized internal profits and losses, which are eliminated in their entirety.

The consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ends when the Group loses control. Specifically, the income and expenses of a subsidiary acquired or sold during the year are included in the consolidated statement of comprehensive income from the date the Group obtains control until the date on which it ceases to control the subsidiary.

When the Group loses control over a subsidiary, the assets (including goodwill), liabilities, non-controlling participation, and other components of the net equity are derecognized; any residual participation it may retain is measured at fair value, the gains or losses that arise from this measurement are recognized in the profit for the period.

Non-controlling participation in the consolidated net assets of subsidiaries are presented separately from the Group's equity. The profit for the period and the other comprehensive income are also attributed to the non-controlling and controlling participations.

Changes in the participation share of the Group in subsidiaries that do not result in the loss of control, are recorded as equity transactions. The recorded value of the Group's controlling participations and non-controlling participations are adjusted to reflect the changes in their relative participation in the subsidiaries. Any difference between the amount for which the controlling participation, the non-controlling participation, and the fair value of the consideration paid or received are adjusted, is directly recognized in net equity.

Whenever the Group loses control over a subsidiary, the profit or loss is recognized and is calculated as the difference between: the fair value of the received consideration and the fair value of any retained participation, and the previous recorded value of assets (including goodwill) and liabilities of the subsidiary and any non-controlling participation. All amounts related to the subsidiary, previously recognized in the other comprehensive income are recorded as if the Group had directly disposed the assets or liabilities related to it (i.e., reclassified into profit or loss or transferred to another equity category as allowed by the applicable IFRS). The fair value of the retained investment in the previous subsidiary on the date when control is lost, is considered as the fair value in the initial recognition for its subsequent measurement, either as an investment made in a financial instrument or an investment made in a joint venture or in an associate.

2.3 Classification of Assets and Liabilities into Current and Non-Current

An asset is classified as current asset when it is mainly maintained for negotiation purposes or it is expected to be realized over a term not exceeding one year, after the period being reported or it is cash and cash equivalents that is not subject to restrictions for exchange or use in the cancellation of a liability over a term not to exceed one year after the period being reported. All other assets are classified as noncurrent assets.

A liability is classified as current liability when it is mainly kept for negotiation purposes or when it is expected to be liquidated over a term not exceeding one year after the period being reported, or when the company does not have an unconditional right to postpone its liquidation for at least one year after the period being reported. All other liabilities are classified as non-current liabilities.

All derivative instruments for which the hedging accounting does not apply are classified as current or noncurrent, or are divided into current and non-current portions, based upon assessment of the facts and circumstances (i.e., the underlying contractual cash flows):

- When the Group keeps a derivative, for which the hedging accounting is not applied, during a term exceeding twelve (12) months as from the presentation date, the derivative is classified as non-current (or divided into current and non-current portions) for it to correspond with the classification of the underlying item.
- Derivative instruments that are designated as hedging instruments and that are effective, are classified coherently with the classification of the underlying hedged item. The derivative instrument is divided into a current portion and another non-current only if such assignment can be made in a reliable manner.

2.4 Cash and Cash Equivalents

Cash and cash equivalents in the statement of financial position and in the statement of cash flows include the money in cash and banks and the high-liquidity investments, easily convertible in a determined amount of cash and subject to a non-significant risk of changes in their value, with maturity of three months or less from their acquisition date. Callable bank overdrafts that are an integral part of the cash management of the Group, represent a cash and cash equivalents component in the statement of cash flows.

2.5 Business Combinations

Business combinations are recorded by the acquisition method. The acquisition cost is measured as the addition of the consideration transferred measured on the acquisition date at fair value and the amount of minority interest in the acquired entity. For each business combination, the Group decides whether the non-controlling participations in the acquired entity should be measured at their fair value or for the proportional part of the identifiable net assets of the acquired entity. All costs related to the acquisition are recognized as expenses when incurred and are included in administrative expenses.

Identifiable acquired assets and assumed liabilities are recognized at fair value on the acquisition date, except that:

- Deferred tax assets or liabilities and the assets or liabilities related to employee benefit agreements shall be recognized and measured in conformity with IAS 12 Income taxes and IAS 19 Employee Benefits, respectively.
- Liabilities or equity instruments related to payment arrangement based on shares of the acquired entity or payment arrangement based on the Group's shares made as replacement of the arrangements with payment based on shares of the acquired entity are measured in conformity with IFRS 2 Share-based payment at the date of acquisition.
- The assets (or group of assets for disposal) that are classified as held for sale in conformity with IFRS 5 Non-current Assets Held for Sale and Discontinued Operations are measured in conformity with such Standard.

When EPM Group acquires a business, the financial assets and liabilities assumed for the classification and appropriate designation in conformity with contractual terms, the economic circumstances, and the pertinent conditions on the acquisition date are measured. This includes the separation of implicit derivatives in contracts hosted by the acquired entity.

The Group recognizes an intangible asset acquired in a business combination, regardless of goodwill, provided that such intangible asset meets the recognition criteria, is identifiable, or arises from contractual and legal rights; it measures the value of a reacquired right recognized as an intangible asset based on the remaining contractual term of the related contract, regardless of whether the market participants would consider potential contractual renewals to determine the fair value.

If a business combination is carried by stages, any prior participation is reevaluated as of their acquisition date at fair value and any resulting profit or loss is recognized. The accounting treatment of what is recorded in the Other comprehensive income (OCI), at the moment of the new purchase, i.e., the amounts resulting from the previous interest in the acquired entity as of the acquisition date that had been previously recognized in other comprehensive income, are reclassified into the profit for the period, provided that such treatment were appropriate in case such participation were sold.

If the initial recording of a business combination is not finalized at the end of the presentation period of the financial statements when the combination takes place, the Group reports the provisional amounts of the items for which recording is incomplete. During the measurement period, the acquiring entity recognized adjustments to the provisional amounts or recognizes additional assets or liabilities necessary to reflect the new information obtained on facts and circumstances that existed on the acquisition date and, had been known, would have affected the measurement of the amounts recognized on that date.

The transferred consideration is measured as the value added of the fair value, on the acquisition date, of the delivered assets, the incurred in or assumed liabilities and the equity instruments issued by the Group, including any contingent consideration, to gain control of the acquired entity.

Goodwill is measured as the excess of the consideration amount transferred, the value of any non-controlling participation, and whenever applicable, the fair value of any interest previously maintained in the acquired entity, over the net value of the acquired assets, liabilities and contingent liabilities assumed on the acquisition date. The resulting profit or loss on the measurement of the participation previously maintained is recognized in the profit for the period or in the other comprehensive income. When the transferred consideration is lower than the fair value of the net assets of the acquired entity, the corresponding gain is recognized in the results for the period, on the acquisition date.

Any contingent consideration from a business combination is classified as asset, liability or equity and is recognized at fair value on the acquisition date and is included as part of the consideration transferred in a business combination. Changes to fair value after the measurement period of a contingent consideration, classified as financial asset or liability, are recognized in the profit for the period, or in the case of concrete liabilities designated at fair value with changes in profit and loss, the amount of change in fair value that is attributable to changes in the credit risk of the liability are recognized in the other comprehensive income; it will not be remeasured when classified as equity and its subsequent liquidation is recognized within equity. If the consideration does not classify as a financial liability it is measured in conformity with the applicable IFRS; according to the foregoing, an asset or liability is

remeasured on its reporting date in conformity with IFRS 9 Financial Instruments or IAS 37 Provisions, Contingent Liabilities and Contingent Assets whenever appropriate.

The accounting policy established to record changes at fair value of the contingent consideration during the measurement period is as follows: all changes at fair value of the contingent consideration that classify as measurement period adjustments, are retrospectively adjusted, with the corresponding adjustments against goodwill. The measurement period adjustments are adjustments that arise from the additional information obtained during the “measurement period” (which may not exceed one year as from the acquisition date) on facts and circumstances that existed on the acquisition date.

Goodwill acquired in a business combination is assigned, on the acquisition date, to the Cash Generating Units (CGU) of the Group expected to benefit from the combination, regardless of whether other assets or liabilities of the acquired entity are assigned to those units. Goodwill that arises from a business acquisition is recorded at cost on the acquisition date less the accumulated impairment losses, if any.

For impairment assessment purposes, goodwill is assigned to each CGU (or groups of CGUs) of the Group that expects benefit from the synergies of that combination.

CGUs that are assigned the goodwill are subject to annual impairment assessments, or with shorter frequencies if there is indication that the unit may have suffered impairments. If the recoverable amount of the CGU is less than the carrying amount of the unit, the impairment loss is assigned first in order to reduce the carrying amount of goodwill assigned to the unit and then to the other assets of the unit, proportionately, based on the carrying amount of each asset in the unit. Any impairment loss for goodwill is directly recognized in profits or losses. The impairment loss recognized for goodwill purposes cannot be reverted in the following period.

When goodwill is part of a CGU and a portion of the operation within that unit is sold, goodwill associated to the operation sold is included in the carrying value of the transaction when determining the gain or loss for the disposal of the operation. Derecognized goodwill is determined based on the sold portion of the operation, which is the ratio between the carrying value of the sold operation and the carrying value of the CGU.

If the initial recognition of a business combination is incomplete at the end of the accounting period when the combination takes place, the Group discloses the provisional values of the items with incomplete recording. These provisional values are adjusted during the measurement period and are the additional assets and liabilities are recognized, to reflect the new information obtained on facts and circumstances that existed on the date of acquisition that would have affected the values recognized on that date.

Business combinations under common control are recorded using the pooling-of-interest method as a reference. Under this method, the assets and liabilities involved in the transaction are reflected at the same values used in the consolidation of the financial statements of the controlling entity of the companies under common control, any difference between the paid amount and the recorded value of the assets acquired and transferred liabilities is recognized as a sale of assets; revenue, costs and expenses of the combined companies (after Elimination of Inter-Segment Transactions) are combined from the beginning of the period in which the combination occurs until the date the combination of entities under common control takes place.

2.6 Investment in Associates and Joint Ventures

An associate is an entity on which the Group has significant influence over the financial and operation policy decisions, without getting to have their control or joint control.

A joint venture is an entity that the Group controls jointly with other participants, where the latter keep a contractual agreement that establishes the joint control over relevant activities of the entity.

On the acquisition date, the excess of the acquisition cost over the share of the net fair value of the identifiable assets, liabilities and contingent liabilities assumed of the associate or joint venture, is recognized as goodwill. Goodwill is included in the recorded value of the investment and is neither amortized nor individually subject to impairment assessments of its value.

Investment in associates and joint ventures is measured in the consolidated financial statements by the Equity Method, except if the investment or a portion thereof is classified as held for sale, in which case

it is accounted for in accordance with IFRS 5 Non-current Assets Held for Sale and Discontinued Operations. Through this accounting methodology, the investment is initially recorded at cost and is later adjusted in terms of the changes experienced, after acquisition, by the portion of the net assets of the entity that corresponds to the investor. The profit for the period of the Group includes its participation in the profit and loss of the entity in which the interest is held and the other comprehensive income of the Group includes its participation in the other comprehensive income of the entities in which participation is held. When there are variations in the percentage of participation in the associate or joint venture that do not imply a significant loss of influence or of joint control, the effect of these changes is recognized directly in equity. When the participation of the Group in the loss of an associate or joint venture exceeds the participation of the Group thereon (which includes any long-term participation that, in substance, forms part of the net investment of the Group in the associate or joint venture), the Group ceases to recognize its participation in future losses. Additional losses are recognized provided that the Group has contracted some legal or implied obligation or has made payments in the name of the associate or joint venture. When the associate or joint venture subsequently makes a profit, the Group resumes recognition of its participation therein only after its share in the profits equals the share of unrecognized losses.

All dividends received from the associate or joint venture are recognized as lesser value of the investment when the right of the Group to receive payment is established.

The Group periodically analyzes the existence of impairment indicators and if necessary, recognizes losses for impairment in the investment of the associate or joint venture. Impairment losses are recognized in the profit for the period and are calculated as the difference between the recoverable value of the associate or joint venture, the latter being the higher between the value in use and its fair value less the necessary costs for its sale and its recorded value.

When control over the subsidiary or significant influence over the associate or the joint control over the joint venture is lost, the Group measures and recognizes any residual investment that may keep in it its fair value. The difference between the recorded value of the associate or joint venture and the fair value of the retained residual investment, with the value coming from its sale, is recognized in the profit for the period.

The Group discontinues the use of the Equity Method from the date on which the investment ceases to be an associate or joint venture, or the date on which the investment is classified as held for sale. Additionally, the Group records all amounts previously recognized in other comprehensive income with relation to that associate or joint venture on the same basis that would have been required if said subsidiary had directly sold the financial assets or liabilities. Therefore, if a profit or loss previously recognized in other comprehensive income by the associate or joint venture had been reclassified into profits or losses at the moment of the sale of the related assets or liabilities, the Group would reclassify the profit or loss from equity into profits or losses (as a reclassification adjustment) upon discontinuation of the usage of the Equity Method.

2.7 Joint Operations

Is a joint agreement whereby the parties that have joint control of the agreement have the right to the assets and obligations related to the liabilities, related to the agreement.

In joint operations the Group recognizes its share as follows: its assets, including its share in the assets jointly held; its liabilities, including its share in the liabilities jointly incurred in; its revenues from ordinary activities coming from the sale of its share in the product that arises from the joint operation; its share in revenues from ordinary activities coming from the sale of the product that is made by the joint operation; and its expenses, including its share in the jointly incurred in expenses. The Group records the assets, liabilities, revenues from ordinary activities, and expenses related to its ownership in a joint operation according to the guidelines applicable in particular to the assets, liabilities, revenues from ordinary activities, and expenses.

2.8 Functional and Foreign Currency

The financial statements of the Group are presented in Colombian pesos, which is the functional currency and that of presentation for the holding company, because it is the currency of the main economic environment where it operates, i.e., where it generates and uses cash.

Transactions in foreign currency are initially recorded at the exchange rates of the functional currency in force and effect on the transaction date. Subsequently, the foreign-currency denominated monetary assets and liabilities are translated using the exchange rate of the functional currency, in force and effect as of the period's closing date, the non-monetary items that are measured at their fair value are translated using the exchange rates as of the date when their fair value is determined and the non-monetary items that are measured at historic cost are translated using the exchange rates in force and effect on the date of the original transactions.

All exchange differences are recognized in the statement of comprehensive income in the section profit for the period, except for adjustments arising from interest costs that are capitalizable and those arising from loans in foreign currency to the extent that they are considered as adjustments to interest costs.

For the presentation of the consolidated financial statements of the Group, the assets and liabilities of the businesses overseas, including goodwill and any adjustment to the fair value of the assets and liabilities that arose from the acquisition, are translated into Colombian pesos using the exchange rate in force and effect as of the closing date of the period being reported. Revenue, costs and expenses and cash flows are translated using the average exchange rates of the period.

Exchange differences that arise from the conversion of businesses overseas are recognized in the other comprehensive income, as well as the exchange differences of the long-term accounts receivable or payable that are part of the net investment made abroad. In the disposal of the foreign business, the item of the other comprehensive income that relates to the foreign business is recognized in the result for the period.

Adjustments corresponding to goodwill and the fair value over identifiable assets and liabilities acquired that are generated in the acquisition of a foreign business are considered as assets and liabilities of such transaction and are translated using the exchange rate in force and effect at the end of each period being reported. Any exchange difference that may arise shall be recognized in other comprehensive income.

Additionally, with respect to the partial disposal of a subsidiary (which includes a business overseas), the entity will again attribute the proportional part of the accumulated amount of the exchange differences to the non-controlling interests, and they are not recognized in gains or losses. In any other partial disposal (i.e., partial disposal of associates of joint agreements that do not involve the loss of significant influence and joint control by the Group), the entity shall reclassify into gains or losses only the proportional part of the accumulated amount of the exchange differences.

2.9 Ordinary Income

The ordinary income basically corresponds to the result of the Group's main activity, which is the rendering of residential public utilities of electric power, natural gas, water supply and sanitation, and are recognized when the service is rendered or at the time of the delivery of the goods, to the extent that they comply to the performance requirements of the Group. Income is measured at the value of the consideration received or to be received, excluding taxes and other obligations. Discounts, compensations to customers because of the quality of the service and financial components that are granted, are recorded as lower value of income. The financing component is only recognized when it is significant as a lower value of income, only if the contract with customers has a duration longer than one year.

The most representative revenue from the power business in Colombia are the following:

Reliability Charge: remuneration paid to a generating agent for the availability of generation assets with the declared characteristics and parameters for the calculation of the steady power for reliability charge (ENFICC), which guarantees compliance with the Steady Power Obligation (OEF) assigned in auction for the assignment of steady power obligations or the mechanism replacing it.

Long-Term Contracts: a contract for the sale of power between traders and generators which is settled in the power exchange, under this modality of power contract generators and traders freely agree on quantities and prices for the purchase and sale of electric power for periods longer than one day.

For long-term power purchase contracts, with process lower than those of the market and whose intention is not to use the energy purchased in the operation but to resell it in a market to obtain revenue, it is considered that it does not comply with the Exception for own use.

Secondary Market of Steady Power or Secondary Market: A bilateral market in which generators negotiate among themselves a back-up contract to ensure, for a given period, partial or total compliance with the steady power obligations acquired by one of them.

Non-Regulated Market Power Sales: Is the power sold in the market to customers whose maximum demand exceeds a value in MW (megawatts) or a monthly minimum energy consumption in MWh (megawatt-hour), defined by the regulatory body, by legalized installation, from which it does not use public networks of electric power transport and uses it in the same property or in contiguous estates. Such electricity purchases are made at freely agreed prices between buyer and seller.

Regulated Market Power Sales: Is the power sold to customers whose monthly consumption is less than a predetermined value and is not entitled to negotiate the price paid for it, since both concepts are regulated; usually uses power for its own consumption or as an input for its manufacturing processes and not to undertake marketing activities with it.

Automatic Generation Regulation (AGC): is a system for the control of the secondary regulation, used to accompany the variations of load through power generation, to control the frequency within a range of operation and the programmed exchanges. The AGC can be programmed in centralized, decentralized or hierarchical mode.

Steady Power (or Firm Energy): is the incremental contribution of a company's generation plants to the interconnected system, which is carried out with a 95% reliability and is calculated based on a methodology approved by the commission and the operational planning models used in the national interconnected system.

Natural gas revenue comes from the distribution and sale of natural gas to the regulated and non-regulated markets.

In the water business, revenue comes from the provision of aqueduct and sewage utilities.

Each other countries where the Group renders services, including power, have their own regulation, which is described for each country in section 1.1 1.1 Legal and Regulatory Framework.

At the time of recognition of income, the Group assesses, based on specific criteria, whether it acts as a principal or as a commission agent and thus determines whether gross or net income must be recognized for commercial activities.

2.10 Contracts with Customers

When contract results can be reliably measured, the company recognizes the revenues and expenses associated to contracts with customers, measuring the advance level in the fulfilment of the performance requirements using the resource method, as a function of the ratio represented by the costs earned by the work conducted to that date and the estimated total costs up to its completion.

The incurred cost includes the costs, including loan costs directly related to the contract, until the work has been completed. Administrative costs are recognized in the profit for the period.

On the other hand, the incremental costs incurred by the company to obtain or fulfill contracts with customers are recognized as an asset in the statement of financial position within the Other assets item and are amortized on a lineal basis over the life of the contract, provided that the term of the contract is greater than one year. Otherwise, the company recognizes it directly in the profit for the period.

Payments received from customers before the corresponding work has been carried out, are recognized as a liability in the Statement of Financial Position as other liabilities.

The difference between the revenues recognized in the statement of income for the period and the billing is presented as asset in the statement of financial position denominated Trade debtors and other accounts receivable, or as liability denominated Other liabilities.

For the initial recognition of an account receivable from a contract with a customer, the difference between the measurement of the account receivable and the value of the corresponding revenue is presented as an expense in the statement of comprehensive income called Impairment loss on accounts receivable.

2.11 Written Premiums and Acquisition Cost

Written premiums comprise the total premiums receivable for the period of coverage. Revenue from written premiums is recognized proportionally, throughout the duration of the coverage; revenue from these premiums is reduced by cancellations and nullifications; for cancellations, it corresponds to the amount of the premium accrued up to the time of cancellation due to the expiration of the payment deadline.

Revenue from premiums accepted in reinsurance is incurred at the time of receiving the corresponding account statements of the reinsurers.

The unearned premiums are calculated separately for each individual policy to cover the remaining part of the written premiums.

2.12 Deferred Reinsurance Commission Revenue

In the Group, the deferred commissions are recorded from undertaking its reinsurance activity, where the revenue collected from commissions is differentiated to the reinsurers by the premium cessions made each month. The reinsurer pays the transferor a commission on the premiums it receives in order to offset the costs of capturing the business and maintaining the portfolio, the value of the commission is established as a percentage of the premium and will depend on the negotiation made.

2.13 Reinsurance

The Group considers reinsurance as a contractual relationship between an insurance company and a reinsurance company (reinsurer), in which the insurance company relinquishes, totally or partially, to the reinsurer, the risks assumed with its insureds.

The premiums corresponding to the cede reinsurance are recorded according to the conditions of the reinsurance contracts and under the same criteria of the direct insurance contracts.

All accounts receivable and payable that are generated in the relationship with the reinsurer are managed independently and are not subject to compensation.

2.14 Government Grants

Government grants are recognized at fair value when there is reasonable security that those grants shall be received and that all conditions linked to them shall be met. Grants that pretend to offset costs and expenses already incurred in, without subsequent related costs, are recognized in the statement of profit for the period in which they become enforceable. When the grants related to an asset, it is recorded as deferred revenue and is recognized in the result for the period on a systematic basis throughout the estimated lifespan of the corresponding asset. The benefit of a government loan at an interest rate below market is treated as a government grant, measured as the difference between the amounts received and the fair value of the loan based upon the market interest rate.

2.15 Taxes

The fiscal structure of each country where the Group companies are located, the regulatory frameworks and the plurality of operations that companies undertake make each enterprise a tax passive subject, i.e., a payer of taxes, rates and contributions on a national and territorial basis. These are liabilities generated from the central government, the states/departments, municipal entities and other active subjects, once the conditions foreseen in the corresponding acts and laws issued are met.

Amongst the most relevant taxes the income tax, the value-added tax and the wealth tax are detailed:

Income Tax

Current: The current income tax assets and liabilities for the period are measured by the amounts that are expected to be recovered or paid to the fiscal authorities. The income tax expense is recognized in the current tax according to the cleaning made between the fiscal income and the recorded profit or loss affected by the income tax rate of the current year and pursuant to the provisions of the tax norms of the country. The tax rates and norms used for computing those values are those that are enacted or substantially approved at the end of the period being reported, in the countries where the company operates and generates taxable profits.

The fiscal profit differs from the gain profit reported in the statement of income for the period due to the revenue and expense items that are impossible or deductible in other years, and items that shall not be taxable or deductible in the future.

Current Income tax assets and liabilities are also offset if they relate to the same fiscal authority and if there is the intention to liquidate them for the net value or to realize the asset and liquidate the liability simultaneously.

Deferred: the deferred income tax is recognized using the liability method calculated on the temporary differences between the fiscal bases of the assets and liabilities and their recorded values. The deferred tax liability is generally recognized for all impossible temporary differences, while the deferred tax asset is recognized for all deductible temporary differences and for the future offsetting of fiscal credits and unused fiscal losses to the extent that it is probable the availability of future tax gains against which they can be imputed. Deferred taxes are not discounted.

The deferred tax assets and liabilities are not recognized if the temporary difference arises from the initial recognition of an asset or a liability in a transaction that is not a business combination and that, at the moment of the transaction, did not affect neither the book gain nor the fiscal profit or loss; and for the deferred tax liability case whenever it arises from the initial recognition of goodwill.

The deferred tax liabilities related to investments made in subsidiaries, associates and ownerships in joint ventures, are not recognized when the revision opportunity of temporary differences can be controlled, and it is probable that those differences will not be reversed in the near future. Deferred tax assets related to investments made in subsidiaries, associates and ownership in joint ventures, shall be recognized only to the extent that it is probable that there will be a reversal in the temporary differences in the near future and that the availability of future taxable profits against which those deductible differences will be imputed is probable.

The recorded value of the deferred tax assets is reviewed in each presentation date and are reduced to the extent that it is no longer probable that there are enough taxable gains profits to use for the entirety or one part of the deferred tax asset. The deferred tax assets that are not recognized are reassessed on each presentation report date and are recognized to the extent that it is probable that future taxable gains profits allow their recovery.

Deferred tax assets and liabilities are measured at the fiscal rates expected to be applied in the period when the asset is realized, or the liability is cancelled, based upon the fiscal rates and norms that were approved on the presentation date, or the approval procedure of which is about to be completed for such date. Measurement of deferred tax assets and liabilities will reflect the fiscal consequences that would be derived from the manner in which the entity expects, at the end of the period being reported, to recover or liquidate the recorded value of its assets and liabilities.

The deferred tax assets and liabilities must be presented as non-current.

The deferred tax assets and liabilities are offset if there is a legally enforceable right for that and are related to the same tax authority.

The deferred tax is recognized in the profit for the period, except that related to items recognized outside profits; in this latter case it will be presented in the other comprehensive income or directly in equity.

With the purpose of measuring the deferred tax liabilities and the deferred tax assets for investment properties that are measured using the fair value model, the recorded value of those properties is

presumed that will be fully recovered through their sale, unless the presumption is challenged. The presumption is challenged when the investment property is depreciable and is kept within a business model which object is to consume, substantially, all the economic benefits that are generated by the investment property through time, and not through sale. Management reviewed the company's investment property portfolio and concluded that none of the company's investment properties is kept under a business model which objective is to consume, substantially, all economic benefits generated by investment properties over time rather than through the sale. Therefore, the management have determined that the presumption of "sale" established in the modifications to IAS 12 Income tax, is not challenged.

Whenever the current tax or deferred tax arises from the initial recording of the business combination, the fiscal effect is considered within the recording of the business combination.

Value-Added Tax - VAT

Are responsible for this tax in the common regime the companies of the Group located in Colombia that perform sales of movable assets and provides taxed services and obtains exempt revenue for imports. Currently, the power, aqueduct, sewage, and domiciliary gas utilities are excluded from this tax. The general rate for this tax in Colombia is 19% and also has a differential rate of 5%.

In Colombia, the generation of revenue excluded in the particular case of residential public utilities, VAT paid on purchases is part of a higher cost value. Also, when taxable income is generated, that is to say when taxed goods or services are sold, VAT paid on the purchase or acquisition of inputs for these sales will be deductible from the payable tax value. When the company generates income that is excluded from VAT, but at the same time generates income that is exempt and taxed, in that case a proration of paid VAT must be performed to determine the percentage of VAT to be discounted.

In Panama, the Value Added Tax is generated in the transfer of movable assets, the rendering of services, and goods import; certain goods and services are specifically exempt, such as medical services and land telephone lines not for commercial use. The tax rate is 7%.

In Guatemala, the sale of movable assets, the rendering of services, goods import and some transactions with immovable assets generate the Value Added Tax; the tax rate is 12%.

The Value Added Tax rate in El Salvador is 13% and taxes the transfer of movable assets and the rendering of services. Nevertheless, the transfer of fixed assets that have been used for four or more years is not subject to this tax.

In Mexico, Value Added Tax is generated in any transfer of goods or services, excluding exports and imports. The general rate is 16%. Certain foods, medicines and exports have zero tax.

The Value Added Tax (VAT) in Chile applies on sales and other transactions related to tangible movable assets, as well as to the pay for certain services. It also applies to certain of real estate transactions. The general tax rate is 19%.

Wealth Tax

Wealth tax is calculated in accordance with current legal tax provisions. Calculation is made for each year while this tax is in force and is recorded in the statement of comprehensive income as an expense.

2.16 Property, Plant and Equipment

Property, plant and equipment are measured at cost, net of accrued depreciation and accrued impairment losses, if any. The cost includes the acquisition price; the costs directly related to putting the asset at the necessary place and conditions to operate in the way foreseen by the company, costs corresponding to loans of construction projects that take a substantial period to be completed, recognition requirements are complied with and the present value of the expected cost for the dismantlement of the asset after its use, if the criteria for recognition for a provision are met.

Constructions in progress are measured at cost less any loss for impairment recognized and includes indispensable expenditure and that are directly related to the construction of the asset, such as professional fees, work supervision, civil works and, in the case of those assets qualified, the borrowing costs are capitalized. Those constructions in progress are classified in the proper categories of property, plant and equipment at the time of their completion and when they are ready to use. The depreciation of these assets starts when they are ready to use in accordance with the same basis as in the case of other elements of property, plant and equipment.

The Group capitalizes as greater value of the assets, additions or improvements made thereof, provided that any of the following conditions is met: a) They increase their lifespan, b) They increase their productive capacity and operating efficiency thereof and c) They reduce costs to the Company. All other repair and maintenance costs are recognized in the statement of comprehensive income as incurred.

Inventory of spare parts for specific projects, which are expected to have no turnover in one year and meet the criteria to be capitalized, known as replacement assets, are presented in the other property, plant and equipment. They depreciate considering the permanence time in the warehouse and the technical lifespan of the asset once its use begins.

Depreciation begins when the asset is available for use and is calculated in a linear fashion throughout the estimated lifespan of the asset as follows:

| | |
|--|-----------------|
| Plants, pipelines and tunnels | |
| Civil work | 50 to 100 years |
| Equipment | 10 to 100 years |
| Networks, lines and cables | |
| Electric transmission network | 30 to 40 years |
| Electric distribution network | 30 to 40 years |
| Aqueduct network | 40 to 80 years |
| Sewerage network | 30 to 80 years |
| Gas network | 60 to 80 years |
| Buildings | 50 to 100 years |
| Communication and computer equipment | 5 to 40 years |
| Machinery and equipment | 7 to 40 years |
| Furniture, fixtures and office equipment | 10 to 15 years |
| Land ⁽¹⁾ | 10 to 20 years |

⁽¹⁾ Corresponds to the affiliate Emvarias that depreciates the land on which it performs the final disposal activity due to the detriment it suffers with the disposal of solid waste, environmental degradation and period of recovery that goes beyond 20 years.

Lifespans are determined considering, among others, the manufacturer's technical specifications, the knowledge of the technicians that operate and maintain the assets, the geographic location and the conditions to which it is exposed.

The Group calculates the depreciation by components, which implies depreciating individually the parts of the asset that should have different lifespans. The depreciation method used is the straight-line; the residual value calculated for the assets is not part of the depreciable amount.

A component of property, plant and equipment and any significant part initially recognized, is derecognized once disposed of or when it is not expected to obtain future economic benefits from its use or disposal. The gain or loss at the moment of writing the asset off, calculated as the difference between the net value of the disposal and the recorded value of the asset, is included in the statement of comprehensive income.

Assets temporarily classified as out-of-service continue to depreciate and are tested for impairment within the CGU to which they are assigned.

Any residual values, lifespans and depreciation methods for the assets are revised and adjusted prospectively at each year closing, if required.

2.17 Leases

The determination of whether an agreement constitutes or contains a lease is based upon the essence of the agreement at its initial date, if compliance with the agreement depends upon the use of a specific asset(s), or if the agreement grants a right of use of the asset.

Leases are classified as financial and operating lease. A lease is classified as financial lease whenever all risks and benefits inherent to the ownership of the asset leased are substantially transferred to the lessee; otherwise, it is classified as an operating lease.

EPM Group as a Lessee

Assets leased under financial leases are recognized and presented as assets in the statement of financial position at the beginning of the lease, for the fair value of the asset leased or the present value of the minimum lease payments, whichever is lower. The corresponding liability is included in the statement of financial position as a financial lease liability.

The assets leased under financial leases are depreciated throughout the lifespan of the asset through the straight-line method. However, if there were no reasonable certainty that the company shall get the ownership upon the lease term termination, the asset is depreciated throughout its estimated lifespan or over the lease term, whichever is lower. Lease payments are divided between financial expenses, and debt reduction. The financial cost is recognized in the statement of comprehensive income for the period, unless they could be directly attributable to qualifying assets, in which case they are capitalized in conformity with the entity's policy for borrowing cost. Contingent lease installments, are recognized as expenses in the period where incurred.

Payments for operating leases, including incentives received, are recognized as expenses in the statement of comprehensive income, on a linear basis throughout the lease term, except when another systematic basis for distribution results being more representative because it reflects more adequately the timing pattern of the benefits of the lease for the user.

EPM Group as a Lessor

Assets rented under financial leases are not presented as property, plant and equipment given that the risks associated to the ownership have been transferred to the lessee, a financial asset is instead recognized.

Land and buildings rented under operating leases are presented as investment properties, and the other assets given under operating lease are presented as property, plant and equipment. Initial direct costs incurred in the negotiation of an operating lease are added to the recorded value of the asset leased and are recognized as expenses throughout the lease term on the same basis as the revenues from the lease. Financial lease revenues are distributed during the lease term in order to reflect a constant return rate in the net investment. Contingent leases are recognized in the period when obtained.

Revenues from operating leases on investment properties are recorded on a linear basis over the lease term.

2.18 Borrowing Costs

Borrowing costs that are directly attributable to the acquisition, construction or production of an asset that necessarily takes substantial time to be prepared for their destined use or sale, are capitalized as part of the cost of the respective asset until the asset is ready for their intended use. The revenue from the temporary investment in specific loans pending to be consumed in qualified assets is deducted from the borrowing costs that qualify for their capitalization. All other borrowing costs are recorded as expenses in the period when incurred. Borrowing costs consists of interest and other costs incurred in by the company regarding to the loan of funds. To the extent that the funds derive from generic loans and

are used to obtain a qualified asset, the value of the costs susceptible of capitalization is determined by applying a capitalization rate (Weighted average cost of loans applicable to general loans outstanding during the period) to expenditure made in that asset.

The capitalization of borrowing costs begins on the date that the following conditions are met:

- Expenditure made in relation to the asset.
- Loans costs are incurred, and
- The necessary activities to prepare the asset for the intended use or for sale are carried out.

Capitalization of borrowing costs is suspended during periods in which the development of activities of a qualifying asset for periods of more than one year is interrupted. However, the capitalization of borrowing costs over a period is not interrupted if important technical or administrative actions are being undertaken. Neither is capitalization of borrowing costs suspended when a temporary delay is required as part of the process of preparing an asset qualified for its use or sale.

Capitalization of borrowing costs is terminated when all activities necessary to prepare the asset for its use or sale have been substantially completed. When the asset has components that can be used separately while construction continues, the capitalization of borrowing costs on such components is stopped.

2.19 Investment Property

Investment property, are lands or buildings or part of a building or both, held to obtain rentals or capital revaluations (including the investment property under construction for said purposes). Investment properties are initially measured at cost, including transaction costs. The recorded value includes de replacement or substitution cost of one part of an existing investment property at the moment when the cost is incurred in, if all criteria for recognition are met; and they exclude the daily maintenance costs of the investment property.

After initial recognition, investment properties are measured at the fair value reflected by market conditions on the presentation date. All profits and losses arising from changes in the fair values of the investment properties are included in the statement of comprehensive income in the section Profit for the period in the period when they arise.

Investment properties are derecognized, either at the moment of disposal, or when they are retired from use on a permanent basis, and no future economic benefit is expected. The difference between the net value of disposal and the recorded value of the asset is recognized in the statement of comprehensive income in the section Profit for the period in the period when it was derecognized.

Transfers to or from investment property are conducted only when there is a change in their use. In the case of a transfer from an investment property to property, plant and equipment, the cost considered for its subsequent posting is the fair value on the date of use change. If a property, plant and equipment become an investment property, it shall be recorded at its fair value, the difference between the fair value and the recorded value shall be recorded as revaluation surplus applying the IAS 16 Property, plant and equipment.

2.20 Intangible Assets

Intangible assets acquired separately are measured initially at their cost. The cost of the intangible assets acquired in business combinations is their fair value at the acquisition date. After their initial recognition, the intangible assets are recorded at cost less any accumulated amortization and any accumulated loss for impairment. Intangible assets generated internally are capitalized provided that they meet the criteria for their recognition as asset and the generation of the asset must be classified as: research phase and development phase; if it is not possible to distinguish the research phase from the development phase, expenditure must be reflected in the statement of comprehensive income in the period in which they incurred.

Lifespan of intangible assets are determined as finite or indefinite.

Intangibles assets with finite lifespans are amortized throughout their economic lifespan in a linear fashion and assessed to determine if they presented any impairment, whenever there are indications that the intangible asset may have suffered such impairment. The amortization period and the amortization method for an intangible asset with a finite lifespan are reviewed at least at the end of each year. Changes in the expected lifespan or in the expected pattern of consumption of the future economic benefits of the asset are recorded if the amortization period or method changes, as applicable, and are treated as changes in accounting estimates. The amortization expense of intangible assets with finite lifespans is recognized in the statement of comprehensive income in the section Profit for the period in the expense category that is find consistent with the function of the intangible asset.

Intangibles assets with undefined lifespans are not amortized, but they are subject to annual tests to determine whether they suffer any impairment, either individually or at the cash-generating unit level (CGU). Assessment of the undefined lifespan is revised on an annual basis to determine whether such undefined lifespan continues to be valid. If that is not the case, the change of lifespan from undefined to finite is made prospectively.

An intangible asset is derecognized upon disposal, or whenever future economic benefits are not expected from their use or disposal. The profits or losses arising when an intangible asset is derecognized are measured as the difference between the value obtained in the disposal and the recorded value of the asset, and it is recognized in the statement of comprehensive income in the section Profit for the period.

Research and Development Costs

Research costs are recorded as expenses as incurred. Development outlays in an individual project are recognized as intangible assets whenever the company can demonstrate:

- The technical feasibility of finalizing the intangible asset so that it is available for use or sale.
- Its intention of finalizing the asset and its capacity to use or sell the asset.
- How the asset will generate future economic benefits, considering, among others, the existence of a market for production that generates an intangible asset for the asset itself, or the profit of the asset for the entity.
- The availability of technical and financial resources to complete the asset and to use and sell it.
- The capacity of reliably measuring the expenditure during development.

In the statement of financial position, the development expenditure asset is recognized from the moment the element meets the aforementioned conditions for its recognition, and its cost less accrued amortization and the value impairment accrued losses are recorded.

When the development of an intangible asset related to a power generation project begins, costs are accumulated as constructions in progress.

Amortization of the asset starts when the development has been completed and the asset is available for use. It is amortized throughout the period of the expected future economic benefit. During the development period the asset is subject to annual tests to determine whether there is impairment of its value.

Research costs and development costs that do not qualify to capitalization are recorded as expenses in the statement of comprehensive income, section Profit for the period.

Goodwill

Goodwill represents the difference between the cost of a business combination and the fair value at the moment of acquisition of the acquired assets, liabilities assumed, and contingent liabilities of the acquired party.

Goodwill is not amortized, it is measured at cost less any value impairment accrued loss and is subject to annual value impairment tests, or more frequently when there are impairment indicators. Value impairment losses are recognized in the statement of comprehensive income in the section profit for the period.

For the Cash Generating Units (CGU), which have been assigned goodwill, on an annual basis the Company verifies the value impairment, which implies the calculation of the value at use of the UGEs to which it is assigned. The value at use requires determining the future cash flows that must arise from the UGEs and an appropriate discount rate to calculate the current value. When the actual future cash flows are less than expected, an impairment loss may arise.

Other Intangible Assets

Other intangible assets such as concession of services, licenses, software, exploitation rights, trademarks and similar rights acquired by the company are measured at cost less the accumulated amortization and any loss for impairment.

2.21 Financial Instruments

Financial assets and liabilities are recognized in the statement of financial position when the company becomes a party according to the contractual conditions of the instrument.

Financial assets and liabilities are initially measured at fair value. Transaction costs that are directly attributable to the acquisition or issuance of financial assets and liabilities (other than the financial assets and liabilities designated at fair value with change in operations) are added to or deducted from the fair value of the financial assets or liabilities, whenever appropriate, at the moment of the initial recognition. All transaction costs directly attributable to the acquisition of financial assets or liabilities designated at fair value with change in operations are immediately recognized in the comprehensive income for the period, section Profit for the period.

Financial Assets

The Group classifies at the moment of initial recognition its financial assets for subsequent measurement at amortized cost or at fair value (through other comprehensive income or through profits) depending upon the business model of the company for managing financial assets and the characteristics of the contractual cash flows of the instrument.

A financial asset is subsequently measured at amortized cost or at fair value with changes in other comprehensive income, using the effective interest rate³ if the asset is maintained within a business with the objective keeping those to obtain contractual cash flows and the contractual terms the assets grant, in specific dates, cash flows that are only payments of the principal and interest on the pending principal amount. Without detriment to the foregoing, the company can designate a financial asset as measured at fair value with changes in operations irrevocably.

Other financial assets different from those at amortized cost are subsequently measured at fair value with changes recognized in the Statement of comprehensive income, section Profit for the period. However, for the investments made on equity instruments that are not maintained for negotiating purposes, the Group may choose in the initial recognition and irrevocably to present the profits or losses for the measurement at fair value in Other comprehensive income. In the disposal of investments at fair value through Other comprehensive income, the accrued value of the profits or losses is directly transferred to the withheld profit and is not reclassified to Profit for the period. The dividends received from these investments are recognized in the Statement of comprehensive income, in the section Profit for the period. The Group has selected to measure some of its investments in capital instruments at fair value through Other comprehensive income.

In the fair value through profit category includes the investments that are made to optimize liquidity surpluses, i.e., all those resources that are not immediately devoted to the undertaking of those activities that form the company's corporate purpose. The investment of the liquidity surpluses is made under the criteria of transparency, security, liquidity and profitability, under the guidelines of an adequate control

³ The effective interest rate method is a method for calculating the amortized cost of a financial asset and allocation of income throughout the relevant period. The effective interest rate is the discount rate that exactly equals the future cash flows of a financial asset (including all fees, commissions and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums and discounts) through the instrument's expected lifespan, or if appropriate, a shorter period, at its recorded value or initial recognition.

and in market conditions without speculative purposes (Decree of the General Manager of EPM No. 2015-DECGGL-2059 of February 6, 2015).

Dividend income is recognized when the Group entitlement to receive payment is established.

Impairment of Financial Instruments

At each reporting date, the Group recognizes a correction in value for expected credit losses on financial assets measured at amortized cost or at fair value through changes in Other comprehensive income, including receivables from leases, contract assets or loan commitments and financial guarantee contracts to which the impairment requirements are applied over the life of the asset.

Expected credit loss is estimated considering the probability that an impairment loss by uncollectability may or may not occur and are recognized as profit or loss in the Statement of comprehensive income, section Profit for the period against a lower value of the financial asset. The Group assesses the credit risk of accounts receivable on a monthly basis at the time of presenting the reports in order to determine the value correction for expected credit loss on financial assets.

The Group applies the impairment requirements for loss to all financial assets that are measured at fair value with changes in Other comprehensive income, which is recognized in Other comprehensive income and does not decrease the recorded value of the financial asset in the Statement of financial position.

The Group assesses on a collective basis the expected losses for financial assets that are not individually relevant. When the collective assessment of expected losses is performed, the accounts receivable are gathered by similar credit risk characteristics, allowing the identification of the repayment capacity of the debtor, in accordance with the contractual terms of the accounts receivable.

The Group determines that a customer's credit risk increases significantly when there is any default event in the financial agreements by the counterpart, or when information, be it internal or obtained from external sources indicates that debtor's payment unlikely, without considering held securities.

Default in the agreements is generally measured, as indicated in the rendering of services agreements and the proper norms of the affiliates in each country.

The Group determines that a financial asset exhibits credit impairment when:

- Evidence of default in a customers' payment, according to the indications of the rendering of services agreements and the proper norms of the affiliates in each country.
- It is known or there is evidence of the customer entering processes of corporate restructuring or in insolvency or liquidation.
- The rise of social turmoil, be it of public order or natural disasters, which according to experience are directly correlated with the default of accounts.

Credit risk is affected when there are changes in financial assets, the Group's policy to reassess the recognition of credit losses is: whenever a default in a financial agreement occurs by the counterparty; or the information developed internally or obtained from external sources indicates that it is unlikely that the debtor pays its creditors, in full, without considering the guarantees held. The Group derecognizes the financial asset when there is information indicating that the counterparty is in severe financial difficulties and there are no realistic prospects of recovery, for example, when the counterparty has been put into liquidation or has initiated bankruptcy proceedings or, in the case of accounts receivable, when the amounts exceed two years past due, whichever occurs first.

When the contractual cash flows of a financial asset are renegotiated or otherwise modified, and the renegotiation or modification does not result in the derecognition of that financial asset, according to IFRS 9, the Group recalculates the gross carrying amount of the financial asset. financial asset and recognizes a gain or loss due to changes in the result of the period. The gross carrying amount of the financial asset is recalculated as the present value of the modified or renegotiated contractual cash flows that are discounted at the original effective interest rate of the financial asset (or effective interest rate adjusted for credit quality for financial assets with credit impairment purchased or originated) or, when

applicable, the revised effective interest rate. Any cost or commission incurred adjusts the carrying amount of the modified financial asset and is amortized over the remaining term.

The amortized financial assets may still be subject to execution activities under the Group recovery procedures, considering the judicial collection when appropriate. The recoveries made are recognized in the profit for the period.

Classification as Debt or Equity

Debt and equity instruments are classified as financial liabilities or as equity, in conformity with the substance of the contractual agreement and the definitions of financial liability and equity instrument.

Financial Liabilities

The Group classifies financial liabilities at the moment of the initial recognition for a subsequent measurement at amortized cost or at fair value with changes in profit.

Financial liabilities at fair value with changes in profit include those liabilities held to negotiate, the financial liabilities designated at the moment of their initial recognition as at fair value with changes in profit and the derivatives. The profits or losses for liabilities held to negotiate are recognized in the Statement of comprehensive income in the section Statement of income. In the initial recognition, the company designated financial liabilities as at fair value with changes in profit.

Liabilities at amortized cost are measured using the effective interest rate. All profits and losses are recognized in the Statement of comprehensive income in the section Statement of income whenever the liabilities are derecognized, as well as through the amortization process under the effective interest rate method, that is included as financial cost in the Statement of comprehensive income in the section Statement of income.

Financial Guarantee Contracts

The financial guarantee contracts issued by the Group are those contracts that require the making of a specific payment to reimburse the holder of the loss incurred in when a specified debtor defaults their payment obligation, according to the conditions of a debt instrument. The financial guarantee contracts are initially recognized as a liability at fair value, adjusted by the transaction costs that are directly ascribable to the issuance of the guarantee. Subsequently, the liability is measured at: (i) the amount of the adjustment in value for the expected losses and (ii) the amount initially recognized less, the accrued recognized income.

Derecognition or Write-Offs of Financial Assets and Liabilities

A financial asset or part of it, is derecognized from the statement of financial position whenever it is sold, transferred, expires or the company loses control on the contractual rights or on the cash flows of the instrument.

If the entity does not transfer nor substantially retains all the risks and advantages inherent to that property and continues to retain the control of the asset transferred, the entity will recognize its share in the asset and the obligation associated for the amounts that it would have to pay. If the company substantially retains all risks and advantages inherent to the ownership of a financial asset transferred, the entity will continue to recognize the financial asset and will also recognize a loan guaranteed in a collateral fashion for the received revenues.

In the total writing-off of a financial asset measured at fair value with changes in profit, the difference between the recorded value of the assets and the sum of the consideration received and to be received, is recognized in the Statement of comprehensive income, section Profit for the period. In case of financial assets measured at fair value with change in equity, the difference between the recorded value of the asset and the sum of the consideration received and to be received is recognized in the Statement of comprehensive income, section Profit for the period, and the profit or loss that would have been recognized in the Other comprehensive income will be reclassified to accumulated profit.

A financial liability or part of it is derecognized from the Statement of financial position when the contractual obligation has been settled or has expired. If the entity does not transfer nor substantially retains all risks and advantages inherent to the ownership and continues to retain the control of the

transferred asset, the entity will recognize its ownership in the asset and the associated obligation for the amounts that it would have to pay. If the group substantially retains all the risks and advantages inherent to the ownership of a financial asset transferred, the entity shall continue to recognize the financial asset and also recognize a guaranteed loan on a collateral way for the incomes received.

Whenever an existing financial liability is replaced by another coming from the same lender under substantially different conditions, or if the conditions of an existing liability are substantially modified, such exchange or modification is treated as a writing-off of the original liability and the recognition of a new liability and the difference in the respective recorded values is recognized in the Statement of comprehensive income in the section Profit for the period. In the event that the changes are not substantial the company recalculates the gross recorded value of the financial liability and recognizes a profit or loss from changes in the Profit for the period. The gross recorded value of the financial liability is recalculated as the current value of the modified or renegotiated contractual cash flows that are discounted at the original effective interest rate of the financial liability or, when applicable, the revised effective interest rate. Any cost or commission incurred adjusts the recorded value of the modified financial liability and is amortized over its remaining term.

Compensation for Financial Instruments

Financial assets and financial liabilities are subject to compensation in order to inform the net value in the Statement of financial position, only if (i) at the current time, there is a legally enforceable entitlement of compensating the amounts recognized; and (ii) there is the intention of settling them at their net value, or of realizing the assets and cancelling the liabilities simultaneously.

Derivative Financial Instruments

The Group uses derivative financial instruments, like term contracts (Forward), futures contracts, financial barbers (Swaps) and options to hedge several financial risks, mainly the interest rate, exchange rate and commodities price risks. Such derivative financial instruments are initially recognized at their fair values on the date when the derivative contract is entered into, and subsequently they are measured again at their fair value. Derivatives are recorded in the Statement of financial position as financial assets when their fair value is positive, and as financial liabilities when their fair value is negative.

The fair value of the commodity contracts that meet the definition of a derivative, but that are entered into in conformity with the expected purchase requirements of the company, are recognized in the Statement of comprehensive income as cost of sales.

Any gain or loss that arises from the changes in derivatives' fair value is directly recognized in the Statement of comprehensive income in the section Statement of income, except for those that are under hedge accounting.

The derivatives implicit in main contracts are treated as separate derivatives whenever they meet the definition of a derivative and when their risks and characteristics are not closely related to those main contracts and the contracts are not measured at fair value with change in profit.

The derivatives embedded in contracts where the host is a financial asset in the scope of the norm are never split. Instead, the hybrid financial instrument as a whole is assessed for classification as follows: If a hybrid contract contains a host that is not an asset that falls within the scope of IFRS 9, an embedded derivative is separated from the host and is accounted for as a derivative if, and only if: (a) the economic characteristics and the risks of the implicit derivative are not closely related to those of the host contract; (b) a separate instrument with the same conditions as the embedded derivative meets the definition of a derivative; and (c) the hybrid contract is not measured at fair value with changes in fair value recognized in profit or loss (i.e., the derivative that is embedded in a financial liability measured at fair value through profit or loss is not split).

Hedge Accounting

At the beginning of a hedging relationship, the Group designates and formally documents the hedging relationship to which they want to apply the hedging accounting, and the objective of the risk management and the strategy to carry out the hedging. The documentation includes the identification of the hedging instrument, the item or transaction hedged, the nature of the risk being hedged and how the company shall assess the effectiveness of the changes in fair value of the hedging instrument when

offsetting the exposure to changes in the fair value of the hedged item or in the cash flows, attributable to the risk hedged. Such hedges are expected to be highly efficient in achieving the offsetting of changes in the fair value or in the cash flows, and for this end they are permanently assessed throughout the information periods for which they were designated.

For hedging accounting purposes, hedges are classified and recorded as follows, once the criteria for their recording are complied with:

Fair-Value Hedging, when they hedge the exposure to fair value changes of assets or liabilities recognized or of non-recognized firm commitments.

A change in the fair value of a derivative that is a hedging instrument is recognized in the Statement of comprehensive income, in the section Profit for the period as financial cost or revenue. A change in the fair value of the item hedged attributable to the risk hedged is recorded as part of the recorded value of the hedged item and is also recognized in the Statement of comprehensive income in the section Profit for the period as financial cost or revenue.

For the fair value hedging related to items recorded at amortized cost, the adjustments to the recorded value are amortized through the Statement of comprehensive income in the section Profit for the period throughout the remaining term until their expiration. Amortization of the effective interest rate may begin as soon as there is an adjustment to the recorded value of the hedged item, but it must start at the latest when the hedged item is no longer adjusted for their fair value changes ascribable to the risk being hedged. Amortization of recorded value adjustments is based upon the effective interest rate recalculated on the amortization starting date. If the hedged item is derecognized, the non-amortized fair value is immediately recognized in the Statement of comprehensive income in the section Profit for the period.

When a non-recognized firm commitment is designated as a hedged item, the subsequent accrued change in the fair value of the firm commitment attributable to the hedged risk shall be recognized as an asset or liability with their corresponding gain or loss recognized in the statement of comprehensive income in the section Profit for the period.

Cash-Flow Hedging, when they cover the hedging to the attributed cash flow variations exposure, either to a particular risk associated to a recognized asset or liability or to a highly probable foreseen transaction, or to the exchange rate risk in a non-recognized firm commitment.

The purpose of cash flows hedging accounting is to recognize in the Other comprehensive income (equity) the fair value variations of the hedging instrument to apply them to the income statement accounts when and at the rate that the hedged item affects these.

The effective portion of the profit or loss for the measurement of the hedging instrument is immediately recognized in the Other comprehensive income, whereas the ineffective portion is immediately recognized in the Statement of comprehensive income in the section Profit for the period as financial cost.

Values recognized in the Other comprehensive income are reclassified into the Profit for the period when the hedged transaction affects the profit, as well as when the hedged financial revenue or financial expense is recognized, or when the foreseen transaction takes place. When the hedged item constitutes the cost of a non-financial asset or liability, the values recognized in the Other comprehensive income are reclassified at the initial recorded value of the no-financial asset or liability. If the foreseen transaction or the firm commitment is no longer expected to happen, the accrued profit or loss previously recognized in the Other comprehensive income is reclassified into the Profit for the period.

If the hedging instrument expires or is sold, it is resolved, or is exercised without a replacement or successive renovation of a hedging instrument for another hedging instrument, or if its designation as hedging is revoked, any accrued profit or loss previously recognized in the Other comprehensive income remains in the Other comprehensive income until the operation foreseen or the firm commitment affects the result.

Hedging of a Net Investment Abroad, when they hedge the exposure to the variations in the translation of foreign businesses into the presentation currency of the company associated to the exchange rate risk.

The objective of the foreign-currency net investment hedging, is to hedge the exchange rate risks that a Principal or Intermediate Parent Company having businesses abroad may have on the impact on the translation of financial statements from functional currency to presentation currency. The hedging of net investment in foreign currency is a hedging to the exposure in foreign currency, not a hedging of the fair value due to changes in the investment value.

The gains or losses of the hedging instrument related to the effective portion of the hedging are recognized in Other comprehensive income, whereas any other profit or loss related to the ineffective portion is recognized in the Statement of comprehensive income in the section Profit for the period. For the disposal of the business abroad, the accrued value of the profits or losses recorded in the Other comprehensive income are reclassified in the Profit for the period.

Equity Instruments

An equity instrument consists of any contract showing a residual interest on an entity's assets, after deducting all its liabilities. Equity instruments issued by the Group are recognized at the revenues received, net of direct issuance costs.

The repurchase of the company's own equity instruments is recognized and directly deducted in equity. No profit or loss is recognized in operations, coming from the purchase, sale, issuance, or cancellation of the Group's own equity instruments.

2.22 Inventories

Goods acquired with the intention of selling them during the ordinary course of business or of consuming them in the service rendering process are classified as inventories.

Inventories are valued at cost or net realizable value, whichever is lower. The net realizable value is the estimated sale price in the normal course of business, less the estimated finalization costs and the estimated costs necessary to make the sale.

Inventories include merchandise in stock that do not require transformation, such as power, gas and water meters and procurement goods. They include materials such as minor spare parts and accessories for the rendering of services and the goods in transit and held by third parties.

Inventories are valued using the weighted average method and their cost includes the costs directly related to the acquisition and those incurred in to give them their current conditions and location.

2.23 Impairment Value of Non-Financial Assets

As of every presentation date, the Group assesses whether they have any indication that a tangible or intangible asset may be impaired. The Group estimates the recoverable value of the asset or Cash Generating Unit (CGU), at the moment it detects an indication of impairment, or annually (as November 30 and it is reviewed if there are significant or significant events presented in the month of December that merit analysis and be included in the calculation of impairment) for intangible assets with undefined lifespan and those that are still being used.

The recoverable value of an asset is the greatest value between the fair value less costs of sale, either of an asset or a Cash-Generating Unit (CGU, or UGE for its Spanish initials), and its value in use is determined for an individual asset, except that the asset does not generate cash flows that are substantially independent from the other assets or group of assets, in this case the asset should be grouped into a CGU. When a reasonable and consistent base of distribution is identified, common/corporate assets are also assigned to the individual CGU or distributed to the smallest group of CGU for which it can be identified a reasonable and consistent distribution base. When the recorded value of an asset or of a CGU exceeds its recoverable value, the asset is considered impaired and the value is reduced to its recoverable amount.

When calculating the value of use, the estimated cash flows, either for an asset or a CGU, are discounted at their current value through a discount rate before taxes that reflects the market considerations of the temporary value of money and the specific risks of the asset. An adequate assessment model is used for determining the reasonable value less the costs of sale.

Losses for impairment of continued operations are recognized in the Statement of comprehensive income in the section Profit for the period in those expense categories that correspond to the function of the impaired asset. Losses for impairment attributable to a CGU are assigned proportionately based in the book value of each asset to the non-current assets of the CGU after exhausting goodwill. The CGU is the smallest identifiable group of assets, which generates cash inflows in favor of the Group, which are largely, independent of cash flows derived from other assets or groups of assets. The Group defined the CGU considering: 1) The existence of revenue and costs for each group of assets, 2) The existence of an active market for the generation of cash flows and 3) the way in which Manage and monitor operations. In order to assess the losses due to impairment, the assets are grouped in the following CGU:

| Affiliate | CGU |
|--|--------------|
| Central Hidroeléctrica de Caldas S.A. E.S.P. (CHEC) | Generation |
| Electrificadora de Santander S.A. E.S.P. (ESSA) | |
| Empresas Públicas de Medellín E.S.P. (EPM) | |
| Hidrogeológica del Teribe S.A. (HET) | |
| Parque Eólico Los Cururos Ltda. | |
| Central Hidroeléctrica de Caldas S.A. E.S.P. (CHEC) | Transmission |
| Centrales Eléctricas del Norte de Santander S.A. E.S.P. (CENS) | |
| Electrificadora de Santander S.A. E.S.P. (ESSA) | |
| Empresas Públicas de Medellín E.S.P. (EPM) | |
| EPM Transmisión Chile S.A. | |
| Transportista Eléctrica Centroamericana S.A. (TRELEC) | |
| Almacenaje y Manejo de Materiales Eléctricos S.A. (AMESA) | Distribution |
| Central Hidroeléctrica de Caldas S.A. E.S.P. (CHEC) | |
| Centrales Eléctricas del Norte de Santander S.A. E.S.P. (CENS) | |
| Comercializadora Eléctrica de Guatemala S.A. (COMEGSA) | |
| Crediegsa S.A. (CREDIEGSA) | |
| Distribuidora de Electricidad del Sur (DELSUR) | |
| Electrificadora de Santander S.A. E.S.P. (ESSA) | |

| Affiliate | CGU |
|---|--------------|
| Elektra Noreste S.A. (ENSA) | |
| Empresa de Energía del Quindío S.A. E.S.P. (EDEQ) | |
| Empresa Eléctrica de Guatemala S.A. (EEGSA) | |
| Empresas Públicas de Medellín E.S.P. (EPM) | |
| Energica S.A. (ENERGICA) | |
| ENSA Servicios S.A. | |
| Inmobiliaria y Desarrolladora Empresarial de América S.A. (IDEAMSA) | |
| Empresas Públicas de Medellín E.S.P. (EPM) | Natural Gas |
| EV Alianza Energética S.A. | |
| Aguas de Antofagasta S.A. | Water supply |
| Aguas de Malambo S.A. E.S.P. | |
| Aguas Regionales EPM S.A. E.S.P. | |
| Empresa de Aguas del Oriente Antioqueño S.A. E.S.P. | |
| Empresas Públicas de Medellín E.S.P. (EPM) | |
| Empresas Públicas de Rionegro S.A. E.S.P. (EP RIO) | |
| Aguas de Antofagasta S.A. | Sanitation |
| Aguas de Malambo S.A. E.S.P. | |
| Aguas Nacionales EPM S.A. E.S.P. | |
| Aguas Regionales EPM S.A. E.S.P. | |
| Aquasol Morelia S.A. de C.V. | |
| Corporación de Personal Administrativo S.A. de C.V. | |
| Desarrollos Hidráulicos de Tampico S.A. de C.V. | |
| Ecoagua de Torreón S.A. de C.V. | |
| Ecosistema de Ciudad Lerdo S.A. de C.V. | |

| Affiliate | CGU |
|---|--------|
| Ecosistemas de Celaya S.A. de C.V. | |
| Ecosistemas de Colima S.A. de C.V. | |
| Ecosistemas de Tuxtla S.A. de C.V. | |
| Empresa de Aguas del Oriente Antioqueño S.A. E.S.P. | |
| Empresas Públicas de Medellín E.S.P. (EPM) | |
| Empresas Públicas de Rionegro S.A. E.S.P. (EP RIO) | |
| Empresas Varias de Medellín S.A. E.S.P. | |
| Proyectos de Ingeniería Corporativa S.A. de C.V. | |
| Tecnología Intercontinental S.A. de C.V. TICSA | |
| Gestión de Empresas Eléctricas S.A. (GESA) | Others |
| Innova Tecnología y Negocios S.A. de C.V. | |
| Maxseguros EPM Ltda. | |
| Promobiliaria S.A. | |

The impairment value for goodwill is determined by assessing the recoverable value of each CGU (or group of CGU) to which the goodwill relates. The value impairment losses related to goodwill cannot be reverted in future periods.

For assets in general, excluding the goodwill, on each presentation date an assessment is conducted about whether there is any indication that the impairment losses previously recognized no longer exist or have decreased. If such indication exists, the company makes an estimate of the asset or CGU recoverable value. An impairment loss previously recognized only can be reverted if there was a change in the assumptions used for determining the recoverable value of an asset since the last time when it was recognized the last impairment loss. The reversal is limited in such a way that the recorded value of the asset neither exceeds its recoverable amount, nor exceeds the recorded value that would have been determined, net of depreciation, if no impairment loss had been recognized for the asset in the previous years. Such reversal is recognized in the Statement of comprehensive income in the section Profit for the period.

2.24 Provisions

Provisions are recorded when the company has a current, legal or implicit obligation, as a result of a past event. It is probable that the company has to give off resources that incorporate economic benefit to settle the obligation, and a reliable estimate can be made for the value of the obligation. In cases in which the company expects the provision to be reimbursed as a whole or in part, the reimbursement is recognized as a separate asset, but only in the cases when such reimbursement is practically certain, and the asset amount can be reliably measured. In the company, each provision is only used for dealing with expenditure for which it was initially recognized.

Provisions are measured with the best estimate from management of expenditure necessary to cancel the current obligation, at the end of the period being reported, considering the risks and the corresponding uncertainties. When a provision is measured using the estimated cash flow to cancel the current obligation, its recorded value corresponds to the present value of such cash flow, using for the discount a rate calculated with reference to market yields for the bonds issued by the National Government of the country where the affiliate is located.

The expense corresponding to any provision is presented in the Statement of comprehensive income in the section Profit for the period net of all reimbursement. The increase in provision due to the time elapsed is recognized as financial expense.

Provisions for Dismantling

The Group recognizes as part of the cost of a fixed asset in particular, to the extent that there is a legal or implicit obligation of dismantling or restoring, the estimation of the future costs in which the company expects to incur in to perform the dismantlement or restoring and its balancing entry is recognized as a provision for dismantling and restoring costs. The dismantling cost is depreciated over the estimated useful life of the fixed asset.

Dismantlement or restoring costs, in the affiliates of the Group where it may apply, are recognized at the present value of the expected costs of cancelling out the obligation using estimated cash flows. Cash flows are discounted at a particular rate before taxes, that should be determined by taking as a reference; for the affiliates in Colombia, regarding risk-free rates, the yield of TES Bonds (Public Debt Securities issued by the General Treasury of the Nation) must be spent; for affiliates in Chile a risk-free discount rate corresponding to the interest rates of the instruments issued by the Chilean Central Bank to 30 years; for affiliates in Panama and El Salvador for the market yields of bonds issued by the Central Government.

Future estimated dismantlement or restoration costs are annually revised. Changes in the future estimated costs, in the dates estimated for expenditure or in the discount rate applied are added or deducted from the asset cost, without exceeding the recorded value of the asset. Any surplus is immediately recognized in results for the period. The change in the provision value associated to the time elapsed is recognized as financial expense in the Statement of comprehensive income in the section Profit for the period.

Onerous Contracts

The Group recognizes as provisions the current obligations that are derived from an onerous contract, as provisions and its offsetting is in the Statement of comprehensive income in the section Profit for the period. An onerous contract is the one in which the unavoidable costs of complying with the obligations it implies, exceed the economic benefits that are expected to receive therefrom.

Contingent Liabilities

The possible obligations that arise from past events and the existence of which shall be only confirmed by the occurrence or non-occurrence of one or more uncertain future events that are not entirely under the Group's control or the current obligations, that arise from past events, but that it is not probable, but possible, that an outflow of resources including economic benefits shall be required to liquidate the obligation or the amount of the obligation cannot be measured with enough reliability, are not recognized in the Statement of financial position, they are rather disclosed as contingent liabilities. Contingent liabilities generated in a business combination are recognized at fair value on the acquisition date.

Contingent Assets

Assets of a possible nature, that arise from past successes, the existence of which has to be confirmed only by the occurrence, or the non-occurrence, of one or more uncertain events in the future, that are not entirely under the Group control, are not recognized in the Statement of financial position, they are instead disclosed as contingent assets when their occurrence is probable. Whenever the contingent fact is true the asset and the revenue associated are recognized in the Profit for the period. Contingent assets acquired in a business combination are initially measured at their fair values, on the acquisition date. At the end of subsequent periods being reported, those contingent liabilities are measured at the greatest amount it would have been recognized and the amount initially recognized less the accrued amortization recognized.

2.25 Employee Benefits

2.25.1 Post-Employment Benefits

Defined Contribution Plans

The contributions to the defined contribution plans are recognized as expenses in the Statement of comprehensive income in the section Profit for the period at the moment when the employee has rendered the service that grants them the right to make the contributions.

Defined Benefit Plans

Post-employment benefit plans are those in which the Group has the legal or implicit obligation to respond for the payments of the benefits that were left to their charge.

For the defined benefit plans, the difference between the fair value of the plan assets and the present value of the plan obligation, is recognized as asset or liability in the Statement of financial position. The cost of giving benefits under the defined benefit plans is determined separately for each plan, through the actuarial assessment method of the projected credit unit, using actuarial assumptions on the date of the period being reported. Plan assets are measured at fair value, which is based upon the market price information and, in the case of quoted securities, it constitutes the published purchase price.

The actuarial profits or losses, the yield of plan assets and the changes in the asset ceiling effect, excluding the securities included in the net interest on the net defined benefits on the liabilities (assets), are recognized in the Other comprehensive income. The actuarial profits or losses include the effects of changes in the actuarial assumptions as well as adjustments due to experience.

The net interest on liabilities (assets) for net defined benefits includes the interest revenue for the plan assets, interest cost for the obligation for defined benefits and interests for the asset ceiling effect.

The current service cost, the past service cost, any settlement or reduction of the plan are immediately recognized in the Statement of comprehensive income in the section Profit for the period in the period when they arise.

2.25.2 Short-Term Employment Benefits

The Group classifies as short-term employee benefits those obligations with the employees that it expects to liquidate during the twelve months period following the closing of the accounting period when the obligation was generated, or the service was rendered. Some of these benefits are generated from the current labor legislation, from collective bargaining agreements, or from non-formalized practices that generate implicit obligations.

The Group recognizes the short-term benefits at the moment the employee has rendered their services, as the following:

A liability for an amount that shall be repaid to the employee, deducting the amounts already paid before, and its balancing entry as expense for the period, unless another chapter obliges or allows including the payments in the cost of an asset or inventory, for instance, if the payment corresponds to employees the services of whom are directly related to the construction of a work, will be capitalized to that asset.

The amounts values already paid before corresponding, for instance, to advanced payments of salaries, advanced payments of daily allowances, among others, if they exceed the corresponding liability, the Group has entrusted the provision of certain services.

2.25.3 Long-Term Employee Benefits

The Group classifies as long-term employee benefits those obligations that it expects to settle after the twelve months following the closing of the accounting year or the period where employees provide the related services, i.e., from the thirteenth month forward; they are different from the short-term benefits, post-employment benefits, and contract termination benefits.

The Group measures long-term benefits in the same fashion as post-employment defined benefit plans. Although their measurement is not subject to the same uncertainty level, the same following methodology will be applied for its measurement:

- The Group should measure the surplus or deficit in a long-term employee benefit plan, using the technique applied for post-employment benefits both for estimating the obligation as well as for the plan assets.
- The Group should determine the value of net long-term employee benefits (assets or liabilities) finding the deficit or surplus of the obligation and comparing the asset ceiling.

The benefits that employees receive year after year throughout their working life should not be considered “long term” if at the accounting year closing each year the Group has fully delivered them.

2.25.4 Termination Benefits

The Group recognizes as termination benefits, the considerations granted to the employees, payable as result of the decision of the company to terminate the employment agreement to an employee before the normal retirement date or the decision of an employee to accept the voluntary resignation in exchange for such benefits.

2.26 Reserves

Liabilities for insurance contracts represent for the Group the best estimate of future payments to be made for risks assumed in insurance obligations; which are measured and recognized through technical reserves:

2.26.1 Unearned Premium Reserve (UPR)

Set aside for the fulfillment of future obligations derived from the assumed obligations from the current policies. They correspond to the portion of the premium that, at the date of calculation, has not yet been earned by the insurer. Its purpose is to adjust the result so that the profit is assigned to the period in which the premium was earned, regardless of when it was issued. This reserve is calculated, policy by policy, as the result of multiplying the premium issued, less the acquisition costs incurred at the time of issuing the policy for the fraction of risk not incurred at the calculation date. Likewise, the part of the reserve corresponding to the reinsurer is calculated considering the ceded premium.

2.26.2 Certain Loss Reserve

A provision of money that the Group must keep in order to face the costs derived from the claims already notified and with pending payment. Its purpose is to establish adequate reserves to guarantee the payment of losses that have not been settled during the accounting period. This reserve is constituted per claim, on the date on which the insurer is aware of the occurrence of the loss and corresponds to the best technical estimate of the cost thereof. The amount of the constituted reserve is readjusted to the extent that more information is available and whether there are reports of internal or external liquidators. The reserve includes the liquidation expenses incurred to meet the claim, such as expenses due to attorney's fees for claims in judicial processes.

2.26.3 Incurred But Not Reported (IBNR) Reserves

Represents an estimate of the amount of resources that the Group must allocate to meet future claim payments that have already occurred as of the date of calculation of this reserve but have not yet been notified or for which not enough information is available. Methodologies that estimate the reserve required based on the development of historical losses are used for estimating the reserve. Based on the assumption that relative change in the evolution of claims paid net recoveries and salvages in a given period of occurrence, estimated from one period to the next, is similar to the evolution that had this type of claims in periods of occurrence prior to the same “age” of the claim. When using this method, data on the payments of a period are evaluated at the end in triangular fashion. Methodologies consider all the payments associated with claims and, therefore, the payments associated with all types of contracts. For the reservation of branches that do not have sufficient information, different estimation techniques may be used, based on historical information or benchmarking.

2.27 Liability Adequacy Test

The technical provisions recorded by the Group are regularly subject to proof of reasonableness to determine its sufficiency. If the result of the test shows that the provisions are insufficient, they are adjusted with a charge to the profit for the year.

2.28 Service Concession Agreements

The Group recognizes service concession agreements pursuant to the interpretation requirements of the IFRIC 12 Service Concession Agreements.

This interpretation is applicable to those concessions where:

- The grantor controls or regulates which services the operator with the infrastructure should provide, to whom and at what price.
- The grantor controls, through the ownership, the right of use, or otherwise, any significant residual ownership in the infrastructure at the end of the term of the agreement.

The Group does not recognize these infrastructures as property, plant and equipment, it recognizes the consideration received in the contracts that meet the above conditions at its fair value, as an intangible asset to the extent that the Group receives an entitlement to make charges to users of the service, provided that these entitlements are conditioned to the service use level, or as a financial asset, to the extent that there is an unconditional contractual right to receive cash or other financial asset, either directly from the assignor or from a third party. In those cases where the Group receives payment for the construction services, partly through a financial asset and partly through an intangible asset, each component of the consideration is recorded separately.

Financial assets of service concession agreements are recognized in the Consolidated statement of financial position as operating financial assets and subsequently are measured at amortized cost, using the effective interest rate. Assessment of impairment of these financial assets is made according to the value impairment policy of the financial assets.

Intangible assets of service concession agreements are recognized in the Consolidated statement of financial position as intangible assets denominated “intangible assets for service concession agreements” and are amortized on a linear basis within the term of duration thereof.

Revenues from ordinary activities and costs related to the operating services are recognized according to the accounting policy of ordinary revenues and the services related to construction or improvement services according to the accounting policy of construction contracts. Contractual obligations assumed by the Group for maintenance of the infrastructure during its operation, or for its return to the assignor at the end of the concession agreement in the conditions specified therein, to the extent that it does not assume a revenue-generating activity, is recognized following the provisions accounting policy.

2.29 Fair Value

The fair value is the price that would be received when selling an asset or that would be paid when transferring a liability in an orderly transaction between market participants on the measurement date, regardless of whether that price is directly observable or estimated using another assessment technique. When estimating the fair value of an asset or liability, the Group considers the characteristics of the asset or liability if the market participants consider these characteristics when valuing the asset or liability on the measurement date. Fair value for measurement and disclosure purposes in the present financial statements is determined on that basis, except for the transactions of stock-based payments, lease transactions, and the measurements that have certain similarities with the fair value but that are not fair value, such as the net realizable value or the value at use. The fair value of all financial assets and liabilities is determined on the date of presentation of the financial statements, for recognition or disclosure in the notes to the financial statements.

Fair value is determined:

- Based upon prices quoted in active or passive markets identical to those the Group can access on the measurement date (level 1).
- Level 2 inputs are inputs other than quoted prices included in Level 1, which are observable for the asset or liability, directly or indirectly.
- Based upon internal assessment techniques of cash flow discounts or other assessment models, using variables estimated by the Group that are non-observable for the asset or liability, in the absence of variables observed in the market (level 3).

In the note 44 Fair Value Measurement on a recurring and non-recurring basis provides an analysis of the fair values of financial instruments and non-financial assets and liabilities and more detail of their measurement.

2.30 Operating Segments

An operating segment is a component of the Group that develops business activities from which it can obtain revenue from ordinary activities and incur in costs and expenses, on which there is financial information and the operating results of which are revised on a regular basis by the highest authority in the Group's operating decision-making, which is the Management Board, to decide on the resource allocation to the segments and evaluate their performance.

The financial information of operating segments is prepared under the same accounting policies used in the elaboration of the Group's consolidated financial statements.

2.31 Dividends in Cash Distributed to Stockholders of the Group

The Group recognizes a liability to make the distributions to the stockholders of the Group in cash when the distribution is authorized, and it is no longer at the Group's discretion. The corresponding amount is recognized directly in the net equity.

2.32 Changes in Estimates, Accounting policies and errors

2.32.1 Changes in Accounting Estimates

As of December 31, 2018, the Group recorded no significant changes in its financial statements as a result of a revision to its accounting estimates.

2.32.2 Changes in Accounting Policies

As of December 31, 2018, the accounting practices applied to the consolidated financial statements of the Group are consistent with the year 2017, except for the following changes:

New Standards Implemented and Change in Voluntary Accounting Policies

During 2018, the Group has implemented the changes in the IFRS (new standards, amendments or interpretations), issued by the International Accounting Standards Board (IASB) that are mandatory for the accounting period beginning on or after January 1st, 2018.

IFRIC 22 Foreign Currency Transactions and Advance Consideration. Issued in December 2016, this Interpretation deals with how to determine the date of the transaction, to define the exchange rate that will be used in the initial recognition of assets, expense or revenue (or part thereof), in the writing-off of a non-monetary asset or non-monetary liability resulting from the payment or receipt of an advance in foreign currency. In this regard, the Interpretations Committee of the IFRS, reached the following conclusion: the date of the transaction, for purposes of determining the exchange rate, is the date of the initial recognition of the non-monetary advance payment asset or the deferred income liability. If there are several payments or receipts in advance, a transaction date is established for each payment or receipt. This does not apply when an entity measures the related asset, expense or revenue on initial recognition at its fair value or at the fair value of the consideration paid or received on a date other than the date of the initial recognition of the non-monetary asset or the non-monetary liability derived from

the anticipated consideration (for example, the measurement of goodwill in accordance with IFRS 3 Business Combinations). It neither applies to income tax and insurance contracts.

These modifications have no impact on the financial statements, as they correspond to the current practice of the Group.

IFRS 4 Insurance Contracts. Issued in March 2004, it is a standard in the process of formation by phases for companies that issue insurance and reinsurance contracts. The promotion to Phase II has begun, and it involves some exemptions from applying other standards, for example, an entity shall apply said modifications, which allow insurers that meet specific criteria the use of a temporary exemption from IFRS 9 for yearly periods beginning on or after January 1st, 2018. Insurers are also allowed to reclassify certain or all of their financial assets in specified circumstances, so that they are measured at fair value through profit or loss but affecting other comprehensive income.

The foregoing implies that the amendments to the application of IFRS 9 "Financial instruments" with IFRS 4 "Insurance contracts" (Amendments to IFRS 4) offer two options for entities that issue insurance contracts within the scope of the IFRS 4:

- An option that allows entities to reclassify, from profit or loss to other comprehensive income, part of the income or expenses derived from designated financial assets; this is the so-called superposition approach;
- An optional temporary exemption from the application of IFRS 9 for entities whose predominant activity is the issuance of contracts within the scope of IFRS 4; This is the so-called deferral approach.

The application of both approaches is optional, and an entity is allowed to stop applying them before the new insurance contract rule is applied.

An entity would apply the retrospective overlay approach to financial assets that qualify when applying IFRS 9 first. The application of the overlay approach requires disclosure of sufficient information to allow users of financial statements to understand how the amount reclassified in the financial statement is calculated for the period, effect of that reclassification in the financial statements.

An entity would apply the deferral approach for annual periods beginning on or after January 1st, 2018. The application of the deferral approach should be disclosed along with information that allows users of financial statements to understand how the qualified insurer the temporary exemption and Compare the insurers that apply the temporary exemption with the entities that apply IFRS 9. The deferral can only be used for the three years following January 1st, 2018.

The Group is assessing the impacts that the application of this new standard could generate.

IFRS 9 Financial Instruments. In 2016, the Group applied IFRS 9 Financial Instruments (revised July 2014) and the corresponding amendments to other IFRS before their effective dates.

IFRS 9 introduces new requirements for: classification and measurement of financial assets, impairment of financial assets and hedge accounting. The breakdown of these new requirements, as well as their impact on the financial statements are described below:

- Classification and measurement of financial assets: the standard introduces a measurement category for debt instruments denominated "Fair value with changes in other comprehensive income". The Group was not affected by this new approach.
- Impairment of financial assets: the standard introduces the measurement of the correction of value for expected credit loss on financial assets that are measured at amortized cost or fair value with changes in another comprehensive income, accounts receivable for leases, assets of a contract or loan agreement and financial guarantee contract to which the impairment requirements are applied during the asset's lifespan.
- Changes in the accounting policies resulting from the adoption of IFRS 9 have not been restated, in which case the cumulative difference in provision for losses recognized under IFRS 9 is charged against the accumulated results as of January 1st, 2016.

- Resulting from the adoption of IFRS 9, the Group adopted the consequential amendments to IAS 1 Presentation of financial statements, which require that the impairment of financial assets be presented in a separate item in the statement of income and other comprehensive income.
- Hedge accounting: the standard introduces a substantially reformed approach to hedge accounting that aligns it more closely with risk management. The Group was not affected by this new approach, because currently available hedges are 100% effective and, therefore, the need to revalue or apply has not been presented, rebalancing to what exists.

IFRS 15 Revenue from Contracts with Customers. The Group applies the new standard as of January 1, 2018 with special emphasis on the identification of performance obligations included in contracts with customers and the assessment of methods to estimate the amount and timing of variable consideration. The adoption of IFRS 15 did not have a material impact on the consolidated financial statements.

This standard was issued in May 2014, it is a new standard applicable to all income agreements of ordinary activities from contracts with customers, except leases, financial instruments and insurance contracts that are regulated by their respective standard. It is a joint project with the Financial Accounting Standards Board - FASB to eliminate differences in revenue recognition between IFRS and US GAAP.

The explanations made in April 2016 to IFRS 15 include the following points:

a. Identification of the Action as Principal or as Agent

When a third party is involved in providing goods or services to a client, the Group will determine whether the nature of its commitment is a performance obligation consisting in providing the goods or services specified by itself (i.e., acting as a principal) or in arranging for the third party the supply of those goods or services (i.e., acting as an agent).

b. Variable Consideration

Corresponds to any amount that is variable according to the contract. The amount of the consideration may vary due to discounts, refunds, compensations, reimbursements, credits, price reductions, incentives, performance bonuses, penalties or other similar elements. The agreed compensation may also vary if the entitlement of an entity to receive it depends on whether or not a future event occurs, e.g., a consideration amount would be variable if a product with a right of return was sold or a fixed amount is promised as a performance premium at the time of achieving a specified milestone.

c. Application Methods

The standard allows the use of two methods for the initial application as follows: Full retrospective method and Modified method. The Group applies to this standard following the Modified method.

Modified method. With the modified approach, the accumulated effect of the initial application shall be recognized as an adjustment to the opening balance of the accumulated earnings (or other component of equity, as applicable) of the annual reporting period that includes the initial application date. Under this transition method, an entity applies this Standard retroactively only to contracts that are not completed on the date of initial application (e.g., January 1st, 2018 for an entity with December 31 as the end of the year). Consequently, information presented for 2017 has not been restated and continues to be reported in accordance with IAS 18, IAS 11 and related interpretations. In general, the disclosure requirements of IFRS 15 have not been applied to comparative information.

The Group completed its qualitative and quantitative analysis of the effects for the adoption of IFRS 15 in its financial statements. Assessment included, among others, the following activities:

- Analysis of contracts with clients and their main characteristics,
- Identification of performance obligations in the aforementioned contracts,
- Determination of the prices of transactions and the effects caused by variable considerations,
- Allocation of transaction amounts to each performance obligation,
- Analysis of the appropriateness of the moment in which revenue must be recognized by the Group either at a point in time or during the time.

- Analysis of the effects that the adoption of IFRS 15 originated in accounting policies, processes and internal control.

For submission periods that include the initial application date, an entity shall provide all the following additional disclosing information:

(a) The amount for which each item in the financial statements is affected in the current reporting period by the application of this Standard compared to IAS 11 and IAS 18 and related Interpretations that were in effect prior to the change; and

(b) An explanation of the reasons for the significant changes identified.

This new standard aims to improve the inconsistencies and weaknesses of IAS 18 and provide a model that will facilitate the comparability of companies from different industries and regions. It provides a new model for the recognition of more detailed revenue and requirements for contracts with multiple elements. In addition, it requires more detailed disclosures.

The basic principle of IFRS 15 is that an entity recognizes revenue from ordinary activities in a way that it represents the transfer of goods or services committed to customers in exchange for an amount that reflects the consideration to which the entity expects to be entitled to in exchange for said goods or services.

An entity recognizes revenues from ordinary activities in accordance with this basic principle by applying the following steps:

Stage 1: Identify the contract (or contracts) with the customer.

Stage 2: Identify performance obligations in the contract.

Stage 3: Determine the transaction price.

Stage 4: Allocate the transaction price between the performance obligations of the contract.

Stage 5: Recognize revenue from ordinary activities when (or as) the entity satisfies a performance obligation.

Under IFRS 15, an entity recognizes revenue when an obligation is satisfied, for example, when the "control" of the goods or services underlying the execution of the particular obligation are transferred to the customer. More specific guidelines have been added to the standard to handle specific scenarios. Additionally, further disclosures are required.

It will replace the IAS 18 Revenue, IAS 11 Construction Contracts, IFRIC 13 Customer Loyalty Programmes, IFRIC 15 Agreements for the Construction of Real Estate, IFRIC 18 Transfers of Assets from Customers and SIC 31 Barter Transactions Involving Advertising Services.

The Group applies the new standard as of January 1st, 2018 with special emphasis on the identification of performance obligations included in contracts with customers and the evaluation of methods to estimate the amount and timing of variable consideration. The adoption of IFRS 15 did not have a material effect on the financial statements.

IAS 28 Investments in Associates and Joint Ventures. Modification forms part of the annual improvements to the IFRS 2014-2016 Cycle standards issued in December 2016, it clarifies that when an investment in an associate or joint venture is maintained directly or indirectly by an entity that is a venture capital organization or a collective investment fund, investment trust or other similar entity, including insurance funds linked to investments, the entity may choose to measure these investments at fair value through profit or loss in compliance with IFRS 9. An entity must choose this separately for each associate or joint venture at the initial recognition of the associate or joint venture. It also makes clear that if an entity that is not itself an investment entity has an equity in an associate or joint venture that is an investment entity, the entity when applying the Equity Method may retain the fair value measurement applied by the entity to that associate or joint venture that is an investment entity to the equities of the associate or joint venture that is an investment entity in subsidiaries. This election is made separately for each associated investment entity or joint venture, on the date subsequent to the date on which: (a) the investment in the associate or joint venture is initially recognized; (b) the

associated investment or joint venture becomes an investment entity; and (c) the associated investment entity or joint venture first becomes a parent company.

These modifications have no material effect on the financial statements.

IAS 23 Borrowing Costs. The modification forms part of the annual improvements to the IFRS 2015-2017 Cycle standards issued in December 2017, establishes that to the extent that the funds of an entity come from generic loans and it uses them for obtaining a qualifying asset, this will determine the amount of the capitalization costs applicable by applying a capitalization rate to the expenditure made in said asset. The capitalization rate will be the weighted average of the borrowing costs applicable to all the loans received by the entity pending during the period. However, an entity shall exclude from this calculation the borrowing costs applicable to loans specifically agreed to finance a qualifying asset until substantially all the activities necessary to prepare that asset for its intended use or sale are completed. The amount of borrowing costs that an entity capitalizes during the period will not exceed the total borrowing costs incurred during that same period.

These modifications had no effect, since the calculation had been carried out as established.

IAS 40 Investment Property. The amendment made in December 2016, has an effect on the transfer of investment property (reclassifications) caused by "change in its use", elaborating on that last term: a change in use occurs when the property meets, or fails to meet, the definition of investment property and there is evidence of change in use. In isolation, a change in management's intentions for the use of a property does not provide evidence of a change in use. For that, we continue with the examples provided by the standard in paragraphs 57 and 58 (not substantially modified). Paragraphs 84C to 84E and 85G were added to define the transitional provisions when making investment property transfers.

In the Group, there was no effect associated with the implementation of said amendment, considering that it is included in the technical and financial definitions.

2.32.3 Application of New and Revised Standards

Changes to IFRS (new standards, amendments or interpretations), which have been published in the period, but have not yet been implemented by the Group, are detailed below:

| Standard | Date of compulsory application | Change type |
|--|--------------------------------|-------------|
| IFRS 17 Insurance Contracts | January 1 st , 2021 | New |
| IFRIC 23 Uncertainty over Income Tax Treatments | January 1 st , 2019 | New |
| IFRS 16 Leases | January 1 st , 2019 | New |
| IAS 28 Investments in Associates and Joint Ventures (Long-Term Investment in Associates and Joint Ventures) | January 1 st , 2019 | Amendment |
| IFRS 9 Financial Instruments (Prepayment Features with Negative Compensation) | January 1 st , 2019 | Amendment |
| IFRS 3 Business Combinations (Annual Improvements to IFRS Standards 2015-2017 Cycle - previously held interests in the assets and liabilities of the joint operation where control was obtained) | January 1 st , 2019 | Amendment |
| IFRS 11 Joint Arrangements | January 1 st , 2019 | Amendment |

| Standard | Date of compulsory application | Change type |
|---|--------------------------------|-------------|
| (Annual Improvements to IFRS Standards 2015-2017 Cycle - previously held interests in the assets and liabilities of the joint operation where joint control was obtained) | | |
| IAS 12 Income Tax (Annual Improvements to IFRS Standards 2015-2017 Cycle - Income Tax Consequences of Payments on Financial Instruments Classified as Equity) | January 1 st , 2019 | Amendment |
| IAS 19 Employee Benefits - Plan Amendment, Curtailment or settlement | January 1 st , 2019 | Amendment |
| IFRS 3 Business Combinations - Amendment, Definition of a Business | January 1 st , 2020 | Amendment |
| IAS 1 Presentation of Financial Statements and IAS 8 Accounting Policies, changes in accounting estimates and errors - Amendment, Definition of Material | January 1 st , 2020 | Amendment |

IFRS 17 Insurance Contracts. Issued in May 2017, replacing IFRS 4, which was addressed as a provisional standard and that was being prepared in phases.

IFRS 17 resolves the comparison disadvantages generated by the application of IFRS 4, since it allowed the application of local standard and historical values in insurance contracts, now with this new standard, all insurance contracts will be recorded in a consistent manner and current values, generating more useful information for interest groups, which will allow a better understanding of the financial position and profitability of insurance companies, giving a more uniform presentation and measurement approach for all insurance contracts.

The Group is assessing the effects that the application of this new standard could cause.

The amendments will be of compulsory application for annual periods beginning on January 1st, 2021, but at the request of international insurers, the IFRS Foundation extended its application for an additional year, to be enforceable in 2022. Early application is permitted if IFRS 9 and IFRS 15 are applied.

IFRIC 23 Uncertainty over Income Tax Treatments. Issued in June 2017, this Interpretation attempts to resolve the issue of how to reflect in the financial statements, the uncertainty that arises from the accounting treatment applied in the tax returns, whether or not it is accepted by the tax authority. In the face of such uncertainty, the accounting treatment is considered an "uncertain accounting treatment" assessed to estimate the probability of acceptance by the tax authority. If accepted, the accounting tax position consistent with the tax treatment used or planned to be used in the income tax returns of the entity must be determined and if not, the effect of the uncertainty in the determination of the related accounting tax position must be reflected. In the latter case, the effect of the uncertainty must be estimated, using either the most probable quantity or the expected value method, depending on which method best predicts the solution of the uncertainty.

The Interpretation allows to apply any of the following approaches for the transition:

- Full retrospective approach: this approach can be used only if possible without the use of retrospective. The application of the new Interpretation will be registered in accordance with IAS 8, which means that the comparative information will have to be restated; or
- Modified retrospective approach: the restatement of comparative information is not required or permitted according to this approach. The cumulative effect of initially applying the Interpretation will

be recognized in the opening equity at the date of the initial application, being the beginning of the annual reporting period in which the entity applies the Interpretation for the first time.

The Group is assessing the effects that the application of this interpretation could cause.

The interpretation will be of compulsory application for annual periods beginning on January 1st, 2019. Early application is permitted.

IFRS 16 Leases. Issued in January 2016, this new standard introduces an integral model for the identification of leases and accounting contracts for lessees and lessors. It will replace the current standards for the accounting treatment of the leases included in IAS 17 Leases and related interpretations, such as IFRIC 4 Determining Whether an Arrangement Contains a Lease, SIC-15 Operating Leases-Incentives and SIC-27 Evaluating the Substance of Transactions in the Legal Form of a Lease.

The distinction between leases and service contracts is based on the control of the customer over the identified asset. For the lessee, the distinction between operating leases (off-balance sheet) and finance leases (on the balance sheet) is removed and replaced with a model in which an asset (right of use) and its corresponding liability must be recognized for all Leases (i.e., all on the balance sheet), except for short-term leases and leases of low-value assets.

Assets (right of use) are initially measured at cost and subsequently measured at cost (with certain exceptions) less the accumulated depreciation and impairment losses, adjusted for any reassessment of the lease liability. Lease liability is initially measured at the present value of future lease payments. Subsequently, the lease liability is adjusted to interest and lease payments, as well as to the impact of lease modifications, among others. In addition, the classification of cash flows will also be affected since operating lease payments under IAS 17 are presented as operating cash flows; While in model IFRS 16, lease payments will be divided into amortization to capital and a portion of interest that will be presented as cash flow for financing and operation, respectively.

In contrast to lessee accounting, IFRS 16 includes as accounting requirements for the lessor the same as that provided by IAS 17, i.e., it continues to require a lessor to classify a lease as an operating lease or a finance lease.

During 2018, the Group built the guidelines, the financial technical definitions and identified the impacts by the adoption of said standard in all fronts: processes, technology, people; In addition, an analysis was made for all the contracts that companies have to identify those that were affected.

The Group will have an approximate effect by the recognition of assets for right of use and lease liabilities of \$544,575 measured at the present value of the remaining royalties for those contracts that were classified in accordance with IAS 17 in operating leases, discounted using an incremental interest rate on loans; it also includes the update of the asset and the liability for financial leases. For the latter, the asset recognized in property, plant and equipment will be reclassified to the asset for right of use.

The Group will adopt the standard using the Modified retrospective approach with recognition of the accumulated effect on retained profit as of January 1st, 2019, without comparative presentation of the financial statements prior to the date of application.

Short-term leases that do not exceed 12 months or that correspond to low-value underlying assets will not be recognized as right-of-use assets, in exchange, the Group will use the practical expedient and recognize those leases in the Statement of comprehensive income.

IAS 28 Investments in Associates and Joint Ventures - Long-Term Investment in Associates and Joint Ventures. The amendment to IAS 28, issued in October 2017, establishes how IFRS 9 must be applied to other financial instruments in Associates or Joint Ventures to which the Equity Method is not applied. These include long-term interests that, in essence, form part of the entity's net investment in an associate or joint venture. Modifications will be compulsory for annual periods beginning on January 1st, 2019. Early application is permitted.

IFRS 9 Financial Instruments. The amendments to IFRS 9, related to prepayment features with negative compensation, allow companies to measure financial assets, prepaid with negative compensation at

amortized cost or fair value, through Other comprehensive income if a specific condition is met; instead of at fair value with profit or loss.

The Group is assessing the effects that the application of this amendment could cause.

Amendments will be of compulsory application for annual periods beginning on January 1st, 2019.

IFRS 3 Business Combinations. The amendment to IFRS 3, which is part of the annual improvements to IFRS standards 2015-2017 Cycle issued in December 2017, establishes that when control is obtained of a business where previously it was part of a joint operation and was entitled to assets and liabilities for liabilities relating to that joint operation before the acquisition date, the transaction is a business combination carried out in stages and the interest previously held in the joint operation must be remeasured.

These amendments do not have any material effect on the consolidated financial statements.

Amendments will be of compulsory application for annual periods starting on January 1st, 2019. Early application is permitted.

IFRS 11 Joint Arrangements. The amendment to IFRS 11, which forms part of the annual improvements to IFRS Standards 2015-2017 Cycle issued in December 2017, establishes that when joint control of a business is obtained where previously it was part of a joint operation but did not have joint control, the interest previously held in the joint operation should not be re-measured.

These amendments do not have any material effect on the financial statements.

Amendments will be of compulsory application for annual periods starting on January 1st, 2019. Early application is permitted.

IAS 12 Income Tax. Amendment to IAS 12, which is part of the annual improvements to IFRS standards 2015-2017 cycle issued in December 2017, makes clear that all the consequences of income tax on dividends (distribution of profits) must be recognized in Profits and losses, Other comprehensive income or Equity, depending on the initial recognition of the transaction. Specifically, it establishes that an entity will recognize the consequences of the dividend income tax as defined in IFRS 9 when it recognizes a liability to pay a dividend. The consequences of income tax on dividends are more directly linked to past transactions or events that generated distributable profits, than to distributions made to owners. Therefore, an entity recognizes the consequences of dividends on income tax in Profit for the period, other comprehensive income or Equity depending on where the entity originally recognized those transactions or past events.

The Group is assessing the effects that the application of this amendment could cause.

Amendments will be of compulsory application for annual periods starting on January 1st, 2019. Early application is permitted.

IAS 19 Employee Benefits - Plan Amendment, Curtailment or settlement. For the counting of current or actual service cost, both for the components of the defined benefit cost, and for the recognition and measurement of post-employment benefits - defined benefit plans and for other long-term employee benefits, making actuarial assumptions at the beginning of the annual reporting period will be required to determine the cost of current services. However, if an entity measures again the liability (asset) for net defined benefits in accordance with the current fair value of the assets of the plan and the current actuarial assumptions (paragraph 99), it will determine the cost of the services of the present yearly period for the remaining of the annual reporting period following the plan amendment, curtailment or settlement, by using the actuarial assumptions used to remeasure the liability (asset) for defined benefits in accordance with paragraph 99(b) - the benefits offered according to the plan and assets of the plan after plan amendment, curtailment or settlement. When a plan amendment, curtailment or settlement takes place, an entity shall recognize and measure the cost of the past service, or a profit or loss from the settlement.

Regarding the net interest on the net defined benefit liability (asset), it will be determined by multiplying the amount of this liability (asset) by the specified discount rate, i.e., the amount corresponding to the

issuing of bond or high-quality corporate bonds in that currency or, failing this, the market yields of government bonds denominated in that currency.

The Group is assessing the effects that the application of this amendment could cause.

The interpretation will be of compulsory application for annual periods starting on January 1st, 2019. Early application is permitted.

IFRS 3 Business Combinations. The amendment to IFRS 3, issued in October 2018, clarifies the Definition of a Business, in order to help determine whether a transaction should be accounted for as a business combination or as an asset acquisition. The new business definition is as follows: An integrated set of activities and assets that is capable of being conducted and managed for the purpose of providing goods or services to customers, generating investment income (such as dividends or interest) or generating other income from ordinary activities.

Additionally, this amendment clarifies that, to be considered a business, a set of activities or assets must include at least one input and a substantive process that together contribute significantly to the ability to create products. It eliminates the assessment of whether market participants are able to replace any missing inputs or processes and continue to produce products and includes an optional concentration test that allows a simplified assessment of whether an acquired set of activities and assets is not a business.

The Group is assessing the effects that the application of this amendment could cause.

The amendment to IFRS 3 will be of compulsory application for annual periods starting on January 1st, 2020. Early application is permitted.

IAS 1 Presentation of Financial Statements and IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors. This amendment, issued in October 2018, modifies the definition of material, the new definition of material is as follows: Information is material if omitting, misstating or obscuring it could reasonably be expected to influence the decisions that the primary users of general-purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity. Additionally, some examples of circumstances that may cause important information to be hidden are included.

The Group is assessing the effects that the application of this amendment could cause.

The amendment to IAS 1 AND IAS 8 will be of compulsory application for annual periods starting on January 1st, 2020. Early application is permitted.

2.32.4 Errors in Previous Periods

As of December 31, 2018, the company did not perform any adjustments to the consolidated financial statements for errors in previous periods.

2.32.5 Changes in Presentation

At the end of the 2018 period, considering the materiality of the figure and the nature of the concept, a change was made in the presentation of the Statement of comprehensive income for the 2017 period. The purpose of the reclassification is to facilitate the reading of the financial statements by the users of these. The item reclassified was the following:

| Concept | Previous statement | Current statement | 2017 |
|--|---------------------------------|--|----------|
| Effect on equity due to changes in capital contributions or equity participation, without changes in control | premium for placement of shares | Other components of equity | (25,118) |
| Reversal loss due to Impairment on accounts receivable | Other income | Impairment loss on accounts receivable | 32,432 |

Figures stated in millions of Colombian pesos

Note 3. Significant Accounting Judgments, Estimates, and Causes of Uncertainty in the Preparation of Financial Statements

The following are the significant judgments and assumptions, including those that involve accounting estimates that the Group management used in the application of the accounting policies under IFRS, and that have significant effect on the values recognized in the consolidated financial statements.

Estimates are based upon historic experience and as a function of the best information available on the facts analyzed by the cut-off date. These estimates are used for determining the value of the assets and liabilities in the consolidated financial statements, when it is not possible to obtain such value from other sources. The Group assesses its estimates on a regular basis. Actual results may differ from those estimates.

The significant estimates and judgments made by the Group are described below:

– **Assessment of the Existence of Impairment Indicators for the Assets, Goodwill and Assessment of Assets for Determining the Existence of Value Impairment Losses.**

The condition of the assets is revised on each report presentation date, in order to determine whether there are indications that any of them has suffered an impairment loss. If there is impairment loss, the recoverable amount of the asset is affected, if the estimated recoverable amount is lower, its value is reduced to its recoverable value and impairment loss is immediately recognized in Profit for the period.

The assessment of the existence of value impairment indicators is based on external and internal factors, and in turn on quantitative and qualitative factors. Assessment are based on financial results, the legal, social and environmental settings, and the market conditions; significant changes in the scope or fashion in which the asset or CGU is used or expected to be used and evidence about obsolescence or physical deterioration of an asset or CGU, among others.

Determining whether goodwill has suffered impairment implies the calculation of the value at use of the CGUs to which it has been assigned. The calculation of the value at use requires that the entity determines future cash flows that should arise from CGUs and a discount rate appropriate to calculate the current value. When the actual future cash flows are lower than expected, an impairment loss may arise.

– **Hypothesis Used in the Actuarial Estimate of the Post-Employment Obligations with Employees.**

The assumptions and hypothesis used in the actuarial studies include: demographic assumptions and financial assumptions, the former refer to the characteristics of the current and past employments, and relate to the mortality rate, employee turnover rates, the latter relate to the discount rate, the increases in future salaries, and the changes in future benefits.

– **Lifespan and Residual Values of Property, Plant and Equipment and Intangibles.**

In the assumptions and hypothesis used for determining the lifespans, technical aspects such as the following are considered: periodical maintenances and inspections made to the assets, failure statistics, environmental conditions and operating environment, protection systems, replacement processes, obsolescence factors, recommendations of manufacturers, climate and geographical conditions, and experience of the technicians that know the assets. Aspects such as market values, reference magazines, and historic sales data are considered for determining the residual value.

– **Assumptions used for Calculating the Fair Value of Financial Instruments Including the Credit Risk.**

The Group discloses the fair value corresponding to each class of financial instrument in such a way it allows comparing it with the recorded values. Macro-economic projections calculated within every company of the Group are used. Investment portfolio is valued at market price. In its absence, a similar one is looked for in the market and if not, assumptions are used.

Macro-economic rates are projected using the cash-flow methodology. Derivatives are estimated at fair value. Accounts receivable are estimated at the market rate in force and effect for similar credits. Accounts receivable from employees are valued in a similar way as massive debtors, except for mortgage credits.

The methodology used for equity investments is the cash flow; those quoted in the stock exchange are estimated at market prices; all others, are valued at historic cost.

– **Likelihood of Occurrence and Value of Contingent or Uncertain-Value Liabilities.**

The assumptions used for uncertain or contingent liabilities include the classification of the legal process by the “expert judgment” of the area professionals, the type of contingent liability, the possible legislative changes, and the existence of high-court rulings that applies to the concrete case, the existence of similar cases in the Group, the study and analysis of the substance of the issue, the guarantees existing at the time of the events. The Group shall disclose and not recognized in the financial statements those obligations classified as possible; obligations classified as remote are not disclosed nor recognized.

– **Future Expenditure for Asset Dismantlement and Retirement Obligations.**

In the assumptions and hypothesis used for determining future expenditure for asset dismantlement and retirement obligations, aspects such as the following were considered: estimate of future outlays in which the Group must incur for the execution of those activities associated to asset dismantlement on which legal or implicit obligations have been identified, the initial date of dismantlement or restoration, the estimated date of finalization and the discount rates.

– **Determination of the Existence of Financial or Operating Leases Based on Risk Transfer and Benefits of the Leased Assets.**

The significant assumptions that are considered to determine the existence of a lease include the assessment of the conditions if the right to control the use of the asset is transmitted for a period of time in exchange for a consideration, i.e., the existence of an identified asset is assessed; the right to obtain substantially all economic benefits from the use of the asset over the period of use; the right to direct how and for what purpose the asset is used throughout the period of use; the right to operate the asset over the period's use without any changes in the operating instructions.

– **Recoverability of Deferred Tax Assets.**

Deferred tax asset has been generated by the temporary differences that generate future fiscal consequences in the financial position of the companies within the Group; these differences are essentially represented in fiscal assets that exceed the assets under IFRS, and in fiscal liabilities, lower than the liabilities under IFRS, such as it is the case of the pension liability components, the amortized cost of bonds, financial leasing, and other sundry provisions and contingencies provision.

The Group's deferred tax asset is recovered in the net income taxed on the current income tax generated by each company within the Group.

– **Determination of Control, Significant Influence or Joint Control over an Investment.**

Investment on Ecosistema de Morelos S.A. de C.V. without control.

As of December 31, 2017, The Group had 80% of the equity instruments of Ecosistema de Morelos S.A. de C.V., Therefore, it owned more than half of voting rights, however, due to investment contractual agreements between the Group and the minority shareholders, the Group lost the power to direct its relevant activities, select and remove the majority of the Board of Directors members. Consequently, Ecosistema de Morelos S.A. de C.V. was not consolidated on the Group's financial statements, this investment was incorporated through the subsidiary Tecnología Intercontinental S.A. de C.V. (TICSA) and Proyectos de Ingeniería Corporativa S.A. de C.V. as investments on financial instruments measured at fair value with changes in income. On November 23, 2018, the affiliates TICSA and Proyectos de Ingeniería corporativa S.A. de C.V. entered into a contract of purchase-sale of shares, where the whole of shares they possessed from the Ecosistema de Morelos S.A. de C.V. company were sold and transferred to the companies Terrabrio S.A.P.I. de C.V. and Ecosistema de Sonora S.A.P.I. de C.V. This transaction had no effect on the profit for the period given that the exchange rate for \$39,052,355 MXN (\$6,176 COP), corresponded to the accounting value of said shares, measured at fair value.

On December 15, 2017, the affiliate TICSA entered into a purchase-sale contract of shares, where it sells and transfers all shares it possessed of the company Aquasol Pachuca S.A. of C.V. to the company

Ecosistema de Sonora S.A.P.I. of C.V. See Note 39. Effect of participation in equity investments. At the date of the transaction, the Group had 57.6% of the equity instruments of Aquasol Pachuca S.A. of CV, therefore owning more than half of the voting rights, however, due to contractual investment agreements between the Group and minority investors, the Group lost the power to direct its relevant activities, select and remove the majority of the members of the Board of Directors. Consequently, Aquasol Pachuca S.A. of C.V. was not consolidated, this investment was included in the Group's financial statements through the subsidiary TICSA as investments in financial instruments measured at fair value with changes in income.

– Assessment of Portfolio Deterioration

For the calculation of the expected credit loss, each obligation is assigned an individual probability of non-payment that is calculated from a probability model involving sociodemographic, product and behavior variables.

The model uses a window of twelve months, which is why for an obligation to be provisioned at a certain percentage in the same period is assessed. The model will be applied based on the Scorecard developed considering the information of every company within the Group. The models are defined according to the information available and the characteristics of the population groups for each one. Even though the methodology applies to all accounts with balance, some exclusions must be considered, such as: accounts derecognized; self-consumptions; contributions; public lighting and in general charges from third parties. For its calculation, it is previously defined the moment from which it is considered that an obligation was defaulted and will not be recovered.

With this information the calculation of the expected request is made as follows:

$PE = PI \times SE \times PDI$, where:

Probability of Default (PI): this corresponds to the probability that, within a period of twelve months, the debtors of a certain segment and portfolio rating incur in default.

Outstanding Balance of the Asset (SE): corresponds to the balance of capital, balance of interests, and other current charges of the obligations.

Default Losses (PDI): defined as the economic deterioration that the entity would incur in the event that any of the default situations materialize.

– Revenue Estimates

The Group recognizes income from the sale of goods and the rendering of services to the extent that the performance requirements for the Group are met, regardless of the date on which the corresponding invoice is issued, to carry out this estimate information from contracts or agreements with customers is taken and so the value to be recognized in revenue is established.

When the moment at which revenue should be recognized is uncertain, the Group determines to recognize the revenue at the moment in which the performance obligation is satisfied, for those performance obligations that are satisfied over time it is common to use the method of the measured resource as the actually executed costs compared to the estimated costs.

For other concepts different from the supply of residential public utilities, the Group estimates and recognizes the value of revenues from sales of goods or rendering of services based on the terms or conditions of interest rate, period, etc., of each contract that causes the sale.

In the month after recording the estimated revenue, its value is adjusted by the difference between the value of the actual revenue already known against the estimated revenue.

– Operating Segments

The determination of the operating segments is done using information that is regularly provided to the highest decision-making authority in the Group and the segmentation of said information is identified. Once these segments have been identified, the capacity to generate income and incur costs and expenses of the identified groups is analyzed. Likewise, identification of whether the highest decision-making authority reviews the returns and allocates resources based on this segmentation is performed; finally,

they review if there is disaggregated financial information that supports this segmentation. In addition to the above factors, the focus and management of the Group is analyzed, in order to consider, to date, possible segments that may arise in the future, according to its strategy.

Note 4. Significant Transactions and Other Relevant Aspects During the Period

The significant transactions and other relevant aspects that occurred during the period, different from those of the normal business of the Group, are related to the contingencies of the Ituango Hydroelectric Project, that took place on April 28, 2018 due to a geological event that blocked the diversion tunnel of the Cauca River with approximately 160 thousand cubic meters of rock and soil, which caused the occluding and flooding of the dam. As a result, EPM has led its decisions prioritizing the protection of the communities and the environment in the first place and after that the infrastructure of the project. Therefore, on May 7, 2018, the decision was made to drain the dammed water through the powerhouse of the future power generation plant for rechanneling it to its traditional flow into the Cauca River and thus lower the water level of the dam. On January 16 and February 5, 2019, the intake gates No. 2 and No. 1, respectively, were closed, thus cutting the waterflow through the powerhouse. From February 8, 2019, the recovery of the flow of the Cauca River began through the flow of water through the tailrace.

In relation to the foregoing, the EPM Group has recognized in its consolidated financial statements as of December 31, 2018, the following:

- Cost and progress of the construction of the Ituango hydroelectric project for \$9,368,040 (see Note 5).
- Provision for \$38,877 for the care of those affected in the Puerto Valdivia municipality, as compensation for emerging damages, lost profits and moral damages, due to the flooding waters of the Cauca River as a result of the blockage of the site on April 28, 2018. In addition to the provision for \$42,917 for the care of people who had to be evacuated as a result of said event (see Notes 28.1.5 and 35).
- Provision for \$137,318 of guarantee for the reliability charge covered by the construction and setting up of the Pescadero Ituango Hydroelectric Plant (see Notes 28.1.5 and 35).
- Provision for \$31,388 for environmental contingency, established by the specific action plan for the recovery of the parties affected by the occluding events of the diversion tunnel of the Cauca River that happened at the site on April 28, 2018 and by the closing of floodgates that decreased the flow of the river downstream of the site. (see Notes 28.1.1 and 35).
- Provision for \$101,797 for the breach, from January to October 2021, to the Intercolombia transporter for the months after the connection infrastructure of the Ituango project comes into operation.
- Loss for \$78,295 corresponding to retirement of assets due to the contingency. (see Note 36).
- Other expenses of \$45,639 recognized for the attention of the community affected by the contingency. (see Note 36).

Note 5. Property, Plant and Equipment, Net

The breakdown of the recorded value for property, plant and equipment is as follows:

| Property, plant and equipment | 2018 | 2017 |
|--|-------------------|-------------------|
| Cost | 42,120,534 | 38,189,365 |
| Accrued depreciation and impairment loss | (7,631,935) | (6,709,269) |
| Total | 34,488,599 | 31,480,096 |

Figures stated in millions of Colombian pesos

The following is the breakdown of the recorded value for temporarily idle property, plant and equipment:

| Temporarily idle property, plant and equipment | 2018 | 2017 |
|---|---------------|---------------|
| Plants, pipelines and tunnels | 34,572 | 57,876 |
| Land and buildings | 21,508 | 9,076 |
| Networks, lines and cables | 1,489 | 83 |
| Other property, plant and equipment | 105 | 976 |
| Machinery and equipment | 33 | 220 |
| Total temporarily idle property, plant and equipment | 57,707 | 68,231 |

Figures stated in millions of Colombian pesos

The most significant variation is due to the components of the small power generation plants: Rio Piedras, and Dolores; For the Dolores power plant, a modernization project is underway, and commissioning is expected in 2019, for Rio Piedras the business is looking at alternatives. The land belongs to the Porce IV project that was not executed and that the company has not yet made decisions on and the project land of Espiritu Santo that has not yet started.

For the 2018 and 2017 periods the Group does not possess decommissioned property, plant and equipment that has not been classified as non-current assets held for sale.

The following is the movement of cost, depreciation and impairment of property, plant and equipment:

| 2018 | Networks, lines and cables | Plants, pipelines and tunnels ⁽²⁾ | Construction in progress ⁽¹⁾ | Land and buildings | Machinery and equipment | Communication and computer equipment | Furniture, fixtures and office equipment | Other property, plant and equipment ⁽³⁾ | Total |
|---|----------------------------|--|---|--------------------|-------------------------|--------------------------------------|--|--|--------------------|
| Initial balance | 9,750,271 | 9,910,586 | 10,824,257 | 6,083,884 | 728,530 | 385,321 | 130,617 | 375,900 | 38,189,366 |
| Additions ⁽⁴⁾ | 33,100 | 35,300 | 3,938,568 | 19,680 | 19,834 | 47,031 | 2,260 | 30,360 | 4,126,133 |
| Advanced payments (amortized) made to third parties | 318 | - | 19,093 | - | - | (86) | - | 1,106 | 20,431 |
| Transfers (-/+) | 988,873 | 1,757,066 | (3,060,750) | 38,290 | 42,242 | 16,843 | 18,971 | (8,937) | (207,402) |
| Disposals (-) | (21,331) | (40,108) | (81,212) | (3,789) | (16,720) | (28,161) | (2,031) | (5,278) | (198,630) |
| Effect due to currency exchange | 180,742 | 144,889 | 25,885 | 35,965 | 38,040 | 6,205 | 1,395 | 3,383 | 436,504 |
| Effect due to loss of control on subsidiary | - | - | (27,129) | - | 8 | (11) | - | - | (27,132) |
| Other changes | 69,462 | (88,023) | (239,925) | 52,888 | (8,270) | 9,561 | (19,550) | 5,121 | (218,736) |
| Final balance | 11,001,435 | 11,719,710 | 11,398,787 | 6,226,918 | 803,664 | 436,703 | 131,662 | 401,655 | 42,120,534 |
| Accrued depreciation and impairment loss | | | | | | | | | |
| Initial balance of accrued depreciation and impairment loss | (2,784,511) | (2,546,524) | (1,074) | (731,260) | (249,969) | (225,501) | (54,765) | (115,666) | (6,709,270) |
| Depreciation for the period | (370,797) | (261,731) | - | (80,647) | (44,727) | (46,113) | (10,775) | (14,397) | (829,187) |
| Disposals (-) | 5,402 | 21,861 | - | 127 | 2,462 | 26,620 | 1,886 | 4,468 | 62,826 |
| Transfers (-/+) | - | 6,122 | - | (6,292) | 168 | 6 | 19 | 4 | 27 |
| Effect due to currency exchange | (73,417) | (83,373) | (93) | (6,430) | (13,111) | (4,688) | (584) | (2,372) | (184,068) |
| Effect due to loss of control on subsidiary | - | - | - | - | - | 11 | - | - | 11 |
| Other changes | 7,032 | 4,427 | 128 | 302 | 9,733 | (2,892) | 10,431 | (1,435) | 27,726 |
| Final balance accrued depreciation and impairment loss | (3,216,291) | (2,859,218) | (1,039) | (824,200) | (295,444) | (252,557) | (53,788) | (129,398) | (7,631,935) |
| Total final balance property, plant and equipment | 7,785,144 | 8,860,492 | 11,397,748 | 5,402,718 | 508,220 | 184,146 | 77,874 | 272,257 | 34,488,599 |
| Advanced payments made to third parties | | | | | | | | | |
| Initial balance | 518 | - | 33,305 | - | - | 86 | - | 1,196 | 35,105 |
| Movement (+) | 318 | 96 | 75,280 | - | - | - | - | 1,524 | 77,218 |
| Movement (-) | - | (96) | (56,187) | - | - | (86) | - | (418) | (56,787) |
| Difference in exchange adjustment | 23 | - | 60 | - | - | - | - | - | 83 |
| Final balance | 859 | - | 52,458 | - | - | - | - | 2,302 | 55,619 |

Figures stated in millions of Colombian pesos

| 2017 | Networks, lines and cables | Plants, pipelines and tunnels | Construction in progress ⁽¹⁾ | Land and buildings | Machinery and equipment | Communication and computer equipment | Furniture, fixtures and office equipment | Other property, plant and equipment ⁽²⁾ | Total |
|---|----------------------------|-------------------------------|---|--------------------|-------------------------|--------------------------------------|--|--|--------------------|
| Initial balance | 8,689,990 | 9,523,236 | 8,619,544 | 5,940,864 | 658,242 | 316,017 | 95,773 | 307,539 | 34,151,205 |
| Business combinations ⁽³⁾ | 17,882 | 4,543 | 9,702 | 26,697 | 1,057 | 370 | 86 | 890 | 61,226 |
| Additions ⁽⁴⁾ | 74,848 | 38,773 | 3,968,418 | 47,777 | 19,313 | 47,211 | 9,880 | 95,374 | 4,301,594 |
| Advanced payments (amortized) made to third parties | 105 | - | (25,102) | - | - | 86 | - | 1,196 | (23,715) |
| Transfers (-/+) | 761,138 | 608,283 | (1,709,156) | 42,547 | 69,883 | 19,699 | 26,688 | (20,547) | (201,464) |
| Disposals (-) | (23,359) | (31,473) | (488) | (3,795) | (17,977) | (9,210) | (2,998) | (5,278) | (94,578) |
| Effect due to currency exchange | 15,393 | (11,777) | 13,855 | (1,248) | 381 | 685 | 1,252 | 1,353 | 19,895 |
| Other changes | 214,274 | (220,999) | (52,516) | 31,042 | (2,369) | 10,462 | (65) | (4,627) | (24,798) |
| Final balance | 9,750,271 | 9,910,586 | 10,824,257 | 6,083,884 | 728,530 | 385,320 | 130,616 | 375,899 | 38,189,365 |
| Accrued depreciation and impairment loss | | | | | | | | | |
| Initial balance of accrued depreciation and impairment loss | (2,454,713) | (2,243,100) | (836) | (623,425) | (218,014) | (183,308) | (36,678) | (125,021) | (5,885,095) |
| Depreciation for the period | (335,227) | (268,090) | - | (67,407) | (63,191) | (46,578) | (8,431) | (23,535) | (812,459) |
| Impairment for the period | - | (52,472) | 19 | (4,122) | (38) | (2) | - | (4) | (56,619) |
| Disposals (-) | 14,905 | 11,688 | - | 3,614 | 10,440 | 8,529 | 2,843 | 4,463 | 56,482 |
| Effect due to currency exchange | (9,620) | 745 | (15) | (38,992) | 20,653 | (13,017) | (12,683) | 29,189 | (23,740) |
| Business combination | (7,078) | (1,683) | - | (8,562) | (628) | (292) | (54) | (547) | (18,844) |
| Other changes | 7,223 | 6,388 | (242) | 7,634 | 809 | 9,166 | 239 | (210) | 31,007 |
| Final balance accrued depreciation and impairment loss | (2,784,510) | (2,546,524) | (1,074) | (731,260) | (249,969) | (225,501) | (54,765) | (115,666) | (6,709,268) |
| Total final balance property, plant and equipment | 6,965,761 | 7,364,062 | 10,823,183 | 5,352,624 | 478,561 | 159,819 | 75,852 | 260,233 | 31,480,097 |
| Advanced payments made to third parties | | | | | | | | | |
| Initial balance | 413 | - | 58,407 | - | - | - | - | - | 58,820 |
| Movement (+) | 97 | - | 122,711 | - | - | 86 | - | 1,205 | 124,099 |
| Movement (-) | - | - | (141,794) | - | - | - | - | (10) | (141,803) |
| Difference in exchange adjustment | 8 | - | (6,019) | - | - | - | - | - | (6,010) |
| Final balance | 518 | - | 33,305 | - | - | 86 | - | 1,196 | 35,105 |

Figures stated in millions of Colombian pesos

Property, plant and equipment exhibit a variation compared to 2017, mainly due to the construction of infrastructure in the different businesses of the company, of which, the most relevant corresponds to the construction of the Ituango Hydroelectric Project, for \$1,752,025.

¹ Includes capitalization of loans for \$332,874 (2017: \$275,161), the weighted average effective rate used to determine the amount of borrowing costs was 7.85% in Colombian pesos and 5.73% in USA dollars (2017: 8.40% and 4.01%).

² Plants, pipelines and tunnels present an increase corresponding to the entry into operation of the Aguas Claras Wastewater Treatment Plant.

³ Includes equipment and vehicles of the automotive fleet, medical and scientific equipment, property, plant and equipment in assembly, property, plant and equipment in transit and replacement assets, transportation equipment, traction and elevation, dining equipment, kitchen, pantry and lodging.

⁴ Includes purchases, capitalized expenditure that meets the recognition criteria, goods received from third parties and costs for dismantling and removing elements of property, plant and equipment. At the end of 2018 and 2017 no grants were received from the Government.

The following are the main projects under construction:

| Project | 2018 | 2017 |
|---|-------------------|-------------------|
| Ituango ⁽¹⁾ | 9,368,040 | 7,616,015 |
| Other Projects | 859,740 | 784,259 |
| Construction, Expansion and Maintenance of substations, networks, lines and branch cables <i>DECA</i> | 435,911 | 415,474 |
| Substations, Networks, Lines and Loss-Control <i>ESSA</i> | 227,104 | 199,387 |
| Substations, Lines and Network Growth <i>ENSA</i> | 181,109 | 129,962 |
| Expansion of <i>STN</i> , <i>STR</i> , Networks, Lines and Loss-Control <i>CENS</i> | 103,773 | 150,955 |
| Substations, Networks, Lines and Loss-Control <i>CHEC</i> | 67,163 | 70,551 |
| Aqueduct and Sewage Networks <i>Aguas Regionales EPM</i> | 26,709 | 20,516 |
| <i>Empresas Publicas de Rionegro</i> Projects | 23,017 | |
| <i>EMVARIAS</i> Projects - <i>Vaso Altair</i> (Stage 3) | 22,962 | 2,521 |
| <i>San Nicolas D.</i> Connection - Main | 20,924 | 33,045 |
| Transmission Projects Chile | 16,510 | - |
| Distribution Networks and <i>GIS</i> Implementation, <i>Delsur</i> | 14,893 | 20,271 |
| Expansion and Replacement of Plants, Networks, Lines and Cables <i>EDEQ</i> | 14,079 | 12,207 |
| A. Malambo Projects - Aqueduct and Sewage Networks | 8,479 | 8,159 |
| Water Treatment Plants <i>TICSA Group</i> | 5,003 | 30,853 |
| Projects <i>Wind Farm (Parque Eólico) Los Cururos</i> | 1,778 | 2,533 |
| <i>Southwather</i> Projects | 280 | - |
| <i>Aguas de Oriente</i> Projects | 273 | 142 |
| Desalination and Drinking Water and Wastewater Networks <i>ADASA</i> | - | 147,216 |
| Bello <i>Aguas Claras</i> Wastewater Treatment Plant | | 1,179,116 |
| Total | 11,397,748 | 10,823,183 |

Figures stated in millions of Colombian pesos

⁽¹⁾ As of December 31, 2018, the Ituango Hydroelectric Project presented a physical advance of 88.2% (2017: 80.5%). It is estimated that the first power generation unit could start operating as of the last quarter of 2021. However, this start date is very dynamic, due to the changes that occur in the

technical variables and the evolution and efficiency of the measures implemented to address the contingency of the Ituango Hydroelectric Project, that took place on April 28, 2018 due to a geological event that blocked the diversion tunnel of the Cauca River with approximately 160 thousand cubic meters of rock and soil, which caused the occluding and flooding of the dam. As a result, EPM has led its decisions prioritizing the protection of the communities and the environment in the first place and after that the infrastructure of the project. Therefore, on May 7, 2018, the decision was made to drain the dammed water through the powerhouse of the future power generation plant for rechanneling it to its traditional flow into the Cauca River and thus lower the water level of the dam

As of the cut-off date of the financial statements, it was not possible to estimate the value of the real damages to the powerhouse, both in the civil works component and in the electromechanical equipment component. Once the passage of water from the reservoir through the facilities can be restricted and the water remaining in the reservoir can be emptied, a clear and precise assessment of the damages can be performed, and the adjusted estimates can be made regarding the time of interventions, recovery engineering and the works to be implemented to fully recover this component of the project, using updated information.

At the end of the period, impairment testing was performed on assets linked to a CGU and have intangible assets with indefinite useful lives, which did not show impairment.

As of December 31, 2018, there are restrictions on the realization of the property, plant and equipment, associated to some equipment of the automotive fleet for a net recorded value of \$2 (2017: \$6). These restrictions are due to theft, personal injury and garnishments and have been affected as a guarantee for compliance with obligations.

The most significant commitments of acquisition of property, plant and equipment of the company at the cut-off date amount to \$3,452,179 (2017: \$1,190,791).

The following is the historical cost of the fully depreciated property, plant and equipment that continue in operation as of December 31, 2018 and 2017:

| Group | 2018 | 2017 |
|---|----------------|----------------|
| Communication and computer equipment ⁽¹⁾ | 51,411 | 55,196 |
| Plants, pipelines and tunnels | 20,085 | 1,208 |
| Machinery and equipment | 12,602 | 18,120 |
| Networks, lines and cables | 12,312 | 9,114 |
| Furniture and fixtures | 9,572 | 11,010 |
| Otras propiedades, planta y equipo | 5,713 | 6,772 |
| Total | 111,695 | 101,420 |

Figures stated in millions of Colombian pesos

⁽¹⁾ The most significant variation in Communication and computer equipment, is due to losses by the replacement plan in 2018, likewise, with the revision of annual lifespans it was possible to identify assets that were not in operation and were found totally depreciated, thus were decommissioned.

Note 6. Investment Property

The fair value of investment property is based on an appraisal made by experts with recognized professional capacity and recent experience in the category of real estate investments subject to assessment; this value has been determined by officials of the EPM Group, appraisal specialists or by independent appraisal companies such as Corporación Avaluos Lonja Inmobiliaria, Activos e Inventarios Limitada, Panamericana de Avaluos S.A. To determine the fair value of investment property, the comparative or market method is used, which consists of deducting the price by comparing transactions, supply and demand and appraisals of similar or comparable properties, previous adjustments of time, conformation and location; the residual method, which applies only to buildings and is based on the determination of the cost of the updated construction less the depreciation for age and state of conservation; and the income method, which is used to determine the possible value of a good according to its capacity to generate revenue, taking into account the probable monthly royalty value that tenants would be willing to pay in the market of leases. See Note 44. Fair value measurement on a recurring and non-recurring basis.

| Investment Property | 2018 | 2017 |
|--|---------------|----------------|
| Initial Balance | 126,740 | 124,589 |
| Net Profit (Loss) due to Adjustment in Fair-Value ⁽¹⁾ | 3,873 | 10,373 |
| Disposals (-) | - | (161) |
| Foreign currency exchange effects | 889 | (44) |
| Transfers ⁽²⁾ (-/+) | (40,120) | (9,180) |
| Other Changes | - | 1,163 |
| Final Balance | 91,382 | 126,740 |

Figures stated in millions of Colombian pesos

⁽¹⁾ See detail in Note 33. Other Revenue and Note 36. Other Expenses.

⁽²⁾ Includes transfers to property, plant and equipment from investment properties.

Revenue from leases of investment property for the period amounted to \$657 (2017: \$669). Direct expenses related to investment property were \$61 (2017: \$68).

As of December 31, 2018, and 2017 there were no contractual obligations to acquire, construct or develop investment property or for repairs, maintenance or improvements to them.

As of December 31, 2018, there are no contractual restrictions on investment property.

Note 7. Other Intangible Assets

The breakdown of the recorded value for intangible assets is as follows:

| Intangible Assets | 2018 | 2017 |
|---|--------------------|--------------------|
| Cost | 6,832,185 | 6,445,876 |
| Goodwill | 3,325,834 | 3,349,147 |
| Other Intangibles | 3,506,351 | 3,096,729 |
| Impairment Loss | (293,567) | (288,475) |
| Goodwill | (293,567) | (288,475) |
| Accrued Amortization and Impairment Loss | (1,190,393) | (1,020,276) |
| Other Intangibles | (1,190,393) | (1,020,276) |
| Total | 5,348,225 | 5,137,124 |

Figures stated in millions of Colombian pesos

The movement of cost, amortization and impairment of intangible assets is detailed below:

| 2018 | Goodwill | Concessions and Similar Rights | Capitalized Development Expenses | Software and IT Applications | Licenses | Rights | Other Intangible Assets ⁽¹⁾ | Total |
|--|------------------|--------------------------------|----------------------------------|------------------------------|-----------------|----------------|--|--------------------|
| Initial Balance Cost | 3,349,147 | 1,899,895 | 71,454 | 243,145 | 115,548 | 53,964 | 712,723 | 6,445,876 |
| Additions ⁽²⁾ | - | 25,762 | 15,100 | 27,936 | 13,624 | - | 7,478 | 89,900 |
| Advanced Payments made to Third Parties | - | 860 | - | - | - | - | - | 860 |
| Transfers (-/+) | - | 101,489 | (47,794) | 49,565 | 10,932 | - | 37,333 | 151,525 |
| Disposals (-) | - | (18,236) | - | (2,487) | (2,353) | (83) | (1,040) | (24,199) |
| Recalls | - | - | - | - | (7) | - | (356) | (363) |
| Foreign Currency Exchange Effects | (23,313) | (53,761) | 1,316 | 8,569 | 4,831 | 342 | (11,516) | (73,532) |
| Other Changes | - | 318,297 | - | 2,871 | 278 | (42,019) | (37,309) | 242,118 |
| Final Balance Cost | 3,325,834 | 2,274,306 | 40,076 | 329,599 | 142,853 | 12,204 | 707,313 | 6,832,185 |
| Initial Balance Accrued Amortization and Impairment | (288,476) | (702,567) | (5,623) | (116,523) | (64,806) | (1,615) | (129,141) | (1,308,751) |
| Amortization for the Period ⁽³⁾ | - | (81,724) | (506) | (31,448) | (13,622) | (485) | (35,136) | (162,921) |
| Impairment for the Period | - | 6,052 | - | - | - | - | - | 6,052 |
| Disposals (-) | - | - | - | 2,450 | 2,316 | - | - | 4,766 |
| Transfers (-/+) | - | 2,750 | - | - | - | - | (2,753) | (3) |
| Recalls | - | - | - | - | - | - | 356 | 356 |
| Foreign Currency Exchange Effects | (5,091) | 13,659 | (551) | (3,537) | (3,282) | (56) | (1,544) | (402) |
| Other Changes | - | (46,158) | 5 | (1,959) | (849) | 99 | 25,805 | (23,057) |
| Final Balance Accrued Amortization and Impairment | (293,567) | (807,988) | (6,675) | (151,017) | (80,243) | (2,057) | (142,413) | (1,483,960) |
| Final Balance Intangible Assets, Net | 3,032,267 | 1,466,318 | 33,401 | 178,582 | 62,610 | 10,147 | 564,900 | 5,348,225 |

Figures stated in millions of Colombian pesos

| 2017 | Goodwill | Concessions and Similar Rights | Capitalized Development Expenses | Software and IT Applications | Licenses | Rights | Other Intangible Assets ⁽¹⁾ | Total |
|--|------------------|--------------------------------|----------------------------------|------------------------------|-----------------|----------------|--|--------------------|
| Initial Balance Cost | 3,202,442 | 1,713,944 | 46,323 | 217,412 | 115,862 | 51,438 | 491,795 | 5,839,216 |
| Business Combinations | - | - | - | - | - | - | 504 | 504 |
| Additions ⁽²⁾ | - | 56,339 | 25,133 | 22,517 | 8,408 | - | 2,447 | 114,844 |
| Transfers (-/+) | - | 9,954 | - | 16,395 | 912 | - | 104,798 | 132,059 |
| Disposals (-) | - | - | - | (9,368) | (9,921) | - | (425) | (19,714) |
| Foreign Currency Exchange Effects | 146,705 | 117,830 | (83) | (461) | (279) | 34 | 39,254 | 303,001 |
| Other Changes | - | 1,828 | 82 | (3,351) | 566 | 2,492 | 74,348 | 75,965 |
| Final Balance Cost | 3,349,147 | 1,899,895 | 71,455 | 243,145 | 115,548 | 53,964 | 712,722 | 6,445,876 |
| Initial Balance Accrued Amortization and Impairment | (283,625) | (476,652) | (1,471) | (98,909) | (61,623) | (967) | (126,773) | (1,050,020) |
| Amortization for the Period ⁽³⁾ | - | (66,685) | (499) | (21,895) | (9,353) | (486) | (37,103) | (136,021) |
| Impairment for the Period | - | (1,207) | (2,394) | - | (663) | - | (2,061) | (6,324) |
| Disposals (-) | - | - | - | 8,640 | 9,268 | - | - | 17,908 |
| Foreign Currency Exchange Effects | (4,851) | (156,436) | (9) | (4,135) | (2,384) | (242) | 15,173 | (152,885) |
| Other Changes | - | (1,589) | (1,250) | (223) | (51) | 80 | 21,623 | 18,590 |
| Final Balance Accrued Amortization and Impairment | (288,476) | (702,569) | (5,622) | (116,522) | (64,806) | (1,615) | (129,141) | (1,308,752) |
| Final Balance Intangible Assets, Net | 3,060,671 | 1,197,326 | 65,833 | 126,623 | 50,742 | 52,349 | 583,581 | 5,137,124 |

Figures stated in millions of Colombian pesos

¹ Includes easements, intangibles related to customers and other intangibles corresponding to premiums at gas service stations.

² Includes purchases, capitalizable expenditure that meets the recognition criteria and concessions. In 2018, the purchases associated with capitalized development expenditure were earmarked for IT projects: OPEN Migration and EAM Asset Management. At the end of 2018 and 2017 no grants were received from the Government.

³ See note 34 Costs of services rendered and note 35 Administrative expenses.

At the end of the period, impairment testing was performed on assets linked to a CGU and have intangible assets with indefinite useful lives, which did not show impairment.

At the end of the periods, impairment testing was performed on assets for those intangibles with an indefinite lifespan. The detail of the impairment recognized in the statement of comprehensive income can be found in note 8. Impairment of assets.

The lifespans of intangible assets are:

| | |
|----------------------------------|----------------------------------|
| Concessions and similar rights | As contract effective term |
| Easements | Indefinite |
| Capitalized development expenses | Indefinite |
| Software and IT applications | Indefinite/ finite 3 to 5 years |
| Licenses | Indefinite/ finite 3 to 5 years |
| Rights | As contract effective term |
| Other intangible assets | Indefinite/ finite 7 to 15 years |

Amortization of intangibles is recognized as costs and expenses in the Statement of comprehensive income, section Profit for the period, in the item Costs of services rendered and administrative expenses.

As of December 31, 2018, and 2017, no restrictions on the realization of intangible assets were identified and no contractual commitments were identified for the acquisition of said assets.

The recorded value at the cut-off date and the remaining amortization period for significant assets is:

| Relevant Intangible Assets | Lifespan | Remaining Amortization Period (Years) | 2018 | 2017 |
|---|------------|---------------------------------------|-----------|-----------|
| Goodwill | Indefinite | - | 3,032,267 | 3,060,672 |
| Easement Lines Corridor 53 | Indefinite | - | 63,040 | 61,530 |
| Easement Lines Corridor 52 | Indefinite | - | 29,525 | 25,606 |
| Concession Chile | Definite | 15 | 914,472 | 904,379 |
| Elektra Noreste S.A. - Business Management System SAP | Definite | 10 | 39,532 | 36,807 |
| Distribución Eléctrica del Sur - Business Management System SAP | Definite | 6 | 14,976 | 15,854 |

Figures stated in millions of Colombian pesos

The amortization of intangible assets is recognized as costs for \$ 137,180 (2017: \$ 94,488) and as expenses for \$ 25,740 (2017: \$ 41,533) in the statement of comprehensive income, section profit for the period, in the lines of Costs of Services Rendered (Note 34) and Administrative Expenses (Note 35).

The following intangible assets have an indefinite lifespan: goodwill and easements, the latter are agreed in perpetuity.

By definition, an easement is the real, perpetual or temporary right over another property, under which it can be used, or exercise certain rights of disposal, or prevent the owner from exercising some of their property rights. In the Group, easements are not treated individually, since they are constituted for public utility projects, where the general interest prevails over the individual, considering that the objective is to improve the quality of life of the community; the aforementioned projects do not have a definite temporality, that is why they are constituted in perpetuity supported in their use. However, there are some easements with a definite useful life, because they are tied to the useful life of the main asset required by the easement.

As of December 2018, and 2017 the intangible assets with indefinite lifespans have a recorded value of \$3,218,138 and \$3,199,880 respectively.

| Intangible Assets with Indefinite Lifespans | 2018 | 2017 |
|--|------------------|------------------|
| Goodwill | | |
| Aguas de Antofagasta | 1,611,530 | 1,669,881 |
| Empresa electrica de Guatemala S.A. | 955,695 | 929,781 |
| Proyecto Central Generacion Ituango | 177,667 | 177,667 |
| Elektra Noreste S.A. | 119,041 | 115,106 |
| Espiritu Santo | 82,981 | 82,981 |
| Tecnologia Intercontinental S.A. de C.V. | 1,263 | 1,167 |
| Empresas Varias de Medellin S.A. E.S.P | 78,642 | 78,642 |
| Empresa de Energia del Quindio S.A. E.S.P. | 5,135 | 5,135 |
| Surtigas Necocli | 303 | 303 |
| Central Hidroelectrica de Caldas S.A. E.S.P | 10 | 10 |
| Subtotal Goodwill | 3,032,267 | 3,060,672 |
| Other Intangible Assets | | |
| Easements ⁽¹⁾ | 185,871 | 139,208 |
| Subtotal Other Intangible Assets | 185,871 | 139,208 |
| Total Intangible Assets with Indefinite Lifespans | 3,218,138 | 3,199,880 |

Figures stated in millions of Colombian pesos

⁽¹⁾ The variation presented by easements is mainly due to the transfers to operations carried out in the following projects: Linea Bello Guayabal-Ancon, Linea la Sierra-Cocorna y San Lorenzo.

Note 8. Impairment of Assets

8.1 Impairment of Investments in Subsidiaries, Associates and Joint Ventures

At the date of presentation of the financial statements no impairment losses were recognized in the Statement of comprehensive income, related to investments in subsidiaries, associates and joint ventures.

8.2 Impairment Loss of Cash Generating Units (CGU)

The recorded value of the goodwill and the intangible assets with indefinite useful life associated with each CGU are broken down below:

The cumulative effect of recognized impairment losses is presented below:

| Cash Generating Unit (CGU) | Recorded Value | | Reversal of Impairment Loss | |
|---|------------------|------------------|-----------------------------|---------------|
| | 2018 | 2017 | 2018 | 2017 |
| Power Generation Segment | | | | |
| Goodwill | 260,647 | 260,647 | - | - |
| Easements | 770 | 747 | - | - |
| Liceses | | | - | 663 |
| Development Phase Expenditures | | | - | 2,394 |
| Other intangibles | | | - | 2,061 |
| Land | | | - | (164) |
| Ongoing Constructions | | | - | (19) |
| Buildings | | | - | (165) |
| Plants, Pipelines and Tunnels | | | - | 56,930 |
| Machinery and Equipment | | | - | 38 |
| Communication and Computing Equipment | | | - | |
| Transport, Traction and Lifting Equipment | | | - | |
| Generation | 261,417 | 261,394 | - | 61,738 |
| Power Transmission Segment | | | | |
| Easements | 127,058 | 91,896 | - | - |
| Transmission | 127,058 | 91,896 | - | - |
| Power Distribution Segment | | | | |
| Goodwill | 1,079,883 | 1,050,031 | - | - |
| Easements | 54,373 | 39,158 | - | - |
| Distribution | 1,134,256 | 1,089,189 | - | - |
| Natural Gas Segment | | | | |
| Goodwill | 303 | 303 | - | - |
| Easements | 3,680 | 3,512 | - | - |
| Natural Gas | 3,983 | 3,815 | - | - |
| Water Supply Segment | | | | |
| Goodwill | 1,466,492 | 1,519,592 | - | - |
| Easements | 2,994 | 2,520 | - | - |
| Water Supply | 1,469,486 | 1,522,112 | - | - |
| Sanitation Segment | | | | |
| Goodwill | 224,942 | 230,098 | - | - |
| Easements | 1,052 | 454 | - | - |
| Concessions and franchises | | | 6,052 | 1,207 |
| Sanitation Segment | 225,994 | 230,552 | 6,052 | 1,207 |
| Total | 3,222,194 | 3,198,958 | 6,052 | 62,945 |

Figures stated in millions of Colombian pesos

The description of the CGUs is broken down below:

- CGU Power Generation, which activity consists of power generation and the commercialization of large electric power blocks, based on the acquisition or development of a portfolio of power proposals for the market.
- CGU Power Distribution, which activity consists of transporting electric power through a set of lines and substations, with their associated equipment, operating at voltages below 220 KV, the commercialization of power to the end user of the regulated market and the development of related and complementary activities. Includes the Regional Transmission System (STR), the Local Distribution System (SDL), the public lighting utility and the rendering of associated services.
- CGU Power Transmission, which activity consists of the transporting of energy in the National Transmission System (STN), composed of the set of lines, with their corresponding connection equipment, which operate at voltages equal to or greater than 220 KV. The National Transmitter (TN) is the legal entity that operates and transports electric power in the STN or has established a company whose purpose is the development of said activity.
- CGU Natural Gas, which activity consists of driving combustible natural gas from the city gate to the end user, through medium and low-pressure pipes. It includes the sale of natural gas by different systems, including distribution by network, vehicular natural gas, compressed natural gas and service stations.
- CGU Water Supply, which activity consists in conceptualizing, structuring, developing and operating systems for supplying water. It includes carrying out the commercial management of the portfolio of services related to the water supply for different uses, in addition to the use of the productive chain, specifically in the power generation, and the supply of raw water.
- CGU Sanitation, includes the activities of conceptualizing, structuring, developing and operating wastewater and solid waste management systems.

Goodwill is assigned mainly to the segments or CGUs detailed below:

| Cash Generating Unit (CGU) | 2018 | 2017 | Generated by |
|----------------------------|------------------|------------------|---|
| Power Generation EPM | 260,647 | 260,647 | Liquidation of the subsidiary EPM Ituango S.A. E.S.P. and Espiritu Santo which assets were transferred to EPM |
| Distribution EDEQ | 5,135 | 5,135 | Business combination in the acquisition made by EPM Inversiones |
| Distribution CHEC | 10 | 10 | Business combination in the acquisition made by EPM Inversiones |
| Distribution EEGSA | 955,696 | 929,781 | Business combination in the Grupo Deca II acquisition made by EPM |
| Distribution ENSA | 119,042 | 115,105 | Business combination in the Grupo PDG acquisition made by EPM |
| Natural Gas EPM | 303 | 303 | Business combination with in the Surtidora de Gas del Caribe S.A. E.S.P. made by EPM |
| Water Supply ADASA | 1,580,556 | 1,519,592 | Business combination in the Aguas de Antofagasta acquisition made by Inversiones Hanover |
| Sanitation ADASA | 30,974 | 150,289 | Business combination in the Aguas de Antofagasta acquisition made by Inversiones Hanover |
| Sanitation TICSA | 1,262 | 1,167 | Business combination in the Grupo TICSA acquisition made by EPM Mexico |
| Sanitation EMVARIAS | 78,642 | 78,642 | Business combination in the acquisition made by EPM |
| Total | 3,032,267 | 3,060,671 | |

Figures stated in millions of Colombian pesos

The intangible Easements is mainly assigned to the segments or CGUs detailed below:

| Cash Generating Unit (CGU) | 2018 | 2017 |
|--------------------------------------|----------------|----------------|
| Generation EPM | 444 | 444 |
| Generation CHEC | 58 | 57 |
| Generation Hidroecologica del Teribe | 269 | 247 |
| Transmission EPM | 127,023 | 91,861 |
| Transmission ESSA | 35 | 35 |
| Distribution EPM | 28,945 | 21,531 |
| Distribution EDEQ | 254 | 254 |
| Distribution CHEC | 6,080 | 6,021 |
| Distribution CENS | 5,130 | 1,803 |
| Distribution ESSA | 7,152 | 5,725 |
| Distribution EEGSA | 501 | 485 |
| Distribution ENSA | 6,311 | 3,341 |
| Natural Gas EPM | 3,680 | 3,512 |
| Water Supply Adasa | 261 | - |
| Water Supply EPM | 2,733 | 2,520 |
| Sanitation EPM | 454 | 454 |
| Sanitation Aguas Nacionales | 597 | - |
| Total | 189,927 | 138,290 |

Figures stated in millions of Colombian pesos

Impairment of assets and intangibles - CGU Saneamiento Ecosistemas de Ciudad Lerdo

In Ecosistemas de Ciudad Lerdo impairment of assets was measured based on IAS 36 and IAS 16, seeking to ensure that asset value accounted for as of December 31, 2018 reflect their recoverable value through their use or sale.

Value in use: An estimate of the future cash flows that they expect to obtain on the assets of the CGU was made considering expectations of possible variations in value, the most recent financial projections for a period that goes until 2032 was also considered.

The discount rate used for the valuation reflects the capital structure of the Company, which considers the performance the owner would require for this kind of investment, considering: the risk-free rate, the corresponding economic sector, the market, the country where the investment is located and the indebtedness.

At the end of the period, impairment testing of the CGU was carried out, finding evidence of deterioration, which was basically generated from revenues derived from the billing for the treatment of each m³ of water and the projected demand with the information available to date, is less than the capacity of use required to free the value of the assets used in its operation.

Based on this, the value of the assets' impairment as of December 31, 2018 amounts to:

| | | |
|---------------------|---------------|---------------------|
| Value in use: | \$86,629,777 | Mexican Pesos (MXP) |
| CGU Recorded Value: | \$124,399,353 | Mexican Pesos (MXP) |

Value of Impairment: \$37,769,577 Mexican Pesos (MXP)
 Impairment cost Exchange rate 159.2 COP / MXP

The key assumptions used by the Group in the determination of the value in use/fair value less selling costs are as follows:

| Concept | Key Assumption |
|--------------------|---|
| Revenue | Revenue come from the operation of the <i>Wastewater Treatment Plant of Lerdo (Planta de Tratamiento de Aguas Residuales de Lerdo)</i> , treating water sent to the Combined Cycle Power Plants of <i>Gómez Palacios</i> and <i>Guadalupe Victoria</i> by ultrafiltration and reverse osmosis, at the request of the Federal Electricity Commission (CFE), projected until maturity of the contract and based on historical consumption data. |
| Costs and Expenses | Costs and expenses were estimated in compliance with the maintenance of the plant, main inputs such as electricity, chemicals and personnel. |
| Investment | No additional investment to the already made is estimated. |

The value in use and the recorded value of the CGU at the end of 2018 that have an indefinite useful life is detailed below:

| Cash Generating Unit (CGU) | Functional Currency | Value in Use | Recorded Value |
|--|---------------------|--------------|----------------|
| Water Supply EPM | Colombian Pesos | 3,208,352 | 2,285,798 |
| Sanitation EPM | Colombian Pesos | 1,501,502 | 966,331 |
| Power Generation EPM | Colombian Pesos | 20,593,115 | 17,117,851 |
| Power Transmission EPM | Colombian Pesos | 926,097 | 852,669 |
| Power Distribution EPM | Colombian Pesos | 6,904,731 | 3,927,679 |
| Natural Gas EPM | Colombian Pesos | 977,066 | 811,833 |
| Power Generation CENS | Colombian Pesos | 14,915 | 4,809 |
| Power Distribution CENS | Colombian Pesos | 986,303 | 880,363 |
| Power Generation CHEC | Colombian Pesos | 338,928 | 315,519 |
| Power Distribution CHEC | Colombian Pesos | 871,516 | 559,324 |
| Power Distribution EDEQ | Colombian Pesos | 370,572 | 183,351 |
| Power Generation ESSA | Colombian Pesos | 54,230 | 21,756 |
| Power Distribution ESSA | Colombian Pesos | 1,791,827 | 1,239,988 |
| Power Distribution EEGSA | Quetzals | 4,532 | 4,365 |
| Power Distribution ENSA | US Dollar | 708 | 505 |
| Power Generation Wind Farm Los Cururos | US Dollar | 103 | 91 |
| Sanitation TICSA | Mexican Pesos | 635 | 65 |
| Sanitation EMVARIAS | Colombian Pesos | 297,306 | 182,850 |
| Water Supply ADASA | Chilean Pesos | 754,866 | 618,011 |
| Sanitation ADASA | Chilean Pesos | 74,657 | 59,146 |
| Power Generation Hidroecologica del Teribe | US Dollar | 153 | 150 |

Figures stated in millions of Colombian pesos

Note 9. Investment in Subsidiaries

The breakdown of the subsidiaries of the Group at the date of the reporting period is the following:

| Name of the Subsidiary | Location (country) | Main Activity | Percentage of participation and voting rights | | Percentage of participation of the non-controlling party | | Date of establishment |
|--|--------------------|---|---|--------|--|--------|-----------------------|
| | | | 2018 | 2017 | 2018 | 2017 | |
| Empresa de Energía del Quindío S.A. E.S.P. (EDEQ) | Colombia | Provides public utilities for electric power purchase, sale and distribution of electricity. | 92.85% | 92.85% | 7.15% | 7.15% | 22/12/1988 |
| Central Hidroeléctrica de Caldas S.A. E.S.P. (CHEC) | Colombia | Provides public power utilities, operating power generation plants, transmission and sub transmission lines and distribution networks, as well as the commercialization, import distribution and sale of electricity. | 80.10% | 80.10% | 19.90% | 19.90% | 9/09/1950 |
| Electrificadora de Santander S.A. E.S.P. (ESSA) | Colombia | Provides public utilities of electrical power: purchase, sale and distribution of electric power. | 74.05% | 74.05% | 25.95% | 25.95% | 16/09/1950 |
| Centrales Eléctricas del Norte de Santander S.A. E.S.P. (CENS) | Colombia | Provides public utilities for electric power, purchase, export, import, distribution and sale. Construction and operation of generating plants, transmission line substations and distribution networks. | 91.52% | 91.52% | 8.48% | 8.48% | 16/10/1952 |
| Elektra Noreste S.A. (ENSA) | Panama | Purchases power, transports, distributes to customers, transforms voltages, installs, operates and maintains public lighting, authorized to generate power up to a limit of 15% of the maximum demand in the concession area. | 51.16% | 51.16% | 48.84% | 48.84% | 19/01/1998 |
| Hidrogeológica del Teribe S.A. (HET) | Panama | Finances the construction of the Bonyic hydroelectric project required to meet the growing power demand of Panama. | 99.18% | 99.19% | 0.82% | 0.81% | 11/11/1994 |
| Empresa Eléctrica de Guatemala S.A. (EEGSA) | Guatemala | Provides the electric power distribution service (utility). | 80.90% | 80.90% | 19.10% | 19.10% | 5/10/1939 |

| Name of the Subsidiary | Location (country) | Main Activity | Percentage of participation and voting rights | | Percentage of participation of the non-controlling party | | Date of establishment |
|---|--------------------|---|---|---------|--|--------|-----------------------|
| | | | 2018 | 2017 | 2018 | 2017 | |
| Gestión de Empresas Eléctricas S.A. (GESA) | Guatemala | Provides advice and consulting services to electric power distribution, generation and transmission companies. | 100.00% | 100.00% | - | - | 17/12/2004 |
| Almacenaje y Manejo de Materiales Eléctricos S.A. (AMESA) | Guatemala | Provides outsourcing services in the area of material management. | 99.94% | 99.94% | 0.06% | 0.06% | 23/03/2000 |
| Comercializadora Eléctrica de Guatemala S.A. (COMEGSA) | Guatemala | Provides of electric power selling utilities. | 80.52% | 80.52% | 19.48% | 19.48% | 5/11/1998 |
| Transportista Eléctrica Centroamericana S.A. (TREC) | Guatemala | Provides of electric power transmission utilities. | 80.90% | 80.90% | 19.10% | 19.10% | 6/10/1999 |
| Energica S.A. (ENERGICA) | Guatemala | provides construction and maintenance services for projects and goods in the electricity sector. | 78.19% | 78.19% | 21.81% | 21.81% | 31/08/1999 |
| Crediegsa S.A. (CREDIEGSA) | Guatemala | Provides recruitment services for personnel and other administrative services. | 80.90% | 80.90% | 19.10% | 19.10% | 1/12/1992 |
| Distribuidora de Electricidad del Sur (DELSUR) | El Salvador | Transformation, distribution and selling of electricity to supply power to the south-central area of El Salvador in Central America. | 86.41% | 86.41% | 13.59% | 13.59% | 16/11/1995 |
| Innova Tecnología y Negocios S.A. de C.V. | El Salvador | Provider of specialized services in electrical engineering and selling of electrical appliances to electric power users of the Delsur company. | 86.41% | 86.41% | 13.59% | 13.59% | 19/10/2010 |
| Parque Eólico Los Cururos Ltd.. | Chile | Generation of electric power through all types of fuels and renewable energies such as wind, photovoltaic and biomass, transmission, purchase and selling of electricity. | 100.00% | 100.00% | - | - | 26/08/2011 |
| Aguas Nacionales EPM S.A. E.S.P. | (1) Colombia | Provides public utilities for water, sewage and sanitation, as well as waste management and treatment, complementary activities and engineering services specific to these utilities. | 99.99% | 99.99% | 0.01% | 0.01% | 29/11/2002 |

| Name of the Subsidiary | | Location (country) | Main Activity | Percentage of participation and voting rights | | Percentage of participation of the non-controlling party | | Date of establishment |
|---|-----|--------------------|--|---|--------|--|--------|-----------------------|
| | | | | 2018 | 2017 | 2018 | 2017 | |
| Aguas Regionales EPM S.A. E.S.P. | | Colombia | Ensures the provision of residential public utilities of water supply and sanitation and compensate for the lag of the infrastructure of these utilities in associate municipalities. | 69.76% | 69.76% | 30.24% | 30.24% | 18/01/2006 |
| Empresa de Aguas del Oriente Antioqueño S.A. E.S.P. | | Colombia | Ensures the provision of residential public water supply and sanitation utilities as well as other complementary activities related to these utilities. | 56.01% | 56.01% | 43.99% | 43.99% | 22/11/1999 |
| Aguas de Malambo S.A. E.S.P. | (2) | Colombia | Devoted to guarantee the provision of public utilities for sewage and sanitation in the jurisdiction of the Municipality of Malambo, Department of Atlantic. | 98.09% | 96.23% | 1.91% | 3.77% | 20/11/2010 |
| Ecosistemas de Colima S.A. de C.V. | | Mexico | Devoted to developing an executive project for the wastewater treatment plant, its construction, equipping and commissioning, conservation and maintenance, stabilization of sludge in municipalities of the State of Colima. | 80.00% | 79.99% | 20.00% | 20.01% | 14/02/2006 |
| Ecosistemas de Tuxtla S.A. de C.V. | | Mexico | Devoted to the construction, equipping, commissioning, operation and maintenance of a wastewater treatment system with the modality of total private investment recoverable. Develop drinking water projects and water treatment plants. | 80.00% | 80.00% | 20.00% | 20.00% | 17/11/2006 |
| Ecosistemas de Uruapan S.A. de C.V. | (3) | Mexico | Subsidiary devoted to wastewater treatment services in the Municipality of Uruapan Michoacán. Includes construction, equipping, testing and commissioning, preservation and maintenance of the plant. | - | 80.00% | - | 20.00% | 18/11/2009 |

| Name of the Subsidiary | Location (country) | Main Activity | Percentage of participation and voting rights | | Percentage of participation of the non-controlling party | | Date of establishment |
|---|--------------------|---|---|--------|--|--------|-----------------------|
| | | | 2018 | 2017 | 2018 | 2017 | |
| Ecosistema de Ciudad Lerdo S.A. de C.V. | Mexico | Subsidiary devoted to the construction, equipping, commissioning, operation and maintenance for 20 years of a wastewater treatment system in Lerdo Durango city, with the total private recoverable investment modality | 80.00% | 80.00% | 20.00% | 20.00% | 24/04/2007 |
| Aquasol Morelia S.A. de C.V. | Mexico | Subsidiary devoted to the construction of a wastewater treatment plant located in the town of Atapano in the Municipality of Morelia Michoacán, as well as its equipping and commissioning. | 80.00% | 80.00% | 20.00% | 20.00% | 13/11/2003 |
| Ecosistemas de Celaya S.A. de C.V. | Mexico | Devoted to the development of the executive project for the wastewater treatment plant, as well as the treatment, transport and final disposal of solid waste and sludge in the plant of the city of Celaya, state of Guanajuato. | 80.00% | 80.00% | 20.00% | 20.00% | 5/12/2008 |
| Desarrollos Hidráulicos de Tampico S.A. de C.V. | Mexico | Devoted to the construction, equipping, expansion, improvement, preservation, maintenance and operation of water supply systems and sewage utilities, collection works, drainage and wastewater treatment. | 80.00% | 79.99% | 20.00% | 20.01% | 25/08/1995 |
| Ecoagua de Torreón S.A. de C.V. | Mexico | Providing wastewater treatment operation utilities from any source, be it municipal or domestic, as well as all activities related to wastewater treatment. | 80.00% | 80.00% | 20.00% | 20.00% | 25/10/1999 |

| Name of the Subsidiary | Location (country) | Main Activity | Percentage of participation and voting rights | | Percentage of participation of the non-controlling party | | Date of establishment |
|---|--------------------|--|---|--------|--|--------|-----------------------|
| | | | 2018 | 2017 | 2018 | 2017 | |
| Proyectos de Ingeniería Corporativa S.A. de C.V. | Mexico | Provision of design services, engineering in general or construction, professional and technical services related to the operation, management, direct and in general to undertake all activities necessary for the development of activities of any commercial, industrial or utility company, in their modality of physical or moral person. | 80.00% | 80.00% | 20.00% | 20.00% | 1/08/2008 |
| Corporación de Personal Administrativo S.A. de C.V. | Mexico | Rendering of professional services related to the operation, management, direct and in general, to undertake all activities necessary for the development of activities of any commercial, industrial or utility company in its modality of physical or moral person, as well as the management, selection, recruiting and exchange of personnel who perform functions within the facilities of the applicant companies. | 80.00% | 80.00% | 20.00% | 20.00% | 1/08/2008 |

| Name of the Subsidiary | Location (country) | Main Activity | Percentage of participation and voting rights | | Percentage of participation of the non-controlling party | | Date of establishment |
|---|--------------------|---|---|---------|--|-------|-----------------------|
| | | | 2018 | 2017 | 2018 | 2017 | |
| Aguas de Antofagasta S.A. | Chile | Construction, and exploitation of public services for the production and distribution of drinking water and collection and disposal of wastewater through the operation of sanitary concessions of the Sanitary Services Company of Antofagasta S.A. (current Econssa Chile S.A.), and the rendering of other services related to said activities, all in the form and conditions established in the decrees with Force of Law numbers 382 and 70, both of the year 1998, of the Ministry of Public Works, and other relevant regulations. For this, dated December 29, 2003, Aguas de Antofagasta S.A. signed with the Sanitary Services Company of Antofagasta S.A. (Current Concessionaire of Sanitary Services S.A. - Econssa S.A.) the Contract of Transfer of the Right of Exploitation of Sanitary Concessions (Contrato de transferencia del derecho de explotación de concesiones sanitarias), for a term of 30 years from the date of its subscription. | 100.00% | 100.00% | - | - | 28/11/2003 |
| Empresas Varias de Medellín S.A. E.S.P. | Colombia | Subsidiary dedicated to the provision of the public cleaning utility within the framework of integral management of solid waste. | 99.93% | 99.93% | 0.07% | 0.07% | 11/01/1964 |
| EPM Inversiones S.A. | Colombia | Devoted to the investment of capital in national or foreign companies organized as utility companies. | 99.99% | 99.99% | 0.01% | 0.01% | 25/08/2003 |
| Maxseguros EPM Ltd. | Bermuda | Negotiating, contracting and management of reinsurance for policies for equity protection. | 100.00% | 100.00% | - | - | 23/04/2008 |
| Panama Distribution Group S.A. - PDG | Panama | Capital investment in companies. | 100.00% | 100.00% | - | - | 30/10/1998 |
| Distribución Eléctrica Centroamericana DOS S.A. - DECA II | Guatemala | Performs capital investments in companies engaged in the distribution and commercialization of electric power and in providing telecommunications services. | 100.00% | 100.00% | - | - | 12/03/1999 |

| Name of the Subsidiary | | Location (country) | Main Activity | Percentage of participation and voting rights | | Percentage of participation of the non-controlling party | | Date of establishment |
|---|-----|--------------------|---|---|---------|--|--------|-----------------------|
| | | | | 2018 | 2017 | 2018 | 2017 | |
| Inmobiliaria y Desarrolladora Empresarial de América S.A. (IDEAMSA) | | Guatemala | Subsidiary dedicated in making investments in real estate. | 80.90% | 80.90% | 19.10% | 19.10% | 15/06/2006 |
| Promobiliaria S.A. | | Panama | Purchase, sell, build, modify, manage, lease and in general enter into any contract for the provision, improvement, use and usufruct of immovable property not necessary for the operation of property owned by the companies of the EPM Group. | 100.00% | 100.00% | - | - | 8/09/2015 |
| EPM Latam S.A. | (4) | Panama | Capital investment in companies. | 100.00% | 100.00% | - | - | 17/05/2007 |
| EPM Capital México S.A. de C.V. | (5) | Mexico | Executes infrastructure projects related to energy, lighting, gas, telecommunications, sanitation, drinking water treatment plants, sewage treatment, wastewater treatment, buildings, as well as its operation, studies and services. | 100.00% | 100.00% | - | - | 4/05/2012 |
| EPM Chile S.A. | (6) | Chile | Executes power, lighting, gas, telecommunications, sanitation, sewage treatment plants and sewage treatment projects, as well as providing such services and participating in all types of public and private tenders and auctions. | 100.00% | 100.00% | - | - | 22/02/2013 |

| Name of the Subsidiary | | Location (country) | Main Activity | Percentage of participation and voting rights | | Percentage of participation of the non-controlling party | | Date of establishment |
|---|-----|--------------------|---|---|---------|--|--------|-----------------------|
| | | | | 2018 | 2017 | 2018 | 2017 | |
| Inversiones y Proyectos Hidrosur SpA (antes Inversiones y Asesorías South Water Services SpA) | | Chile | Participate in all types of contests, tenders, public and/or private auctions in the purchase of shares in national or foreign companies. Making strategic alliances, joint ventures and signing business collaboration agreements for tenders, obtain concessions and/or authorizations. Provide all kinds of advisory services and services directly or indirectly related to the activities it undergoes and in which the company is involved. | 100.00% | 100.00% | - | - | 16/12/2014 |
| Tecnología Intercontinental S.A. de C.V. TICSA | (7) | Mexico | Dedicated to study, development, promotion and execution of industrial projects, design, manufacturing and assembly of machinery, the development of technology including commercial representation and commerce in general. | 80.00% | 80.00% | 20.00% | 20.00% | 28/07/1980 |
| Patrimonio Autónomo Financiación Social | | Colombia | Manages the resources and payments of the social financing program created to facilitate users the purchase of electric and natural gas appliances and IT related products. | 100.00% | 100.00% | - | - | 14/04/2008 |
| EV Alianza Energética S.A. | (8) | Panama | Provision of energy efficiency services and all related services, such as environmental services, selling and financing of efficiency projects, as well as the provision of energy and technology solutions, production, transformation, purchase, sale and supply of energy, natural gas and related products as biogas; consulting services, performing studies, reports and projects related to previous operations and services, as well as those related to the environment and energy saving. | 51.00% | 51.00% | 49.00% | 49.00% | 22/01/2016 |

| Name of the Subsidiary | | Location (country) | Main Activity | Percentage of participation and voting rights | | Percentage of participation of the non-controlling party | | Date of establishment |
|--|------|--------------------|--|---|--------|--|--------|-----------------------|
| | | | | 2018 | 2017 | 2018 | 2017 | |
| EPM Transmisión Chile S.A. | (9) | Chile | Exploitation, development of electrical systems for the transport, transmission and transformation of electric power, either domestically or abroad, and the acquisition thereof. For such purposes, it may obtain, acquire or enjoy the respective concessions, permits and authorizations, such as exercising the rights and powers that the current legislation confers to electric power utility companies. Likewise, the selling of the capacity of transport of lines and transformation at substations and equipment associated with them, in order that the generating plants, national and foreign, can transmit the electric power they produce and reach their consumption centers. | 100.00% | 100% | - | - | 2/02/2017 |
| Empresas Públicas de Rionegro S.A. E.S.P. - EP RIO | (10) | Colombia | Renders residential public utilities, among them water supply and sewage, as well as the complementary and related activities related to these; specifically, the management, operation, maintenance and investments of the water supply and sewage systems of the Municipality of Rionegro, the execution of programs and projects on environmental issues and the renewable and non-renewable natural resources; promoting sustainable development. Additionally, the company will provide maintenance to the public lighting network of the Municipality of Rionegro. | 100.00% | 100% | - | - | 9/12/1996 |
| ENSA Servicios S.A. | (11) | Panama | Rendering of technical, commercial and any other services complementary to the provision of electricity service, without limiting the other similar, related and/or compatible services that constitute value added to the activities described. | 51.16% | 51.16% | 48.84% | 48.84% | 29/11/2017 |

(1) In November 2017, EPM capitalized Aguas Nacionales EPM S.A. E.S.P. for \$259,999.

- (2) In November 2018 and 2017, EPM capitalized Aguas de Malambo S.A. E.S.P. for \$ 8,000 and \$ 12,499, respectively.
- (3) Unconsolidated subsidiary at December 31, 2018 due to loss of control. See Note 9.4.
- (4) As of June 30, 2017, EPM Latam recognized and classified as an investment in an associate, the 49% shareholding, equivalent to USD \$ 25,525.35 contributed as capital to VE Servicios de Eficiencia Energética S.A.S., an entity incorporated in February 2017.
- (5) In June 2017, EPM capitalized EPM Capital Mexico S.A. of C.V. for \$ 23,999,907.55 Mexican pesos.
- (6) EPM capitalized EPM Chile S.A. in April 2018 and August 2017 for \$ 2,453 and \$ 10,703, respectively.
- (7) In June 2017, EPM Capital Mexico S.A. of C.V. capitalized Intercontinental Technology S.A. of C.V. TICSА for \$ 24,000,000 Mexican pesos.
- (8) On December 19, 2018, the Shareholders' Meeting of EV Alianza Energética S.A. unanimously approved the dissolution of the Company. Consequently, during 2019 the procedures corresponding to this act will be executed.
- (9) Subsidiary incorporated on February 2, 2017 in the Republic of Chile, according to repertoire No. 4359-2017 of the Twenty-Seventh Notary of Santiago, Chile. In August 2017, it was capitalized by EPM Chile S.A. at \$ 10,703.
- (10) Subsidiary acquired by EPM through the sale of shares transaction perfected on October 31, 2017 (see Note 10 - Business Combinations). Subsequently, it was capitalized in November 2017 for \$ 14,235. Through Act No. 54 of March 14, 2018, the Company was transformed into a simplified stock company, consequently, its corporate name was changed by Empresas Públicas de Rionegro S.A.S. E.S.P., this modification was registered in the business register of the Chamber of Commerce of Eastern Antioquia (Camara de Comercio del Oriente Antioqueño) on April 10, 2018.
- (11) Subsidiary incorporated on November 29, 2017 in the Republic of Panama, according to public deed No. 19,2017 of the Fifth Notary Public of the notarial circuit of Panama.

The financial information of the Group's subsidiaries that have significant non-controlling interests as of the date of the reporting period is as follows:

| 2018 | Current Assets | Non-Current Assets | Current Liabilities | Non-Current Liabilities | Ordinary Income | Profit for the Period | Other Comprehensive Income | Total Comprehensive Income | Cash Flows |
|--|----------------|--------------------|---------------------|-------------------------|-----------------|-----------------------|----------------------------|----------------------------|------------|
| | | | | | | Continuing Operations | | | |
| Elektra Noreste S.A. (ENSA) | 689,117 | 1,882,980 | 953,049 | 1,066,721 | 2,022,376 | 96,603 | 42,148 | 138,751 | 19,468 |
| Empresa Electrica de Guatemala S.A. (EEGSA) | 490,858 | 1,475,679 | 453,823 | 598,840 | 1,668,797 | 136,965 | 35,396 | 172,361 | 23,165 |
| Electrificadora de Santander S.A. E.S.P. (ESSA) | 312,774 | 1,427,035 | 293,144 | 790,896 | 1,115,338 | 139,738 | 19,994 | 159,732 | 129,198 |
| Centrales Electricas del Norte de Santander S.A. E.S.P. (CENS) | 173,048 | 909,308 | 231,845 | 621,052 | 688,659 | 42,141 | (1,800) | 40,341 | 21,866 |
| Distribuidora Electrica del Sur S.A. de C.V. (DELSUR) | 216,165 | 354,490 | 197,559 | 229,937 | 884,840 | 43,475 | 10,656 | 54,131 | 30,143 |
| Central Hidroelectrica de Caldas S.A. E.S.P. (CHEC) | 190,884 | 864,688 | 151,124 | 339,943 | 681,783 | 118,901 | 111 | 119,012 | 14,059 |
| Comercializadora Electrica de Guatemala S.A. (COMEGSA) | 88,905 | 581 | 28,568 | 76 | 278,900 | 4,598 | 2,014 | 6,612 | 5,446 |
| Empresa de Energia del Quindio S.A. E.S.P. (EDEQ) | 66,422 | 193,750 | 51,399 | 39,098 | 233,114 | 33,665 | 1,203 | 34,868 | 22,472 |
| Tecnologia Intercontinental S.A. de C.V. (TICSA) | 121,894 | 412,125 | 182,200 | 114,578 | 152,372 | 11,539 | 22,347 | 33,886 | 16,479 |
| Transportista Electrica Centroamericana S.A. (TRELEC) | 255,562 | 773,821 | 579,335 | 667 | 88,945 | 27,777 | 15,617 | 43,394 | 245 |
| Aguas Regionales EPM S.A. E.S.P. | 19,311 | 120,376 | 23,964 | 23,044 | 50,942 | 8,383 | - | 8,383 | 4,392 |
| Other Participations ⁽¹⁾ | 735,582 | 4,301,341 | 640,185 | 1,161,602 | 527,918 | 242,886 | 58,463 | 301,349 | 193,213 |

Figures stated in millions of Colombian pesos

- (1) Corresponds to investments in subsidiaries where the non-controlling participation is not significant in terms of its equity participation and/or the amount of the financial figures of each entity, and includes the following subsidiaries: Hidrogeológica del Teribe S.A., Energica S.A., Credieegsa S.A., Aguas Nacionales EPM S.A. E.S.P., Empresa de Aguas del Oriente Antioqueño S.A. E.S.P., Aguas de Malambo S.A. E.S.P., Ecosistemas de Colima S.A. de C.V., Empresas Varias de Medellín S.A. E.S.P., EPM Inversiones S.A., Inmobiliaria y Desarrolladora Empresarial de América S.A., Innova Tecnología y Negocios S.A. de C.V., Ecosistemas de Tuxtla S.A. de C.V., Ecosistema de Ciudad Lerdo S.A. de C.V., Aquasol Morelia S.A. de C.V., Ecosistemas de Celaya S.A. de C.V., Desarrollos Hidráulicos de TAM S.A. de C.V., Ecoagua de Torreón S.A. de C.V., Proyectos de Ingeniería Corporativa S.A. de C.V., Corporación de Personal Administrativo S.A. de C.V., EV Alianza Energética S.A. and ENSA Servicios S.A.

| 2017 | Current Assets | Non-Current Assets | Current Liabilities | Non-Current Liabilities | Ordinary Income | Profit for the Period | Other Comprehensive Income | Total Comprehensive Income | Cash Flows |
|--|----------------|--------------------|---------------------|-------------------------|-----------------|-----------------------|----------------------------|----------------------------|------------|
| | | | | | | Continuing Operations | | | |
| Elektra Noreste S.A. (ENSA) | 479,239 | 1,617,560 | 1,002,947 | 619,404 | 1,875,827 | 84,788 | (2,695) | 82,093 | 13,602 |
| Empresa Electrica de Guatemala S.A. (EEGSA) | 425,320 | 1,397,928 | 448,446 | 516,828 | 1,642,887 | 176,436 | (6,011) | 170,425 | 15,402 |
| Electrificadora de Santander S.A. E.S.P. (ESSA) | 256,755 | 1,277,097 | 282,117 | 669,520 | 1,034,530 | 95,754 | (3,151) | 92,603 | 104,144 |
| Distribuidora Electrica del Sur S.A. de C.V. (DELSUR) | 146,202 | 323,963 | 145,456 | 203,618 | 798,968 | 32,930 | (2,659) | 30,271 | 11,573 |
| Central Hidroelectrica de Caldas S.A. E.S.P. (CHEC) | 236,067 | 840,980 | 164,082 | 382,867 | 653,603 | 79,862 | (614) | 79,248 | 58,176 |
| Centrales Electricas del Norte de Santander S.A. E.S.P. (CENS) | 185,507 | 839,297 | 222,315 | 594,082 | 615,993 | 17,653 | (2,284) | 15,369 | 35,570 |
| Comercializadora Electrica de Guatemala S.A. (COMEGSA) | 86,362 | 634 | 23,478 | 73 | 253,038 | 12,926 | (534) | 12,392 | 5,261 |
| Empresa de Energia del Quindio S.A. E.S.P. (EDEQ) | 56,985 | 183,318 | 41,977 | 40,663 | 218,959 | 24,821 | (596) | 24,225 | 14,638 |
| Tecnologia Intercontinental S.A. de C.V. (TICSA) | 130,836 | 368,402 | 210,624 | 85,584 | 74,350 | 11,976 | 812,406 | 824,382 | 19,979 |
| Transportista Electrica Centroamericana S.A. (TRELEC) | 105,706 | 607,481 | 298,576 | 685 | 84,935 | 41,606 | 5,067 | 46,673 | 349 |
| Aguas Regionales EPM S.A. E.S.P. | 24,982 | 104,149 | 23,670 | 21,165 | 48,209 | 7,859 | - | 7,859 | 11,313 |
| Other Participations ⁽¹⁾ | 911,678 | 3,797,409 | 554,543 | 1,070,701 | 476,679 | 164,887 | 2,407 | 167,294 | 393,129 |

Figures stated in millions of Colombian pesos

- (1) Corresponds to investments in subsidiaries where the non-controlling participation is not significant in terms of its equity participation and/or the amount of the financial figures of each entity, and includes the following subsidiaries: Hidrogeológica del Teribe S.A., Energica S.A., Credieegsa S.A., Aguas Nacionales EPM S.A. E.S.P., Empresa de Aguas del Oriente Antioqueño S.A. E.S.P., Aguas de Malambo S.A. E.S.P., Ecosistemas de Colima S.A. de C.V., Empresas Varias de Medellín S.A. E.S.P., EPM Inversiones S.A., Inmobiliaria y Desarrolladora Empresarial de América S.A., Innova Tecnología y Negocios S.A. de C.V., Ecosistemas de Tuxtla S.A. de C.V., Ecosistemas de Uruapan S.A. de C.V., Ecosistema de Ciudad Lerdo S.A. de C.V., Aquasol Morelia S.A. de C.V., Ecosistemas de Celaya S.A. de C.V., Desarrollos Hidráulicos de TAM S.A. de C.V., Ecoagua de Torreón S.A. de C.V., Proyectos de Ingeniería Corporativa S.A. de C.V., Corporación de Personal Administrativo S.A. de C.V. and EV Alianza Energética S.A.

Profit for the Period, Dividends Paid and Equity Assigned to the Non-Controlling Participation as of the date of the period being reported is as follows:

| Non-Controlling Participations | 2018 | | | | 2017 | | | |
|---|---------|-----------------------|----------------------------|----------------|---------|-----------------------|----------------------------|----------------|
| | Equity | Profit for the Period | Other Comprehensive Income | Dividends Paid | Equity | Profit for the Period | Other Comprehensive Income | Dividends Paid |
| Elektra Noreste S.A. (ENSA) | 270,575 | 46,894 | 125 | 33,341 | 231,702 | 41,407 | (249) | 22,426 |
| Electrificadora de Santander S.A. E.S.P. (ESSA) | 170,192 | 36,266 | 5,189 | 22,455 | 151,103 | 24,851 | (818) | 20,398 |
| Empresa Electrica de Guatemala S.A. (EEGSA) | 174,531 | 26,157 | 374 | 24,502 | 163,855 | 33,696 | 312 | 17,715 |
| Central Hidroelectrica de Caldas S.A. E.S.P. (CHEC) | 112,332 | 23,660 | 22 | 16,844 | 105,485 | 15,892 | (122) | 10,457 |
| Transportista Electrica Centroamericana S.A. (TRELEC) | 85,823 | 5,305 | - | 1,490 | 79,051 | 7,946 | - | 1,067 |
| Tecnologia Intercontinental S.A. de C.V. (TICSA) | 32,304 | (46) | 861 | - | 28,331 | (571) | 11 | - |
| Centrales Electricas del Norte de Santander S.A. E.S.P. | 19,460 | 3,574 | (153) | 1,636 | 17,675 | 1,497 | (194) | 2,625 |
| Distribuidora de Electricidad del Sur S.A. de C.V. (DELSUR) | 19,432 | 5,885 | (200) | 4,435 | 16,457 | 4,476 | (129) | 4,803 |
| Aguas Regionales S.A. E.S.P. | 28,025 | 2,535 | - | - | 25,491 | 2,376 | - | - |
| Comercializadora Electrica de Guatemala S.A. (COMEGSA) | 11,620 | 878 | - | 1,685 | 12,117 | 2,469 | - | 457 |
| Empresa de Energia del Quindio S.A. E.S.P. (EDEQ) | 12,124 | 2,405 | 86 | 15,791 | 11,265 | 1,774 | (43) | 2,289 |
| Otras participaciones no controladas ⁽¹⁾ | 17,289 | 5,730 | 2 | 4,210 | 15,123 | 4,987 | (6) | 4,091 |

Figures stated in millions of Colombian pesos

- ⁽¹⁾ Corresponds to investments in subsidiaries where the non-controlling participation interest is not significant and includes the following companies: Inmobiliaria y Desarrolladora Empresarial de América S.A., Energica S.A., Aguas de Malambo S.A. E.S.P., Empresa de Aguas del Oriente Antioqueño S.A. E.S.P., Hidrogeológica del Teribe S.A., Crediegsa S.A., Aguas Nacionales EPM S.A. E.S.P., Ecosistemas de Colima S.A. de C.V., Empresas Varias de Medellín S.A. E.S.P. and E.V. Alianza Energética S.A.

9.1 Changes in Participation of Subsidiaries that did not result in Loss of Control

As of December 31, 2018, and 2017, the Group did not dispose of its participation in any subsidiary that did not result in loss of control.

9.2 Significant Restrictions

As of December 31, 2018, and 2017, the Group does not have any significant restriction to access or use the assets, liquidate Group liabilities, nor do the non-controlling interests have protective rights that could restrict the Group's ability to access or use the assets and liquidate the liabilities of the subsidiaries or restrict dividends and other capital distributions.

9.3 Consolidated Structured Entities

As of December 31, 2018, and 2017, the Group has as a consolidated structured entity the Patrimonio Autónomo Financiación Social. The participation in this entity is 100%, the value of the total assets amounts to \$ 149,322 (2017: \$ 144,112), the total liabilities to \$ 12,583 (2017: \$ 9,911) and the net result of the period to \$ 18,702 (2017: \$ 13,871).

The Group has no obligation to provide financial support to the entity.

9.4 Loss of Control of Subsidiaries

On October 9, 2018, the subsidiaries TICSА and Proyectos de Ingeniería Corporativa S.A. of C.V. entered into a purchase-sale of shares agreement, where sell and transfer 95,941 shares and 1 share, respectively, that they owned in the company Ecosistema de Uruapan S.A. de C.V., to the companies Terrabrio S.A.P.I. of C.V. and Ecosistema de Sonora S.A.P.I. of C.V. The effect of the transaction on the profit for the period is as indicated below:

| | |
|---|----------------|
| Value of the Exchange | 4,488 |
| Value of the Net Assets in the Subsidiary | 7,531 |
| Loss due to Disposal of Subsidiary (See Note 39) | (3,043) |

Figures stated in millions of Colombian pesos

The net effect on the date of the transaction in the Consolidated Statement of Cash Flows represents a decrease corresponding to the cash and cash equivalents held in the subsidiary Ecosistema de Uruapan S.A. of C.V. for COP \$ 10.

Note 10. Business Combinations

The details of the Business Combinations made by the Group at the date of the reporting periods is as follows:

| Year | Entity | Activity | Transaction Date | Acquired Participation |
|------|--|--|------------------|------------------------|
| 2017 | Empresas Públicas de Rionegro S.A. E.S.P. - EP RIO | Renders residential public utilities, among them water supply and sewage, as well as the complementary and related activities related to these; specifically, the management, operation, maintenance and investments of the water supply and sewage systems of the Municipality of Rionegro, the execution of programs and projects on environmental issues and the renewable and non-renewable natural resources; promoting sustainable development. Additionally, the company will provide maintenance to the public lighting network of the Municipality of Rionegro. | 31/10/2017 | 100% |

Empresas Públicas de Rionegro S.A. E.S.P. - EP RIO:

On October 6, 2017, EPM signed an inter-administrative contract for the purchase of 100% of the shares of Empresas Públicas de Rionegro S.A. E.S.P., perfecting the transaction on October 31, 2017 and acquiring control of said company as of November 1, 2017.

Public Companies of Rionegro S.A. E.S.P. is a public limited company incorporated on December 09, 1996, with registered address in the Municipality of Rionegro, Department of Antioquia, Republic of Colombia, and with commercial registration No. 4558 of Book IX of the Chamber of Commerce of Eastern Antioquia (Cámara de Comercio del Oriente Antioqueño). Its social purpose is the rendering of residential public utilities, among them water supply and sewage, as well as the complementary and related activities related to these; specifically, the management, operation, maintenance and investments of the water supply and sewage systems of the Municipality of Rionegro, the execution of programs and projects on environmental issues and the renewable and non-renewable natural resources; promoting sustainable development. Additionally, the company will provide maintenance to the public lighting network of the Municipality of Rionegro.

The Group acquired control of said company mainly due to the following factors:

- For the National Planning Department (DNP, Departamento Nacional de Planeación) the Medellín-Rionegro axis will be by 2035 one of the ten (10) axes of cities that will lead the economic development of Colombia. Rionegro, one of the 17 municipalities of category 1 of the country and the most important of Antioquia East.
- According to the Cámara Colombiana de la Construcción (CAMACOL), Antioquia's Near East is one of the areas with the highest growth in sales of new housing.
- The Valley of San Nicolas is almost three (3) times, in size, the Valley of Aburrá (where Medellín is located), and its incursion in Rionegro would allow EPM to consolidate as a provider of public utilities of aqueduct and sewage, where it currently provides power and natural gas utilities.
- An adequate provision of public utilities of aqueduct and sewage in the municipality would advance its development, making possible greater revenues for the EPM Group with the offer of a broad service portfolio.
- EPM would contribute to the environmental sustainability of this region, in particular, by investments in wastewater treatment aimed at the protection of water resources. In this sense EPM would make a very important contribution to the current problem of the Guatapé reservoir in the short and medium term.
- Strengthen the social and political legitimacy of the EPM presence in the region.
- The competitive advantage due to the proximity to the Jose Maria Cordoba Airport would lead to the migration of large companies to this Municipality, which would strengthen current industrial zones.

- The Municipality faces pressure due to the increase in population density and a boom in housing construction, generating great pressure from all actors to make viable the development of the region and demanding investments in infrastructure.
- Current high water and sewage rates, that do not have the capacity to meet growth needs, at least in the short term.
- Limitation of the partners to capitalize the company, in order to meet the investment requirements.
- There is no availability of non-refundable resources to make investments. Rionegro is not part of the PDA (Departmental Plan for the Business Management of Water and Sanitation Utilities, Plan Departamental para el Manejo Empresarial de los Servicios de Agua y Saneamiento) and its DNP (National Planning Department) rating does not allow access to this source of funds.
- Insufficient water sources to meet the future demand, which generated great pressure on the city mayor's office, added to the difficulties with the quality of the current sources (highly contaminated).
- EP RIO presents a series of environmental breaches that affect the community and its environment, plus the financial consequences that may result.

The detail of the fair value for the net assets acquired as of October 31, 2017 and the Revenue by Business Combination is as follows:

| Concept | Fair Value |
|---|---------------|
| Property, Plant and Equipment | 42,381 |
| Intangibles | 504 |
| Other Current Assets | 1,715 |
| Accounts Receivable ⁽¹⁾ | 4,949 |
| Inventories | 515 |
| Cash and Cash Equivalents | 19,234 |
| Identifiable Assets | 69,298 |
| Credits and Loans | 10,505 |
| Accounts Payable | 965 |
| Taxes, Contributions and Rates | 3,156 |
| Contingent Liabilities ⁽²⁾ | 16,572 |
| Employee Benefits | 492 |
| Other Current Liabilities | 3,685 |
| Deferred Tax Liability | 1,254 |
| Liabilities Assumed | 36,629 |
| Identifiable Net Assets Acquired at Fair Value | 32,669 |
| Total Fair Value of Consideration Transferred | - |
| Revenue by Business Combination⁽³⁾ | 32,669 |

Figures stated in millions of Colombian pesos

- (1) The fair and gross value of the contractual amounts receivable and their composition as of the date of the transaction is as follows:

| | Fair Value | Gross Contractual Amounts Receivable |
|----------------------------------|--------------|--------------------------------------|
| Trade and Other Receivables | 4,949 | 4,552 |
| Total Accounts Receivable | 4,949 | 4,552 |

Figures stated in millions of Colombian pesos

At the date of the transaction, there was a portfolio impairment of \$ 2,744 corresponding to the contractual cash flows, which are not expected to be collected.

- (2) Corresponds to all lawsuits and contingencies resulting from legal actions against EP Rio, originated from the development of its operations. These shall be resolved once they are ruled by the competent authorities. At the date of presentation, the fair value of these liabilities is \$ 16,765, of which \$ 1,578 has been classified as probable. See Note 28. Provisions, Assets and Contingent Liabilities.

Transaction costs were recognized for \$ 552 that have been recognized as expenses for the period and included in the expense line for fees in the profit for the year.

Revenue from Ordinary Activities and profit from EP Rio included in the Consolidated Financial Statements:

| | 2017 |
|--|--------|
| From the Date of Acquisition to the Period being Reported | |
| Revenue from Ordinary Activities | 5,232 |
| Profit | 1,928 |
| From the Beginning of the Year's Period being Reported to the Period being Reported | |
| Revenue from Ordinary Activities | 21,698 |
| Profit | 3,576 |

Figures stated in millions of Colombian pesos

- (3) During the period, Profit from the business combination was recognized for \$ 32,669, included in the line of Effect of Participation in Equity Investments in the Statement of Comprehensive Income, originated by the difference between the consideration transferred and the fair value of the identifiable net assets acquired⁴.

The consideration transferred was established based on the valuation of the company considering future investments (Investments in Capital Assets or Capital Expenditure (CAPEX) that are executed when a business invests in the purchase of a fixed asset or to add value to an existing asset) that must be carried out to guarantee its viability and an adequate provision of public utilities; which generates a negative value for it.

The Cash Flow Analyzes for the acquisition of EP Rio is:

| | 2017 |
|--|---------------|
| Transferred Consideration | - |
| Transaction Costs from the Acquisition (included in Cash Flow from Operating Activities) | (552) |
| Net Cash Acquired from the Subsidiary (Included in Cash Flow from Investment Activities) | 19,234 |
| Net Cash Flow at the Date of Acquisition | 18,682 |

Figures stated in millions of Colombian pesos

⁴ Established based on IFRS 13 Fair Value Measurement.

Note 11. Investment in Associates

The breakdown of Investment in Associates of the Group at the date of the reporting period is:

| Name of the Associate | Location (country) | Main Activity | Percentage of participation and voting rights | | Date of establishment |
|---|--------------------|--|---|--------|-----------------------|
| | | | 2018 | 2017 | |
| Hidroeléctrica Ituango S.A. E.S.P. | Colombia | Promotion, design, construction operation, maintenance and electric power sales at the national and international scale from the Ituango Hydroelectric Power Plant. | 46.45% | 46.45% | 8/06/1998 |
| Hidroeléctrica del Río Aures S.A. E.S.P. ⁽¹⁾ | Colombia | Generation and sale of electric power through a hydroelectric power plant located in the municipalities of Abejorral and Sonson, in the Department of Antioquia. | 32.99% | 42.04% | 14/05/1997 |
| UNE EPM Telecomunicaciones S.A. | Colombia | Renders telecommunications and ITC utilities, information services and complementary activities. | 50.00% | 50.00% | 23/06/2006 |
| Inversiones Telco S.A.S. | Colombia | Invest in companies whose corporate purpose is the provision of telecommunications utilities, TIC, information services and complementary activities, as well as in companies that render services of business processes outsourcing. | 50.00% | 50.00% | 5/11/2013 |
| VE Servicios de Eficiencia Energética S.A.S. | Colombia | Performs all activities, works and services related to the installation, operation and generation of power for each of the energy efficiency projects developed by EV Alianza Energética SA, such as the provision of power and technology solutions, production, transformation, purchases, sales and supply of electric power, natural gas and related products such as biogas; consulting services. | 49.00% | 49.00% | 21/02/2017 |

⁽¹⁾ As of December 31, 2018, the percentage of EPM decreased due to capitalizations made by other shareholders.

The financial information of the Group's significant associates as of the date of the reporting period is as follows. All the associates are accounted for using the Equity Method in the Consolidated Financial Statements:

| 2018 | Current Assets | Non-Current Assets | Current Liabilities | Non-Current Liabilities | Ordinary Income | Profit for the Period | Other Comprehensive Income | Total Comprehensive Income | Dividends Received |
|---|----------------|--------------------|---------------------|-------------------------|-----------------|-----------------------|----------------------------|----------------------------|--------------------|
| | | | | | | Continuing Operations | | | |
| UNE EPM Telecomunicaciones S.A. | 1,539,706 | 5,560,423 | 1,459,007 | 3,868,853 | 4,810,880 | (62,056) | (2,151) | (64,207) | 38,483 |
| Inversiones Telco S.A.S. | 154,831 | 53,169 | 66,262 | 133 | 400,866 | 13,791 | - | 13,791 | 3,442 |
| Hidroeléctrica Ituango S.A. E.S.P. | 5,209 | 111,606 | 924 | 65,987 | - | 480 | - | 480 | - |
| VE Servicios de Eficiencia Energética S.A.S. | 928 | 39 | 507 | - | 1,378 | 201 | - | 201 | - |
| Hidroeléctrica del Río Aures S.A. E.S.P. ⁽¹⁾ | 454 | 4,978 | 37 | - | - | (906) | - | (906) | - |

Figures stated in millions of Colombian pesos

| 2017 | Current Assets | Non-Current Assets | Current Liabilities | Non-Current Liabilities | Ordinary Income | Profit for the Period | Other Comprehensive Income | Total Comprehensive Income | Dividends Received |
|--|----------------|--------------------|---------------------|-------------------------|-----------------|-----------------------|----------------------------|----------------------------|--------------------|
| | | | | | | Continuing Operations | | | |
| UNE EPM Telecomunicaciones S.A. | 1,583,649 | 5,701,485 | 1,446,687 | 3,941,393 | 5,060,311 | (62,766) | (7,060) | (69,826) | - |
| Inversiones Telco S.A.S. | 142,850 | 51,054 | 55,619 | 3,628 | 400,940 | 15,296 | - | 15,296 | - |
| Hidroeléctrica Ituango S.A. E.S.P. | 2,598 | 95,419 | 721 | 47,841 | - | (25) | - | (25) | - |
| VE Servicios de Eficiencia Energética S.A.S. | 513 | 30 | 283 | - | 420 | 110 | - | 110 | - |
| Hidroeléctrica del Río Aures S.A. E.S.P. | 454 | 4,978 | 37 | - | - | (906) | - | (906) | - |

Figures stated in millions of Colombian pesos

Financial information of these companies, the basis for applying the Equity Method, is prepared under IFRS and adjusted to the Group's accounting policies.

The reconciliation of the summarized financial information with the recorded value of associates in the Consolidated Financial Statements is:

| Associate | 2018 | | | | 2017 | | |
|--|---------------------|------------------|-----------------|------------------|---------------------|------------------|------------------|
| | Value of Investment | | | | Value of Investment | | |
| | Cost | Equity Method | Dividends | Total | Cost | Equity Method | Total |
| UNE EPM Telecomunicaciones S.A. | 2,342,488 | (653,971) | (38,483) | 1,650,034 | 2,342,488 | (630,333) | 1,712,155 |
| Inversiones Telco S.A.S. | 55,224 | 19,020 | (3,442) | 70,802 | 55,224 | 12,105 | 67,329 |
| Hidroelectrica Ituango S.A. E.S.P. | 34,313 | (11,134) | - | 23,179 | 34,313 | (11,343) | 22,970 |
| Hidroelectrica del Rio Aures S.A. E.S.P. | 2,478 | (232) | - | 2,246 | 2,478 | (232) | 2,246 |
| VE Servicios de Eficiencia Energetica S.A.S. | 83 | 143 | - | 226 | 76 | 51 | 127 |
| Total investment in Associates | 2,434,586 | (646,174) | (41,925) | 1,746,487 | 2,434,579 | (629,752) | 1,804,827 |

Figures stated in millions of Colombian pesos

Significant Restrictions

As of December 31, 2018, and 2017, the Group does not have significant restrictions on Investments in Associates related to the transfer of funds to the Group in the form of dividends in cash, or repayment of loans or advances made by the Group, except in the case of UNE EPM Telecomunicaciones S.A., in which case it will be mandatory to distribute at least fifty percent (50%) of the Net Profit for the Period after the appropriations and/or legal, statutory and occasional reserves, as long as the level of consolidated financial indebtedness does not exceed 2 times the EBITDA of the same period.

Note 12. Investment in Joint Ventures

The breakdown of joint ventures of the Group on the date of the period being reported is as follows:

| Name of the Joint Venture | Location (Country) | Main Activity | Percentage of participation and voting rights | | Date of establishment |
|---------------------------------------|--------------------|--|---|------|-----------------------|
| | | | 2018 | 2017 | |
| Parques del Rio S.A.S. ⁽¹⁾ | Colombia | Construction, operation, management and sustainment of the Parques del Rio Medellin Project, as well as acting as urban project manager. | 33% | 33% | 26/11/2015 |

⁽¹⁾ Joint Venture established on November 26, 2015, in which the Municipality of Medellín, Intervial Colombia S.A.S., Mass Transport Company of the Valle de Aburrá Ltd. (Metro) and EPM participate. The strategic support of EPM's participation in said company is based on the following aspects:

- Apply the EPM experience in large-scale infrastructure construction.
- EPM is qualified to participate by the Territorial Ordinance Plan (POT).

The financial information of the Group relevant Joint Ventures at the date of the reporting period is as follows. All joint ventures are accounted for using the Equity Method in the consolidated financial statements:

| 2018 | Current Assets | Current Liabilities | Profit for the Period | Total Comprehensive Income | Dividends Received |
|------------------------|----------------|---------------------|-----------------------|----------------------------|--------------------|
| | | | Continuing Operations | | |
| Parques del Rio S.A.S. | 254 | 6 | (32) | (32) | |

Figures stated in millions of Colombian pesos

| 2017 | Current Assets | Current Liabilities | Profit for the Period | Total Comprehensive Income | Dividends Received |
|------------------------|----------------|---------------------|-----------------------|----------------------------|--------------------|
| | | | Continuing Operations | | |
| Parques del Rio S.A.S. | 254 | 6 | (32) | (32) | - |

Figures stated in millions of Colombian pesos

As of December 31, 2018, and 2017, the company Parques del Río S.A.S. it is in pre-operative stage, and does not require any capitalization, and in case it required any, they will have to be authorized by the Board of Directors. Consequently, since is in a pre-operative stage, it does not yet have operating income.

The financial information of this company, basis for applying the Equity Method, is prepared under IFRS and adjusted to the Group's accounting policies.

The reconciliation of the summarized financial information with the recorded value of the Joint Ventures in the consolidated financial statements is:

| Name of the Joint Venture | 2018 | | | 2017 | | |
|--|---------------------|---------------|-----------|---------------------|---------------|-----------|
| | Value of Investment | | | Value of Investment | | |
| | Cost | Equity Method | Total | Cost | Equity Method | Total |
| Parques del Rio S.A.S. | 99 | (17) | 82 | 99 | (17) | 82 |
| Total Investments in Joint Ventures | 99 | (17) | 82 | 99 | (17) | 82 |

Figures stated in millions of Colombian pesos

Significant Restrictions

As of December 31, 2018, and 2017, the Group does not have significant restrictions on Joint Ventures related to the transfer of funds to the Group in the form of dividends in cash, or repayment of loans or advances made by the Group.

Note 13. Trade and Other Receivables

The breakdown of joint ventures of the Group on the date of the period being reported is as follows:

| Trade and Other Receivables | 2018 | 2017 |
|---|------------------|------------------|
| Non-current | | |
| Public utilities debtors | 362,866 | 344,330 |
| Impairment loss public utilities | (118,283) | (102,530) |
| Employee loans | 113,918 | 100,261 |
| Impairment Loss Employee loans | (11) | - |
| Other Loans | 587,961 | 538,116 |
| Impairment Loss Other Loans | (16,975) | (5,426) |
| Total Non-Current | 929,475 | 874,751 |
| Current | | |
| Public utilities debtors | 2,985,110 | 2,509,278 |
| Impairment loss public utilities | (341,978) | (372,212) |
| Employee loans | 44,394 | 41,975 |
| Impairment Loss Employee loans | (322) | (286) |
| Construction Contracts | 1,689 | 434 |
| Dividends and participations receivable | 38,533 | - |
| Other Loans | 754,768 | 692,743 |
| Impairment Loss Other Loans | (197,452) | (119,020) |
| Total Current | 3,284,742 | 2,752,912 |
| Total | 4,214,217 | 3,627,663 |

Figures stated in millions of Colombian pesos

The increase in the current portfolio balance occurs mainly in the debtors of public utilities of the Holding Company EPM and the subsidiaries EEGSA and ENSA.

Accounts receivable from public utilities debtors are concentrated at 52% in EPM. For the Holding Company these do not generate interest and the term for collection is generally 10 days after the invoice is generated. Individual contracts with large clients or the Power Sector contemplate deadlines agreed in particular negotiations. In the latter case, the period is generally 30 days.

Impairment of portfolio

The Group measures the value correction for expected losses during the lifespan of the asset using the simplified approach, which consists in taking the current value of credit loss arising from all possible default events at any time during the lifetime of the operation.

This alternative is taken given that the volume of clients handled by the Group is very high and the measurement and control of the risk by stages can lead to errors and to an underassessment of the impairment.

The expected loss model corresponds to a forecasting tool that projects the probability of default (non-payment) in a period of one year. Each obligation is assigned an individual probability of non-payment calculated from a probability model that involves sociodemographic, product and behavioral variables.

At the cut-off date, the ageing analysis of accounts receivable at the end of the reporting period that are impaired is:

| | 2018 | | 2017 | |
|---------------------------------------|----------------------|---------------------------------------|----------------------|---------------------------------------|
| | Gross recorded value | Lifetime expected credit losses value | Gross recorded value | Lifetime expected credit losses value |
| Public Utilities Debtors | | | | |
| Not past due nor impaired | 2,292,536 | (121,164) | 1,754,438 | (101,452) |
| Less than 30 days | 410,664 | (17,614) | 453,215 | (10,584) |
| 30-60 days | 103,257 | (7,959) | 133,029 | (4,445) |
| 61-90 days | 90,817 | (5,669) | 34,823 | (4,722) |
| 91-120 days | 59,822 | (5,366) | 22,051 | (4,210) |
| 121-180 days | 48,355 | (11,195) | 25,420 | (7,004) |
| 181-360 days | 91,552 | (44,540) | 109,564 | (21,257) |
| Greater than 360 days | 250,972 | (246,755) | 321,068 | (321,068) |
| Total public utilities debtors | 3,347,975 | (460,261) | 2,853,608 | (474,742) |
| Other debtors | | | | |
| Not past due nor impaired | 1,221,464 | (15,622) | 988,427 | (11,580) |
| Less than 30 days | 123,418 | (54,197) | 32,192 | (2,820) |
| 30-60 days | 17,360 | (4,873) | 146,970 | (13,217) |
| 61-90 days | 6,405 | 946 | 7,255 | (1,072) |
| 91-120 days | 4,330 | (1,594) | 3,456 | (870) |
| 121-180 days | 22,352 | (16,549) | 3,389 | (2,320) |
| 181-360 days | 22,027 | (12,331) | 57,143 | (9,189) |
| Greater than 360 days | 123,908 | (110,541) | 134,697 | (83,664) |
| Total other debtors | 1,541,264 | (214,761) | 1,373,529 | (124,732) |
| Total receivables | 4,889,239 | (675,022) | 4,227,137 | (599,474) |

Figures stated in millions of Colombian pesos

- The variation in the provision of the EPM Group amounts to \$ 75,548 as it went from (\$ 599,474) to (\$ 675,022) and is mainly explained by the Impairment of Portfolio in the TICSA, EPM Parent Company, CENS, EEGSA and DELSUR companies.

The reconciliation of the expected credit loss of the portfolio is as follows:

| Lifetime Expected Credit Losses | 2018 | 2017 |
|---|------------------|------------------|
| Adjustment at the beginning of the period | (599,473) | (530,429) |
| Changes in impairment of receivables held at the beginning of the period ⁽¹⁾ | (54,457) | (79,803) |
| Financial Assets Not Written-Off during the Period | 69,576 | 6,629 |
| New financial assets originated or purchased ⁽¹⁾ | (114,556) | (29,429) |
| Write-Offs | 99,521 | 31,649 |
| Change in Risk Models/Parameters | 32 | 783 |
| Exchange Difference and Other Movements | (75,665) | 1,126 |
| Final Balance | (675,022) | (599,474) |

Figures stated in millions of Colombian pesos

- (1) The increase in impairment amounted to \$ 59,781 and was generated by causation for the period and/or existing from previous periods. The Holding EPM contributes 65% of this value, TICSA 13%, and DECA 4%.

Portfolio reconciliation is as follows:

| Portfolio Balance | 2018 | 2017 |
|--|------------------|------------------|
| Initial Balance of Financial Assets | 4,227,137 | 3,868,694 |
| New financial assets originated or purchased | 34,394,939 | 17,070,040 |
| Financial Assets Write-Offs | (31,859,679) | (16,618,252) |
| Derecognition of Financial Assets | (52,747) | 80,459 |
| Changes due to Modifications Without Derecognition | 3,165 | (27,718) |
| Other changes - Include change description - | (1,823,576) | (146,086) |
| Final Balance | 4,889,239 | 4,227,137 |

Figures stated in millions of Colombian pesos

The Group derecognizes, against the impairment of value recognized in a corrective account, the values of impaired financial assets when:

- Registered accounts receivable do not present certain rights, goods or obligations for the entity.
- The rights or obligations lack adequate documents and support that allow the undertaking of relevant procedures for payment collection.
- It is not possible to collect the right or obligation, by coercive or judicial jurisdiction.
- It is not possible to impute legally to any person, natural or legal, the value of the portfolio.
- When once assessed and established the cost-benefit relationship, results more expensive advancing the collection process than the amount of the obligation.

Bodies Responsible for Derecognizing

Portfolio derecognition is approved by government areas and committees defined in the governance framework for each of the subsidiaries.

Note 14. Other Financial Assets

The breakdown of Other Financial Assets at the closing of the period is as follows:

| Other Financial Assets | 2018 | 2017 |
|--|------------------|------------------|
| Non-Current | | |
| Derivatives designated as Hedging Instruments under Hedge Accounting | | |
| Swap Agreements | 180,224 | 19,445 |
| Total Derivatives designated as Hedging Instruments under Hedge Accounting | 180,224 | 19,445 |
| Financial Assets measured at Fair Value through Changes in Profit for the Period | | |
| Fixed-Yield Securities | 1,855 | 1,481 |
| Variable-Yield Securities | 64,784 | 61,481 |
| Fiduciary Rights | 433,618 | 381,692 |
| Total Financial Assets Measured at Fair Value through Changes in Profit for the Period | 500,257 | 444,654 |
| Financial Assets Measured at Fair Value through Changes in Other Comprehensive Income | | |
| Equity Instruments ⁽¹⁾ | 1,628,874 | 1,636,781 |
| Total Financial Assets Measured at Fair Value through Changes in Other Comprehensive Income | 1,628,874 | 1,636,781 |
| Financial Assets Measured at Amortized Cost | | |
| Fixed-Yield Securities | 3,013 | 4,902 |
| Total Financial Assets Measured at Amortized Cost | 3,013 | 4,902 |
| Total Other Financial Assets Non-Current | 2,312,368 | 2,105,782 |
| Current | | |
| Derivatives designated as Hedging Instruments under Hedge Accounting | | |
| Swap Agreements | 12,240 | 97 |
| Total Derivatives designated as Hedging Instruments under Hedge Accounting | 12,240 | 97 |
| Financial Assets measured at Fair Value through Changes in Profit for the Period | | |
| Fixed-Yield Securities | 1,176,831 | 236,946 |
| Variable-Yield Securities | 28,824 | - |
| Pledged Investments | 5,647 | 5,435 |
| Fiduciary Rights | 5,379 | 4,962 |
| Total Financial Assets Measured at Fair Value through Changes in Profit for the Period | 1,216,681 | 247,343 |
| Financial Assets Measured at Amortized Cost | | |
| Fixed-Yield Securities | 3,240 | 16,354 |
| Pledged Investments | 126 | 126 |
| Total Financial Assets Measured at Amortized Cost | 3,366 | 16,480 |
| Financial Lease | 2,018 | 2,018 |
| Total Other Financial Assets Current | 1,234,305 | 265,938 |
| Total Other Assets | 3,546,673 | 2,371,720 |

Figures stated in millions of Colombian pesos

Conventional purchases and sales of financial assets are recorded applying the trading date.

(1) **Financial Assets designated at Fair Value through Other Comprehensive Income**

The breakdown of equity investments designated at fair value through other comprehensive income is:

| Equity Investment | 2018 | 2017 |
|--|------------------|------------------|
| Interconexion Electrica S.A. E.S.P. ⁽¹⁾ | 1,574,226 | 1,598,999 |
| Gasorient S.A. | 35,099 | 18,224 |
| Promioriente S.A. E.S.P. | 11,459 | 11,459 |
| Reforestadora Industrial de Antioquia S.A. | 4,947 | 4,947 |
| Electrificadora del Caribe S.A. E.S.P. | 1,385 | 1,404 |
| Gensa S.A. E.S.P. | 608 | 608 |
| Terminal de Transportes de Bucaramanga S.A. | 142 | 142 |
| Comantrac S.A. | - | 18 |
| Others ⁽²⁾ | 1,009 | 980 |
| Total | 1,628,874 | 1,636,781 |
| Dividends recognized during the period related to investments that are recognized at the end of the period | 71,601 | 49,764 |
| Dividends recognized during the period | 71,601 | 49,764 |

Figures stated in millions of Colombian pesos

(1) As of December 31, 2018, the market price of Interconexión Eléctrica S.A. E.S.P. closed at \$13,980 (2017: \$14,200) Colombian pesos.

(2) Includes investments in: Organizacion Terpel S.A., Concentra Inteligencia en Energía S.A.S., Banco Davivienda S.A., Compañía de Alumbrado Eléctrico de San Salvador S.A., Duke Energy Guatemala y Cia. S.A., Fosfonorte S.A., Central de Abastos de Cúcuta, Hotel Turismo Juana Naranjo, Sin Escombros S.A.S. (Sinesco), Acerias Paz del Rio S.A., Cenfer S.A., Unidad de Transacciones S.A. de C.V.

Equity investment stated in the previous table are not maintained for negotiating purposes, instead, they are maintained for strategic purposes in the medium and long term. The management of the Group considers that classification for these strategic investments provides more reliable financial information, which reflects the changes in their fair value immediately in the result of the period.

Note 15. Leases

15.1. Financial Lease as Lessee

As of the cut-off date, the recorded value for property, plant and equipment under financial leasing is as follows:

| 2018 | Land and Buildings | Communication and Computing Equipment | Machinery and Equipment | Total Assets |
|----------------------|--------------------|---------------------------------------|-------------------------|----------------|
| Cost | 200,084 | 2,592 | 2,063 | 204,739 |
| Accrued Depreciation | (73,938) | (1,652) | (1,143) | (76,733) |
| Total | 126,146 | 940 | 920 | 128,006 |

Figures stated in millions of Colombian pesos

| 2017 | Land and Buildings | Communication and Computing Equipment | Machinery and Equipment | Total Assets |
|----------------------|--------------------|---------------------------------------|-------------------------|----------------|
| Cost | 200,057 | 2,380 | 2,064 | 204,501 |
| Accrued Depreciation | (69,601) | (1,466) | (1,077) | (72,144) |
| Total | 130,456 | 914 | 987 | 132,357 |

Figures stated in millions of Colombian pesos

The most relevant financial lease agreement is that of the property called " Edificio Empresas Públicas de Medellín". The agreement has a term of 50 years counted from December 2001, automatically renewable for an equal term if neither party expresses otherwise. The fee is \$1,500 monthly, which will be readjusted each year by the Consumer Price Index (IPC).

At the cut-off date, the minimum future payments and the current value of the minimum financial lease payments are distributed as follows:

| Financial Lease | 2018 | | 2017 | |
|--|------------------|-----------------------------------|------------------|-----------------------------------|
| | Minimum Payments | Present Value of Minimum Payments | Minimum Payments | Present Value of Minimum Payments |
| One Year | 18,077 | 17,287 | 18,000 | 17,181 |
| More than One Year and up to Five Years | 72,049 | 55,667 | 72,000 | 55,613 |
| More than Five Years | 504,002 | 122,528 | 522,000 | 123,514 |
| Total Leases | 594,128 | 195,482 | 612,000 | 196,308 |
| Less - Value of Unearned Interest | (398,646) | - | (415,692) | - |
| Current Value of the Minimum Lease Payments | 195,482 | 195,482 | 196,308 | 196,308 |

Figures stated in millions of Colombian pesos

The expense for contingent leases of financial leases recognized in Profit for the period is \$20,782 (2017: \$18,692).

15.2 Operating Lease as Lessor

The most significant operating lease agreements are for the electrical infrastructure for the installation of networks by telecommunications operators. The contingent installments of these leases are determined based on the updating of the Producer Price Index (IPP) and IPC variables as well as the updating of the lease payments, these contracts can be renewed and do not allow a purchase option.

The value of non-cancelable payments for operating leases is as follows:

| Leases | 2018 | 2017 |
|---|---------------------------------|---------------------------------|
| | Non-Cancelable Operating Leases | Non-Cancelable Operating Leases |
| One Year | 66,315 | 62,527 |
| More than One Year and up to Five Years | 40,327 | 31,729 |
| More than Five Years | 22,637 | 24,362 |
| Total Leases | 129,279 | 118,618 |
| Current Value of the Minimum Lease Payments Receivable | 129,279 | 118,618 |

Figures stated in millions of Colombian pesos

The Group as a lessor does not have contracts adopting the legal figure of a lease and that in essence do not constitute it.

15.3 Operating Lease as Lessee

The most significant operating lease agreements are in Emvarias with Renting Colombia S.A. , which object is the leasing of vehicles for the provision of cleaning (solid-waste collection) service and EPM premises for customer service offices in the different municipalities of Antioquia and the Metropolitan Area, spaces for facilities and operation of antennas at meteorological stations, office equipment and accessories, user printing infrastructure, equipment for virtual meetings, among others, which have no restrictions. The contracts contemplate the option of being renewed by mutual agreement between the parties, except for the Renting, that is not renewable and does not contemplate the purchase option. In general, lease payments for contracts are updated by the Consumer Price Index (IPC).

As of the cut-off date, minimum future payments for operating leases, non-cancelable, are distributed as follows:

| Leases | 2018 | 2017 |
|---|---------------------------------|---------------------------------|
| | Non-Cancelable Operating Leases | Non-Cancelable Operating Leases |
| One Year | 36,627 | 19,169 |
| More than One Year and up to Five Years | 105,186 | 28,699 |
| More than Five Years | 708 | 1,537 |
| Total Leases | 142,521 | 49,405 |

Figures stated in millions of Colombian pesos

Note 16. Warranties

The Group has granted the following financial assets as collateral:

Letters of credit, performance bonds and other guarantees for \$ 267,767 (2017: 243,218) granted by the subsidiary ENSA to guarantee: fulfillment of the obligations for the concession contract with the National Authority of Public Utilities of Panama (Autoridad Nacional de los Servicios Públicos de Panamá); for power purchase contracts to generating and transmission companies; and to guarantee obligations with financial entities.

Deposits to Fixed Term Certificate (CDT) which recorded value is \$ 133 (2017: \$ 133). The conditions for the use of the guarantee are to cover contingencies for lawsuits against the Municipality of Bucaramanga by the subsidiary ESSA S.A. This guarantee is constituted and granted to Seguros del Estado.

Premium retained for \$ 13,718 (2017: \$ 1,621) to the subsidiary Maxseguros by the Ceding Insurance Company, complying with Colombian regulations.

The Group received the premium retained from reinsurance companies for \$ 6,232 (2017: \$ 1,621) as guarantee by parent of the subsidiary Maxseguros.

The Group has not received guarantees as of December 31, 2018 and 2017, authorizing it to sell or pledge them without a default by the owner of the guarantee.

Note 17. Other Assets

The breakdown of other assets at the end of the periods being reported is as follows:

| Concept | 2018 | 2017 |
|--|----------------|----------------|
| Non-Current | | |
| Employee Benefits ⁽¹⁾ | 51,947 | 48,888 |
| Advance Payments ⁽²⁾ | 15,966 | 32,052 |
| Deferred Loss due to Leaseback ⁽³⁾ | 22,283 | 22,958 |
| Advanced Payments to Suppliers ⁽⁴⁾ | 20,558 | 10,246 |
| Goods Received as Dation in Payment | 1,466 | 1,462 |
| Other Advance Payments or Recoverables for Taxes and Contributions | (28) | (25) |
| Total Other Assets Non-Current | 112,192 | 115,581 |
| Current | | |
| Reinsurance Activities ⁽⁵⁾ | 232,865 | 159,275 |
| Value Added Tax (Sales Tax) | 70,244 | 82,960 |
| Advanced Payments ⁽²⁾ | 85,991 | 79,903 |
| Advanced Payments to Suppliers ⁽⁴⁾ | 59,325 | 63,067 |
| Other Recoverables for Other Taxes | 3,851 | 1,521 |
| Advance Payment Industry and Commerce Tax | 5 | 1,270 |
| Advance Payment for Special Contribution | - | 354 |
| Other Advance Payments or Recoverables for Taxes and Contributions | 299 | 204 |
| Employee Benefits ⁽¹⁾ | - | 7 |
| Retained Industry and Commerce Tax | 831 | - |
| Total Other Assets Current | 453,411 | 388,561 |
| Total Other Assets | 565,603 | 504,142 |

Figures stated in millions of Colombian pesos

(1) Corresponds to the value recognized for loans granted to Group employees at rates lower than those of the market.

- (2) Includes mainly the non-current portion of advanced payments made by EPM for the concept of all-risk insurance policies of the Ituango Hydroelectric Project for \$ 15,141 (2016: \$ 24,550) and non-contractual civil liability for \$ 228 (2016: \$ 418), both effective until March 15, 2020, which are being amortized. It also includes the premium in legal stability contracts for \$ 9,141 (2016: \$ 10,033) and leases for \$ 1,310 (2016: \$ 1,359).

In the current portion, it mainly includes the value of EPM's insurance policies, comprised mainly of the all-risk policies for \$ 27,405 (2016: \$ 27,271), of which \$ 9,459 (2016: \$ 9,496) are from the Ituango Hydroelectric Project, and other insurance by \$ 19,577 (2016: \$ 17,099) of which \$ 13,414 (2016: \$ 14,866) correspond to climate change insurance and advance payments for support and maintenance of software and other services for \$ 8,425 (2016: \$ 9,131).

- (3) See detail of Financial Lease Agreements in Note 24. Other Financial Liabilities.
- (4) As of December 31, 2018, includes mainly in the non-current portion, the resources delivered in administration by EPM, mainly for the agreements with: Empresa de Desarrollo Urbano (EDU) for \$ 18,407 (2017: \$ 6,893) and Corporación Parque Arví for \$ 1,544 (2017: \$ 1,152).
- (5) The detail of Technical Reserves in charge of Reinsurers is as follows:

| Technical Reserves Reinsurers | 2018 | 2017 |
|--|----------------|----------------|
| Lost Reserves Receivable | 129,491 | 92,550 |
| Non-Reported Lost Reserves Recoverable | 49,804 | 32,170 |
| Deferred Premium - Reinsurer Part | 39,853 | 32,935 |
| Withheld Funds | 13,718 | 1,621 |
| Total | 232,866 | 159,275 |

Figures stated in millions of Colombian pesos

Note 18. Inventories

Inventories at the end of the period were represented as follows:

| Inventories | 2018 | 2017 |
|--|----------------|----------------|
| Materials for the Rendering of Services ⁽¹⁾ | 355,865 | 356,531 |
| Goods in Stock ⁽²⁾ | 53,051 | 14,050 |
| Goods in Transit | 749 | 1,659 |
| Total Inventories | 409,665 | 372,240 |

Figures stated in millions of Colombian pesos

- (1) Includes materials for the rendering of services held by third parties, which are those delivered to contractors that perform activities related to the rendering of services.
- (2) Includes goods in stock that do not require transformation, such as power, gas and water meters, and supply goods, as well as those held by third parties.

Inventories were recognized for \$234,436 (2017: \$190,252) as the cost of the merchandise sold or cost to provide the service during the period. The inventory decline recognized as an expense during the period amounted to \$308 (2017: \$905).

As of December 31, 2018, The Group does not have committed inventories in warranty for liabilities.

Note 19. Cash and Cash Equivalents

The composition of cash and cash equivalents at the end of the period is as follows:

| Cash and Cash Equivalents | 2018 | 2017 |
|--|------------------|------------------|
| Restricted Funds | 22,343 | - |
| Non-Current Cash and Cash Equivalents | 22,343 | - |
| Cash on Hand and in Banks | 964,553 | 848,828 |
| Other Cash Equivalents ⁽¹⁾ | 611,486 | 342,386 |
| Current Cash and Cash Equivalents | 1,576,039 | 1,191,214 |
| Total Cash and Cash Equivalents Reported in the Statement of Cash Flows | 1,598,382 | 1,191,214 |
| Restricted Funds | 173,375 | 183,610 |

Figures stated in millions of Colombian pesos

⁽¹⁾ Includes funds in transit \$ 15,374 (2017: \$ 1,885), restricted funds \$ 151,032 (2017: \$ 183,610) and cash equivalents \$ 445,080 (2017: \$ 156,891).

Treasury securities expire within a period equal to or less than three months from their acquisition date and earn market interest rates for this type of investments.

The Group has restrictions on cash and cash equivalents as detailed below. As of December 31, 2018, the fair value of restricted cash equivalents is \$173,375 (2017: \$183,610).

| Fund or convention | Intent | 2018 | 2017 |
|--|--|--------|--------|
| Fondo de Vivienda Sinpro | Contribute to the acquisition and improvement of housing, to the beneficiaries of the convention subscribed between EPM and the unions. | 17,936 | 17,525 |
| Fondo de Vivienda Sintraemdes | Contribute to the acquisition and improvement of housing, to the beneficiaries of the convention subscribed between EPM and the unions. | 17,002 | 20,410 |
| Convenio Area Metropolitana del Valle de Aburra | Convention subscribed between the metropolitan area of the valley of aburra and Empresas Publicas de Medellin E.S.P., Act of execution No. 4 of the framework agreement No. CT 2015-000783 of 2015 | 8,006 | - |
| Ministerio de Minas y Energia - Fondo Especial Cuota Fomento | Convention for construction co-financing: infrastructure for the distribution and connection to lower income users in the municipalities of Amaga, Santafe de Antioquia, Sopetran, San Jeronimo and Ciudad Bolivar. Compressed Natural Gas and connection to users of Don Matias, Entrerrios, San Pedro, Santa Rosa and Yarumal. Convention No. 106: construction of the connection infrastructure for users of the Aburra Valley, La Ceja, La Union and El Retiro. Convention 179: includes the municipality of Sonson. | 5,443 | 5,245 |

Figures stated in millions of Colombian pesos

| Fund or convention | Intent | 2018 | 2017 |
|--|--|-------|--------|
| Banco Bogota INCODER | Aunar esfuerzos y recursos entre EPM y el INCODER para llevar a cabo el proyecto "estudio de factibilidad para la construccion del distrito de riego y drenaje en parte de la region del uraba antioqueno" con alcance multiproposito. | 4,791 | 9,989 |
| Departamento de Antioquia, Convenio construccion via el Aro - Municipio de Ituango | Managing the resources contributed by the Government of Antioquia to co-finance the construction of the El Aro road - Connection via Puerto Valdivia site of the dam - Ituango municipality. | 2,605 | 7 |
| Credito BID 2120 | Disbursement for the construction of the Aguas Claras plant for the treatment of wastewater (PTAR Bello). | 2,289 | 166 |
| Fondo de Educacion Sinpro | Promote the welfare of employees to meet the payment needs for fees, textbooks and equipment for advancing their own studies or the studies of family members. | 2,258 | 2,140 |
| Fondo de Educacion Sintraemdes | Promote the welfare of employees to meet the payment needs for fees, textbooks and equipment for advancing their own studies or the studies of family members. | 2,107 | 2,010 |
| Municipio de Guatape y Cornare | Join efforts for the improvement of technical, economic and social conditions for the execution of the phase 1 of the project to improve the environmental and landscape infrastructure of the Malecon San Juan del Puerto, for the development of sustainable tourism in the Municipality of Guatape. | 1,994 | 2,334 |
| Fondo Entidad Adaptada de Salud y Fondo Fosyga | Mechanism for the control and monitoring of contributions collected by Contributive Regime of Social Security and Healthcare. | 1,857 | 1,610 |
| Corporacion Autonoma de Guatape | Join efforts for the improvement of technical, economic and social conditions for the execution of the phase 1 of the project to improve the environmental and landscape infrastructure of the Malecon San Juan del Puerto, for the development of sustainable tourism in the Municipality of Guatape. | 1,742 | 2,111 |
| Convenio puntos SOMOS | Provide services for the operation of the key capacities associated with the item Points of the Loyalty Program on a large scale for the EPM Group. | 1,651 | 1,522 |
| Transacciones internacionales de energia | Guarantee corresponding to the "compensation" that must be made between the invoice of stock exchange transactions and the advance payments, looking for real payment to be made to XM . | 1,636 | 10,721 |
| Fondo de Calamidad Sintraemdes | Promote the welfare of employees to meet the payment for urgent and unforeseen needs or those of their close family group. | 1,613 | 1,551 |
| Convenios tasas de alumbrado publico y de aseo con los municipios | Convention to manage the resources of territorial entities for the payment to municipalities with agreements of collection of the rates of public lighting and cleaning, these are resources exempt of the 4x1000 tax in Colombia. | 1,571 | 3,308 |
| Fondo de Calamidad Sinpro | Promote the welfare of employees to meet the payment for urgent and unforeseen needs or those of their close family group. | 1,310 | 1,293 |
| CONVENIO INTERADMINISTRATIVO CT -2017-001388 (460007009) | Convention for the construction of 7 indigenous schools in 5 municipalities. | 1,057 | - |

Figures stated in millions of Colombian pesos

| Fund or convention | Intent | 2018 | 2017 |
|--|--|------|-------|
| Programa Aldeas | Usage of the wood that completes its maturation cycle in the forests planted by EPM around its dam reservoirs, to build social housing in the municipalities of Antioquia outside the Valley of Aburra and deliver them to low-income families, preferably in a displacement situation, be it forced or voluntary. | 732 | 1,165 |
| CONTRATO INTERADMINISTRATIVO Numero Pc-2017-001532 De 2017, | Interventory construction of connections for aqueduct and sewerage networks in the neighborhoods Pepe Sierra I, Barrios de Jesus, El Progreso and La Canada del nino: | 494 | - |
| Fondo de Reparacion de motos | Promote the welfare of official workers who work in the regional market and use motorcycles of their property for the performance of their work. | 406 | 381 |
| Municipio de Medellin - Aguas | Comprehensive management of water for human consumption of the inhabitants of the municipality of Medellin | 382 | 879 |
| Ministerio de Minas y Energia | Contributions from the Ministry of Mines and Energy in accordance with the provisions of contract FAER GGC 430 of 2015 for rural electrification works in the Municipality of Ituango. | 191 | 643 |
| Convenio construccion de infraestructura en Madera para Emvarias | Resource management for the construction of infrastructure in Madera for Emvarias in the La Pradera sanitary landfill. | 124 | - |
| Municipio de Caldas | Manage the resources allocated by the municipality of Caldas for the development of the project "Construction, replacement and modernization of aqueduct and sewerage networks and their complementary works, in the urban area of the municipality of Caldas". | 116 | 168 |
| Aporte Municipios de Pueblorrico y Ciudad Bolivar | Convention for the construction of 7 indigenous schools. | 90 | - |
| Distrito Termico | Agreement with the Ministry of Environment and Sustainable Development for the execution of the activities of the La Alpujarra Thermal District. | 71 | 167 |
| Municipio de Barbosa - Subsidios | Agreement to partially subsidize the connection of users in strata 1 and 2 in the municipality of Barbosa. | 62 | 59 |
| Espiritu Santo | EPM - Settlement of the Espiritu Santo project | 60 | 58 |
| Depositos Ley 820 | Guarantee required by the leesor to the lessee, for the payment of publicutilities, according to Article 15 of Law 820 of 2003 and regulatory decree 3130 of 2003. | 59 | 53 |
| Municipio de Medellin - Terrenos | Acquisition of properties identified and characterized within the zones of protection of hydrographic basins supplying aqueduct systems in the municipality of Medellin. | 58 | 56 |
| Cuenca Verde | Manage the resources allocated for the fulfillment of the objectives of the Corporacion Cuenca Verde. | 40 | 13 |
| Convenio Marco Municipio Medellin No. 4600049285 | Construction by EPM of walkways and other road elements in the downtown of Medellin, taking advantage of the Centro Parrilla project, that is, the renovation of aqueduct and sewerage networks. | 39 | 37 |

Figures stated in millions of Colombian pesos

| Fund or convention | Intent | 2018 | 2017 |
|---|---|---------------|----------------|
| Bogota Galeria Bolivar | Adjust the Carrera 51 (Bolivar road) between the Calle 44 (San Juan avenue) and 57 (La Paz street) and transform this road segment into what is called La Galeria Bolivar. | 23 | 7,102 |
| Municipio de Medellin - Moravia | Construction, repair work and replacement of aqueduct and sewage networks and paving in the municipality of Medellin of the roads affected by these works in the Moravia neighborhood. | 3 | 3 |
| IDEA convenio 4600003912 | Inter-administrative agreement to join efforts for the design and construction of electricity generation and distribution systems in rural areas in the department of Antioquia. | 2 | 2 |
| Bogota Convenio parques del rio | Transfer of public utilities networks for the development of the project called Parques del Rio Medellin. | 1 | 1 |
| IDEA Convenio 4600003283 | Join efforts for the construction of residential gas connections in the different subregions of the department of Antioquia under the framework program "Gas without Borders". | 1 | 22,373 |
| Subsidios Gubernacion 2016 | Manage resources to subsidize the connections of lower income users in the department of Antioquia. | - | 526 |
| Convenio Interadministrativo Plaza del Tomatero en el Municipio del Penol | Join efforts to improve the technical, economic, environmental and social conditions to boost development and counteract the effect generated, for the municipality of Penol, of the reduction levels of the Penol-Guatape dam reservoir. | - | 369 |
| Fondo multilateral del protocolo de Montreal | Collaboration agreement with the Ministry of Environment and Sustainable Development for the development of activities within the framework of the implementation in Colombia of the Montreal Protocol. | - | 248 |
| Convenio Municipio de Itagui Colector Ajizal | Manage the resources allocated by the Municipality of Itagui for the construction of the stabilization works for the channel of the creek the sesteadero for the Ajizal collector. | - | 5 |
| Total Restricted Funds EPM | | 79,823 | 116,250 |

Figures stated in millions of Colombian pesos

| Fund or convention Empresas Varias | Intent | 2018 | 2017 |
|---|---|---------------|---------------|
| ENCARGO FID 919301039524 - Pradera | Resources reserved for payments (Pradera) | 12,454 | - |
| ENCARGO FID 919301039524 - Pradera | Resources reserved for payments (Pradera) | 2,219 | - |
| Encargo 919301039523 - Pradera | Resources reserved for payments (Pradera) | 388 | - |
| Convenio 18-897796-47 EDU | Agreement of delegated administration with the Municipality of Medellin, for the maintenance of green zones of the institutions of the Municipality and its 5 townships | 319 | 118 |
| FL BBVA 423 Convenio Poda-Tala | Agreement of delegated administration with the Municipality of Medellin for the service of trimming of green areas and pruning and felling of trees | 31 | 31 |
| FL Occidente INDER | Agreement with the INDER for the washing of stadium bridges and ceilings | 8 | 8 |
| FL Convenio zonas verdes 400054603 | Agreement for the service of Green Areas | 2 | 2 |
| FL Bancolombia 6093-Clausura | Resources destined for the payment of the closing, closure and post-closure of Pradera | 1 | 5,841 |
| FL Convenio Zonas Verdes 2014 | Agreement of delegated administration with the Municipality of Medellin for the service of trimming of green zones | 0 | 2,275 |
| FL Fiduex. 437100-Clausura | Collective portfolio | - | 9,119 |
| Total Restricted Funds Empresas Varias | | 15,422 | 17,392 |

Figures stated in millions of Colombian pesos

| Fund or convention ESSA | Intent | 2018 | 2017 |
|---------------------------------------|--|---------------|---------------|
| Convenio FAER GGC 377 | Rural electrification agreement signed with the Ministry of Mines and Energy | 5,042 | 9,607 |
| BBVA garantias 0408 | Bank account XM | 3,366 | 3,179 |
| Convenio FAER GGC 382 | Rural electrification agreement signed with the Ministry of Mines and Energy | 965 | 3,139 |
| Convenio Interadministrativo | Relocation of power line section | 844 | - |
| Convenio Linea 115 Puerto Wilches | Puerto Wilches rural electrification agreement - Barrancabermeja | 589 | 570 |
| Convenio FAER GGC 381 | Rural electrification agreement signed with the Ministry of Mines and Energy | 521 | 779 |
| Convenio Alumbrado publico San Gil | Convention public lighting of San Gil | 494 | 408 |
| Convenio Gobernacion - ESSA Fase V | Rural electrification governance agreement | 444 | 440 |
| Recursos FAER | Management resources of rural electrification agreements | 41 | 41 |
| Convenio Recursos audiencias publicas | Rural electrification agreement signed with the Ministry of Mines and Energy | 1 | 1 |
| Convenio PRONE 383 | Rural electrification agreement signed with the Ministry of Mines and Energy | - | 0 |
| Convenio FAER GGC 426 | Rural electrification agreement signed with the Ministry of Mines and Energy | - | 2,510 |
| Total Restricted Funds ESSA | | 12,307 | 20,675 |

Figures stated in millions of Colombian pesos

| Fund or convention TICSА Group Mexico | Intent | 2018 | 2017 |
|--|----------------------------------|---------------|----------|
| Fideicomiso Banco del Bajio 15892649 | Restricted Funds Aquasol Morelia | 4,139 | - |
| Fideicomiso Banco Nacional de Obras y S | Restricted Funds Aquasol Morelia | 2,647 | - |
| Fideicomiso Banco del Bajio 15892649 | Restricted Funds Colima | 4,204 | - |
| Fideicomiso Banco del Bajio/Multiva | Restricted Funds Tuxtla | 2,554 | - |
| Fideicomiso Banco Nacional de Obras y S | Restricted Funds Celaya | 218 | - |
| Fideicomiso Banco Del Bajio 15892649 | Restricted Funds Celaya | 1,077 | - |
| Total Restricted Funds TICSА Group Mexico | | 14,839 | - |

Figures stated in millions of Colombian pesos

| Fund or convention Empresas Publicas de Rionegro | Intent | 2018 | 2017 |
|--|---|--------------|---------------|
| Plan Contingencia | Resources to attend to possible contingencies subsequent to the acquisition of EP Rio by Epm | 8,388 | 8,036 |
| Contrato interadministrativo 189-2016. Alumbrado navideno. | Delegated administration of resources for the rental and transport of Christmas lights in the urban area of the Municipality of Rionegro | 382 | 488 |
| Convenio 073- 2017 | Agreement 073 OF 2017 Optimize wastewater treatment plants (PTARS) located in rural area of the Municipality of Rionegro. | 11 | 0 |
| Contrato interadministrativo 198-2017. Alumbrado navideno. | Delegated administration of resources for the rental and transport of Christmas lights in the urban area of the Municipality of Rionegro | 10 | 419 |
| Convenio interadministrativo 094 DE 2017 | Construction of the network for the aqueduct system in the Cuatro Esquinas sectors. Santa Ana of the urban area of the Municipality of Rionegro | 4 | 818 |
| Convenio 180 de 2017 | Delegated administration for the replacement of sewage networks of the Villa Camila urbanization neighborhood 4 esquinas | 1 | 91 |
| Convenio 125 de 2017 | Optimize wastewater treatment plants (PTARS, Plantas de Tratamiento de Aguas Residuales) located in rural area of the Municipality of Rionegro. | 0 | 381 |
| Total Restricted Funds Empresas Púlicas de Rionegro | | 8,797 | 10,233 |

Figures stated in millions of Colombian pesos

| Fund or convention CHEC | Intent | 2018 | 2017 |
|---|---|--------------|--------------|
| Fondo Especial Vivienda | Fund created to attend the housing loans to CHEC employees, according to the procedure and conditions established in the Collective Agreement of Labor in Force (CCTV, Convención Colectiva de Trabajo Vigente) signed between the union of SINTRALECOL and CHEC | 2,421 | 2,331 |
| Fondos Especial Plan de Financiacion Social - PFS | Fund created to meet the microcredits that are made to users of the company's market, with collection through the energy bill; These loans have rates and conditions more favorable than those offered by the market. This program was created by the Board of Directors of the company | 1,037 | 1,008 |
| Fondo Mantenimiento de Plantas de Generacion | Fund created to meet the civil maintenance of the CHEC generation plants, through a delegated administration contract | 240 | 358 |
| Fondo especial CONFA | Special fund created for the attention of social and cultural extension programs for CHEC employees; through a contract of delegated administration with the company CONFA | 198 | 200 |
| Fondo Mantenimiento de Edificios | Fund created to service the maintenance of CHEC buildings, through a delegated administration contract | 159 | 293 |
| Fondo de administracion de gestion ambiental | Fund to execute the environmental management plans of the area of influence of CHEC generation plants | 99 | 25 |
| Cuenta custodia manejo XM | Fund created to meet the guarantees for power transactions in the exchange that is managed and controlled by the market administrator XM | 98 | 311 |
| Fondo especial Convenio Aprendizaje | Fund created to attend the programs of the annual training agenda of CHEC employees; through a delegated administration contract | 30 | 31 |
| Fondo Especial de Predios | Fund created for the administration of the forest conservation lands in the hydrographic basins of the company; through a delegated administration contract | 24 | 240 |
| Total Restricted Funds CHEC | | 4,307 | 4,797 |

Figures stated in millions of Colombian pesos

| Fund or convention CENS | Intent | 2018 | 2017 |
|---|---|--------------|--------------|
| Fondo Rotatorio de Vivienda | Housing loans to CENS S.A. employees | 1,008 | 204 |
| Cuenta custodia BBVA XM Garantias Bancarias | Guarantee and TIES of compliance to protect projects of energy purchase. | 711 | 343 |
| Convenio Ecopetrol-Bogota | Join technical, administrative and financial efforts to perform the execution of rural electrification works in the Municipalities of Tibu and El Carmen, Norte de Santander department, according to the activities contemplated in the Expansion Plan of the Coverage OR CENS (PECOR, Plan Expansión de la Cobertura), and the Program of Rural Electrification for the Catatumbo Zone and the Province of Ocana III. | 469 | 481 |
| Convenio Ecopetrol-Davivienda | Join technical, administrative and financial efforts to perform the execution of rural electrification works in the Municipalities of Tibu and El Carmen, Norte de Santander department, according to the activities contemplated in the Expansion Plan of the Coverage OR CENS (PECOR, Plan Expansión de la Cobertura), and the Program of Rural Electrification for the Catatumbo Zone and the Province of Ocana III. | 249 | - |
| FAER Catatumbo III | Perform the execution of rural electrification works in the municipalities of Convention, San Calixto, Cachira, Hacarí, Ocana, La Playa, Villa Caro, Teorama and La Esperanza Norte de Santander department | 221 | 397 |
| Convenio Gobernacion | Join technical, administrative and financial efforts between the Norte de Santander department and power plants of Norte de Santander (CENS, centrales electricas del norte de Santander) S.A. E.S.P., to carry out the execution of rural electrification works in the municipalities of | 98 | 413 |
| Contrato AOM | Administration, operation, maintenance and replacement of rural electrification assets built with the resources of the project "rural electrification program area of Catatumbo and province of Ocana, stage 1, Norte de Santander" (programa de electrificación rural zona del Catatumbo y provincia de Ocana, etapa 1, Norte de Santander). | 65 | 65 |
| Fundescat | Carry out the execution of rural electrification works in the municipalities of Tibu and Tarra, Norte de Santander department | 9 | 12 |
| FAER Morales-Aguachica | Expand the coverage, improve the quality and continuity of the electric power service and satisfy the demand for it in the areas of the National Interconnected System (SIN, Sistema Interconectado Nacional) located in the Market of the network operator - power plants in the north of Santander (centrales eléctricas del norte de Santander) s.a. e.s.p., through the execution of projects of the Financial Support Fund for the Energization of the Interconnected Rural Areas - FAER (Fondo de Apoyo Financiero para la Energización de las Zonas Rurales Interconectadas) | - | 38 |
| Total Restricted Funds CENS | | 2,831 | 1,953 |

Figures stated in millions of Colombian pesos

| Fund or convention HET | Intent | 2018 | 2017 |
|---|--|--------------|--------------|
| Certificado de deposito. Contrato Concesion | Bond coverage originated by the Concession Contract of the BPPS Administration, granted by the entity National Environmental Authority (Autoridad Nacional del Ambiente), the CDT and the Bond is renewed annually. The Concession contemplates the land where the Plant is located. | 1,168 | 1,072 |
| Certificado de deposito Contrato Etesa | Coverage for the letter of credit in favor of ETESA, Transmission Line Access Agreement (Contrato de Acceso a la Linea de transmision), the CDT and L/C is renewed annually. | 335 | 308 |
| Deposito de garantia ETESA-OER | Guarantee deposits for ETESA contract. | 334 | 105 |
| Certificado Deposito Sura | Lawsuit deposits for guarantee in favor of HET | 69 | 63 |
| Fondo de Cesantia-Indemnizacion | Value corresponding to the Employee Severance Fund related to the Seniority Premium, which by law must be reserved a percentage for compensation. | 16 | 15 |
| Depositos para servicios | Value corresponding to lease deposits | 10 | 9 |
| Fondo de Cesantias excedentes | Surplus Severance Fund | - | 26 |
| Total Restricted Funds HET | | 1,931 | 1,599 |

Figures stated in millions of Colombian pesos

| Fund or convention EDEQ | Intent | 2018 | 2017 |
|------------------------------------|--|--------------|--------------|
| Vivienda | Resources destined to improve the quality of life of employees through the granting of credits destined to the purchase and improvement of housing | 1,559 | 2,104 |
| Bienestar Social y Capacitacion | Resources allocated to provide employees and their families with access to higher education, health, well-being and recreation | 229 | 175 |
| Motos | Resources intended to provide employees with loans to acquire and replace motorcycles intended for the fulfillment of their duties | 16 | 23 |
| Calamidad | Resources destined for events caused by serious and unforeseen situations that affect the worker or his family | 7 | 12 |
| Total Restricted Funds EDEQ | | 1,811 | 2,314 |

Figures stated in millions of Colombian pesos

| Fund or convention Aguas Regionales | Intent | 2018 | 2017 |
|--|---------------|-----------|------------|
| Prestamos de vivienda | Housing loans | 56 | 124 |
| FL IDEA 10006236 | IDEA | - | 2 |
| Total Restricted Funds Aguas Regionales | | 56 | 126 |

Figures stated in millions of Colombian pesos

| Fund or convention Aguas de Malambo | Intent | 2018 | 2017 |
|-------------------------------------|---|------|------|
| Convenio Vida | For the agreement source of life of the micro measurement program | 1 | - |

Figures stated in millions of Colombian pesos

| | | | |
|---|--|----------------|----------------|
| Total Restricted Funds EPM Group | | 173,375 | 183,610 |
|---|--|----------------|----------------|

Figures stated in millions of Colombian pesos

Note 20. Equity

20.1 Capital

The Group does not have its Capital divided in Shares.

| Capital | 2018 | 2017 |
|---------------------------------|-----------|-----------|
| Initial Balance | 67 | 67 |
| Increase (Reduction) of Capital | - | - |
| Total | 67 | 67 |

Figures stated in millions of Colombian pesos

20.2 Reserves

Of the accounts that make up equity, the reserves at the cut-off date were constituted by:

| Reserves | 2018 | 2017 |
|--|------------------|------------------|
| Legal Reserves | | |
| Initial Balance | 2,587,163 | 2,686,989 |
| Establishment | 56,358 | 35,737 |
| Release | (986,767) | (135,563) |
| Other Movements | (227,574) | - |
| Final Balance Legal Reserves | 1,429,180 | 2,587,163 |
| Occasional Reserves | | |
| Initial Balance | 579,717 | 579,428 |
| Establishment | 18,677 | 289 |
| Final Balance Occasional Reserves | 598,394 | 579,717 |
| Other Reserves | | |
| Initial Balance | 312,403 | 338,372 |
| Establishment | 2,244 | 64,681 |
| Release | (9,139) | (57,361) |
| Other Movements | 227,575 | (33,289) |
| Final Balance Other Reserves | 533,083 | 312,403 |
| Total Reserves | 2,560,657 | 3,479,283 |

Figures stated in millions of Colombian pesos

The nature and purpose of the Group equity reserve are described below:

- **Legal Reserves:** the EPM Group companies operating in Colombia have constituted legal reserves, in compliance with the tax provisions of Colombia that were contained in Articles 130 of the Tax Code, which was repealed by Law 1819 of 2016 (reserve of 70% for the excess of tax depreciation over the accountable) and Decree 2336 of 1995 (for revenue incorporated to profits in the application of the equity method applied under local regulation).

For the subsidiaries in El Salvador, the legal reserve is established in accordance with the current Code of Commerce, companies must annually establish a legal reserve of 7% of net profits, with a minimum

established limit of one fifth of its company capital. Additionally, according to Income Tax Law, when the legal reserve is reduced for any circumstance, such as capitalization, application to losses of previous years or distribution, legal reserves shall constitute taxable income for the company for the amount deducted for income tax effects in previous tax years of the decrease, being settled separately from the ordinary income, at a rate of 25%. For such purposes, the company will keep record of the establishment of legal reserves and the amount deducted to determine the net or taxable income in each fiscal year or tax period.

For Guatemalan subsidiaries under the Code of Commerce, all mercantile companies must annually appropriate at least 5% of their net profits to establish the legal reserve, which cannot be distributed until the liquidation of the company. However, this reserve can be capitalized when it is equal to or greater than 15% of the capital paid at the close of the immediately preceding year, without prejudice to continuing to reserve the mentioned 5%.

For affiliates in other countries in which the EPM Group operates, the establishment of legal reserves has not been established by law.

⁽¹⁾ In EPM, the Board of Directors in its March 20, 2018 and March 14, 2017 sessions approved:

- Release reserves for \$ 323,407 (2017: \$ 135,563) gathered in previous periods by authorization of the Board of Directors.
- Release reserves for \$ 667,204 of article 130 of the Tax Code, pursuant to the provisions of article 290 of Law 1819 of 2016.

Occasional Reserves: in compliance with article 211 of the Colombian Tax Code, the EPM Group companies operating in Colombia have established the required reserves in order to enjoy the special tax treatment and obtain cuts in the income and complementary taxes.

- **Other Reserves:** includes statutory reserves, for repurchase of shares and quotas, patrimonial funds and others, which as of December 31 record the net balance corresponding to the releases made by the subsidiaries in those reserves that have already fulfilled the requirements to be released.

20.3. Retained Profit

The movements of Retained Profit during the period was:

| Retained Profit | 2018 | 2017 |
|--|-------------------|-------------------|
| Initial Balance | 13,692,151 | 12,959,786 |
| Movement of Reserves | 918,626 | 92,217 |
| Surpluses or Dividends Decreed | (1,203,504) | (1,609,136) |
| Transfer to Other Comprehensive Income | (51) | - |
| Purchase-Sale to Non-Controlling Interest | 2 | - |
| Income Tax related to Transactions with Owners | (341) | (1,681) |
| Other Movements for the Period | (14,693) | 64,663 |
| Total Comprehensive Income | 13,392,190 | 11,505,849 |
| Net Profit for the Period for Non-Controlling Interests | 2,258,293 | 2,186,302 |
| Total Retained Profit | 15,650,483 | 13,692,151 |

Figures stated in millions of Colombian pesos

Surpluses paid during the year were \$ 1,203,503 (2017: \$ 1,609,136), \$ 656,457 (2017: \$ 550,438) ordinary and \$ 547,046 (2017: \$ 371,146) extraordinary. The year 2017 includes the payment for \$ 300,000 due to the sale of ISAGÉN.

20.4. Other Components of Equity

Includes the equity effect due to excess of value paid over the fair value in capital contributions or due to changes in shares of the Group subsidiaries and the equity effects for payments based on shares of investments in associates.

20.5. Non-Controlling Interests

The movement of Non-Controlling Interests to the cut-off date is:

| Non-Controlling Interests | 2018 | 2017 |
|--|----------------|----------------|
| Initial Balance | 857,654 | 803,461 |
| Surpluses or Dividends Decead | (106,956) | (86,328) |
| Share in Profit for the Period | 159,245 | 140,800 |
| Share in Other Comprehensive Income | 6,306 | (1,238) |
| Purchase-Sale to Non-Controlling Interest | 33 | - |
| Income Tax related to Transactions with Owners | (326) | (1,605) |
| Other Movements for the Period ⁽¹⁾ | 37,751 | 2,563 |
| Total Cumulative Profit | 953,707 | 857,654 |

Figures stated in millions of Colombian pesos

Note 21. Accumulated Other Comprehensive Income

The breakdown of each component of the Other Comprehensive Income for the Consolidated statement of financial position and the corresponding tax effect is as follows:

| Accumulated Other Comprehensive Income | 2018 | | | 2017 | | |
|--|------------------|------------------|------------------|------------------|------------------|------------------|
| | Gross | Tax Effect | Net | Gross | Tax Effect | Net |
| Reclassification of Property, Plant and Equipment to Investment Property | 13,439 | (1,643) | 11,796 | 13,439 | (1,360) | 12,079 |
| New Measurements of Defined Benefit Plans | (47,279) | 18,898 | (28,381) | (43,995) | 14,437 | (29,558) |
| Equity Investments Measured at Fair Value through Equity | 2,300,129 | (131,825) | 2,168,304 | 2,309,259 | (135,913) | 2,173,346 |
| Participation in Other Comprehensive Income of Associates and Joint Ventures | (3,640) | - | (3,640) | (2,582) | - | (2,582) |
| Cash Flow Hedges | (21,581) | (48,922) | (70,503) | (24,762) | 18,974 | (5,788) |
| Translation of Financial Statements of Foreign Operations | 817,051 | - | 817,051 | 716,675 | - | 716,675 |
| Total | 3,058,119 | (163,492) | 2,894,627 | 2,968,034 | (103,862) | 2,864,172 |

Figures stated in millions of Colombian pesos

Below, a reconciliation of the initial and final balances to the cut-off date is presented for each component of comprehensive income:

21.1 Component: Reclassification of Property, Plant and Equipment to Investment Property

The component of Reclassification of Property, Plant and Equipment to Investment Property of Other comprehensive income corresponds to transfers from property, plant and equipment to investment property, which are measured at fair value. Changes in fair value do not reclassify to Profit for the period.

| Reclassification of Property, Plant and Equipment to Investment Property | 2018 | 2017 |
|--|---------------|---------------|
| Initial Balance | 12,079 | 12,079 |
| Associated income tax (or equivalent) | (283) | - |
| Total | 11,796 | 12,079 |

Figures stated in millions of Colombian pesos

21.2. Component: New Measurements of Defined Benefit Plans

The component of New Measurements of Defined Benefit Plans represents the accumulated value of actuarial profits or losses, the return on plan assets and changes in the effect of the asset ceiling, excluding the values included in the net interest on the liability (asset) of net defined benefits. The net value of the new measurements is transferred to retained profit and does not reclassify to the results of the period.

| New Measurements of Defined Benefit Plans | 2018 | 2017 |
|---|-----------------|-----------------|
| Initial Balance | (29,557) | (14,949) |
| Profit for the Period for New Measurements of Defined Benefit Plans | (3,409) | (31,686) |
| Associated income tax (or equivalent) | 4,440 | 11,012 |
| Other Changes - Net | 144 | 6,066 |
| Total | (28,381) | (29,557) |

Figures stated in millions of Colombian pesos

21.3. Component: Equity Investments Measured at Fair Value through Equity

The component of other comprehensive income from Equity Investments Measured at Fair Value through Equity represents the accumulated value of the profits or losses from the assessment at fair value less the values transferred to retained profit when these investments have been sold. Changes in fair value do not reclassify to the result of the period.

| Equity Investments Measured at Fair Value through Equity | 2018 | 2017 |
|---|------------------|------------------|
| Initial Balance | 2,173,345 | 1,745,876 |
| Net Profit due to Changes in the Fair Value of Equity Investments | (9,156) | 475,222 |
| Associated income tax (or equivalent) | 4,045 | (43,703) |
| Accumulated Profit (loss) transferred to Accumulated Profit (Loss) for the Period | 70 | (18) |
| Other Changes - Net | - | (4,032) |
| Total | 2,168,304 | 2,173,345 |

Figures stated in millions of Colombian pesos

21.4. Component: Participation in Other Comprehensive Income of Associates and Joint Ventures

The component of Other Comprehensive Income from Participation in Other Comprehensive Income of Associates and Joint Ventures represents the cumulated value of applying the equity method to profits and losses of Other Comprehensive Income of Associates and Joint Ventures. The cumulated value of the profits or losses will be reclassified to the Profit for the period or to the Accumulated Profit, depending on the items that originated the equity method, when these investments have been sold.

| Participation in Other Comprehensive Income of Associates and Joint Ventures | 2018 | 2017 |
|--|----------------|----------------|
| Initial Balance | (2,582) | 189 |
| New Measurements of Defined Benefit Plans | (277) | (3,187) |
| Translation of Financial Statements of Foreign Operations | 49 | 4 |
| Associated income tax (or equivalent) | 37 | (699) |
| Hedging Transactions | (868) | 701 |
| Other Changes - Net | - | 410 |
| Total | (3,640) | (2,582) |

Figures stated in millions of Colombian pesos

21.5. Component: Cash Flow Hedges

The component of Other Comprehensive Income from Cash Flow Hedges represents the cumulative value of the effective portion of the gains or losses that arise from changes in the fair value of hedged items in a cash flow hedge. The accumulated value of the profits or losses will reclassify to the Profit for the period only when the hedged transaction affects the Profit for the period or the highly probable transaction is not expected to occur, or is included, as part of its recorded value, in a heading non-financial item.

| Cash Flow Hedges | 2018 | 2017 |
|--|-----------------|----------------|
| Initial Balance | (5,789) | (8,262) |
| Losses due to Changes in Fair Value of Hedging Instruments | 3,181 | (5,388) |
| Associated income tax (or equivalent) | (77,848) | 8,429 |
| Other Changes - Net | 9,953 | (568) |
| Total | (70,503) | (5,789) |

Figures stated in millions of Colombian pesos

21.6. Component: Profit for Translation of Financial Statements of Foreign Operations

The Translation Differences component represents the accumulated value of the exchange differences that arise from the conversion to the Group's presentation currency of the results and of the net assets of the operations abroad, as well as of the gains or losses of hedge instruments that are designated in a net investment hedge in a foreign business. Cumulative conversion differences reclassify the results of the period, partially or totally, when the operation is arranged abroad.

| Profit for Translation of Foreign Operations | 2018 | 2017 |
|--|----------------|----------------|
| Initial Balance | 716,676 | 705,284 |
| Net Exchange Differences for Translation of Foreign Operations | 100,375 | 15,222 |
| Associated income tax (or equivalent) | - | - |
| Other Changes | | (3,830) |
| Total | 817,051 | 716,676 |

Figures stated in millions of Colombian pesos

Note 22. Credits and Loans

The following is the breakdown of the recorded value of credits and loans:

| Credits and Loans | 2018 | 2017 |
|--|-------------------|-------------------|
| Non-Current | | |
| Commercial banks loans | 4,139,390 | 3,845,655 |
| Other Bonds and Securities Issued | 6,177,480 | 7,785,051 |
| Multilateral banks loans | 3,249,965 | 1,093,597 |
| Development banks loans | 1,819,138 | 802,370 |
| Bonds and Securities Issued | 643,168 | 589,570 |
| Total Other Credits and Loans Non-Current | 16,029,141 | 14,116,243 |
| Current | | |
| Commercial banks loans | 1,581,113 | 1,210,946 |
| Multilateral banks loans | 615,309 | 574,671 |
| Other Bonds and Securities Issued | 2,029,387 | 455,148 |
| Bonds and Securities Issued | 391,119 | 484,163 |
| Development banks loans | 177,626 | 117,552 |
| Other Loans | 11,105 | - |
| Total Other Credits and Loans Current | 4,805,659 | 2,842,480 |
| Total Other Credits and Loans | 20,834,800 | 16,958,723 |

Figures stated in millions of Colombian pesos

The breakdown of credits and loans by entity is as follows:

| Company | Entity or Loan | Original Currency | Initial Date DD/MM/YYYY | Term | Nominal Interest Rate | December 31, 2018 | | | | December 31, 2017 | | | |
|----------------------|-----------------------|-------------------|-------------------------|-------|-----------------------|-------------------|---------------|----------------------|--------------|-------------------|---------------|----------------------|--------------|
| | | | | | | IRR | Nominal Value | Amortized Cost Value | Total Amount | IRR | Nominal Value | Amortized Cost Value | Total Amount |
| AGUAS DE ANTOFAGASTA | Banco BICE-BCI | CLP | 10/06/2016 | - | - | 0.00% | 3 | - | 3 | 0.00% | - | - | - |
| AGUAS DE ANTOFAGASTA | Banco del Estado | CLP | 23/10/2014 | 5.00 | UF + 1.9% | 1.04% | 9,670 | (27) | 9,643 | 1.04% | 19,283 | 64 | 19,347 |
| AGUAS DE ANTOFAGASTA | Banco del Estado | CLP | 14/01/2015 | 10.00 | UF + 2.9% | 1.51% | 151,157 | 2,107 | 153,265 | 1.51% | 173,169 | 2,404 | 175,573 |
| AGUAS DE ANTOFAGASTA | Banco del Estado | CLP | 18/10/2018 | 5.00 | TAB + 0.65% | 1.42% | 433,144 | 2,355 | 435,499 | 4.64% | 662,372 | 1,528 | 663,901 |
| AGUAS DE ANTOFAGASTA | Scotiabank | CLP | 18/10/2018 | 5.00 | TAB + 0.65% | 1.50% | 845,310 | 4,966 | 850,276 | 4.51% | 662,372 | 1,528 | 663,901 |
| AGUAS REGIONALES | Banco BBVA 400 | COP | 19/08/2014 | 10.00 | IPC + 4.90% | 0.00% | - | - | - | 7.85% | 338 | 18 | 355 |
| AGUAS REGIONALES | Banco BBVA 400-2 | COP | 28/10/2014 | 10.00 | IPC + 4.90% | 0.00% | - | - | - | 7.88% | 338 | 17 | 355 |
| AGUAS REGIONALES | Banco BBVA 700 | COP | 23/07/2014 | 10.00 | IPC + 4.90% | 0.00% | - | - | - | 7.76% | 591 | 32 | 623 |
| AGUAS REGIONALES | Banco BBVA 850 | COP | 16/03/2015 | 10.00 | IPC + 4.90% | 0.00% | - | - | - | 8.58% | 717 | 24 | 741 |
| AGUAS REGIONALES | Banco Popular 1082 | COP | 20/09/2013 | 12.00 | DTF + 3.45% | 0.00% | - | - | - | 8.07% | 839 | 25 | 864 |
| AGUAS REGIONALES | Banco Popular 1500 | COP | 24/09/2012 | 12.00 | DTF + 3.45% | 0.00% | - | - | - | 8.04% | 1,013 | 28 | 1,040 |
| AGUAS REGIONALES | Banco Popular 1700 | COP | 2/05/2014 | 10.00 | DTF + 2.75% | 0.00% | - | - | - | 7.58% | 1,381 | 41 | 1,422 |
| AGUAS REGIONALES | Banco Popular 1915 | COP | 13/12/2013 | 12.00 | DTF + 3.45% | 0.00% | - | - | - | 8.12% | 1,533 | 47 | 1,580 |
| AGUAS REGIONALES | Banco Popular 3000 | COP | 26/02/2014 | 10.00 | DTF + 2.75% | 0.00% | - | - | - | 7.41% | 2,344 | 65 | 2,409 |
| AGUAS REGIONALES | Banco Popular 350 | COP | 19/10/2012 | 12.00 | DTF + 3.45% | 0.00% | - | - | - | 8.02% | 245 | 11 | 256 |
| AGUAS REGIONALES | Banco Popular 500 | COP | 26/07/2013 | 12.00 | DTF + 3.45% | 0.00% | - | - | - | 8.20% | 388 | 15 | 402 |
| AGUAS REGIONALES | Banco Popular 520 | COP | 25/04/2013 | 12.00 | DTF + 3.45% | 0.00% | - | - | - | 8.12% | 390 | 16 | 406 |
| AGUAS REGIONALES | Banco Popular 520 Occ | COP | 30/10/2014 | 10.00 | DTF + 2.75% | 0.00% | - | - | - | 7.86% | 455 | 11 | 466 |
| AGUAS REGIONALES | Banco Popular 616 | COP | 10/05/2013 | 12.00 | DTF + 3.45% | 0.00% | - | - | - | 8.04% | 462 | 18 | 481 |
| AGUAS REGIONALES | Banco Popular 666 | COP | 12/04/2013 | 12.00 | DTF + 3.45% | 0.00% | - | - | - | 8.04% | 499 | 23 | 522 |
| AGUAS REGIONALES | Banco Popular 700 | COP | 27/11/2012 | 12.00 | DTF + 3.45% | 0.00% | - | - | - | 8.21% | 490 | 14 | 504 |
| AGUAS REGIONALES | Banco Popular 800 | COP | 26/12/2012 | 12.00 | DTF + 3.45% | 0.00% | - | - | - | 8.07% | 560 | 15 | 575 |
| AGUAS REGIONALES | Banco Popular 950 | COP | 4/12/2013 | 12.00 | DTF + 3.45% | 0.00% | - | - | - | 8.17% | 760 | 24 | 784 |
| AGUAS REGIONALES | Bancolombia 3000 | COP | 17/10/2013 | 10.00 | DTF + 2.75% | 0.00% | - | - | - | 7.28% | 2,250 | 87 | 2,337 |
| AGUAS REGIONALES | Bbva | COP | 20/05/2014 | 10.00 | DTF T. A. + -0.7% | 3.27% | 688 | 12 | 700 | 3.88% | 813 | 18 | 831 |
| AGUAS REGIONALES | Bbva | COP | 19/12/2014 | 10.00 | DTF T. A. + -0.7% | 3.55% | 1,033 | 9 | 1,042 | 4.16% | 1,205 | 13 | 1,218 |
| AGUAS REGIONALES | Bogotá | COP | 28/10/2015 | 10.00 | DTF T. A. + 2.6% | 7.27% | 595 | 8 | 603 | 8.32% | 680 | 10 | 690 |
| AGUAS REGIONALES | Davivienda | COP | 19/02/2018 | 10.00 | IPC + 4.8% | 8.22% | 5,000 | 47 | 5,047 | 0.00% | - | - | - |
| AGUAS REGIONALES | HELM | COP | 16/03/2012 | 12.00 | DTF T. A. + -1% | 2.63% | 4,328 | 99 | 4,427 | 3.24% | 5,153 | 146 | 5,298 |
| AGUAS REGIONALES | Popular | COP | 1/06/2018 | 7.00 | IBR + 3% | 7.41% | 13,563 | 85 | 13,648 | 0.00% | - | - | - |
| CENS | Agrario | COP | 30/09/2015 | 2.50 | DTF + 1.60% | 0.00% | - | - | - | 7.52% | 5,000 | 87 | 5,087 |
| CENS | Bancolombia | COP | 31/01/2018 | 1.00 | IBR + 1.86% | 6.17% | 7,000 | 70 | 7,070 | 0.00% | - | - | - |
| CENS | BBVA | COP | 13/07/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 12.40% | 1,133 | 56 | 1,189 |
| CENS | BBVA | COP | 17/08/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 10.17% | 1,309 | 30 | 1,339 |
| CENS | BBVA | COP | 15/09/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 10.13% | 4,722 | 78 | 4,800 |
| CENS | BBVA | COP | 3/10/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 10.12% | 5,000 | 59 | 5,059 |
| CENS | BBVA | COP | 14/10/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 10.07% | 2,496 | 27 | 2,523 |
| CENS | BBVA | COP | 24/10/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 10.00% | 6,140 | 62 | 6,202 |
| CENS | BBVA | COP | 28/09/2018 | 1.00 | IPC + 2.6% | 5.91% | 15,000 | 11 | 15,011 | 0.00% | - | - | - |
| CENS | BBVA | COP | 18/10/2018 | 1.00 | IPC + 2.6% | 5.94% | 5,000 | 59 | 5,059 | 0.00% | - | - | - |

| Company | Entity or Loan | Original Currency | Initial Date DD/MM/YYYY | Term | Nominal Interest Rate | December 31, 2018 | | | | December 31, 2017 | | | |
|---------|----------------|-------------------|-------------------------|-------|-----------------------|-------------------|---------------|----------------------|--------------|-------------------|---------------|----------------------|--------------|
| | | | | | | IRR | Nominal Value | Amortized Cost Value | Total Amount | IRR | Nominal Value | Amortized Cost Value | Total Amount |
| CENS | Bogotá | COP | 4/09/2012 | 7.00 | IBR + 1.88% | 5.86% | 6,000 | 125 | 6,125 | 6.18% | 12,000 | 319 | 12,319 |
| CENS | Bogotá | COP | 15/05/2014 | 7.00 | IBR + 1.88% | 6.35% | 5,000 | 27 | 5,027 | 6.69% | 7,000 | 47 | 7,047 |
| CENS | Bogotá | COP | 18/12/2015 | 7.00 | IBR + 1.88% | 7.63% | 8,000 | (17) | 7,983 | 8.20% | 10,000 | (156) | 9,844 |
| CENS | Bogotá | COP | 16/02/2018 | 9.00 | IBR + 2.98% | 7.40% | 137,832 | 3,590 | 141,422 | 0.00% | - | - | - |
| CENS | Davivienda | COP | 16/06/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 10.07% | 40,000 | (302) | 39,698 |
| CENS | Davivienda | COP | 15/07/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 10.10% | 5,488 | 195 | 5,683 |
| CENS | Davivienda | COP | 18/08/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 10.18% | 6,198 | 141 | 6,339 |
| CENS | Davivienda | COP | 16/09/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 10.17% | 5,156 | 77 | 5,233 |
| CENS | Davivienda | COP | 14/10/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 10.10% | 4,851 | 46 | 4,897 |
| CENS | Davivienda | COP | 17/11/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 9.97% | 3,877 | 14 | 3,891 |
| CENS | Davivienda | COP | 24/11/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 9.90% | 11,020 | 41 | 11,061 |
| CENS | Davivienda | COP | 5/12/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 9.95% | 14,210 | (25) | 14,185 |
| CENS | Davivienda | COP | 16/12/2016 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 9.94% | 15,232 | (59) | 15,173 |
| CENS | Davivienda | COP | 13/01/2017 | 10.00 | IBR + 4.89% | 0.00% | - | - | - | 9.92% | 11,000 | 462 | 11,462 |
| CENS | Davivienda | COP | 29/11/2018 | 10.00 | IPC + 4.3% | 7.72% | 6,000 | 39 | 6,039 | 0.00% | - | - | - |
| CENS | Davivienda | COP | 19/12/2018 | 10.00 | IPC + 4.3% | 7.71% | 15,000 | 37 | 15,037 | 0.00% | - | - | - |
| CENS | Popular | COP | 15/05/2017 | 10.00 | IBR + 3.35% | 7.64% | 37,241 | 432 | 37,672 | 8.92% | 37,241 | 351 | 37,591 |
| CENS | Popular | COP | 26/05/2017 | 10.00 | IBR + 3.35% | 7.64% | 8,540 | 81 | 8,621 | 8.90% | 8,540 | 57 | 8,597 |
| CENS | Popular | COP | 23/06/2017 | 10.00 | IBR + 3.35% | 7.65% | 6,505 | 21 | 6,526 | 8.93% | 6,505 | (8) | 6,497 |
| CENS | Popular | COP | 29/06/2017 | 10.00 | IBR + 3.35% | 7.61% | 10,162 | 33 | 10,195 | 8.90% | 10,162 | (13) | 10,149 |
| CENS | Popular | COP | 18/07/2017 | 10.00 | IBR + 3.35% | 7.60% | 14,951 | 560 | 15,511 | 8.95% | 14,951 | 621 | 15,572 |
| CENS | Popular | COP | 27/07/2017 | 10.00 | IBR + 3.35% | 7.60% | 6,500 | 230 | 6,730 | 8.95% | 6,500 | 255 | 6,755 |
| CENS | Popular | COP | 23/08/2017 | 10.00 | IBR + 3.35% | 7.71% | 6,000 | 155 | 6,155 | 8.94% | 6,000 | 192 | 6,192 |
| CENS | Popular | COP | 15/09/2017 | 10.00 | IBR + 3.35% | 7.69% | 6,442 | 144 | 6,586 | 8.93% | 6,442 | 168 | 6,610 |
| CENS | Popular | COP | 19/09/2017 | 12.00 | IBR + -1.8% | 3.16% | 5,923 | 79 | 6,002 | 3.24% | 5,923 | 54 | 5,977 |
| CENS | Popular | COP | 19/09/2017 | 10.00 | IBR + 4.45% | 9.53% | 11,846 | 348 | 12,194 | 9.62% | 11,846 | 305 | 12,151 |
| CENS | Popular | COP | 17/11/2017 | 10.00 | IBR + 3.35% | 7.62% | 9,659 | 120 | 9,779 | 8.88% | 9,659 | 100 | 9,759 |
| CENS | Popular | COP | 17/11/2017 | 12.00 | IBR + -1.8% | 2.91% | 4,077 | 27 | 4,104 | 2.97% | 4,077 | 14 | 4,091 |
| CENS | Popular | COP | 17/11/2017 | 10.00 | IBR + 4.45% | 9.47% | 8,154 | 129 | 8,283 | 9.59% | 8,154 | 90 | 8,244 |
| CENS | Popular | COP | 18/12/2017 | 10.00 | IBR + 3.35% | 7.59% | 20,000 | 136 | 20,136 | 8.85% | 20,000 | 61 | 20,061 |
| CENS | Popular | COP | 18/01/2018 | 10.00 | IBR + 3.35% | 7.57% | 37,000 | 1,429 | 38,429 | 0.00% | - | - | - |
| CHEC | Agrario | COP | 6/01/2016 | 10.00 | DTF + 2.99% | 0.00% | - | - | - | 8.17% | 65,000 | 1,327 | 66,327 |
| CHEC | Bancolombia | COP | 9/02/2018 | 8.00 | IBR + 2.29% | 6.70% | 58,906 | 855 | 59,761 | 0.00% | - | - | - |
| CHEC | BBVA | COP | 22/08/2014 | 10.00 | IPC + 3.5% | 6.65% | 48,156 | 628 | 48,784 | 7.49% | 56,531 | 866 | 57,397 |
| CHEC | BBVA | COP | 28/12/2015 | 10.00 | DTF + 2.35% | 0.00% | - | - | - | 7.51% | 60,000 | 119 | 60,119 |
| CHEC | Corpanca | COP | 22/08/2014 | 10.00 | IPC + 3.5% | 6.64% | 36,656 | 482 | 37,138 | 7.49% | 43,031 | 661 | 43,692 |
| CHEC | Davivienda | COP | 27/12/2018 | 12.00 | IBR + 0.388% | 4.59% | 43,000 | 21 | 43,021 | 0.00% | - | - | - |
| DEL SUR | Bonos | USD | 16/08/2010 | 10.00 | LIBOR 6M + 4.5% | 1.52% | 68,245 | 425 | 68,669 | 1.52% | 62,664 | 327 | 62,991 |
| DEL SUR | Citibank | USD | 27/12/2018 | - | + 4.9% | 0.00% | 14,624 | - | 14,624 | 0.00% | - | - | - |
| DEL SUR | Davivienda | USD | 26/08/2013 | 10.00 | LIBOR 3M + 3.7% | 1.02% | 54,840 | 296 | 55,135 | 1.02% | 57,815 | 7 | 57,822 |

| Company | Entity or Loan | Original Currency | Initial Date DD/MM/YYYY | Term | Nominal Interest Rate | December 31, 2018 | | | | December 31, 2017 | | | |
|---------|--|-------------------|-------------------------|-------|-----------------------|-------------------|---------------|----------------------|--------------|-------------------|---------------|----------------------|--------------|
| | | | | | | IRR | Nominal Value | Amortized Cost Value | Total Amount | IRR | Nominal Value | Amortized Cost Value | Total Amount |
| DEL SUR | Davivienda | USD | 7/10/2015 | 10.00 | LIBOR 3M + 4.2% | 1.02% | 43,872 | 557 | 44,428 | 1.02% | 44,760 | 671 | 45,431 |
| EDEQ | AV VILLAS | COP | 23/06/2016 | 7.00 | IBR + 3.1% | 10.67% | 2,699 | 19 | 2,718 | 10.67% | 2,999 | 25 | 3,024 |
| EDEQ | AV VILLAS | COP | 15/09/2017 | 7.00 | IBR + 3.1% | 7.48% | 6,000 | 13 | 6,013 | 7.85% | 6,000 | 16 | 6,016 |
| EDEQ | Banco Agrario | COP | 25/06/2015 | 3.25 | DTF + 1.65% | 0.00% | - | - | - | 5.96% | 2,475 | 13 | 2,488 |
| EDEQ | Bancolombia | COP | 4/05/2018 | 1.00 | IBR + 1.86% | 6.21% | 11,000 | 105 | 11,105 | 0.00% | - | - | - |
| EDEQ | DAVIVIENDA | COP | 12/11/2015 | 7.00 | DTF + 2.66% | 8.35% | 5,875 | (43) | 5,832 | 2.83% | 7,344 | 5 | 7,349 |
| ENSA | Banco Davivienda | USD | 21/12/2016 | 0.08 | LIBOR + 1.4% | 0.00% | - | - | - | 2.00% | 53,712 | 485 | 54,197 |
| ENSA | Banco Davivienda | USD | 21/06/2017 | 0.58 | LIBOR + 2.00% | 0.00% | - | - | - | 0.00% | 5,968 | 54 | 6,022 |
| ENSA | Banco Latinoamericano de Comercio Exterior, S.A. | USD | 5/12/2017 | 0.17 | LIBOR + 1.65% | 0.00% | - | - | - | 1.65% | 38,792 | 44 | 38,836 |
| ENSA | Bonos | USD | 10/07/2006 | 15.00 | 7.6% | 8.16% | 324,975 | 8,465 | 333,440 | 8.16% | 298,400 | 6,813 | 305,213 |
| ENSA | Bonos | USD | 13/12/2012 | 15.00 | 4.73% | 3.46% | 259,980 | (2,520) | 257,460 | 3.46% | 238,720 | (2,561) | 236,159 |
| ENSA | Citibank | USD | 7/08/2017 | 0.49 | LIBOR + 2.00% | 0.00% | - | - | - | 2.00% | 38,792 | 58 | 38,850 |
| ENSA | Citibank | USD | 8/11/2017 | 0.49 | LIBOR + 1.94% | 0.00% | - | - | - | 1.94% | 35,808 | 39 | 35,847 |
| ENSA | Scotiabank | USD | 9/10/2017 | 0.41 | LIBOR + 1.89% | 0.00% | - | - | - | 1.89% | 59,680 | 63 | 59,743 |
| ENSA | Scotiabank | USD | 16/10/2017 | 0.49 | LIBOR + 1.98% | 0.00% | - | - | - | 1.98% | 59,680 | 43 | 59,723 |
| ENSA | Scotiabank | USD | 6/12/2017 | 0.49 | LIBOR + 1.95% | 0.00% | - | - | - | 1.95% | 44,760 | 61 | 44,821 |
| ENSA | Scotiabank | USD | 11/12/2017 | 0.49 | LIBOR + 1.95% | 0.00% | - | - | - | 1.95% | 14,920 | 16 | 14,936 |
| ENSA | Scotiabank | USD | 3/10/2018 | 5.00 | 4.25% | 4.25% | 324,975 | 732 | 325,707 | 2.00% | 29,840 | 28 | 29,868 |
| ENSA | Scotiabank | USD | 6/11/2018 | 0.25 | LIBOR + 2.9% | 2.90% | 19,499 | 5 | 19,503 | 0.00% | - | - | - |
| ENSA | Scotiabank | USD | 7/12/2018 | 0.25 | LIBOR + 2.68% | 2.68% | 19,499 | 35 | 19,533 | 0.00% | - | - | - |
| EP RIO | Bogotá | COP | 15/06/2016 | 10.00 | DTF T.A. + 5% | 10.19% | 2,344 | (11) | 2,332 | 11.03% | 2,500 | (14) | 2,486 |
| EP RIO | Bogotá | COP | 19/10/2015 | 10.00 | DTF T.A. + 5% | 10.18% | 2,563 | (4) | 2,558 | 11.01% | 2,897 | 26 | 2,923 |
| EP RIO | Bogotá | COP | 28/02/2016 | 10.00 | DTF T.A. + 5% | 10.16% | 3,792 | (14) | 3,778 | 10.98% | 4,000 | 54 | 4,054 |
| EP RIO | Bogotá | COP | 27/07/2016 | 10.00 | DTF T.A. + 5% | 10.22% | 896 | (6) | 890 | 11.02% | 1,000 | (10) | 990 |
| EPM | 1013 AFD | USD | 10/08/2012 | 14.00 | 4.311% | 4.47% | 824,287 | 13,588 | 837,875 | 4.47% | 840,978 | 13,693 | 854,672 |
| EPM | 1014 EDC | USD | 4/08/2016 | 6.00 | LIBOR + 1.4% | 4.65% | 974,925 | 10,059 | 984,984 | 0.00% | - | - | - |
| EPM | 1015 CAF | USD | 3/10/2016 | 18.00 | LIBOR + 3.1% | 6.28% | 649,950 | 5,285 | 655,235 | 0.00% | - | - | - |
| EPM | 1019 COLPATRIA | COP | 19/12/2018 | 1.00 | IBR + 1.78% | 6.06% | 100,000 | 199 | 100,199 | 0.00% | - | - | - |
| EPM | 1020 BBVA | COP | 20/12/2018 | 1.00 | IBR + 1.793% | 6.07% | 35,000 | 59 | 35,059 | 0.00% | - | - | - |
| EPM | 1220 BID 2120 | USD | 25/03/2009 | 25.00 | LIBOR + 0% | 3.62% | 374,249 | (1,614) | 372,635 | 3.33% | 111,903 | (55) | 111,848 |
| EPM | 1230 IDB INVEST tramo 12 años | USD | 29/12/2017 | 12.00 | LIBOR + 2.75% | 6.37% | 1,218,656 | (36,582) | 1,182,074 | 0.00% | - | - | - |
| EPM | 1231 IDB INVEST tramo 8 años | USD | 29/12/2017 | 8.00 | LIBOR + 2.125% | 5.88% | 243,731 | (7,346) | 236,385 | 0.00% | - | - | - |
| EPM | 1254 BONOS IPC | COP | 20/11/2008 | 10.00 | IPC + 5.37% | 0.00% | - | - | - | 10.49% | 174,410 | 3,563 | 177,973 |
| EPM | 1256 BONOS TASA FIJA | COP | 20/11/2008 | 10.00 | 13.8% | 0.00% | - | - | - | 13.79% | 58,000 | 853 | 58,853 |
| EPM | 1257 BONOS IPC II TRAMO | COP | 22/01/2009 | 10.00 | IPC + 5.8% | 9.16% | 138,600 | 2,366 | 140,966 | 10.25% | 138,600 | 2,447 | 141,047 |
| EPM | 1259 BONOS TF II TRAMO | COP | 22/01/2009 | 10.00 | 10.8% | 10.79% | 74,700 | 7,558 | 82,258 | 10.79% | 74,700 | 7,564 | 82,264 |
| EPM | 1261 BONOS IPC III TRAMO | COP | 21/04/2009 | 15.00 | IPC + 6.24% | 9.63% | 198,400 | 4,260 | 202,660 | 10.55% | 198,400 | 4,374 | 202,774 |
| EPM | 1262 BONOS INTERNACIONALE | USD | 29/07/2009 | 10.00 | 7.625% | 8.25% | 1,624,875 | 49,306 | 1,674,181 | 8.17% | 1,492,000 | 39,894 | 1,531,894 |
| EPM | 1264 BONOS IPC IV TRAM 2 | COP | 14/12/2010 | 12.00 | IPC + 4.2% | 7.58% | 119,900 | 515 | 120,415 | 8.74% | 119,900 | 113 | 120,013 |
| EPM | 1265 BONOS IPC IV TRAM 3 | COP | 14/12/2010 | 20.00 | IPC + 4.94% | 8.40% | 267,400 | 548 | 267,948 | 9.37% | 267,400 | (57) | 267,343 |

| Company | Entity or Loan | Original Currency | Initial Date DD/MM/YYYY | Term | Nominal Interest Rate | December 31, 2018 | | | | December 31, 2017 | | | |
|---------|---|-------------------|-------------------------|-------|-----------------------|-------------------|---------------|----------------------|--------------|-------------------|---------------|----------------------|--------------|
| | | | | | | IRR | Nominal Value | Amortized Cost Value | Total Amount | IRR | Nominal Value | Amortized Cost Value | Total Amount |
| EPM | 1266 GLOBAL 2021 COP | COP | 31/01/2011 | 10.00 | 8.375% | 8.70% | 1,250,000 | 88,210 | 1,338,210 | 8.69% | 1,250,000 | 85,144 | 1,335,144 |
| EPM | 1267 BONOS IPC V TRAMO I | COP | 4/12/2013 | 5.00 | IPC + 3.82% | 0.00% | - | - | - | 8.55% | 41,880 | 83 | 41,963 |
| EPM | 1268 BONOS IPC V TRAMO II | COP | 4/12/2013 | 10.00 | IPC + 4.52% | 8.17% | 96,210 | (311) | 95,899 | 9.10% | 96,210 | (529) | 95,681 |
| EPM | 1269 BONOS IPC V TRAMO III | COP | 4/12/2013 | 20.00 | IPC + 5.03% | 8.62% | 229,190 | (1,541) | 227,649 | 9.54% | 229,190 | (1,819) | 227,371 |
| EPM | 1270 BONOS IPC VI TRAMO I | COP | 29/07/2014 | 6.00 | IPC + 3.57% | 7.36% | 125,000 | 740 | 125,740 | 8.31% | 125,000 | 322 | 125,322 |
| EPM | 1271 BONOS IPC VI TRAMO II | COP | 29/07/2014 | 12.00 | IPC + 4.17% | 7.78% | 125,000 | 166 | 125,166 | 8.70% | 125,000 | 42 | 125,042 |
| EPM | 1272 BONOS IPC VI TRAMO III | COP | 29/07/2014 | 20.00 | IPC + 4.5% | 8.08% | 250,000 | (100) | 249,900 | 8.99% | 250,000 | (191) | 249,809 |
| EPM | 1273 GLOBAL 2024 COP | COP | 3/09/2014 | 10.00 | 7.625% | 7.74% | 965,745 | 17,243 | 982,988 | 7.73% | 965,745 | 16,659 | 982,404 |
| EPM | 1274 BONOS IPC V TRAMO IV | COP | 20/03/2015 | 10.00 | IPC + 3.65% | 8.01% | 130,000 | 362 | 130,362 | 8.94% | 130,000 | 192 | 130,192 |
| EPM | 1275 BONOS IPC VII TRAMO I | COP | 20/03/2015 | 5.00 | IPC + 2.72% | 6.13% | 120,000 | 167 | 120,167 | 7.11% | 120,000 | (102) | 119,898 |
| EPM | 1276 BONOS IPC VII TRAMO II | COP | 20/03/2015 | 12.00 | IPC + 3.92% | 7.34% | 120,000 | 146 | 120,146 | 8.25% | 120,000 | (67) | 119,933 |
| EPM | 1277 BONOS IPC VII TRAMO III | COP | 20/03/2015 | 20.00 | IPC + 4.43% | 7.83% | 260,000 | 949 | 260,949 | 8.86% | 260,000 | 367 | 260,367 |
| EPM | 1278 GLOBAL 2027 COP | COP | 31/10/2017 | 10.00 | 8.375% | 8.46% | 2,300,000 | 15,626 | 2,315,626 | 8.46% | 2,300,000 | 13,925 | 2,313,925 |
| EPM | 1665 BID-1664-1 | COP | 9/12/2005 | 20.00 | 7.8% | 9.24% | 332,231 | 4,367 | 336,598 | 9.46% | 379,692 | 3,935 | 383,627 |
| EPM | 2015 CLUB DEAL BANK OF TOKYO | USD | 29/12/2015 | 5.00 | LIBOR + 1.4% | 4.94% | 763,691 | 6,548 | 770,239 | 4.00% | 701,240 | (3,567) | 697,673 |
| EPM | 2016 BNDES | USD | 26/04/2016 | 23.50 | 4.887% | 5.22% | 132,517 | (4,144) | 128,373 | 5.22% | 76,971 | (3,092) | 73,879 |
| EPM | 2021 BID 2120-1 | COP | 25/03/2009 | 25.00 | 6.272% | 7.25% | 190,295 | (2,591) | 187,704 | 7.05% | 190,295 | (1,892) | 188,403 |
| EPM | 2022 BID 2120-2 | COP | 25/03/2009 | 25.00 | 7.5% | 8.06% | 388,096 | 1,624 | 389,720 | 8.04% | 413,134 | 4,607 | 417,741 |
| EPM | 2023 BID 2120-3 | COP | 25/03/2009 | 25.00 | 6.265% | 6.56% | 193,216 | 2,134 | 195,350 | 6.56% | 205,681 | 826 | 206,507 |
| EPM | 2179 BANK OF TOKYO-MITSUB | USD | 29/09/2008 | 15.00 | LIBOR + 0.95% | 2.07% | 270,782 | 14,372 | 285,154 | 1.17% | 298,376 | 16,760 | 315,136 |
| EPM | 2218 BID 800-RELIQUIDADO | USD | 14/07/1994 | 25.00 | LIBOR + 1.43% | 2.43% | 26,312 | 827 | 27,138 | 2.29% | 48,320 | 1,671 | 49,992 |
| EPM | 5765 AGRARIO | COP | 20/05/2014 | 16.00 | IPC + 4.7% | 8.38% | 116,000 | (1,234) | 114,766 | 9.22% | 116,000 | (1,098) | 114,902 |
| EPM | 6014 POPULAR | COP | 26/12/2017 | 1.00 | IBR + 1.8% | 0.00% | - | - | - | 6.47% | 100,000 | 87 | 100,087 |
| EPM | 6015 COLPATRIA | COP | 12/12/2017 | 1.00 | IBR + 1.65% | 0.00% | - | - | - | 6.38% | 100,000 | 324 | 100,324 |
| EPM | 6016 COLPATRIA | COP | 21/12/2017 | 1.00 | IBR + 1.65% | 0.00% | - | - | - | 6.36% | 100,000 | 170 | 100,170 |
| EPM | 6017 POPULAR | COP | 15/01/2018 | 1.00 | IBR + 1.8% | 6.06% | 100,000 | 1,312 | 101,312 | 0.00% | - | - | - |
| EPM | 6018 Bancolombia | COP | 22/01/2018 | 1.00 | IBR + 1.59% | 5.87% | 100,000 | 1,110 | 101,110 | 0.00% | - | - | - |
| EPM | 6019 Bancolombia | COP | 29/01/2018 | 1.00 | IBR + 1.59% | 5.87% | 70,000 | 697 | 70,697 | 0.00% | - | - | - |
| EPM | 6020 Bancolombia | COP | 19/02/2018 | 1.00 | IBR + 1.59% | 5.89% | 130,000 | 873 | 130,873 | 0.00% | - | - | - |
| EPM | 9999 COMISIONES CREDITOS NO DESEMBOLSADOS | USD | 0/01/1900 | - | - | 0.00% | - | (20,185) | (20,185) | 0.00% | - | (13,260) | (13,260) |
| ESSA | BBVA | COP | 14/06/2017 | 12.00 | IBR + 3.56% | 8.09% | 10,000 | 18 | 10,018 | 8.47% | 10,000 | 22 | 10,022 |
| ESSA | BBVA | COP | 29/06/2017 | 12.00 | IBR + 3.56% | 7.94% | 8,000 | 36 | 8,036 | 8.32% | 8,000 | 47 | 8,047 |
| ESSA | BBVA | COP | 13/07/2017 | 12.00 | IBR + 3.56% | 8.09% | 10,000 | 151 | 10,151 | 8.48% | 10,000 | 174 | 10,174 |
| ESSA | BBVA | COP | 28/09/2017 | 12.00 | IBR + 3.56% | 8.08% | 15,000 | (14) | 14,986 | 8.46% | 15,000 | (5) | 14,995 |
| ESSA | BBVA | COP | 12/10/2017 | 12.00 | IBR + 3.56% | 8.08% | 5,000 | 78 | 5,078 | 8.47% | 5,000 | 90 | 5,090 |
| ESSA | BBVA | COP | 30/10/2017 | 12.00 | IBR + 3.56% | 8.08% | 5,000 | 59 | 5,059 | 8.46% | 5,000 | 69 | 5,069 |
| ESSA | BBVA | COP | 29/11/2017 | 12.00 | IBR + 3.56% | 8.08% | 7,000 | 36 | 7,036 | 8.29% | 7,000 | 49 | 7,049 |
| ESSA | BBVA | COP | 11/12/2017 | 12.00 | IBR + 3.56% | 8.05% | 4,000 | 15 | 4,015 | 8.44% | 4,000 | 18 | 4,018 |
| ESSA | BBVA | COP | 14/12/2017 | 12.00 | IBR + 3.56% | 8.05% | 14,000 | 44 | 14,044 | 8.44% | 14,000 | 53 | 14,053 |
| ESSA | BBVA | COP | 26/12/2017 | 12.00 | IBR + 3.56% | 8.13% | 90,000 | (230) | 89,770 | 8.44% | 90,000 | 100 | 90,100 |

| Company | Entity or Loan | Original Currency | Initial Date DD/MM/YYYY | Term | Nominal Interest Rate | December 31, 2018 | | | | December 31, 2017 | | | |
|------------|---------------------------------|-------------------|-------------------------|-------|-----------------------|-------------------|---------------|----------------------|--------------|-------------------|---------------|----------------------|--------------|
| | | | | | | IRR | Nominal Value | Amortized Cost Value | Total Amount | IRR | Nominal Value | Amortized Cost Value | Total Amount |
| ESSA | BBVA | COP | 29/10/2018 | 12.00 | IBR + 2.91% | 7.35% | 40,000 | 492 | 40,492 | 0.00% | - | - | - |
| ESSA | BBVA | COP | 28/11/2018 | 12.00 | IBR + 2.91% | 7.35% | 6,000 | 39 | 6,039 | 0.00% | - | - | - |
| ESSA | BBVA | COP | 26/12/2018 | 12.00 | IBR + 2.91% | 7.34% | 54,000 | 52 | 54,052 | 0.00% | - | - | - |
| ESSA | Bogotá | COP | 26/02/2013 | 7.00 | IBR + 1.88% | 5.85% | 28,000 | 216 | 28,216 | 6.17% | 50,400 | 512 | 50,912 |
| ESSA | Bogotá | COP | 11/04/2013 | 7.00 | IBR + 1.88% | 5.92% | 10,950 | 162 | 11,112 | 6.27% | 18,250 | 337 | 18,587 |
| ESSA | Bogotá | COP | 20/05/2013 | 7.00 | IBR + 1.88% | 5.73% | 2,100 | 21 | 2,121 | 6.07% | 3,500 | 46 | 3,546 |
| ESSA | Bogotá | COP | 10/04/2014 | 7.00 | IBR + 1.88% | 5.94% | 9,000 | 141 | 9,141 | 6.31% | 12,600 | 242 | 12,842 |
| ESSA | Bogotá | COP | 16/04/2014 | 7.00 | IBR + 1.88% | 6.00% | 5,000 | 71 | 5,071 | 6.36% | 7,000 | 122 | 7,122 |
| ESSA | Bogotá | COP | 30/04/2015 | 7.00 | IBR + 1.88% | 6.17% | 9,100 | 91 | 9,191 | 6.53% | 11,700 | 143 | 11,843 |
| ESSA | Bogotá | COP | 27/01/2016 | 7.00 | IBR + 1.88% | 6.25% | 12,750 | 114 | 12,864 | 6.62% | 15,000 | 162 | 15,162 |
| ESSA | Bogotá | COP | 16/02/2016 | 7.00 | IBR + 1.88% | 6.27% | 11,050 | 60 | 11,110 | 6.68% | 13,000 | 105 | 13,105 |
| ESSA | Bogotá | COP | 28/03/2016 | 7.00 | IBR + 1.88% | 6.02% | 5,950 | 18 | 5,968 | 6.38% | 7,000 | 32 | 7,032 |
| ESSA | Bogotá | COP | 14/04/2016 | 7.00 | IBR + 1.88% | 6.29% | 7,650 | 79 | 7,729 | 6.66% | 8,500 | 103 | 8,603 |
| ESSA | Bogotá | COP | 1/07/2016 | 12.00 | IBR + 3.15% | 7.59% | 19,500 | 281 | 19,781 | 9.41% | 20,000 | 404 | 20,404 |
| ESSA | Bogotá | COP | 19/08/2016 | 12.00 | IBR + 3.15% | 7.54% | 7,800 | 52 | 7,852 | 9.35% | 8,000 | 74 | 8,074 |
| ESSA | Bogotá | COP | 13/10/2016 | 12.00 | IBR + 3.15% | 7.60% | 9,000 | 106 | 9,106 | 9.42% | 9,000 | 149 | 9,149 |
| ESSA | Bogotá | COP | 11/11/2016 | 12.00 | IBR + 3.15% | 7.63% | 35,000 | 170 | 35,170 | 9.42% | 35,000 | 298 | 35,298 |
| ESSA | Bogotá | COP | 5/12/2016 | 12.00 | IBR + 3.15% | 7.60% | 8,000 | 9 | 8,009 | 9.42% | 8,000 | 16 | 8,016 |
| ESSA | Bogotá | COP | 14/12/2016 | 12.00 | IBR + 3.15% | 7.58% | 15,000 | 0 | 15,000 | 9.42% | 15,000 | 11 | 15,011 |
| ESSA | Bogotá | COP | 11/01/2017 | 12.00 | IBR + 3.15% | 7.59% | 14,994 | 184 | 15,179 | 9.42% | 15,000 | 258 | 15,258 |
| ESSA | Bogotá | COP | 16/01/2017 | 12.00 | IBR + 3.15% | 7.58% | 9,994 | 117 | 10,112 | 9.42% | 10,000 | 158 | 10,158 |
| ESSA | Bogotá | COP | 15/05/2017 | 12.00 | IBR + 3.15% | 7.58% | 10,000 | 57 | 10,057 | 9.36% | 10,000 | 100 | 10,100 |
| ESSA | Bogotá | COP | 26/12/2017 | 12.00 | IBR + 3.15% | 7.57% | 10,000 | (26) | 9,974 | 7.88% | 10,000 | 10 | 10,010 |
| ESSA | Popular | COP | 28/12/2018 | 12.00 | IBR + 2.91% | 7.24% | 106,000 | 61 | 106,061 | 0.00% | - | - | - |
| GRUPO DECA | Banco Agromercantil | GTQ | 23/02/2012 | 10.00 | TAPP + -6.56% | 6.82% | 42,002 | (258) | 41,744 | 6.81% | 50,784 | (184) | 50,601 |
| GRUPO DECA | Banco Agromercantil | USD | 27/04/2018 | 1.00 | LIBOR + 2.03% | 4.33% | 159,237 | - | 159,237 | 0.00% | - | - | - |
| GRUPO DECA | Banco América Central | GTQ | 21/12/2018 | 10.00 | TAPP + -6.81% | 6.14% | 64,264 | 95 | 64,359 | 6.95% | 93,687 | (649) | 93,038 |
| GRUPO DECA | Banco América Central | USD | 21/12/2018 | 10.00 | LIBOR + 2.26387% | 5.10% | 97,492 | 120 | 97,612 | 6.78% | 36,704 | (103) | 36,601 |
| GRUPO DECA | Banco América Central | USD | 22/05/2017 | 3.00 | TAPP + -1.5% | 0.00% | - | - | - | 4.55% | 29,840 | (0) | 29,840 |
| GRUPO DECA | Banco América Central | GTQ | 26/12/2018 | 10.00 | TAPP + -6.81% | 6.00% | 64,684 | - | 64,684 | 0.00% | - | - | - |
| GRUPO DECA | Banco América Central | USD | 26/12/2018 | 10.00 | LIBOR + 2.26387% | 5.00% | 32,497 | - | 32,497 | 0.00% | - | - | - |
| GRUPO DECA | Banco de América Central, S.A. | USD | 20/11/2014 | 10.00 | PPA - 1.50% | 0.00% | - | - | - | 4.58% | 29,840 | 21 | 29,861 |
| GRUPO DECA | Banco de Desarrollo Rural, S.A. | USD | 14/12/2014 | 5.00 | PPA - 1.20% | 0.00% | - | - | - | 4.89% | 29,840 | 21 | 29,861 |
| GRUPO DECA | Banco G&T Continental | USD | 27/04/2017 | 3.00 | TAPP + -1.5% | 0.00% | - | - | - | 4.55% | 41,776 | (0) | 41,776 |
| GRUPO DECA | Banco Industrial | GTQ | 20/12/2018 | 10.00 | TAPP + -6.8% | 6.19% | 109,627 | 181 | 109,808 | 6.95% | 144,111 | (986) | 143,125 |
| GRUPO DECA | Banco Industrial | GTQ | 20/12/2018 | 10.00 | TAPP + -6.8% | 6.05% | 140,289 | - | 140,289 | 0.00% | - | - | - |
| GRUPO DECA | Banco Industrial, S.A. | USD | 20/11/2014 | 10.00 | PPA - 1.56% | 0.00% | - | - | - | 4.51% | 74,600 | 52 | 74,652 |
| GRUPO DECA | Banco Internacional | USD | 19/12/2018 | 10.00 | TAPP + -1.25% | 5.10% | 16,249 | 24 | 16,273 | 7.51% | 7,661 | (36) | 7,626 |
| GRUPO DECA | Banco Internacional | USD | 19/12/2018 | 10.00 | TAPP + -1.25% | 5.00% | 16,249 | - | 16,249 | 0.00% | - | - | - |
| GRUPO DECA | Banco Internacional, S.A. | USD | 4/12/2014 | 10.00 | PPA - 1.50% | 0.00% | - | - | - | 4.58% | 8,952 | 7 | 8,959 |

| Company | Entity or Loan | Original Currency | Initial Date DD/MM/YYYY | Term | Nominal Interest Rate | December 31, 2018 | | | | December 31, 2017 | | | |
|--------------|------------------|-------------------|-------------------------|-------|-----------------------|-------------------|-------------------|----------------------|-------------------|-------------------|-------------------|----------------------|-------------------|
| | | | | | | IRR | Nominal Value | Amortized Cost Value | Total Amount | IRR | Nominal Value | Amortized Cost Value | Total Amount |
| GRUPO DECA | Banco Reformador | USD | 17/08/2017 | 3.00 | TAPP + -1.5% | 0.00% | - | - | - | 4.55% | 44,760 | (0) | 44,760 |
| GRUPO DECA | Bancolombia | USD | 9/07/2018 | 1.00 | LIBOR + 2.03% | 4.33% | 129,989 | - | 129,989 | 0.00% | - | - | - |
| TICSA | Banco del Bajío | MXN | 31/07/2013 | 14.67 | TIIE + 2.75% | 11.35% | 65,184 | (643) | 64,542 | 8.73% | 64,334 | (2,356) | 61,978 |
| TICSA | Bank of America | MXN | 8/12/2017 | 1.00 | TIIE + 1.75% | 0.00% | - | - | - | 6.11% | 7,626 | - | 7,626 |
| TICSA | Bank of America | MXN | 6/04/2018 | 1.00 | TIIE + 1.75% | 10.35% | 28,547 | - | 28,547 | 6.11% | 23,792 | - | 23,792 |
| TICSA | Bank of America | MXN | 16/04/2018 | 1.00 | TIIE + 1.75% | 10.35% | 9,950 | - | 9,950 | 6.11% | 9,197 | - | 9,197 |
| TICSA | Bank of America | MXN | 23/07/2018 | 1.00 | TIIE + 1.75% | 10.35% | 9,571 | - | 9,571 | 6.11% | 2,745 | - | 2,745 |
| TICSA | Bank of America | MXN | 3/09/2018 | 1.00 | TIIE + 1.75% | 10.35% | 11,551 | - | 11,551 | 6.11% | 4,575 | - | 4,575 |
| TICSA | Bank of America | MXN | 4/12/2018 | 1.00 | TIIE + 2.25% | 10.85% | 11,551 | - | 11,551 | 6.11% | 1,525 | - | 1,525 |
| TICSA | Bank of America | USD | 6/07/2018 | 1.00 | LIBOR + 2.25% | 10.35% | 10,341 | - | 10,341 | 6.11% | 6,101 | - | 6,101 |
| TICSA | Bank of America | USD | 28/09/2018 | 1.00 | LIBOR + 2.25% | 10.35% | 12,677 | - | 12,677 | 6.11% | 4,575 | - | 4,575 |
| TICSA | Bank of América | MXN | 30/11/2016 | 1.00 | TIIE + 1.75% | 0.00% | - | - | - | 6.11% | 3,050 | - | 3,050 |
| TICSA | Banobras | MXN | 1/09/2001 | 15.50 | 8.28% | - | - | - | - | 0.00% | - | - | - |
| TICSA | FIDE | MXN | 9/12/2015 | 3.00 | 7.31% | 8.69% | 469 | (428) | 41 | 8.69% | 468 | - | 468 |
| TICSA | Interacciones | MXN | 1/08/2007 | 15.33 | TIIE + 3% | 11.60% | 22,748 | 854 | 23,603 | 7.60% | 27,347 | (1,155) | 26,191 |
| TICSA | Interacciones | MXN | 1/05/2011 | 8.00 | TIIE + 3.9% | 8.28% | 1,646 | 6 | 1,651 | 8.16% | 6,084 | 114 | 6,198 |
| TICSA | Santander | MXN | 14/06/2016 | 7.00 | TIIE + 2.15% | 12.20% | 36,704 | 172 | 36,876 | 11.45% | 40,110 | (215) | 39,895 |
| TICSA | Santander | MXN | 14/06/2016 | 10.00 | TIIE + 2.15% | 12.41% | 53,031 | (116) | 52,915 | 11.34% | 52,998 | (529) | 52,469 |
| TICSA | Santander | MXN | 14/06/2016 | 14.00 | TIIE + 2.15% | 13.15% | 18,861 | 58 | 18,919 | 12.02% | 18,149 | (98) | 18,051 |
| TICSA | Santander | MXN | 25/05/2018 | 1.00 | TIIE + 3% | 11.60% | 4,916 | - | 4,916 | 6.76% | 4,347 | - | 4,347 |
| Total | | | | | | | 20,628,839 | 205,962 | 20,834,801 | | 16,750,112 | 208,611 | 16,958,723 |

Figures stated in millions of Colombian pesos

Interest paid for credit operations as of December 31, 2018 was \$ 1,191,430 (2017: \$ 1,013,853).

The Assumed Net Exchange Difference as of December 31, 2018 associated with debt was for \$ -278,638 (2017: \$ 59,730).

The information of Bonds Issued is as follows:

| Subseries | Original Currency | Initial Date DD/MM/YYYY | Term | Nominal Interest Rate | December 31, 2018 | | | | December 31, 2017 | | | | Amount Awarded | | | | | |
|--------------------|-------------------|-------------------------|------|-----------------------|-------------------|------------------|----------------------|------------------|-------------------|------------------|----------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | | | | | IRR | Nominal Value | Amortized Cost Value | Total Amount | IRR | Nominal Value | Amortized Cost Value | Total Amount | Amount 2017 | Amount 2016 | Amount 2015 | Amount 2014 | Amount 2013 | Amount 2012 |
| A10a | COP | 20/11/2008 | 10 | IPC + 5.37% | 0.00% | 0 | 0 | 0 | 10.49% | 174,410 | 3,563 | 177,973 | 174,410 | 174,410 | 174,410 | 174,410 | 174,410 | 174,410 |
| A10a | COP | 22/01/2009 | 10 | IPC + 5.8% | 9.16% | 138,600 | 2,366 | 140,966 | 10.25% | 138,600 | 2,447 | 141,047 | 138,600 | 138,600 | 138,600 | 138,600 | 138,600 | 138,600 |
| A10a | COP | 4/12/2013 | 10 | IPC + 4.52% | 8.17% | 96,210 | -311 | 95,899 | 9.10% | 96,210 | (529) | 95,681 | 96,210 | 96,210 | 96,210 | 96,210 | 96,210 | - |
| A10a | COP | 20/03/2015 | 10 | IPC + 3.65% | 8.01% | 130,000 | 362 | 130,362 | 8.94% | 130,000 | 192 | 130,192 | 130,000 | 130,000 | 130,000 | - | - | - |
| A12a | COP | 14/12/2010 | 12 | IPC + 4.2% | 7.58% | 119,900 | 515 | 120,415 | 8.74% | 119,900 | 113 | 120,013 | 119,900 | 119,900 | 119,900 | 119,900 | 119,900 | 119,900 |
| A12a | COP | 29/07/2014 | 12 | IPC + 4.17% | 7.78% | 125,000 | 166 | 125,166 | 8.70% | 125,000 | 42 | 125,042 | 125,000 | 125,000 | 125,000 | 125,000 | - | - |
| A12a | COP | 20/03/2015 | 12 | IPC + 3.92% | 7.34% | 120,000 | 146 | 120,146 | 8.25% | 120,000 | (67) | 119,933 | 120,000 | 120,000 | 120,000 | - | - | - |
| A15a | COP | 21/04/2009 | 15 | IPC + 6.24% | 9.63% | 198,400 | 4,260 | 202,660 | 10.55% | 198,400 | 4,374 | 202,774 | 198,400 | 198,400 | 198,400 | 198,400 | 198,400 | 198,400 |
| A20a | COP | 14/12/2010 | 20 | IPC + 4.94% | 8.40% | 267,400 | 548 | 267,948 | 9.37% | 267,400 | (57) | 267,343 | 267,400 | 267,400 | 267,400 | 267,400 | 267,400 | 267,400 |
| A20a | COP | 4/12/2013 | 20 | IPC + 5.03% | 8.62% | 229,190 | -1,541 | 227,649 | 9.54% | 229,190 | (1,819) | 227,371 | 229,190 | 229,190 | 229,190 | 229,190 | 229,190 | - |
| A20a | COP | 29/07/2014 | 20 | IPC + 4.5% | 8.08% | 250,000 | -100 | 249,900 | 8.99% | 250,000 | (191) | 249,809 | 250,000 | 250,000 | 250,000 | 250,000 | - | - |
| A20a | COP | 20/03/2015 | 20 | IPC + 4.43% | 7.83% | 260,000 | 949 | 260,949 | 8.86% | 260,000 | 367 | 260,367 | 260,000 | 260,000 | 260,000 | - | - | - |
| A5a | COP | 4/12/2013 | 5 | IPC + 3.82% | 0.00% | 0 | 0 | 0 | 8.55% | 41,880 | 83 | 41,963 | 41,880 | 41,880 | 41,880 | 41,880 | 41,880 | - |
| A5a | COP | 20/03/2015 | 5 | IPC + 2.72% | 6.13% | 120,000 | 167 | 120,167 | 7.11% | 120,000 | (102) | 119,898 | 120,000 | 120,000 | 120,000 | - | - | - |
| A6a | COP | 29/07/2014 | 6 | IPC + 3.57% | 7.36% | 125,000 | 740 | 125,740 | 8.31% | 125,000 | 322 | 125,322 | 125,000 | 125,000 | 125,000 | 125,000 | - | - |
| C10a | COP | 22/01/2009 | 10 | 10.8% | 10.79% | 74,700 | 7,558 | 82,258 | 10.79% | 74,700 | 7,564 | 82,264 | 74,700 | 74,700 | 74,700 | 74,700 | 74,700 | 74,700 |
| C10a | COP | 20/11/2008 | 10 | 13.8% | 0.00% | 0 | 0 | 0 | 13.79% | 58,000 | 853 | 58,853 | 58,000 | 58,000 | 58,000 | 58,000 | 58,000 | 58,000 |
| Bono internacional | USD | 29/07/2009 | 10 | 7.625% | 8.25% | 1,624,875 | 49,306 | 1,674,181 | 8.17% | 1,492,000 | 39,894 | 1,531,894 | 1,492,000 | 1,500,355 | 1,574,735 | 1,196,230 | 963,415 | 884,115 |
| Bono internacional | COP | 31/01/2011 | 10 | 8.375% | 8.70% | 1,250,000 | 88,210 | 1,338,210 | 8.69% | 1,250,000 | 85,144 | 1,335,144 | 1,250,000 | 1,250,000 | 1,250,000 | 1,250,000 | 1,250,000 | 1,250,000 |
| Bono internacional | COP | 3/09/2014 | 10 | 7.625% | 7.74% | 965,745 | 17,243 | 982,988 | 7.73% | 965,745 | 16,659 | 982,404 | 965,745 | 965,745 | 965,745 | - | - | - |
| Bono internacional | COP | 31/10/2017 | 10 | 8.375% | 8.46% | 2,300,000 | 15,626 | 2,315,626 | 8.46% | 2,300,000 | 13,925 | 2,313,925 | 2,300,000 | - | - | - | - | - |
| TOTAL | | | | | | 8,395,020 | 186,210 | 8,581,230 | | 8,536,435 | 172,780 | 8,709,215 | 8,536,435 | 6,244,790 | 6,319,170 | 5,310,665 | 3,612,105 | 3,165,525 |

Figures stated in millions of Colombian pesos, the exchange rate used was the MRR at the closing of each period

The detail of the International Bonds issued by the Group's subsidiaries is as follows:

ENSA:

| Subseries | Original Currency | Initial Date DD/MM/YYYY | Term | Nominal Interest Rate | December 31, 2018 | | | December 31, 2017 | | | Amount Awarded | | | | | | | |
|--------------------|-------------------|-------------------------|------|-----------------------|-------------------|----------------|----------------------|-------------------|-------|----------------|----------------------|----------------|-------------|-------------|-------------|-------------|-------------|----------------|
| | | | | | IRR | Nominal Value | Amortized Cost Value | Total Amount | IRR | Nominal Value | Amortized Cost Value | Total Amount | Amount 2017 | Amount 2016 | Amount 2015 | Amount 2014 | Amount 2013 | Amount 2012 |
| Bonos preferentes | USD | 10/07/2006 | 15 | 7.6% | 8.16% | 324,975 | 8,465 | 333,440 | 8.16% | 298,400 | 6,813 | 305,213 | - | - | - | - | - | - |
| Bonos corporativos | USD | 13/12/2012 | 15 | 4.73% | 3.46% | 259,980 | 2,520 | 257,460 | 3.46% | 238,720 | 2,561 | 236,159 | - | - | - | - | - | 141,458 |
| TOTAL | | | | | | 584,955 | 5,945 | 590,900 | | 537,120 | 4,252 | 541,372 | - | - | - | - | - | 141,458 |

Figures stated in millions of Colombian pesos, the exchange rate used was the MRR at the closing of each period

DELSUR:

| Subseries | Original Currency | Initial Date DD/MM/YYYY | Term | Nominal Interest Rate | December 31, 2018 | | | December 31, 2017 | | | Amount Awarded | | | | | | | |
|---|-------------------|-------------------------|------|-----------------------|-------------------|---------------|----------------------|-------------------|-------|---------------|----------------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | | | | IRR | Nominal Value | Amortized Cost Value | Total Amount | IRR | Nominal Value | Amortized Cost Value | Total Amount | Amount 2017 | Amount 2016 | Amount 2015 | Amount 2014 | Amount 2013 | Amount 2012 |
| CERTIFICADOS DE INVERSION - CIDELSUR1 (ScotiaInversiones, BVES) | USD | 16/08/2010 | 10 | LIBOR 6M + 4.5% | 1.52% | 68,245 | 425 | 68,669 | 1.52% | 62,664 | 327 | 62,991 | - | - | - | - | - | - |
| TOTAL | | | | | | 68,245 | 425 | 68,669 | | 62,664 | 327 | 62,991 | - | - | - | - | - | - |

Figures stated in millions of Colombian pesos, the exchange rate used was the MRR at the closing of each period

In 2018, EPM Group had the following credit novelties:

EPM Holding Company

had the following credit novelties:

Disbursements of Long-Term Credits:

Long-term credit with Export Development Canada (EDC) with the following conditions: Libor + 1.40% rate and a term of 6 years:

- January USD 110 million
- April USD 100 million
- May USD 90 million

Long-term credit with Development Bank of Latin America (CAF) with the following conditions: Libor rate + 3.1% and a term of 18 years:

- June USD 100 million
- August USD 100 million

Long-term credit with National Bank of Economic and Social Development (BNDES) with the following conditions: fixed rate: 4.887% and with a term of 23.5 years:

- February USD 11 million
- March USD 4 million

Long-term credit with the IDB-2120 with the following conditions: LIBOR rate and a term of 25 years:

- May USD 23 million
- August USD 9 million
- September USD 48 million

Long-term credit with IDB INVEST, a disbursement was submitted in December for USD 450 million, assigned to tranches A and B, with financial terms Libor rate + 2.75%, term of 12 years Libor rate + 2.1125%, term of 8 years.

The following short-term credits were obtained:

- January, with Bancolombia for COP 170,000, at an IBR + 1.59% rate and Banco Popular for COP 100,000 at a rate of IBR + 1.80%. Both with a term of 1 year.
- February, with Bancolombia for COP 130,000, at an IBR rate of 1.59% and a term of 1 year.
- November, with EMVARIAS for COP 40,000 at an IBR + 2.1% rate and for a term of 1 year
- December, with COLPATRIA for COP 100,000, at an IBR + 1.78% rate and for a term of 1 year
- December, with BBVA for COP 35,000, at an IBR rate of 1.79% and a term of 1 year

Aguas Regionales

Received disbursements of the following long-term loans:

Banco Davivienda, with the following financial conditions: IBR + 4.8% rate, term of 10 years.

- February 19, COP 2,500
- May 11, COP 2,500

Banco Popular, with the following financial conditions: IBR + 3% rate, 7-year term.

- June 1, COP 14,606

Centrales Eléctricas del Norte de Santander S.A. E.S.P. (CENS)

Received disbursements of the following long-term loans:

Banco Popular, with the following financial conditions: IBR + 3.35% rate, 10-year term:

- January 18, COP 37,000

Banco de Bogota, with the following financial conditions: IBR + 2.98% rate, 9-year term:

- February 16, COP 137,832

Davivienda, with the following financial conditions: IPC rate + 4.3%, term of 10 years:

- November 29, COP 6,000
- December 19, COP 15,000

Received disbursements of the following short-term loans:

Bancolombia, with the following financial conditions: IBR + 1.86% rate, 1-year term:

- January 31, COP 7,000

BBVA, with the following financial conditions: IPC rate + 2.6%, term of 1 year:

- September 28, COP 15,000
- October 18, COP 5,000

Electrificadora de Santander S.A. E.S.P. (ESSA)

Received disbursements of the following long-term loans:

BBVA, with the following financial conditions: IBR + 2.91% rate, 12-year term:

- October 29, COP 40,000
- November 28, COP 6,000
- December 26, COP 54,000

Banco Popular, with the following financial conditions: IBR + 2.91% rate, 12-year term:

- December 28, COP 106,000

Received disbursements of the following short-term loans:

Banco Popular, with the following financial conditions: IBR + 1.8% rate, 1-year term:

- April 30, COP 80,000
- May 30, COP 12,000
- July 31, COP 10,000

Central Hidroeléctrica de Caldas S.A. E.S.P. (CHEC)

Received disbursements of the following long-term loans:

Bancolombia, with the following financial conditions: IBR + 2.29%, term of 8 years:

- February 9, COP 65,000

Daviyenda, with the following financial conditions: IBR + 0.39% rate, 12-year term:

- December 27, COP 43,000

Received disbursements of the following short-term loans:

Banco ITAU, with the following financial conditions: IBR + 1.83% rate, 1-year term:

- April 26, COP 7,300

Empresas de Energía del Quindío S.A. E.S.P. (EDEQ)

Received disbursements of the following short-term loans:

Bancolombia, with the following financial conditions: IBR + 1.86% rate, 1-year term:

- May 4, COP 11,000

Distribuidora de Electricidad del Sur (Delsur)

Received disbursements of the following short-term loans:

Citibank Bank, with the following financial conditions: fixed rate 4.95%, term of 7 days:

- November 29, USD 3.5 million
- December 27, USD 4.5 million

Bank of Central America, with the following financial conditions: fixed rate 5%, term of 7 days:

- September 28, USD 3.5 million
- October 31, USD 1.5 million

Tecnología Intercontinental S.A. de C.V. (TICSA)

Received disbursements of the following short-term loans:

Banco Santander, with the following financial conditions: TIIE rate + 3%, term of 1 year:

- May 25, MXN 30 million

Banco de America, with the following financial conditions: TIIE + 1.75% rate, 1-year term:

- April 6, MXN 173 million
- April 16, MXN 60 million
- July 23, MXN 58 million
- September 3, MXN 70 million

Banco de America, with the following financial conditions: TIIE + 2.25% rate, 1-year term:

- July 6, USD 3.1 million
- September 28, USD 3.8 million

- December 04, MXN 70 million

Received disbursements of the following short-term loans:

Banco Santander, with the following financial conditions: TIIE rate + 3%, term of 1 year:

- May 25, MXN 30 million

Banco de America, with the following financial conditions: TIIE + 1.75% rate, 1-year term:

- April 6, MXN 173 million
- April 16, MXN 60 million
- July 23, MXN 58 million
- September 3, MXN 70 million

Banco de America, with the following financial conditions: TIIE + 2.25% rate, 1-year term:

- July 6, USD 3.1 million
- September 28, USD 3.8 million
- December 04, MXN 70 million

Elektra Noreste S.A. (Ensa)

Received disbursements of the following long-term loans:

Banco Davivienda, with the following financial conditions: LIBOR + 2.1%, term of 0.49 years:

- January 2, USD 5 million
- January 4, USD 18 million
- January 5, USD 2 million

Banco Scotiabank, with the following financial conditions: LIBOR rate + 2.1%, term of 0.50 years:

- January 2, USD 15 million

Banco America Central, with the following financial conditions: LIBOR + 2%, term of 0.16 years:

- February 15, USD 4 million

Banco Citibank, with the following financial conditions: LIBOR rate + 1.94%, term of 0.09 years:

- March 8, USD 13 million

Banco Scotiabank, with the following financial conditions: LIBOR + 2.5%, term of 0.49 years:

- March 9, USD 10 million

Banco Scotiabank, with the following financial conditions: LIBOR rate + 1.89%, term of 0.49 years:

- March 12, USD 10 million

Banco Scotiabank, with the following financial conditions: LIBOR rate + 2.81%, term of 0.50 years:

- April 6, USD 10 million
- April 9, USD 10 million

Banco America Central, with the following financial conditions: LIBOR + 2.65%, term of 0.25 years:

- May 14, USD 6 million

Banco Citibank, with the following financial conditions: LIBOR rate + 2.47%, term of 0.17 years:

- June 6, USD 12 million

Banco Scotiabank, with the following financial conditions: LIBOR + 2.46%, term of 0.17 years:

- June 7, USD20

Banco Scotiabank, with the following financial conditions: LIBOR rate + 2.55%, term of 0.25 years:

- July 5, USD 15 million

Banco Davivienda, with the following financial conditions: LIBOR rate + 3.6%, term of 0.42 years:

- July 5, USD 2 million

Banco Scotiabank, with the following financial conditions: LIBOR + 2.55%, term of 0.17 years:

- August 6, USD 6 million

Banco Citibank, with the following financial conditions: LIBOR + 2.43%, term of 0.16 years:

- August 31, USD 12 million

Banco Citibank, with the following financial conditions: LIBOR rate + 2.46%, term of 0.08 years:

- September 4, USD 13 million

Banco Bladex, with the following financial conditions: LIBOR + 2.84%, term of 0.08 years:

- September 12, USD 14 million

Banco America Central, with the following financial conditions: LIBOR rate + 3%, term of 0.08 years:

- September 12, USD 6 million

Banco Scotiabank, with the following financial conditions: LIBOR rate + 2.9%, term of 0.25 years:

- November 6, USD 6 million

Banco Scotiabank, with the following financial conditions: LIBOR rate + 2.68%, term of 0.25 years:

- December 7, USD 6 million

Grupo Deca

Received disbursements of the following short-term loans:

- April 27, with Banco Agromercantil for USD 49 million, at a LIBOR + 2.03% rate and for a term of 1 year.
- July 9, with Bancolombia for USD 66 million, at a rate LIBOR + 2.03% and for a term of 1 year.

Management Operations:

Aguas de Antofagasta

Performed a Management Operation with Banco del Estado and Scotiabank, for CLP 273,020 million with the following financial conditions: TAB rate + 0.65%, term of 5 years.

Centrales Eléctricas del Norte de Santander S.A. (CENS)

Performed a Management Operation with Banco de Bogota, for COP 137,832 million with the following financial conditions: IBR + 2.98%, term of 9 years.

Grupo Deca

Performed a debt management operation for the following long-term loans:

Banco Industrial, for GTQ 595 million with the following financial conditions: amount of TAPP-6.8%, term of 10 years.

Banco America Central, for GTQ 307 million with the following financial conditions: TAPP rate-6.81%, term of 10 years.

Banco America Central, for USD 40 million with the following financial conditions: LIBOR + 2.26%, term of 10 years.

Banco Internacional, for USD 10 million with the following financial conditions: TAPP rate USD -1.25%, term of 10 years.

Elektra Noreste S.A. (Ensa)

Performed out management operation with Scotiabank, for USD 100 million with the following financial conditions: fixed rate 4.25%, term of 5 years.

Debt/EBITDA Covenant

EPM has several financial covenants, established in the loan agreements signed with the French Agency for Development (AFD), Inter-American Development Bank, Development Bank of Latin America (CAF), National Bank for Economic and Social Development (BNDES), HSBC, IDB Invest, 2009 international bond issue and warranty by the Japan Bank for International Cooperation (JBIC).

The loss (profit) of these indicators to December 2018 is broken down below:

| Covenant | Credit type | 2017 | 2018 | Limit | Meets |
|------------------------------------|------------------------------|--------|--------|-------|-------|
| EBITDA/FINANCIAL EXPENSES | BNDES, AFH, HSBC, Bonds 2019 | 5.49 | 5.45 | 3.00 | ✓ |
| Monthly accrued EBITDA | | 4,732 | 5,115 | | |
| Monthly accrued financial expenses | | 863 | 939 | | |
| EBITDA/FINANCIAL EXPENSES NET | CAF, IDB Invest | 6.91 | 7.06 | 3.00 | ✓ |
| Monthly accrued EBITDA | | 4,732 | 5,115 | | |
| Monthly accrued financial expenses | | 863 | 939 | | |
| Monthly accrued financial revenue | | 177 | 214 | | |
| DEBT/EBITDA LTM | JIBD, AFD, BID, Bonds 2019 | 3.43 | 3.86 | 3.50 | ✗ |
| Financial liability * | | 16,211 | 19,736 | | |
| EBITDA last twelve months | | 4,732 | 5,115 | | |
| NET DEBT/EBITDA LTM | CAF, IDB Invest, HSBC | 3.16 | 3.34 | 4.00 | ✓ |
| Financial liability * | | 16,211 | 19,736 | | |
| Cash and cash equivalents ** | | 1,272 | 2,645 | | |
| EBITDA last twelve months | | 4,732 | 5,115 | | |
| LONG-TERM DEBT/EQUITY | JBIC, BNDES, BID | 0.69 | 0.74 | 1.50 | ✓ |
| Long-term debt | | 14,315 | 16,265 | | |
| Equity | | 20,868 | 22,034 | | |

Figures stated in millions of Colombian pesos

* The financial liability for the Debt/EBITDA calculation does not consider treasure credit and transitories, amortized cost and pension bonds

** Cash and cash equivalents plus other financial assets less restricted-use funds

*** Long-term debt does not include pension bonds

The value of the long-term financial debt to EBITDA ratio indicator, as of December 2018, is 3.86.

Contractually, one of the management structures to avoid defaulting on these types of covenants is the issuance of waivers by creditors.

It should be noted that the fact that EPM exceeds the agreed covenant Debt/EBITDA does not generate a direct activation of the declaration of non-compliance by the banking entities, nor of early payment, for being an action contractually subject to the bank(s) decision to exercise or not such declaration and additionally to the fact of having remedial periods agreed in the contracts to attend a possible default.

EPM must report compliance with the Long-Term Financial Debt/EBITDA indicator as follows: to the Japan Bank for International Cooperation (JBIC) quarterly, to the French Development Agency (AFD) semiannually and to the Inter-American Development Bank (IDB) annually. For the results of December 2018, a waiver was granted by the AFD and the IDB, as for the JBIC, it expressed its intention to contractually modify the covenant or give a waiver of default, depending on the analyzes carried out internally once the official Financial Statements for the year are published.

Due to the periodicity of measurement, the waivers delivered by AFD and IDB cover the 2019 term, while JBIC will review the compliance of said indicator quarterly.

Regarding the 2009 International Bonds and the HSBC credit, these have agreed on the Financial Debt/EBITDA and Net Financial Debt/EBITDA indicators, respectively, but they are inactive, given that EPM has two credit risk ratings at an investment grade level.

Default events

During the reporting period, the EPM Group has not defaulted on any principal or interest payment of its loans.

Note 23. Creditors and Other Accounts Payable

The creditors and other accounts payable consist of:

| Creditors and Other Accounts Payable | 2018 | 2017 |
|--|------------------|------------------|
| Non-Current | | |
| Creditors | 155,063 | 174,746 |
| Acquisition of Goods and Services | 62,971 | 29,910 |
| Deposits Received as Collateral ⁽¹⁾ | 257,175 | 15,430 |
| Advance Payments Received | 4,054 | 435 |
| Resources Received for Management | 15,083 | 23,530 |
| Construction Contracts | 8,423 | 20,479 |
| Total Creditors and Other Accounts Payable Non-Curent | 502,769 | 264,530 |
| Current | | |
| Creditors | 742,979 | 939,867 |
| Acquisition of Goods and Services | 1,784,124 | 1,643,403 |
| Allocated Grants | 8,109 | 3,415 |
| Deposits Received as Collateral ⁽¹⁾ | 18,446 | 221,777 |
| Advance Payments Received | 92,824 | 55,959 |
| Resources Received for Management | 49,701 | 50,043 |
| Other Accounts Payable | 871 | 981 |
| Construction Contracts | (470) | 30,848 |
| Comissions Due | 2,110 | 2,110 |
| Total Creditors and Other Accounts Payable Curent | 2,698,694 | 2,948,403 |
| Total Creditors and Other Accounts Payable | 3,201,462 | 3,212,933 |

Figures stated in millions of Colombian pesos

- ⁽¹⁾ In Guatemala, the General Electricity Act (Ley General de Electricidad) establishes that every new user must give the distributor a guarantee of payment. This guarantee may be provided in monetary form or by means of a deposit and will be calculated for each user category as the amount equivalent to two average monthly bills of a typical user of the same category. EEGSA collects such guarantees from its clients and registers the amounts received as "Consumer deposits". In accordance with the provisions of the General Electricity Act, Decree No. 93-96 of November 15, 1996, article 94, from that date until March 10, 2007, the deposits received from clients accrued real interest from the 5% per year. As of March 11, 2007, deposits received must be returned adding to the capital the monthly weighted average active interest rate of the banking system. It also establishes that, upon termination of the contract, the distributor must make a settlement that includes the initial amount of the guarantee plus all accrued and capitalized interest each year less the outstanding debts and costs that the user may have incurred.

From December 31, 2006, EEGSA records a provision for the amount of the interest derived by the payment guarantees.

Deposits received from consumers, plus accrued interest and less any outstanding debt for past services, are reimbursable to users when they cease to use the electric power service provided by EEGSA. In 2018, these deposits have been classified as non-current liabilities because the company

does not expect to make significant payments in the next year, according to the estimates and recurrence of customer withdrawals, in addition to the business premise underway.

As of December 31, 2018, the amount of consumer deposits was \$ 227,748 (2017: \$ 205,312).

The term for payment to suppliers is generally 30 calendar days, with exceptions that are documented in the processes and determined among others, by the type of obligation and contract.

Default events

During the reporting period, the Group has not defaulted on any principal or interest payment to creditors and other accounts payable.

Note 24. Other Financial Liabilities

The other financial liabilities consist of:

| Other Financial Liabilities | 2018 | 2017 |
|--|----------------|----------------|
| Non-Current | | |
| Financial Leases | 194,267 | 195,330 |
| Pension Bonds ⁽¹⁾ | 297,304 | 320,636 |
| Derivatives not under Hedge Accounting | - | 3,590 |
| Cash Flow Hedge Derivatives (See Note 25) | - | 18,914 |
| Total Other Financial Liabilities Non-Current | 491,571 | 538,470 |
| Current | | |
| Financial Leases | 1,216 | 1,161 |
| Pension Bonds ⁽¹⁾ | 345,884 | 320,083 |
| Derivatives not under Hedge Accounting | - | 10,266 |
| Cash Flow Hedge Derivatives (See Note 25) | - | 33,368 |
| Total Other Financial Liabilities Current | 347,100 | 364,878 |
| Total Other Financial Liabilities | 838,671 | 903,348 |

Figures stated in millions of Colombian pesos

⁽¹⁾ The variation was generated by the amortized cost and payments made during the period. Conventional purchases and sales of financial liabilities are accounted by applying the trading date. The Group has not designated financial liabilities at fair value through changes in income.

Default events

During the reporting period, the EPM Group has not defaulted on any principal or interest payment of its loans.

Note 25. Derivatives and Hedges

The Group has the following types of cash flow hedges, which fair values as of December 31, 2018 amount to \$ 192,465 (2017: \$ 38,131 Liability).

| Hedge Classification | Description | Hedged Risk | Trench | Hedged Item | Recorded Value of Hedged Item | Recorded Value of Hedging Instrument | Changes in Fair Value of the Hedging Instrument for the Period | Changes in Fair Value of the Hedged Item for the Period | Hedge Effectiveness Recognized in the Profit for the Period | Hedge Effectiveness Recognized in Other Comprehensive Income | Reclassification of Other Comprehensive Income into Profit for the Period ¹ |
|---|--------------------------------------|---|--|--|-------------------------------|--------------------------------------|--|---|---|--|--|
| Cash Flow Hedging | | | | | | | | | | | |
| Swaps EPM | Cross Currency Swap | Tasa de cambio USD/COP y tasa de interés Libor/fija del servicio de deuda | Parte de los créditos Club Deal, AFD y EDC | Crédito en Dólares | 2,593,098 | (186,230) | (169,970) | 20,068 | N.A | (169,970) | (191,712) |
| Swaps TICSÁ | Swap de cobertura de tasa de interés | Tasa de interés TIIE | Crédito Santander | Crédito en MXN | 108,710 | (6,235) | 484 | N.A | N.A | 484 | N.A |
| Futures | Derivex | Precio de Venta en bolsa de energía | N.A | Ventas de Energía partida altamente probable | N.A | - | 314 | N.A | N.A | 314 | 411 |
| Figures stated in millions of Colombian pesos | | | | | | | | | | | |

¹ Reclassification of Other Comprehensive income to Profit for the period, for swap instruments, affected the interests item, difference in exchange, difference in interest and capital of the right; and for the instruments futures contracts affected the item of power sales in the stock market. Additionally, \$23,823 were capitalized as borrowing costs mainly to the Ituango project.

Cash Flow hedging

The characteristics of the main cash flow hedging instruments that are under hedge accounting are the following:

Swaps:

EPM

| Characteristics | | | | | | | | | | | | | | | |
|----------------------|------------------|------------------|-------------------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------|
| Hedged Underlying | Club Deal Credit | Club Deal Credit | Club Deal Credit | Club Deal Credit | Club Deal Credit | Club Deal Credit | AFD Credit | AFD Credit | AFD Credit | AFD Credit | AFD Credit | AFD Credit | EDC Credit | EDC Credit | EDC Credit |
| Trench No. | 2 | 3 | 8 | 9 | 14 | 12 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | |
| Closing Date | 24-May-16 | 26-May-16 | 20-Jun-16 | 8-Jul-16 | 21-Jul-16 | 8-Aug-16 | 3-Feb-17 | 6-Feb-17 | 10-Feb-17 | 24-Mar-17 | 30-Mar-17 | 23-Mar-18 | 3-Apr-18 | 11-May-18 | |
| Derivative Type | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | CCS | |
| Counterparty | JP Morgan | JP Morgan | Bank of America Merrill Lynch | BNP Paribas | BNP Paribas | BNP Paribas | BNP Paribas | BNP Paribas | BNP Paribas | CITI BANK | CITI BANK | Goldman Sachs | Goldman Sachs | Goldman Sachs | |
| Nominal Amount (USD) | 50,000,000 | 50,000,000 | 60,000,000 | 40,000,000 | 5,000,000 | 30,000,000 | 64,750,000 | 47,381,250 | 85,312,500 | 13,164,375 | 85,312,500 | 110,000,000 | 100,000,000 | 90,000,000 | |
| Spot Exchange Rate | 3,058 | 3,053 | 2,976 | 2,965 | 2,924 | 2,990 | 2,850 | 2,855 | 2,850 | 2,899 | 2,878 | 2,847 | 2,776 | 2,816 | |
| Obligation (COP) | 152,900,000,000 | 152,650,000,000 | 178,560,000,000 | 118,600,000,000 | 14,620,000,000 | 89,700,000,000 | 184,537,500,000 | 135,273,468,750 | 243,140,625,000 | 38,163,523,125 | 245,529,375,000 | 313,170,000,000 | 277,600,000,000 | 253,440,000,000 | |
| Expiring Date | Forward starting | Forward starting | Forward starting | Forward starting | Back starting | Back starting | Back starting | Back starting | Back starting | Back starting | Back starting | Back starting | Back starting | Back starting | |
| Initial Exchange | No | No | No | No | No | No | No | No | No | No | No | No | No | No | |
| Final Exchange | Si | Si | Si | Si | Si | Si | No | No | No | No | No | No | No | No | |
| Modality | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | Non Delivery | |

* CCS : Cross Currency Swap

TICSA

| Characteristics | COLIMA | CELAYA | MORELIA |
|----------------------|-------------------|-------------------|-------------------|
| Hedged Underlying | Credito Santander | Credito Santander | Credito Santander |
| Trench No. | 1 | 1 | 1 |
| Closing Date | 31-Dec-18 | 31-Dec-18 | 31-Dec-18 |
| Derivative Type | swap | swap | swap |
| Counterparty | Santander | Santander | Santander |
| Nominal Amount (MXN) | 282,750,000 | 95,250,000 | 246,300,000 |
| Spot Exchange Rate | N.A | N.A | N.A |
| Obligation (MXN) | 377,000,000 | 127,000,000 | 328,400,000 |
| Expiring Date | 12-feb-24 | 10-dic-26 | 10-ene-22 |
| Initial Exchange | No | No | No |
| Final Exchange | No | No | No |
| Modality | Non Delivery | Non Delivery | Non Delivery |

Early Termination of Hedging

The Group had reclassified to non-cash flow hedge accounting two instruments swaps that were canceled in February 2018. The characteristics of the canceled operations are as follows:

| Characteristics | Trench 1 | Trench 11 |
|------------------------------------|--------------------------------|----------------------|
| Contract date | 24-May-16 | 21-Jul-16 |
| Hedged underlying | Club Deal credit | Club Deal credit |
| Derivative type | CCS | CCS |
| Counterpart | Merrill Lynch International | BNP Paribas |
| Nominal amount (USD) | 50,000,000 | 25,000,000 |
| Spot exchange rate | 3,058 | 2,924 |
| Obligation (COP) | 152,900,000,000 | 73,100,000,000 |
| EPM pays | IBR + 2.1077 | 8.48% |
| | IBR OIS compound 1 day | |
| EPM receives | LIBOR 6 months + 140 | LIBOR 6 months + 140 |
| Periodicity | half-yearly | half-yearly |
| Expiring date | 29-Dec-20 | 29-Dec-20 |
| Initial exchange | No | No |
| Final exchange | Yes | Yes |
| Cancellation date | 12-Feb-18 | 12-Feb-18 |
| Cancellation exchange rate | 2,887 | 2,898 |
| EPM (Pays / Receives) | Pays | Pays |
| Amount of reported liquidity (USD) | 3,720,000 | 1,630,000 |

* CCS : Cross Currency Swap

Embedded Derivatives

The Group has not formalized any contracts containing embedded derivatives.

Note 26. Employee benefits

The item of employee benefits recognized at the cut-off date, presents the following composition:

| Employee Benefits | 2018 | 2017 |
|--|------------------|------------------|
| Non-Current | | |
| Post-Employment Benefits | 767,749 | 763,749 |
| Long-Term Benefits | 90,671 | 85,652 |
| Termination Benefits | 95 | 157 |
| Total Employee Benefits Non-Current | 858,515 | 849,558 |
| Current | | |
| Short-Term Benefits | 146,148 | 132,959 |
| Post-Employment Benefits | 104,421 | 105,000 |
| Termination Benefits | 691 | - |
| Total Employee Benefits Current | 251,260 | 237,959 |
| Total | 1,109,775 | 1,087,517 |

Figures stated in millions of Colombian pesos

26.1. Post-Employment Benefits

Consists of the defined benefit plans and the defined contribution plans detailed below:

26.1.1. Defined Benefit Plans

| Definite Benefit Plans | Pensions ¹ | | Retroactive Severances ² | | Public Utilities Subsidy ³ | | Educational Assistance Plan ⁴ | | Other Definite Benefit Plans | | Total | |
|--|-----------------------|------------------|-------------------------------------|----------------|---------------------------------------|---------------|--|----------|------------------------------|---------------|------------------|------------------|
| | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| Current Value of Liabilities due to Definite Benefits | | | | | | | | | | | | |
| Initial Balance | 1,051,681 | 1,045,255 | 141,061 | 133,747 | 40,185 | 44,215 | - | - | 25,935 | 23,734 | 1,258,862 | 1,246,951 |
| Current Service Cost | 1,383 | 7,335 | 4,814 | 4,848 | 171 | 227 | - | - | 3,950 | 3,309 | 10,318 | 15,719 |
| Profit (or Loss) due to Interests | 66,450 | 63,430 | 8,732 | 9,228 | 2,692 | 3,060 | 85 | - | 12 | 250 | 77,972 | 75,968 |
| Actuarial Profit or Loss due to Changes in: | | | | | | | | | | | | |
| Experience Assumptions | 6,480 | 30,323 | (6,847) | 2,104 | (1,509) | (5,040) | (95) | - | - | (55) | (1,971) | 27,332 |
| Demographic Assumptions | - | 862 | (16) | (28) | (141) | (156) | - | - | - | - | (157) | 678 |
| Financial Assumptions | 268 | 5,531 | 1,619 | 7,007 | (386) | 102 | 29 | - | - | (229) | 1,530 | 12,411 |
| Cost of Past Service | (328) | 41 | - | - | - | - | - | - | - | - | 534 | (328) |
| Profits (or Losses) on Disposal | - | - | - | - | (432) | - | - | - | (599) | - | (1,031) | - |
| Foreign Currency Exchange Effects | (38,322) | 11,130 | - | - | 83 | 470 | - | - | 499 | - | (37,739) | 11,600 |
| Contributions made to the Plan | - | 101 | - | - | - | - | - | - | - | - | - | 101 |
| Payments made by the Plan | (96,613) | (111,757) | (19,330) | (15,845) | (2,680) | (2,693) | (211) | - | (3,072) | (3,183) | (121,906) | (133,478) |
| Disposals | - | - | - | - | - | - | - | - | (2,446) | - | (2,446) | - |
| Other Changes | 1,084 | (570) | 68 | - | (68) | - | 1,481 | - | 1,338 | 1,575 | 3,903 | 1,005 |
| Current Value of Liabilities as of December 31 | 992,082 | 1,051,681 | 130,101 | 141,061 | 37,916 | 40,185 | 1,289 | - | 25,617 | 25,935 | 1,187,006 | 1,258,862 |
| Fair Value of Plan Assets | | | | | | | | | | | | |
| Initial Balance | 385,026 | 401,182 | - | - | - | - | - | - | 5,087 | - | 390,113 | 401,182 |
| Contributions Made to the Plan | 9,277 | 10,149 | - | - | - | - | - | - | - | 6,406 | 9,277 | 16,555 |
| Payments made by the Plan | (65,633) | (56,620) | - | - | - | - | - | - | - | (1,241) | (65,633) | (67,861) |
| Profit for Interests | 21,268 | 26,847 | - | - | - | - | - | - | - | 4 | 21,268 | 26,851 |
| Expected plan Returns (excluding profits due to interests) | (989) | 11,114 | - | - | - | - | - | - | - | - | (989) | 11,114 |
| Foreign Currency Exchange Effects | (32,928) | - | - | - | - | - | - | - | - | (2) | (32,928) | (2) |
| Business Combinations | - | (8,239) | - | - | - | - | - | - | - | - | - | (8,239) |
| Disposals | - | - | - | - | - | - | - | - | - | (29) | - | (29) |
| Other Changes | (1,185) | 593 | - | - | - | - | - | - | (5,087) | (51) | (6,272) | 542 |
| Fair Value of Plan Assets as of December 31 | 314,836 | 385,026 | - | - | - | - | - | - | - | 5,087 | 314,836 | 390,113 |
| Surplus (or Deficit) of the Define Benefit Plan | 677,246 | 666,655 | 130,101 | 141,061 | 37,916 | 40,185 | 1,289 | - | 25,617 | 20,848 | 872,170 | 868,749 |
| Net Asset (or Liability) Activo o (pasivo) of the Definite Benefit Plan | 677,246 | 666,655 | 130,101 | 141,061 | 37,916 | 40,185 | 1,289 | - | 25,617 | 20,848 | 872,170 | 868,749 |
| Total Definite Benefit | 677,246 | 666,655 | 130,101 | 141,061 | 37,916 | 40,185 | 1,289 | - | 25,617 | 20,848 | 872,170 | 868,749 |

Figures stated in millions of Colombian pesos

- (1) For the EPM Group, it includes Retirement Pension Plans in charge of each company, complying with each country regulations of each country. Includes social security and funeral assistance contributions.
- (2) For the EPM Group, it includes Retroactive Severance Payments, as a post-employment benefit, consisting of the recognition of an average monthly salary multiplied by the years of service, payable through advances and at the time of contract termination. The source that gives rise to the plan is the "Sixth Law of 1945 by which some provisions are enacted on labor conventions, professional associations, collective disputes and special labor jurisdiction" and National Decree 1160 of 1989,

which partially regulates Law 71 of 1988, by which rules on pensions are issued and other provisions are enacted.

- (3) Public Utilities Subsidy is a plan consisting of a total or partial discount on the monthly charge for the Public Power Utility, and in some cases in the Aqueduct and Telephony Utilities, in the following companies of the Group: Central Hidroeléctrica de Caldas S.A. E.S.P., Centrales Eléctricas del Norte de Santander S.A. E.S.P., Electrificadora de Santander S.A. E.S.P. and Elektra Noreste S.A. In Electrificadora de Santander S.A. E.S.P., the benefit is granted to former employees whose service time at the retirement date was at least 15 years of employment. The Public Utilities Subsidy is covered by the current collective labor agreements of these companies.
- (4) Correspond to the Educational Assistance that by law is granted to children of retirees economically dependent, up to 25 years of age.

No risks have been identified for the EPM Group, arising from Post-Employment Benefit Plans, nor modifications, nor reductions or liquidations that impact the present value of the obligation.

The weighted average of the duration in years, of the obligations by defined benefit plans at the cut-off date, is presented below:

| Benefit | 2018 | | 2017 | |
|----------------------------|------|----|------|----|
| | From | To | From | To |
| Pension | 8 | 12 | 9 | 12 |
| Retroactive Severances | 5 | 7 | 7 | 11 |
| Public Utilities Subsidy | 9 | 12 | 11 | 12 |
| Other Define Benefit Plans | 2 | 6 | 2 | 6 |

The Group has no restrictions on the current realization of the defined benefit plan surplus.

The Group did not make any contributions for defined benefits during 2018 and does not expect to make contributions for the next year period.

Fair value of the plan assets is composed as follows:

| Assets Supporting the Plan | 2018 | | 2017 | |
|---|-----------------|----------------|-----------------|----------------|
| | Participation % | Fair Value | Participation % | Fair Value |
| Cash and Cash Equivalents | 2.55% | 8,016 | 2.51% | 9,780 |
| Equity Instruments | | | | |
| Financial Sector | - | - | 6.01% | 23,465 |
| Services Sector | - | - | 0.80% | 3,123 |
| Real Sector | - | - | - | 2,039 |
| Government Sector | 7.06% | 22,233 | 0.79% | 3,093 |
| Total Equity Instruments | 7.06% | 22,233 | 7.61% | 31,720 |
| Debt Instruments | | | | |
| AAA | 78.47% | 247,040 | 67.50% | 263,343 |
| AA | 6.62% | 20,840 | 7.80% | 30,447 |
| BB and Below | 1.05% | 3,312 | - | - |
| Unclassified | 2.18% | 6,857 | 10.33% | 40,291 |
| Investment Funds ⁽¹⁾ | 2.08% | 6,538 | 2.45% | 9,569 |
| Total Debt Instruments | 90.39% | 284,587 | 88.09% | 343,650 |
| Other Assets | - | - | 1.27% | 4,963 |
| Total Assets Supporting the Plan | 100% | 314,836 | 100% | 390,113 |

Figures stated in millions of Colombian pesos

- (1) Includes for EPM a Collective Investment Fund of conservative profile, with immediate resource availability Rentalíquida, managed by Fiduciaria Davivienda, with a balance of \$ 1,522 and a Stock Exchange Fund (ETF) that follows the Colcap behavior, with a balance of \$ 5,016.

The main actuarial assumptions used to determine the obligations under the defined benefit plans are as follows:

| Assumptions | Colombia | | | |
|-------------------------------------|---------------------------|-------|-------|-------|
| | 2018 | | 2017 | |
| | From | To | From | To |
| Discount Rate (%) | 5.00% | 7.70% | 5.40% | 7.10% |
| Yearly Salary Increase Rate (%) | 3.50% | 5.50% | 4.00% | 4.70% |
| Real Rate of Return on Plan Assets | 3.14% | 6.44% | 6.00% | 9.70% |
| Future Yearly Pension Increase Rate | 3.25% | 4.00% | 3.00% | 4.00% |
| Yearly Inflation Rate (%) | 3.00% | 4.00% | 3.00% | 4.00% |
| Mortality Rate Tables | Valid Rentiers 2008 Table | | | |

| Assumptions | Panama | | | |
|-------------------------------------|--|-------|-------|-------|
| | 2018 | | 2017 | |
| | From | To | From | To |
| Discount Rate (%) | 4.51% | 4.75% | 3.70% | 4.35% |
| Yearly Salary Increase Rate (%) | 5.00% | 5.00% | 3.80% | 5.00% |
| Real Rate of Return on Plan Assets | 5.25% | 5.25% | - | - |
| Future Yearly Pension Increase Rate | - | - | - | - |
| Yearly Inflation Rate (%) | 0.20% | 0.20% | 2.00% | 2.00% |
| Mortality Rate Tables | Republic of Panama Urban Population Mortality Tables 2010-2015 | | | |

| Assumptions | Guatemala | | | |
|---------------------------------|----------------|-------|-------|-------|
| | 2018 | | 2017 | |
| | From | To | From | To |
| Discount Rate (%) | 6.00% | 6.10% | 6.30% | 6.30% |
| Yearly Salary Increase Rate (%) | 4.50% | 4.50% | 4.50% | 4.50% |
| Yearly Inflation Rate (%) | 4.00% | 4.00% | 4.00% | 4.00% |
| Mortality Rate Tables | RP-2000 Tables | | | |

| Assumptions | Mexico | | | |
|---------------------------------|--------|-------|-------|-------|
| | 2018 | | 2017 | |
| | From | To | From | To |
| Discount Rate (%) | 7.50% | 7.50% | 7.50% | 7.50% |
| Yearly Salary Increase Rate (%) | 5.50% | 5.50% | 5.50% | 5.50% |
| Yearly Inflation Rate (%) | 3.50% | 3.50% | 3.50% | 3.50% |
| Mortality Rate Tables | | | | |

| Assumptions | El Salvador | | | |
|---------------------------------|--------------|-------|-------|-------|
| | 2018 | | 2017 | |
| | From | To | From | To |
| Discount Rate (%) | 4.70% | 4.70% | 4.08% | 4.08% |
| Yearly Salary Increase Rate (%) | 1.50% | 1.50% | 1.50% | 1.50% |
| Yearly Inflation Rate (%) | 1.00% | 1.00% | 3.00% | 3.00% |
| Mortality Rate Tables | CSO-80 Table | | | |

| Assumptions | Chile | | | |
|---------------------------------|--------------------------------|-------|-------|-------|
| | 2018 | | 2017 | |
| | From | To | From | To |
| Discount Rate (%) | 1.54% | 1.54% | 2.00% | 2.00% |
| Yearly Salary Increase Rate (%) | 0.05% | 1.00% | 1.00% | 1.00% |
| Yearly Inflation Rate (%) | 2.43% | 2.43% | - | - |
| Mortality Rate Tables | CB H 2014 and RV M 2014 Tables | | | |

The following table shows the effect of a variation for more than 1% and less than 1% in Salary Increase, Discount Rate and an Increase in Benefit over the obligation for Post-Employment Defined Benefit Plans:

| Assumptions | Increase in Discount Rate by +1% | Decrease in Discount Rate by -1% | Salary Increase Rise by +1% | Salary Increase Decline by -1% | Benefit Increase Rise by +1% | Benefit Increase Decline by -1% |
|---------------------------------------|----------------------------------|----------------------------------|-----------------------------|--------------------------------|------------------------------|---------------------------------|
| Pensions | 795,966 | 952,291 | - | - | 102,649 | 102,649 |
| Retroactive Severances | 123,344 | 137,329 | 143,619 | 153,488 | 17,139 | 17,139 |
| Public Utilities | 33,836 | 41,469 | - | - | 24,652 | 24,652 |
| Other Post-Employment Benefits | 101,743 | 124,008 | 1 | - | 1,360 | 1,360 |
| Total Post-Employment Benefits | 1,054,889 | 1,255,097 | 143,620 | 153,488 | 145,800 | 145,800 |

Figures stated in millions of Colombian pesos

The methods and assumptions used to prepare the sensitivity analysis for the Present Value of Defined Benefit Obligations (DBO) were made using the same methodology that for actuarial calculation as of December 31, 2018 and 2017: Projected Unit of Credit (PUC) Method. The sensibility does not present neither limitations nor changes in the methods or assumptions used to prepare the current period analysis.

Pension Liabilities and Commutations Calculation according to current fiscal requirements in Colombia

Resolution 037 of 2017 issued by the General Accountancy of the Nation established the obligation to disclose the calculation of pension liabilities in accordance with the parameters established in Decree 1625 of 2016 and Decree 1833 for pension commutations; therefore, the figures presented below do not correspond to the IFRS requirements.

Pension Liabilities

The actuarial calculation of pensions was prepared with the following technical bases:

| Actuarial Assumptions - Pension Obligation | 2018 | 2017 |
|--|---------------------------|-------|
| Real Technical Interest Rate | 4.80% | 4.80% |
| Salary Increase Rate | 5.09% | 5.74% |
| Pension Increase Rate | 5.09% | 5.74% |
| Mortality Rate Table | Valid Rentiers 2008 Table | |

The following table is the calculation of Pension Liabilities with the previous parameters:

| Concept | 2018 | | 2017 | |
|--|------------------|--------------------------|------------------|--------------------------|
| | Number of people | Amount of the obligation | Number of people | Amount of the obligation |
| Personnel pensioned entirely by EPM Group Companies | 1,480 | 352,114 | 1,617 | 352,471 |
| Personnel pensioned with amounts shared with Colpensiones (state pension system) | 1,771 | 169,403 | 1,872 | 149,149 |
| Personnel benefit shared with Colpensiones | 838 | 85,660 | 839 | 85,578 |
| Personnel pensioned with amounts shared with other institutions | 323 | 35,737 | 346 | 46,290 |
| Total | 4,412 | 642,914 | 4,674 | 633,488 |

Figures stated in millions of Colombian pesos

Below are Pension Bonuses related to Pension Obligations:

| Concept | 2018 | | 2017 | |
|--------------------------------------|------------------|-----------------------|------------------|-----------------------|
| | Number of people | Amount of the Reserve | Number of people | Amount of the Reserve |
| Retirement payment type A modality 1 | 246 | 2,524 | 250 | 2,399 |
| Retirement payment type A modality 2 | 4,542 | 192,122 | 4,302 | 170,423 |
| Retirement payment type B | 3,556 | 383,006 | 4,166 | 415,910 |
| Retirement payment type T | 5 | 340 | 5 | 393 |
| Other - Contributions Law 549 | 178 | 4,925 | 178 | 4,636 |
| Total | 8,527 | 582,917 | 8,901 | 593,761 |

Figures stated in millions of Colombian pesos

Following, the differences between the pension liabilities calculated under IFRS and the fiscal pension liabilities are shown:

| | 2018 | 2017 |
|--------------------------------|------------------|---------------|
| Pension Liabilities under IFRS | 719,344 | 809,270 |
| Fiscal Pension Liabilities | 1,131,353 | 781,748 |
| Difference | (412,009) | 27,522 |

Figures stated in millions of Colombian pesos

Pension Commutation Liabilities

The actuarial calculation of pension commutation was prepared with the following technical bases:

| Actuarial assumptions - Pension Commutation | 2018 | 2017 |
|---|---------------------------|-------|
| Real technical interest rate | 4.80% | 4.80% |
| Salary increase rate | 5.09% | 5.74% |
| Pension increase rate | 5.09% | 5.74% |
| Mortality rate table | Valid rentiers 2008 table | |

The following table is the calculation of the pension commutation with the previous parameters:

| Concept | 2018 | | 2017 | |
|--|------------------|--------------------------|------------------|--------------------------|
| | Number of People | Amount of the Obligation | Number of People | Amount of the Obligation |
| Personnel pensioned entirely by EPM Group companies | 109 | 23,558 | 151 | 31,288 |
| Personnel pensioned with amounts shared with Colpensiones (state pension system) | 340 | 42,781 | 312 | 35,451 |
| Personnel benefit shared with Colpensiones | 34 | 2,757 | 31 | 2,435 |
| Personnel pensioned with amounts shared with other institutions | 44 | 3,576 | 44 | 4,547 |
| Total | 527 | 72,672 | 538 | 73,721 |

Figures stated in millions of Colombian pesos

Below are the Pension Bonuses related to Pension Commutation Liabilities:

| Concept | 2018 | | 2017 | |
|--------------------------------------|------------------|-----------------------|------------------|-----------------------|
| | Number of people | Amount of the reserve | Number of people | Amount of the reserve |
| Retirement payment type A modality 1 | 12 | 35 | 12 | 33 |
| Retirement payment type A modality 2 | 262 | 10,398 | 267 | 9,787 |
| Retirement payment type B | 226 | 21,795 | 229 | 21,199 |
| Retirement payment type T | 3 | 149 | 3 | 219 |
| Other - Contributions Law 549 | 3 | 107 | 3 | 101 |
| Difference | 506 | 32,484 | 514 | 31,339 |

Figures stated in millions of Colombian pesos

Differences between Pension Commutation Liability as calculated under IFRS and the Tax Pension Commutation Liability are shown below:

| | 2018 | 2017 |
|--|-----------------|-----------------|
| pension-switching liabilities under IFRS | 83,240 | 83,972 |
| Fiscal pension-switching liabilities | 105,157 | 105,059 |
| Difference | (21,916) | (21,087) |

Figures stated in millions of Colombian pesos

26.1.2. Defined Contribution Plans

The Group made contributions to Defined Contribution Plans for \$ 68,786 (2017: \$ 62,424), recognized in the Profit for the period as an expense \$ 21,261 (2017: \$ 19,751), cost \$ 47,525 (2017: \$ 42,673).

26.2. Long-Term Employee Benefits

| Long-Term Benefits | Seniority Premium ⁽¹⁾ | | Other Long-Term Benefits | | Total | |
|---|----------------------------------|-----------------|--------------------------|----------------|-----------------|-----------------|
| | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| Current Value of Liabilities due to Other Long-Term Benefits | | | | | | |
| Initial Balance | 84,008 | 78,690 | 1,644 | 1,506 | 85,652 | 80,196 |
| Present Service Cost | 7,881 | 6,539 | - | 224 | 7,881 | 6,763 |
| Profit (or loss) due to interests | 5,580 | 5,397 | - | 107 | 5,580 | 5,504 |
| Assumptions by experience | 1,300 | 2,218 | - | 64 | 1,300 | 2,282 |
| Demographic Assumptions | (695) | (646) | - | (42) | (695) | (688) |
| Financial Assumptions | 524 | 2,170 | - | 52 | 524 | 2,222 |
| Past Service Cost | 419 | - | - | - | 419 | - |
| Foreign Currency Exchange Effects | 1,685 | - | (1,644) | - | 41 | - |
| Payments Made by the Plan | (10,030) | (10,380) | - | (267) | (10,030) | (10,647) |
| Other Changes | | 20 | - | - | - | 20 |
| Current Value of Liabilities as of December 31 | 90,671 | 84,008 | - | 1,644 | 90,671 | 85,652 |
| Surplus (or Deficit) due to Long-Term Benefits | (90,671) | (84,008) | - | (1,644) | (90,671) | (85,652) |
| Net Asset (or Liability) due to Long-Term Benefits | (90,671) | (84,008) | - | (1,644) | (90,671) | (85,652) |

Figures stated in millions of Colombian pesos

- (1) Granted based on the employee Years of Service, it is recognized and paid in accordance with the terms established in the current collective labor agreements of each company or the labor regulations of the country.

In the Group, no risks generated by the Long-Term Benefit Plans have been identified, nor modifications, reductions or liquidations that impact the present value of the obligation.

The weighted average duration in years, of the obligations for long-term benefit plans at the report date, is as follows:

| Benefit | 2018 | | 2017 | |
|--------------------------|------|-----|------|------|
| | From | To | From | To |
| Seniority Premium | 6.5 | 6.6 | 4.7 | 10.4 |
| Other Long-Term Benefits | 7.15 | 9.7 | 7.5 | 7.6 |

The Group does not expect to make contributions to the plan for the next year period.

The main actuarial assumptions used to determine the obligations for long-term employee benefit plans are the following:

| Assumptions | Colombia | | Guatemala | |
|---------------------------------|---------------------------|-------|---------------|-------|
| | 2018 | 2017 | 2018 | 2017 |
| Discount Rate (%) | 6.65% | 6.70% | 6.10% | 6.60% |
| Yearly Salary Increase Rate (%) | 4.50% | 4.70% | 4.50% | 4.50% |
| Yearly Inflation Rate (%) | 3.50% | 3.50% | 4.00% | 4.00% |
| Mortality Rate Tables | Valid Rentists 2008 Table | | RP-2000 Table | |

The following table shows the effect of a variation of plus 1% and minus 1% in the Salary Increase, in the Discount Rate and in the Increase in the Benefit over the Obligation for Long-Term Benefit Plans:

| Assumptions | Increase in Discount Rate by +1% | Decrease in Discount Rate by -1% | Salary Increase Rise by +1% | Salary Increase Decline by -1% | Benefit Increase Rise by +1% | Benefit Increase Decline by -1% |
|---------------------------------|----------------------------------|----------------------------------|-----------------------------|--------------------------------|------------------------------|---------------------------------|
| Seniority Premium | 82,501 | 81,926 | 92,996 | 82,374 | - | - |
| Other Long-Term Benefits | 1,811 | 2,073 | 2,067 | 1,815 | - | - |
| Total Long-Term Benefits | 84,312 | 83,999 | 95,063 | 84,189 | - | - |

Figures stated in millions of Colombian pesos

The methods and assumptions used to prepare the sensitivity analysis for the Present Value of Defined Benefit Obligations (DBO) were made using the same methodology that for actuarial calculation as of December 31, 2017: Projected Unit of Credit (PUC) Method. The sensibility does not present neither limitations nor changes in the methods or assumptions used to prepare the current period analysis.

26.3. Short-Term Employee Benefits

The composition of the short-term benefits is as follows:

| Short-term benefits | 2018 | 2017 |
|--|----------------|----------------|
| Payroll payable | 7,059 | 8,311 |
| Severances | 44,733 | 40,697 |
| Interests on severances | 5,793 | 5,514 |
| Vacations | 27,613 | 25,273 |
| Vacations bonus | 35,568 | 33,336 |
| Service Bonus | 459 | 422 |
| Holidays (Christmas) bonus | 248 | 233 |
| Bonuses | 13,866 | 8,751 |
| Other Bonuses, Salaries and Legal Benefits | 10,809 | 10,422 |
| Total short-term benefits | 146,148 | 132,959 |

Figures stated in millions of Colombian pesos

Note 27. Taxes, Contributions and Rates

The detail of taxes, contributions and rates, other than income tax, is as follows:

| Taxes, Contributions and Rates | 2018 | 2017 |
|---|----------------|----------------|
| Withholding Tax on Income and Stamp Duty | 91,307 | 85,725 |
| Industry and Commerce Tax | 38,269 | 32,462 |
| Value Added Tax | 34,376 | 26,526 |
| Rates | 15,822 | 16,408 |
| Contributions | 5,517 | 6,397 |
| Taxes, Contributions and Rates Overseas | 2,462 | 1,039 |
| Customs and Fees Tax | 1,127 | 10,043 |
| Other National Taxes | 713 | 703 |
| Other Municipal Taxes | 702 | 6 |
| Royalties and Monetary Copensations | 611 | 1,541 |
| Control and Audit Fees | 148 | - |
| Valuation Tax | 136 | - |
| Unified Property Tax | 86 | 217 |
| National Consumption Tax | 5 | 3 |
| Sanctions | - | 670 |
| Total Taxes, Contributions and Rates | 191,281 | 181,740 |

Figures stated in millions of Colombian pesos

Note 28. Provisions, Contingent Liabilities and Contingent Assets

28.1. Provisions

The reconciliation of provisions is as follows:

| Concept | Dismantling or Restoration | Onerous Contracts | Lawsuits | Contingent Collateral - Business Combination | Other Provisions | Total |
|--------------------------------------|----------------------------|-------------------|----------------|--|------------------|------------------|
| Initial Balance | 58,925 | 89,414 | 269,083 | 159,734 | 207,213 | 784,371 |
| Additions | 33,963 | - | 36,294 | 51 | 376,703 | 447,011 |
| Adjustments for Changes in Estimates | (6,983) | 4,797 | 79,906 | (577) | 36,007 | 113,149 |
| Foreign Currency Exchange Effects | - | - | (486) | 10,983 | - | 10,497 |
| Other Changes | 2,098 | 2,745 | 8,940 | 4,734 | 15,486 | 34,003 |
| Principal Payments | (3,670) | (28,863) | (6,327) | (630) | 19,550 | (19,940) |
| Reversals | (278) | (7,042) | (61,250) | (4,902) | (60,116) | (133,588) |
| Foreign Currency Exchange Effects | 1,079 | - | (20) | - | 15,806 | 16,865 |
| Final Balance | 85,134 | 61,051 | 326,141 | 169,392 | 610,649 | 1,252,367 |
| Non-Current | 48,351 | 31,463 | 97,420 | 144,622 | 152,292 | 474,148 |
| Current | 36,783 | 29,588 | 228,721 | 24,770 | 458,357 | 778,219 |
| Total | 85,134 | 61,051 | 326,141 | 169,392 | 610,649 | 1,252,367 |

Figures stated in millions of Colombian pesos

28.1.1 Dismantling or Restoration

The Group is obliged to incur costs of Dismantling or Restoring its facilities and assets, in the following:

- Recall of transformers containing PCBs (Polychlorinated Biphenyls). The Group has committed to the dismantling of these assets from 2008 to 2026, covered by Resolution 222 of December 15, 2011 of the Ministry of Environment and Sustainable Development and the Stockholm Convention of May 22, 2008. Applies in Colombia, Panama and El Salvador. The provision is recognized by the present value of the expected costs to settle the obligation using estimated cash flows. The main assumptions considered in the calculation of the provision are: estimated costs, CPI and fixed rate TES. To date, it has been shown that the provision will be affected given that it is planned to complete the dismantling in a shorter time than estimated, while the estimated costs decrease since the dismantling peak is already finished.
- Solid waste disposal in Colombia is made in landfills. It is land in which cells or vessels are built for the deposit of garbage, and it is necessary to restore it through a series of activities aimed at closing, decommissioning and post-closing. The obligation begins from the moment in which the sanitary landfill is in optimal conditions for the realization of the activity of final disposal and goes until the regulating environmental entity, by resolution, decrees the completion of the closing, decommissioning and post-closure.
- Decommissioning of a coal mine located in the Municipality of Amagá, Department of Antioquia, Colombia, with Resolution 130 AS-1106242 of October 21, 2011 issued by the competent environmental authority (CORANTIOQUIA), approving the environmental component of the plan to close the coal mines of the mining title and to this end, contracts for the construction of various civil works, urban planning and monitoring in the coal mines of the mining title, code RPP 434 of the Amagá area. The main assumptions considered in the calculation of the provision are: estimated costs, CPI and fixed rate TES. Currently the company is in the final stages of the actions contemplated in the aforementioned resolution and awaiting a pronouncement by CORANTIOQUIA on the matter, which could involve more monitoring. However, it is clear that independent of this pronouncement, EPM must carry out the necessary actions for the delivery of the title, which include legal, technical processes and the structuring of decisional schemes. To date, it has been shown that the provision will be affected, due to the fact that, depending on the qualification of the existing risk, it is necessary to continue monitoring the gases from the Amagá area mines for the next term 2018.
- The closure and abandonment plan for the Los Cururos Wind Farm in Chile includes the dismantling of facilities such as wind turbines, substation and civil works, among others. Two years before the closing, a closure and abandonment plan will be delivered to the competent authority, in accordance with current legal requirements. The main assumptions considered in the calculation of the provision are: estimated costs, CPI and fixed rate TES.
- In EPM, environmental provision in the construction of infrastructure projects: it arises as a legal obligation derived from environmental licenses granting to compensate for loss of biodiversity during the construction phase, as well as compensation for the taking of preserve areas, affectation to endangered species and forest use; obligations that are formalized, through the resolutions of the National Authority of Environmental Licenses (ANLA, Autoridad Nacional de Licencias Ambientales), Regional Autonomous Corporation (CAR, Corporación Autónoma Regional) and/or the Ministry of Environment and Sustainable Development (MADS). The executions of the biotic environmental compensations of the project extend beyond the time in which the asset begins to operate technically, being necessary to implement the figure of the provision with the intention that these expenditures remain as a greater value of the construction in progress. The Group is committed to offset the loss of biodiversity, taking and affectation from 2016 to 2019 according to resolutions: Res. 1313/2013 ANLA, Res. 519/2014 ANLA, Res LA. 0882/04/08/2014 ANLA, Res. 1166/2013 MADS, Res. 1852/2013 CAR, Res. 2135/2014 CAR, Resolution 1189/22/07/2104 MADS, Res. 1120907 / 17-03-2015 CORNARE, Res. 141011206 / 16-10-2014 CORANTIOQUIA, Res LA. EIA1-9872 04/21/2014 CVS, among others. The provision is recognized by the present value of the expected costs to settle the obligation using estimated cash flows. The main assumptions considered in the calculation of the provision are: estimated costs, CPI and fixed rate TES.

In 2018 EPM includes the provision arising from the contingency of the Ituango project for \$ 31,388 for environmental contingency, established by the specific action plan for the recovery of the parties

affected by the events of the occluding of the Cauca river diversion tunnel that presented the project. on April 28, 2018; by the closing of floodgates in 2019 that decreased the flow of the river downstream of the project; and for the events that may arise due to the technical milestones still to be reached, specific to the contingency, as well as the execution of the project itself.

The specific action plan for recovery must consider three framework programs:

- a. Recovery of affected marshes
- b. Recovery of the affected fish fauna
- c. Restoration of aquatic habitats located in the affected area

These three programs correspond to the environmental component as an answer to the identification of the caused effects, as well as discretionary actions. It also includes social programs, economic activities, infrastructure, risk management, among others.

The different actions are planned to be developed between the municipalities of Valdivia to Nechí, however, if they are identified in the municipalities that are part of La Mojana, they will also be subject to intervention.

28.1.2 Onerous Contracts

As of December 31, 2018, the Group has recognized \$61,051 (2017: \$89,414) for the contract of fuel supply and transportation signed between EPM and TGI-Transportadora de Gas Internacional S.A. E.S.P., with the objective of supporting the Termo Sierra plant and obtaining the income from the reliability charge established by the Energy and Gas Regulatory Commission.

The main assumptions considered for calculating the provision are: costs associated to the contract with the stated conditions, utilization factor or suspension of payments for contract maintenance, LIBOR rate, fixed rate in Colombian pesos TES, Market Representative Rate (TRM) for the quarter and macroeconomic environment.

The main hypothesis used for future events are: from 2019 to 2020 the following assumptions are maintained: Suspension of the contract for 30 days every year and utilization of the contract only for 15 days each year for generation for the Termo Sierra plant and the rest of the time would be paid without using the contract (only fixed costs).

28.1.3 Lawsuits

This provision covers the estimated probable losses related to labour, administrative, civil and tax lawsuits (by Administrative or Governmental Channels) that arise in the operations of the Group companies. The main assumptions considered for calculating the provision are: Average CPI to actual data in previous years and projected data in future years, discount rate calculated with reference to market yields of bonds issued by the National Government, fixed rate TES in Colombian pesos to discount, estimated value to be paid, and the estimated payment date for those lawsuits rated as probable. As of today, no future events have been foreseen that may affect the calculation of the provision.

For the Group companies operating in Colombia, in order to minimize the uncertainty that may arise regarding estimated dates of payment and values to be paid in a lawsuit rated as probable, the company uses business rules based on statistical to obtain the average length of processes per action as well as case law to estimate the maximum amounts the law defines for the value of the extra-economic or intangible claims when they exceed their amount, as described below:

Average length of processes per action

Administrative and tax processes

| Type of legal action or procedure | Average length (in years) |
|--|------------------------------|
| Abbreviated | 4 |
| Petition for compliance | 4 |
| Group action | 6 |
| Representative actions | 4 |
| Conciliation (pre-trial) | 2 |
| Partie civile proceedings | 4 |
| Contractual (Breach of contract) | 13 |
| Survey and demarcation | 5 |
| Executive | 5 |
| Singular executive | 3 |
| Expropriation | 4 |
| Comprehensive reparation incident (criminal) | 2 |
| Imposition of easements | 4 |
| Nullification of administrative acts | 5 |
| Nullification and reinstatement of rights | 10 |
| Nullification and reinstatement of labour rights | 11 |
| Ordinary litigation | 7 |
| Ordinary of membership | 5 |
| Accusatorial criminal (Law 906 of 2004) | 4 |
| Division's lawsuit | 4 |
| Protection of consumer rights | 6 |
| Police Grievance | 3 |
| Right to reclaim | 7 |
| Direct compensation | 12 |
| Oral | 5 |

Labour processes

| Type of legal action or procedure | Average length (in years) |
|---|------------------------------|
| Labor Solidarity | 3.5 |
| Pension | 3.5 |
| Extra hours | 3.5 |
| Job reinstatement | 4 |
| Salary scale equalization | 3.5 |
| Unfair dismissal compensation | 3.5 |
| Reassessment of social benefits | 3.5 |
| Compensation work accident | 4 |
| Refund of the health/pension contribution | 4 |

Application of case law

Typology: the values of claims for compensation of extra-patrimonial damages will be recorded according to the following typology:

- Non-material damage.
- Damage to health (physiological or biological damage), derived from a physical or psychophysical injury.
- Damage to relationship life.
- Damage to constitutional and conventional property.

The values of other extra-patrimonial damage claims not recognized by case law will not be recorded, unless by the claim can be inferred that, despite being otherwise denominated, it corresponds to one of the accepted typologies. Neither will claims for extra-patrimonial compensation for damages to property be recorded.

Quantification: The amounts of extra-patrimonial damage claims will be recorded uniformly as follows, regardless of its typology:

| | |
|------------------------------|---|
| Direct victim compensation | 100 Monthly Minimum Legal Wage Enforced (MMLWE) |
| Indirect victim compensation | 50 Monthly Minimum Legal Wage Enforced (MMLWE) |

- **For Subsidiaries in Chile:** with regard to the probable payment date of trials, the type of process and previous cases are considered, in this sense, the labor process being oral and having only two hearings, has a maximum duration of six months, except in specific cases where notifying the demand is troublesome. In civil trials, given that they are lengthy procedures and available instances can last at least two years, thus the estimated time in the trials currently processed by the subsidiary Aguas de Antofagasta SA, considering its progress, They should last until 2019.

Amounts: to determine the amount of the judgments, first the amount of the claim by the plaintiff is considered, for applying case law in that regard is unfeasible, the amounts will vary depending on the Court and the cause to ask. Additionally, in civil trials, the amounts of the indemnities will depend on the court that dictates it, given that Chile possesses no case-law-system. What a civil judge cannot do and less the appellate and supreme court, is to confer figures greater than plaintiffs' demands.

- **For Subsidiaries in Panama:** regarding the estimated date of payment, each case is evaluated in a particular way with external legal advisors, for which the average duration of similar processes is taken into consideration.

Amounts: estimated amounts to pay for a lawsuit is determined based on the amount of the plaintiff claim and an analysis of the specific condition that motivates the claim in order to determine the recognition of a possible loss. For this we use the appreciation of external legal advisors of each company and in certain cases with the support of insurance advisors in case of requiring an actuarial valuation.

- **For Subsidiaries in El Salvador:** the estimated date of payment for administrative or judicial proceedings is assessed based on the average length for the resolution of similar processes, obtained from statistical data over the 20 years of operation of the subsidiaries.

Amounts: estimate amounts of lawsuits are determined based on the amount of the initial claim filed against the company.

Detail for each type of process is as follows:

Labour Processes:

| Process | Average length | Maximum Estimate Amount to be Paid |
|---|----------------|--|
| Judicial Labour Process of Reinstatement and Unpaid Wages | 5 years | The amount established in the initial claim by the worker and if is ruled in favor of the worker, the unearned wages are added to the date of statement of the last ruling, not exceeding wages for 55 days of salary. |
| Judicial Labour Process of Compensation due to Unfair Dismissal | 5 years | The amount established in the initial claim by the worker and if is ruled in favor of the worker, the unearned wages are added to the date of statement of the last ruling, not exceeding wages for 55 days of salary. |

Judicial Administrative Processes:

| Process | Average length | Maximum Estimate Amount to be Paid |
|---|----------------|--|
| Illegal Acts of the Public Administration | 6 years | The amount established in the initial claim, which is usually resolved by the Administrative Entity against the Subsidiary, or the amount required by the Municipal Mayor Offices. |

Processes with Administrative Authorities:

| Process | Average length | Maximum Estimate Amount to be Paid |
|--------------------------------------|----------------|--|
| Municipal Administrative Procedures | 2 years | The amount established in the initial claim by the Municipality. |
| Regulatory Administrative Procedures | 6 months | The amount established in the initial claim by the worker |

The following are the recognized lawsuits:

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|--------------------------------|---|--|---------------|
| EPM | Oscar Elias Arboleda Lopera | Includes 173 plaintiffs who worked for EADE and express that in the dissolution and liquidation of that company there was employer substitution, which makes the company liable for all the labor obligations. | 161,007 |
| | Consortium Dragados Porce II | Compensate the plaintiffs the amounts resulting from the return of the illegally deducted compensation by EPM in the contracting process No. CD002376. | 27,427 |
| | Various labour Processes | Other processes of less than \$ 1,240 million COP. | 15,041 |
| | Various Administrative Processes | Other processes of less than \$1,016 million COP. | 11,521 |
| | John Walter Jaramillo | Nullification for the dismissal, with the respective salaries and their increases, the social benefits during all the time they remain disengaged; in the same way it will be on behalf of the demander the contributions to the social security until it is effectively reinstated. | 7,241 |
| | Fiduciaria Colpatria S.A. | Issue payment order against EPM and in favor of Fiduciaria Colpatria S.A. acting as spokesperson for the Autonomous Patrimony FC - Enertotal. | 4,708 |
| | Municipality of Yumbo (Valle) | Industry and commerce and its complementary notices and boards and public lighting. | 4,393 |
| | consortium Dragados Porce II | That EPM be ordered to recognize and pay the amount of damages caused in the good name of the companies that constituted the CONSORTIUM DRAGADOS CONCRETOS PORCE III | 3,888 |
| | Oliver Antonio Aguirre Soto | Nullification for the record of conciliation signed under duress (defect) and consequently order the job reinstatement, the reimbursement, the payment of all the salaries and benefits not received, similarly, the payment of all contributions to social security from the moment of dismissal and until the actor is effectively reinstated. | 3,058 |
| | Victor Vergara | Job reinstatement for former EADE worker | 2,596 |
| Jenifer Andrea Marcelo Jimenez | Order Empresas Públicas de Medellín E.S.P. jointly and severally, to the compensation for all material damages for loss of profit, past and future, as well as the moral and serious alterations to the conditions of existence due to a work accident. | 2,442 | |

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| Unión Temporal Energía Solar S.A. y Estructuras Arbi Ltd. | It be declared that the bid submitted by the plaintiffs to the tender N ° ES-2043-GI convened by EPM, was legally suitable to take it into account at the moment of awarding the respective contract of the tender N ° ES-2043-GI. | 1,865 |
| Construcciones Pico y Pala Ltd.. | Nullification of resolutions 95070 of 05/04/1999, from EPM, by means of which contract 1 / DJ-682/15 between EPM and Consortium Trainco S.A. was unilaterally terminated, and 113701 of 03/15/2000, from EPM, by means of which the appeal for reversal filed against resolution 95070 of 04/05/1999 was resolved negatively. | 1,786 |
| Francisco Javier Munoz Usman | Nullification for the dismissal, with the respective salaries and their increases, the social benefits during all the time they remain disengaged; in the same way it will be on behalf of the demander the contributions to the social security until it is effectively reinstated. | 1,515 |
| Carlos Olimpo Cardona | The plaintiff to be reinstated to the same positions or offices or another of the same or higher category that they had been performing, that as a consequence of the compensation, all the salaries and legal social benefits that were not perceived must be compensated as well, in addition to all the contributions caused in favor of the Comprehensive Social Security System. | 1,240 |
| Accesorios y Sistemas S.A. | Nullification of resolution 3077 of 11/12/200, issued by the General Manager of EPM, by means of which it was decided to declare the risk realization of quality and correct operation of the vehicles object of the contract 090321557. | 1,133 |
| Various fiscal | Other processes of less than \$4,392 million COP. | 1,097 |
| TRAINCO S.A. | Nullification of resolutions 161052 of 03/05/2001, from EPM, by means of which contract 2101870 between EPM and Trainco SA was unilaterally terminated. and 178702 of 06/07/2001. | 1,038 |
| Didier De Jesús Restrepo Montoya | The plaintiffs claim compensation for moral damages allegedly caused by the eviction of their homes installed in a property owned by EPM, for the construction of the Porce III Hydroelectric Project, by which they were the object of eviction ordered by the Mayor's Office of the Municipality of Anori. | 1,017 |

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|----------------------|--|---|----------------|
| | Consortio Dragados Porce II | Registration difference in account change 271005 Litigation No. 14000857 | (486) |
| Total EPM | | | 253,527 |
| CHEC | Jairo Castaño Hoyos | Loss of Income/Material and Non-Material Damage | 2,088 |
| | Cartones Y Papeles Del Risaralda S.A. | Compensation and Payment for Material Damages | 1,972 |
| | Norma Cecilia Osorio Montoya | Non-Material Damages | 1,943 |
| | Albeiro Valencia Lopez | Non-Material Damage Claim | 1,877 |
| | Leidy Marcela Jimenez Jaramillo | Loss of Income | 1,581 |
| | Jose Ivan Valencia Rendon And others | Compensation for Material Damages | 1,479 |
| | Claudia Viviana Morales | Material Damages | 977 |
| | Jhon Fredy Vanegas Hoyos | Non-Material Damages | 833 |
| | Jose Fernando Jimenez Velez | Adjustment of wages and social benefits | 761 |
| | Erasmó Antonio Hinestroza And others | Employer Responsibility on Work-Accident | 719 |
| | Carlos Arturo Marulanda Agudelo | Non-Material Damages | 675 |
| | Alba Lucia Saldarriaga Toro | Adjustment of wages and social benefits | 599 |
| | Jairo Humberto Bedoya Moreno | Non-Material Damages | 578 |
| | Hernando Montoya Loaiza | Non-Material Damages | 461 |
| | Aleida Del Socorro Giraldo | Work-Accident, Non-Material Damages | 440 |
| | John Jairo Marulanda Garcia | Loss of Income/Material and Non-Material Damage | 435 |
| | Ana Constanza Aguirre Soto | Loss of Income/Material and Non-Material Damage | 399 |
| | Hernando De Jesús Ocampo Jiménez | Actual Contract | 393 |
| | Gustavo Martinez | Material Damage | 354 |
| | Flor Maria Sanchez Palacio | Loss of Income/Material Damage | 353 |
| | Luis Alberto Merchan Gomez | Emerging Damage | 281 |
| | Imgeniería Y Desarrollo Ltd. | Emerging Damage | 280 |
| | Camilo Donado Barcelo | Termination without Just Cause - Reinstatement | 209 |
| | Mario Romero Londoño | Employer Responsibility on Work-Accident | 183 |
| | Jairo Antonio Amariles Marulanda | Public Apologies and Compensation | 127 |
| | Jesús Maria Vanegas Villa | Non-Material Damages | 121 |
| | Floralba Salgado Pimiento | Survivor's Pension | 121 |
| | Zoe Ospina De Gomez | Survivor's Pension | 121 |
| | Julio Cesar Sanchez Hernandez | Permanent Expenses - Social Security Contributions | 72 |
| | Jose Hernando Anturi Noriega | Permanent Expenses - Social Security Contributions | 72 |
| | Luis Carlos Carmona Cardona | Permanent Expenses - Social Security Contributions | 72 |
| | Victor Julio Rincon Miranda | Permanent Expenses - Social Security Contributions | 72 |
| Jose Fernando Arango | Permanent Expenses - Social Security Contributions | 72 | |

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|-------------------------------------|---|----|
| Gustavo Perez Restrepo | Permanent Expenses - Social Security Contributions | 72 |
| Abel Patiño Ramirez | Permanent Expenses - Social Security Contributions | 72 |
| Jose Gustavo Marin Gallego | Permanent Expenses - Social Security Contributions | 72 |
| Pedro Nel Verano Sierra | Permanent Expenses - Social Security Contributions | 72 |
| Edilberto Gil Duque | Permanent Expenses - Social Security Contributions | 72 |
| Gustavo Garcia Soto | Permanent Expenses - Social Security Contributions | 69 |
| Maria Noralba Florez | Claims meeting criteria for Survivor's Pension | 38 |
| Francisco Fernando Sanchez Hincapie | Material Damage / Non-Material Damage | 29 |
| Jose Aldover Cardona Sanchez | Termination without Just Cause - Reinstatement | 29 |
| Hector Fabio Castano Gomez | Retroactive Recognition of collective agreement 2013-2017 | 27 |
| John Jairo Ayala Valero | 14 Wage Premium (Mesada 14) | 25 |
| Angelmira Garces Candamil | Compensation for Material Damage | 24 |
| Albeiro Murcia Lopez | 100% Recognition of the 14 Wage Premium (Mesada 14) | 18 |
| Carlos Humberto Correa Franco | 14 Wage Premium (Mesada 14) | 17 |
| Jose Alcides Campuzano Valencia | 14 Wage Premium (Mesada 14) | 10 |
| Jose Dario Grisales Lopez | 14 Wage Premium (Mesada 14) | 10 |
| Jose Nelson Ocampo Lopez | 14 Wage Premium (Mesada 14) | 10 |
| Carlos Enrique Loaiza Arredondo | 14 Wage Premium (Mesada 14) | 9 |
| Jose Gildardo Salazar Gallego | 14 Wage Premium (Mesada 14) | 9 |
| Jose Hernando Anturi Noriega | 14 Wage Premium (Mesada 14) | 9 |
| Luis Alberto Castrillón Ocampo | 14 Wage Premium (Mesada 14) | 9 |
| Martha Iris Cardena Gaviria | 14 Wage Premium (Mesada 14) | 9 |
| Jaime Diaz Echavarria | 14 Wage Premium (Mesada 14) | 8 |
| Jose Alberto Rios Latorre | 14 Wage Premium (Mesada 14) | 7 |
| Gustavo Cardona Lopez | 14 Wage Premium (Mesada 14) | 7 |
| William Gallego Carmona | 14 Wage Premium (Mesada 14) | 7 |
| Mario Canon Patiño | 14 Wage Premium (Mesada 14) | 6 |
| Omar Ramirez Osorio | 14 Wage Premium (Mesada 14) | 5 |
| Julio Enrique Rincon Duque | 14 Wage Premium (Mesada 14) | 5 |
| Hernán De Jesús Marín Salgado | Pension Wages | 5 |
| Luis Gonzaga Arango | 14 Wage Premium (Mesada 14) | 4 |
| Jorge Antonio Franco Aguirre | 14 Wage Premium (Mesada 14) | 4 |
| Oscar Aguirre Orozco | 14 Wage Premium (Mesada 14) | 4 |

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| | Gloria Esperanza Cardona Cardona | 14 Wage Premium (Mesada 14) | 3 |
| Total CHEC | | | 21,496 |
| CENS | Luis Alberto Pena Villamizar | For CENS S.A. E.S.P. to pay the amounts illegally discounted from his liquidation, for wages and social benefits caused in the period between December 1, 2008 and the date of retirement. | 3,171 |
| | Elsa Reyes De Buitrago | Indexation of the first pension allowance, in its condition of Pensioners and/or Pensioner Survivor to all plaintiffs and to pay interests to the maximum legal contemplated in the law 100 of 1993 in its art. 141. | 2,259 |
| | Other Labour Processes | Other Labour Processes (20) of less than \$250 million | 1,706 |
| | William Alexis Ramirez | Cease the charge for street lighting to the municipality of Cucuta, reimbursement of balances for street lighting to the municipality, payment of contractual and extracontractual damages. Claim: \$ 928,023.004.78 Incentive: 15% of the amount the Municipality recovers. | 1,104 |
| | Jesús Efrain Ibarra Ochoa | Pension compatibility be declared between the retirement pension recognized by CENS and the old-age pension recognized by the former Social Security Institute (ISS, Instituto de Seguro Social) pensions (today COLPENSIONES). | 1,048 |
| | Carmen Alicia Rodriguez | Indexation of the first pension allowance, in its condition of Pensioners and/or Pensioner Survivor to all plaintiffs and to pay interests to the maximum legal contemplated in the law 100 of 1993 in its art. 141. | 896 |
| | Jose Francisco Arango Bautista | Material Damages / Non-Material Damages/ Damages to Social and Family Life. | 746 |
| | Ermelina Perez De Rivera | Declared CENS with the obligation to continue paying all contributions to health-care and continue paying 12% on the pension allowance; likewise, compensation of contributions not paid from the date of pension, indexing them, plus late interest. | 653 |
| | Hayber Humberto Bermudez Peñaloza | Non-Material Damages to the wounded, his son, parents and siblings. | 625 |
| | Yesid Jaimes | Adjustment of pension according to art. 1 of Law 71 of 1988 and not those established in art. 14 of the Law 100 of 1993, retroactively pay the missing amounts, the respective indexation and interest for default that is dealt with in art.141 of Law 100 of 1993. | 525 |
| Carmen Rosa Galvis Urbina | Declare CENS and Ingeniería y servicios union temporal extra-contractually liable for the damages caused to the plaintiff by reason of the death of Freddy Diaz. / Non-Material Damages / consolidated and Future Material Damages. | 461 | |

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| | Alexander Pineda Riobo | Workers' claim for compensation of transport allowance of contractor company and no consignment of unemployment benefits and failure to pay social benefits. \$ 374,619,803 COP. | 353 |
| | Bersaline Ortiz Llanez | Demands the loss of the possibility of virtual activities be repaired, which, although they do not produce patrimonial yields, make the existence pleasant. To determine these values of Physiological Damage, Council of State Case Law is used, therefore, assessed in 100 Monthly Minimum Legal Wage Enforced (MMLWE), for each one of the members of the family (wife and daughter). As a consequence of the previous one, the pain, sorrow, suffering and sadness produced by the action that gave rise to the responsibility must be paid, being assessed at 100MMLWE. | 321 |
| | Ana Victoria Rivera Mantilla | Refund 12% pensioned health contributions // According to the demand, it is higher than 50 minimum legal monthly salaries for each of the plaintiffs. The provision corresponds to the following value: According to the lawsuit, it is higher than \$ 312,496,800 COP | 298 |
| | Jose Javier Velandia | Declare Cens and Acomyconta administrative and extra-contractually liable for the damages that were caused by dismissing Mr. Jose Velandia, for Loss of Profit, Non-Material Damages, for a value of 1,500,000 COP from the filing date of the claim. | 163 |
| | Sociedad Palmas La Llana S.A.S | Declare Cens civilly liable in the modality of extra-contractual civil liability of the damages of different order. Emerging Damages. Loss of Profits. Non-Material Damages. | 123 |
| Total CENS | | | 14,452 |
| EMVARIAS | Eusebio Gonzalez and others (20) | Actual Contract (20 Plaintiffs) | 973 |
| | Various | Labour Liability and Actual Contract | 968 |
| | Orlando Alfonso Duque Zuluaga | Actual Contract (Communal Zone Chief) | 552 |
| | Bernardo de Jesús Alzate Ceballos | Actual Contract (7 Plaintiffs) | 333 |
| | Carlos Alberto Bedoya and others | Actual Contract (7 Plaintiffs) | 330 |
| | Cristian Camilo Rodriguez and others | Actual Contract (5 Plaintiffs). | 243 |
| | Bladimir Valencia Salazar/Edgar de Jesús Rojas Vanegas/Elkin David Cardona Ortiz/Mauricio Aria | Actual Contract (5 Plaintiffs) | 221 |
| | Adrián Marcelo Moreno arias/Elver Eduardo Parra Rendon/Ramon Arcángel Higueta Graciano/roque a | Actual Contract (4 Plaintiffs) | 187 |

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| | Aicardo de Jesús Guzman Zapata | Actual Contract (4 Plaintiffs) | 180 |
| | Leon Dario Vasquez Cardona | Actual Contract (4 Plaintiffs) | 172 |
| | Duver Mauricio Manco Echavarría and others | Actual Contract (3 Plaintiffs) | 143 |
| | Gustavo Alberto Cardona Pineda | Actual Contract (3 Plaintiffs) | 136 |
| | Guillermo Leon Garces Ramirez | Actual Contract (3 Plaintiffs) | 135 |
| | Hernando Fernandez Aguirre | Actual Contract (3 Plaintiffs) | 133 |
| | Erney Enoc Bran Garcia | Actual Contract (3 Plaintiffs) | 132 |
| | Hector Ivan Sierra Valencia | Actual Contract (3 Plaintiffs) | 132 |
| | Jonny Alexander Velazquez | Actual Contract | 131 |
| | Jorge Mario Restrepo Gomez | Actual Contract | 130 |
| | Luis Alberto David Vargas | Actual Contract (3 Plaintiffs) | 129 |
| | Gildardo Gamboa Castro | Actual Contract (3 Plaintiffs) | 128 |
| | Cesar Octavio Castano Montoya | Actual Contract (3 Plaintiffs) | 127 |
| | Mauricio Andres Diaz Vega | Actual Contract (3 Plaintiffs) | 126 |
| | Claudia Yaneth Restrepo Tamayo and others | Actual Contract | 121 |
| | Jhon Edward Lara Posada (3) | Actual Contract | 120 |
| | Ivan Bedoya Berrío | Actual Contract | 118 |
| | Luz Dary Garcia Ortega | Survivor's Pension | 101 |
| | Nestor Raul Montoya | Actual Contract (2 Plaintiffs) | 97 |
| | Jose Angel Valencia and Other | Actual Contract (2 Plaintiffs) | 96 |
| | Edwin Arley Rodriguez Tamayo | Actual Contract - Different from the Contractors Theme | 87 |
| | Jhon Jairo Bejarano Cordoba | Actual Contract | 83 |
| | Total EMVARIAS | | 6,564 |
| ESSA | Juan Gabriel Henao Mantilla | Declare that between ELECTRIFICADORA DE SANTANDER S.A. E.S.P. and Mr. JUAN GABRIEL HENAO MANTILLA, exists an individual contract of indefinite term work as of July 7, 2003, which is in force. | 913 |
| | Luis Antonio Manrique Hernandez | Order the companies sued ELECTRIFICADORA DE SANTANDER S.A. E.S.P. and ECOPETROL S.A. in a joint and several manner to pay Mr. LUIS ANTONIO MANRIQUE HERNANDEZ for full and ordinary compensation for Material Damages in the case of the consolidated Loss of Profit arising out of the work accident on July 21, 2008, amounting to \$ 187,295,407 COP. account the actuarial technical study that is attached to the claim. | 574 |

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| Luis Carlos Porras Mayorga | Condemn ENECON and ESSA, jointly and severally, to recognize and pay in favor of LUIS CARLOS PORRAS MAYORGA, for the concept of total and ordinary compensation for Material Damages in the amount corresponding to the CONSOLIDATED LOSS OF PROFIT, generated on the occasion of the work accident suffered on the 27th. June 2012, the sum of \$ 69,769,500 or the maximum value that is settled by the dispatch. | 515 |
| Martha Cecilia Rodriguez Ardila | The plaintiffs request ESSA be declared liable for all the damages and losses caused to the plaintiffs, for the events in which Mr. HUGO FELIZ DUARTE ROJAS was killed in events occurred on 09-Jan-1991. 1000 GRAMS OF GOLD. | 364 |
| Gabriel Antonio Villegas Murcia | Declared that between GABRIEL ANTONIO VILLEGAS MURCIA and FUREL S.A. there was an individual labour contract for an indefinite term, established orally, within the time periods included from November 5, 2011 to July 15, 2014. | 323 |
| Jorge Eliseo Chaparro Murcia | Declare ESSA administratively liable for the death of Ernesto Chaparro Uruena as a result of an electric shock and, consequently, the payment of 100 Minimum Wages to each of the plaintiffs. | 266 |
| Carlos Eduardo Solano | Declare ESSA administratively liable for the damages caused to the plaintiffs on the occasion of the death of MAURICIO SOLANO CAMACHO and as consequence, paying the plaintiffs Material and Non-Material Damages. | 255 |
| Alvaro Ramirez | 1- The sum of \$ 238,327,160.88 COP is paid 2- Recognize the payment of Interest for the amounts previously described, from July 2, 2015 and until the actual payment of the obligation is verified. | 252 |
| Maria Yasmina Sanbria Mejia | Declare administrative and extra contractually liable ELECTRIFICADORA DE SANTANDER S.A. ESP, CHARTIS INSURANCE, INSURANCE OF THE STATE, H-V CONSTRUCTORES LTD., CPI CENTRAL PROJECT AND ENGINEERING LTD. AND CARLOS JULIO HERRERA SUAREZ, of the damages caused to the plaintiff on the occasion of an INDISCRIMINATE TREATMENT OF TREES THAT PRODUCED EROSION ON MY CLIENT'S PROPERTY AND INVASION OF PRIVATE PROPERTY. | 233 |

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| Franquelina Ortiz Cruz | Declare administrative and extra-contractually liable ELECTRIFICADORA DE SANTANDER SA ESP, AIG SEGUROS COLOMBIA, INSURANCE OF THE STATE, HV CONSTRUCTORES LTD., CPI CENTRAL PROJECT AND ENGINEERING LTD. AND CARLOS JULIO HERRERA SUAREZ, of the damages caused to the plaintiff, on the occasion of an INDISCRIMINATED CUTTING OF TREES THAT PRODUCED AND INVASION OF PRIVATE PROPERTY. | 182 |
| Eduardo Portilla Plata | Declare ESSA extra-contractually liable for the damages caused to the plaintiff. | 159 |
| Juana Martinez Fonseca | Compensation of Damages due to death to Mr. Alvaro Martinez - on Dec. 15, 2006 in the La Floresta farm, municipality of Mogotes. | 154 |
| Carolina Herrera De Ortiz | Based on the facts described above, the Legal Norms, corresponding evidence, National Case Law, request of the Judge, deign to decree by means of a judgment that the case be ruled res judicata, the following: DECLARATIONS AND CONVICTIONS 1: To declare that Mrs. CAROLINA HERRERA DE ORTIZ, has the right to the defendant to grant him the replacement of the retirement pension of his deceased husband Mr. PAULINO ORTIZ LUNA, completely and compatible with the retirement substitution for seniority recognized by the INSTITUTO DE SEGUROS SOCIALES (ISS). | 148 |
| Mileidy Duran Florez | As unpaid balance. / Interest in arrears provided for in article 177 of Decree 01 of 1984 CCA at the rate of 1.5 times the current bank interest, generated on the capital value, settled from November 8, 2015 and until the date of filing of the claim. / Interest on arrears provided for in article 177 of Decree 01 of 1984 CCA at the rate of 1.5 times the current bank interest, generated on the capital value, settled from December 8, 2017 and until that the total payment of the obligation is verified. | 122 |
| Jesús Rodriguez Alarcon | Recognition of Family Health Benefits, Scholarships or Study Assistance. | 97 |
| Alirio Aparicio Lopez | Recognition of Family Health Benefits, Scholarships or Study Assistance. | 97 |
| Nestor Eugenio Sandoval Morales | Recognition of Family Health Benefits, Scholarships or Study Assistance. | 97 |
| Alberson Carmona Castano | Joint Liability in Labour Contract. | 96 |

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| Carmen Smith Granados De Acelas | Declare ESSA SA ESP as administratively liable for all Material Damages and Losses caused by the installation of 2 towers that support electric power networks and that have impeded the ultimate purpose through which the plaintiff acquired the property (for housing construction.) | 83 |
| Mercedes Ardila De Ballesteros and others | Recognition of Family Health Benefits, Scholarships or Study Assistance. | 76 |
| Hernando Serrano Forero | Recognition of Family Health Benefits, Scholarships or Study Assistance. | 71 |
| Nestor Raul Pinzon Seija | Recognition of Family Health Benefits, Scholarships or Study Assistance. | 70 |
| Hernando Picón Gonzalez | Recognition of Family Health Benefits, Scholarships or Study Assistance. | 53 |
| Maria Concepcion Ortega Becerra | FIRST: that the ELECTRICITY POWER UTILITY (SERVICIO DE ENERGÍA ELÉCTRICAS), contemplated in Article 58 of the collective labor agreement, be recognized and canceled from now on to the plaintiffs. | 38 |
| Isabel Mesa De Mayorga | That the ELECTRICITY POWER UTILITY (SERVICIO DE ENERGÍA ELÉCTRICAS), contemplated in Article 58 of the collective labor agreement, be recognized and canceled from now on to the plaintiffs. | 37 |
| Gerardo Vargas Baron | Declare ELECTRICIADORA DE SANTANDER jointly and severally liable, and if the claim against the pension fund administrator ING does not succeed, it condemns it to pay the disability pension of common origin for the following aspects. For being the beneficiary entity of the personal services provided by my client, because his personal services always I lend them in the name of the ESSA for the users. Because the ESSA did not fulfill its legal and regulatory obligation to guarantee and corroborate that the contractors here sued, fulfilled their employer obligations in favor of the workers as well as making the contributions to the social security - pensions, complete and in a timely manner. | 28 |
| Victor Manuel Diaz Dominguez | Recognition and payment for Damages and Losses caused to date by the Easement imposed on the property of the plaintiff. | 9 |
| Flor Maria Gracia De García | Grant Mr. ROBERTO GARCIA (R.I.P.) the right to be recognized the indexation of the first pension allowance and to pass to the present value the average of the accrued, which is the base salary of October 23, 1969, to the July 2, 1979 and therefore ordered the replacement of the adjusted allowance to his spouse and Survivor. | 9 |

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| | Pablo Armando Buitrago | Declare ESSA liable for Material and Non-Material Damages to the plaintiff by the de-facto public works imposed on the property Corinto farm located in the municipality of Suaita, Santander, property of the plaintiff. | 4 |
| | Eseir Bohorquez Suarez | That the Municipality of Lebrija and ESSA pay the 10 MMLWE they have been ruled to in first instance, as well as the costs settled by the Thirteen Administrative Court of Bucaramanga in \$ 1,987,600 COP/Order to pay \$ 17,113. 600 COP | 3 |
| | Ignacio Andres Bohorquez Borda | Executive process against ESSA for payments and incentive generated by Class Action | 3 |
| | Municipality of Bucaramanga | Pending refund of bonds paid to the Court by issued rulings. The municipality sent invoice, and this was paid directly. | (57) |
| Total ESSA | | | 5,274 |
| Aguas Nacionales | Jesús Enrique Acevedo Ruiz | appeal in guarantee: Actual Contract. Payment of wages and social benefits, legal and extralegal and social security, compensation of law and moratoriums, monetary correction, extra and ultra petita sentence and payment of court costs. | 1,571 |
| | Alberto Guerrero Castro | Readjustments of wages, benefits and social security, moratorium compensation. | 250 |
| | Rodrigo Cuervo Duque | Declare AGUAS NACIONALES EPM S.A. E.S.P. jointly and severally liable for wages, social benefits, compensation for unfair dismissal and compensation for dismissal of sick worker (Law 361 of 1997). | 50 |
| | Jorge Orlando Buitrago | Recognition of financial penalties for Damages and Losses caused in a traffic accident suffered by one of the drivers of the Contractor in 2005. | 7 |
| Total Aguas Nacionales | | | 1,878 |
| ENSA | Alex Montenegro And others | Civil Process. | 402 |
| | Aristides Contreras | Civil Process. | 325 |
| | Oswall Dall | Civil Process. | 78 |
| | Electrical Technology | Civil Process. | 20 |
| Total ENSA | | | 825 |
| DELSUR | Superintendencia de Electricidad y Telecomunicaciones | Compensation for poor tariff classification to consumers | 279 |
| | Various Employees | Claim 4 (Employee Benefits) | 217 |
| | Various Customers | Claims for damaged appliances | 185 |
| | Administracion Nacional de Acueductos y Alcantarillados | Compensation for \$ 89,642,566 COP. | 90 |

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| | Alcaldía Municipal de San Salvador | Claim 2 (Municipal Tax for Pole Installation) | 31 |
| | Alcaldía San Esteban Catarina | Claim 1 (Rate for use of poles and installation of structures) | 20 |
| Total DELSUR | | | 822 |
| Other Subsidiaries | Aguas de Antofagasta S.A. | Miscellaneous Lawsuits. | 5,162 |
| | Aguas de Malambo S.A. | Miscellaneous Lawsuits. | 485 |
| | Empresas Públicas de Rionegro | Miscellaneous Lawsuits. | 15,602 |
| | Aguas de Regionales S.A. | Miscellaneous Lawsuits. | 35 |
| | Empresa de Energía del Quindío | Miscellaneous Lawsuits. | 20 |
| Total Other Subsidiaries | | | 21,304 |
| Total Recognized Lawsuits | | | 326,142 |

Figures stated in millions of Colombian pesos

28.1.4 Contingent Consideration - Business combination

Corresponds to contingent considerations related to the acquisition of the following group of assets that constitute a business: Espiritu Santo Energy S. de R.L. subsidiary and Empresas Varias de Medellín S.A. E.S.P. (EMVARIAS) subsidiary, the balance as of December 31, 2018 amounted to \$135,082 (2017: \$125,428) and \$18,587 (2017: \$19,025), respectively.

The main assumptions considered for calculating the contingent consideration related to the acquisition of Espiritu Santo are: estimated date of occurrence of milestones associated to the contingent payment, probability of occurrence associated, and additionally the discount of the flows of payments applying a discount rate (LIBOR Rate) according to the risk of the liability. As of this date no future events have been revealed that may affect the calculation of the provision.

The main hypothesis used in the future events of the contingent consideration related to the acquisition of EMVARIAS are: ongoing lawsuits against EMVARIAS at the date of the transaction, definition of the year of materialization of each lawsuit, definition of the related amount to each of the disputes, estimate of future contingent expenses related to the litigation estimated for each year and discount rate (TES fixed rate) to discount future contingent expense flows. To date, there have been no future events that could affect the calculation of the provision.

28.1.5 Other provisions

The Group maintains other provisions for events such as: Management Premium, Multiplying Points, Somos Program, Technical Reserve and provisions for High-Cost and Catastrophic Illness, Compensation to Customers for non-compliance with Quality of Service Standards, which are regulated by the , Autoridad Nacional de los Servicios Públicos de Panamá (ASEP), provision for compliance with quality indicators and energy not served.

The main assumptions considered in the calculation for each type of provision are:

Management premium: Awarded to the members of EPM management as an extra-legal benefit. An aggregate deductible was contracted from November 1st, 2016 through December 31, 2018, for \$5,500. The main assumptions considered for calculating of each type of provision are the provision are: discount rate TES fixed rate, estimated value to be paid and estimated date of payment. To date, there have been no future events that could affect the calculation of this provision.

Multiplying points: Points obtained throughout the year must be recognized at the request of the interested party or by decision of the Human Talent Development Directorate each accounting closing for the period and must be disbursed along with the payroll. The value of each point is equivalent to 1% of the Monthly Minimum Legal Wage Enforced (MMLWE) and the points should not be accumulated from one year to the next.

Somos Program: The program operates under the modality of point accumulation. Depending on behavior of the statistics the points are accounted for with a cashing probability of 80%.

Technical reserve: The calculating basis for this reserve is that corresponding to all the authorization of services issued and that on the closing date in which the reserve is calculated have not been collected, except those that correspond to authorizations with over twelve months of issuance or to those that after at least 4 months of having been issued, there is evidence they have not been used.

high-cost and catastrophic illness: The calculating basis for this provision is that corresponding to the analysis of the entire population served of affiliates and beneficiaries of the Entidad Adaptada de Salud (EAS) of EPM, that suffer of any of the previously authorized illnesses.

For other provisions, the main assumptions considered in the measurement are: estimated life expectancy, estimated date of payment, estimated amount to be paid, discount rate calculated with reference to market yields of bonds issued by the National Government.

For 2018 the Group includes the following provisions derived from the contingency of the Hidroituango project:

1. Provision of \$38,877 for the contingency of the Ituango project that caused the flooding of the Cauca River because of the occluding that the project suffered on May 12, 2018. For the attention of those affected in the Puerto Valdivia municipality, for Compensation of emerging damage, lost profits and moral damages, \$25,807 were allocated; and, \$13,070 for the destruction caused to community infrastructure. Due to adjustments and payments, this provision ended, in December 2018, at \$38,815.
2. Provision for \$ 19,217 for the recovery of families affected and evacuated by the total losses of their homes and economic activities as a result of the flooding the Cauca River, caused by the occluding of the Ituango project, on April 28, 2018.
3. Provision for the warranty of the reliability charge of \$137,318 to cover the construction and commissioning of the Hydroelectric Power Plant and its monthly readjustments.

Establishment of the provision for warranty No. 10090002278 - Reliability charge which amount is USD 42.3 million (COP \$137,318). According to Resolution CREG 061 of 2017, the warranties of the reliability charge for the entry of new generation projects are executed when the commercial operation of the plant is delayed for more than one year. The contingencies presented in the diversion tunnel make the Ituango Hydroelectric project incur in this type of delay and, therefore, under the current regulations, the execution of this warranty.

EPM is negotiating with the CREG and the Government in general, a modification to the regulation of warranties of reliability charge that provides some opportunity to continue with the obligations of steady power and that in turn avoids the execution of the warranty in matter. The main actions are: a) making feasible several auctions of annual reconfiguration of the amount, b) seek for support in other generation assets, such as generation with the Termo Sierra power station and c) looking for new power plants that increase the country's power supply.

4. Provision of \$101,797 for the default, from January to October of 2021, to the Intercolombia transporter for the months following the entry into operation of the connection infrastructure of the Ituango project.

Considerations for calculating the Hidroituango Contingency provisions are:

Attention of evacuees: An initial estimate is recognized on June 30 for an amount of \$ 25,794 and the exercise is performed with the actual information paid in that month, due to the fact that it was the

closest thing to what could happen in the following months, the calculation is made with a simple average and considering the number of sheltered people at the time. This estimate included a time of occurrence from July to November of the same year, official information at the time of the red alert.

In September an adjustment of \$ 17,123 was made, for a total provision of \$ 42,917, which includes all costs for sustaining the shelters and the payment of financial assistance. For the estimate, the real payments for the month of September were taken as reference, since in July and August representative payments of goods and services acquired in the months of May and June were made. This estimate was projected until March 2019, the official estimated date of the red alert.

Guarantee for Reliability Charge: Establishment of the provision for the guarantee No. 10090002278 - Reliability charge which amount is USD 42.2 million (COP \$ 121,633). In accordance with Resolution CREG 061 of 2017, the guarantees of the reliability charge for the entry of new generation projects are executed when the commercial operation of the plant is delayed more than one year. The contingencies presented in the diversion tunnel make the Ituango Hydroelectric project incur this type of delay and, therefore, under the current regulations, the execution of this guarantee.

EPM is advancing before the CREG and the Government in general, a modification to the regulation of guarantees for reliability charge that provides some opportunity to continuing with the firm obligations of steady power and that in turn avoids the execution of the guarantee in matter. The main actions are: a) to make viable several auctions of annual reconfiguration of the Charge, b) to seek support in other generation assets, such as generation with the Termo Sierra Power Station and c) to seek new power plants that increase the country's energy supply.

Other provisions are include as stated below:

1. In Aguas Nacionales for \$ 15,723 related to disputes presented by the CICE and HHA consortiums of a contractual, non-judicial nature. The CICE consortium built the Northern Interceptor (Interceptor Norte). The HHA Consortium is in charge of building the Aguas Claras Wastewater Treatment Plant in Bello and the points under discussion are related to the deadline, design engineering and financial issues. The main assumptions considered in the calculation for each type of provision are the same as those applied to lawsuits.
2. At EPM a \$14,947 provision as performance guarantee for the project Conexión Proyecto Guayabal 230 kV and Associated Works (associated to the Bello-Guayabal-Ancon project) of the EPM distributor for the breach of obligations that covers the guarantee, which also guarantees the date of commissioning (date kept), the taking of power from the system during the first ten (10) months, at a value equal to or greater than 90% of the energy demand that was projected to consume (which was not fulfilled).

As of December 31, 2018, the Technical Reserves associated with the obligations of insurance contracts are included, which are detailed in section 28.2. Insurance Technical Reserves.

28.1.6 Estimated payments

The estimate of the dates on which the Group will have to disburse payments related to the provisions included in this notes to the separate statement of financial situation at the cut-off date, is the following:

| Year | Dismantling or Restoration | Onerous Contracts | Lawsuits | Contingent Collateral - Business Combination | Other Provisions | Total |
|---------------------------------|----------------------------|-------------------|----------------|--|------------------|----------------|
| 2019 | 42,154 | 29,681 | 227,291 | 47,894 | 215,510 | 562,530 |
| 2020 | 10,333 | 31,463 | 46,579 | 124,384 | 104,298 | 317,057 |
| 2021 | 20,011 | - | 8,220 | - | 2,403 | 30,634 |
| 2022 and Others | 2,923 | - | 31,889 | 20,238 | 3,780 | 58,830 |
| Total Estimated Payments | 75,422 | 61,144 | 313,979 | 192,516 | 325,990 | 969,050 |

Figures stated in millions of Colombian pesos

28.2. Insurance Technical Reserves

Technical Reserves associated with Insurance Contract Obligations are detailed below:

| Insurance Technical Reserves | 2018 | 2017 |
|--|----------------|----------------|
| Payable Loss Reserve | 129,491 | 92,550 |
| Incurred But Not Reported (IBNR) Reserve | 49,804 | 32,350 |
| Unearned Premium Reserve (UPR) | 39,912 | 32,979 |
| Total | 219,207 | 157,879 |

Figures stated in millions of Colombian pesos

Movement of Insurance Technical Reserves is as follows:

| 2018 | Initial Balance | Adjustment in Technical Reserves | Final Balance |
|---|-----------------|----------------------------------|----------------|
| Payable Loss Reserve | 92,550 | 36,941 | 129,491 |
| Incurred But Not Reported (IBNR) Reserves | 32,350 | 17,454 | 49,804 |
| Unearned Premium Reserve (UPR) | 32,979 | 6,933 | 39,912 |
| Total | 157,879 | 61,328 | 219,207 |

Figures stated in millions of Colombian pesos

| 2017 | Initial Balance | Adjustment in Technical Reserves | Final Balance |
|---|-----------------|----------------------------------|----------------|
| Payable Loss Reserve | 8,948 | 83,602 | 92,550 |
| Incurred But Not Reported (IBNR) Reserves | 23,914 | 8,437 | 32,350 |
| Unearned Premium Reserve (UPR) | 37,064 | (4,085) | 32,979 |
| Total | 69,926 | 87,954 | 157,879 |

Figures stated in millions of Colombian pesos

28.3. Contingent Liabilities and Contingent Assets

The breakdown of contingent liabilities and contingent assets is as follows:

| Type of Contingency | Contingent Liabilities | Contingent Assets |
|---------------------|------------------------|-------------------|
| Lawsuits | 964,862 | 340,342 |
| Guarantees | 267,767 | 133 |
| Other | 466,404 | - |
| Total | 1,699,033 | 340,475 |

Figures stated in millions of Colombian pesos

The Group has lawsuits or procedures that are currently in process with the legal, administrative and arbitration bodies. Considering the reports of the legal advisors, it is reasonable to consider that such lawsuits will not affect/significantly affect the financial situation or the solvency, even in the case of unfavorable conclusion of any of them.

The main lawsuits pending of resolution and judicial and extrajudicial disputes in which the company is a party to as of the report date, are indicated below:

28.3.1 Contingent liabilities

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|----------------------------|--|--|---------------|
| EPM | Isagén S.A. E.S.P. | Order EPM to compensate ISAGÉN for the damages suffered as a result of the aforementioned fire and the consequent unavailability of the Guatapé Power Plant. | 252,804 |
| | Various Administrative Processes | Other processes of less than \$11,505 million pesos. | 198,149 |
| | Federación Nacional de Cafeteros | Recognition and payment of investments made by the National Federation of Coffee Growers of Colombia (Federación Nacional de Cafeteros de Colombia) in electrical infrastructure works. | 107,393 |
| | Compañía Minera La Cuelga Ltd.. | Compensation of all economic damages caused to the La Cuelga Mining Company, caused for the works of execution and filling of the reservoir and commissioning of the Porce III hydroelectric project. | 38,955 |
| | Reinaldo De Jesús Jaramillo Sucerquia | Economic liability by HIDROITUANGO S.A. ESP be declared for the damages and losses caused to the plaintiffs (606 people), due to the impediment to work, due to the violation of the right to work, caused by the construction works of the Ituango Hydroelectric Power Plant. | 38,117 |
| | Aura De Jesús Salazar Mazo | Violate and risk the collective right, for destroying, interrupting and cutting the ancestral horseshoe paths that lead from the Alto Chiri village in the municipality of Briceño to the Valley of Toledo parish. | 37,996 |
| | Aura De Jesús Salazar Mazo | Compensation of 100 MMLWE for the impediment to perform the mining activity; and, for Non-Material Damages that they assess, in an equivalent to 200 MMLWE for each of the people in the group, about 113 people. | 27,253 |
| | Demandas laborales (Labour Suits) | Job reinstatement, Salary scale equalization, Extra hours, Convention acquired rights, etc. | 15,146 |
| | Yalida Maria Madrigal Ochoa | For the eleven defendants, pledging damages to their social and family life due to the death of Nicolas Alberto Moreno Trujillo. | 11,506 |
| Jesús Evelio Garces Franco | Nullification to the resolutions that resolves appeal for reconsideration by EPM, and by the Public Utilities Superintendence (SSPPD) for suffer of lack of cause, power deviation, unrecognition of the right to hearing and defense; EPM be declared administratively liable for the reinstatement of rights to the plaintiff for undue payment of alleged works in connection with the aqueduct | 161 | |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|-------------------|---|--|----------------|
| Total, EPM | | | 727,480 |
| EDEQ | Gerson Obed Pena Munoz and others | Reposition of collected amounts for Public Lighting Tax in the municipality of Armenia, since they consider this collection illegal. | 62,612 |
| | Donaldo Fabian Santander | Declare jointly and severally liable for the payment of each and every one of the damages of various kinds caused to the plaintiffs, due to the serious injuries suffered in the events that occurred on July 11, 2012 in the la Palmera Village, jurisdiction of the Municipality of Salento (Q.) and when he performed his own duties as a lineman. | 2,530 |
| | Maria Amparo Fernandez Gil | Declare jointly and severally liable for the payment of all Damages, due to the death of Mr. Otalvaro Sanchez | 2,348 |
| | Danielly Arcila de Gil and others | Declare administrative, extracontractual, joint and severally liable to the defendants of the injuries suffered by Mrs. Danielly Arcila de Gil, result of the fall of an iron coupling that is part of the lid of the junction box, which is concrete and belongs to the Municipality of Armenia, the Las Empresas Públicas De Armenia E.S.P. and the Empresa De Energia Del Quindío S.A. E.S.P. (EDEQ). | 2,217 |
| | Paola Andrea Giraldo Cadrasco and others. | Compensation for Damages caused by the death of Wilmer Marin Marulanda due to an electric shock from high voltage line. | 1,842 |
| | Derly Patricia Alvarez and others | Compensation for Damages caused by the death of Alfredo Barragan Espinosa due to an electric shock suffered when he fitted the top of a dump truck in the river Barragan municipality of Caicedonia. | 1,643 |
| | Wilson Grisales Henao and others | Declare Employer Negligence in the work accident suffered by Mr. Wilson Grisales Henao in events occurred on October 17, 2012 when he performed electrical work on the farm the mountain path Peking municipality of Quimbaya by the contractor of EDEQ Ingelel SAS, consequently, claims the payment of full and ordinary damages compensation. EDEQ is jointly and severally sued. | 1,302 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|---------|---|--|---------------|
| | Diana Rocio Vargas Alzate and others | Direct reparation for the death of the minor Joan Manuel Vargas Pelaez, incident occurred on November 16, 2013 in the Finca La Molienda Quindiana. (Vereda Baraya - Montenegro Quindío) | 800 |
| | Sandra Milena Sanchez | Co-defendants be declared administratively liable for the facts and omissions that caused the death of Mr. Otalvaro Sanchez, and that as a consequence of said declaration the Co-suits be condemned. | 553 |
| | Jhon James Montoya Marin and others | The defendant entity be declared administratively liable for the damages caused to Mr. Jhon James Montoya Marin and others as a result of an electric shock caused by an electric line. | 524 |
| | Leonardo Castano Lopez | Declare that Mr. Leonardo Castano Lopez was unfairly dismissed and therefore he is entitled to the compensation that this situation entails. | 452 |
| | Alba Lucia Luna Garcia and others | EDEQ is sued for the Damages due to the death of the youth Victor Manuel Serrano Luna and of the injuries suffered by Laura Victoria Botero occurred on November 22, 2014, being 1:20 in the afternoon, when the youth were traveling in a motorcycle, brand Auteco, line pulsar 135 LS, model 2014, plate ITT 13D, in the neighborhood La Alambra, street 19A in front of the block A number 3, of the municipality of Armenia, when they stumbled upon a block of fixed cement, left on the road, which caused them to collide against an energy pole, located incorrectly, on the edge that separates the platform from the road. | 377 |
| | Luis Fernando Ceron Betancur and others | EDEQ is sued for the Damages suffered by Mr. Luis Fernando Ceron Betancur and his family on the occasion of the electric shock that he suffered on June 11, 2015 while he was carrying out construction work on the second floor of a house located in the Municipality of Montenegro in race 6 No. 20-49, as a result of an electric discharge from the second floor. | 286 |
| | Alba Irene Munoz and others | EDEQ and the Municipality of Quimbaya are sued for alleged Damages caused by the suspension of the construction of a house located in Urbanizacion HERNETO VIGOYA, block B, lot 17, which was suspended on the occasion of a police protection lodged by EDEQ, since the construction was made breaching the safety distances established in the RETIE. | 124 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|--------------------------------|--|---|---------------|
| | Julian Fernando Martinez Santamaria | Julian Fernando Martinez Santamaria, former ENECON employee, files suit to declare that he was dismissed if just cause; It also requests that EDEQ be sentenced in virtue of the solidarity that exists between the parties. | 8 |
| | Pdc Vinos Y Licores Ltd. | The Pdc Vinos Y Licores Ltd. presents lawsuit for the sale of the property in common and jointly owned with EDEQ and 16 other companies, identified with real estate registration 280-82025, of which EDEQ owns 0.0142%. Additionally, she requests payment for the administration and maintenance expenses that she has been paying for 5 years. To EDEQ claims the amount of \$ 43,772 COP. | 0.04 |
| Total, EDEQ | | | 77,618 |
| CHEC | Honorio Herrera Lopez | Material Damage | 13,736 |
| | Municipality of Salamina | Interruption in the production and sell of Power | 5,058 |
| | Maria Marleny Montoya De Garcia | Material Damage | 3,823 |
| | Mauricio Velez Giraldo | Damages and Losses | 1,700 |
| | Heriberto Garcia Giraldo | Damages or Emerging Damage | 1,517 |
| | Jose Gustavo Morales Guarín | Injury compensation | 1,320 |
| | Positiva Compañía de Seguros S.A. | Return of mathematical capital reserve | 984 |
| | Diana Ginneth Toro Sanchez | Material Damage | 975 |
| | Oscar Nicolas Osorio Ciro | Material and Non-Material Damages | 884 |
| | Alexandra Osorio Ciro | Non-Material Damages | 807 |
| | Jorge Augusto Manzur Macias | Material Damages | 788 |
| | Raul Loiza | Material Damage | 781 |
| | Jose Ancisar Trejos Henao | Non-Material Damages | 779 |
| | Pedro Pablo Carmona Rengifo | Non-Material Damages due to Electric Accident | 664 |
| | Suministros y Proyectos Tecnológicos Eléctricos SYPELC | Return of unauthorized discounts | 594 |
| | Mayerli Eliana Hernandez Patiño | Non-Material Damages | 492 |
| | Andres Mauricio Arenas Bolivar | Material and Non-Material Damages | 479 |
| Ernesto De Jesús Monsalve Mazo | Material Damages | 457 | |
| Reinel Rivera Toro | Direct compensation for Non-Material Damages | 405 | |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|--------------------|--|--|---------------|
| | Alfredo Carvajal Gonzales | Direct compensation for Non-Material Damages | 381 |
| | Leonor Toro | Direct compensation for Non-Material Damages | 357 |
| | Mauricio Velez Montes | Direct compensation for Material and Non-Material Damages | 344 |
| | Camilo Enrique Pescador Arias | Direct compensation for Non-Material Damages | 331 |
| | Consuelo Gonzalez Ocampo | Material Damages - Imposition of Easement for Electric Utility | 270 |
| | Oscar Ivan Ramirez Jaramillo | Direct compensation for Material Damages | 231 |
| | G & R Ingeniería S.A.S. | Material Damages in Contract Execution | 228 |
| | Armando De Jesús Zapata Sossa | Direct compensation for Material Damages | 215 |
| | Luis Carlos Rivera Galvis | Direct compensation for Material Damages | 177 |
| | Furel S.A. | Material Damages in Contract Execution | 117 |
| | Alberto Llano Londoño | Material Damages | 91 |
| | Luz Marina Agudelo Caicedo | Direct compensation for Material Damages | 63 |
| | Gloria Carmenza Giraldo Botero | Direct compensation for Material Damages | 11 |
| Total, CHEC | | | 39,059 |
| ESSA | Tomon Ltd. | Declare the existence of a contract between the ESSA and the Temporary Union "San Gil Iluminado", | 8,201 |
| | Others | Others | 5,080 |
| | Carlos Gerardo Hernandez Florez | Declare the Department of Santander, Municipality of Betulia and Electrificadora de Santander S.A. ESP as administratively liable in solidarity or individual form depending on the case of Material and Non-Material Damages caused to Mr. Carlos Gerardo Hernandez Florez for failure or lack of service of the administration for the events that occurred on January 7, 2015 that caused the fire in the municipality of Betulia Santander and that affected its real estate called Finca Vistahermosa | 5,047 |
| | Aph Servicios Eléctricos S.A., Tomon Ltd., Kesman Overseas Limited, Inversiones El Prado | Declare the existence of a Strategic Alliance contract between the ESSA and the Temporary Union "San Gil Iluminado", | 4,610 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|---------|--|--|---------------|
| | Gerrsson Enmanuel Duarte Pabon | Declare ESSA liable for the damages caused to Gerrsson Duarte and his family group (4 Persons), for the damages derived from the inadequate location of power grids that caused the actor's electrocution on July 30, 2011, when he was doing work in the property located on 10th street with 14th street No. 10-37 San Antonio de Piedecuesta neighborhood. That the Essa be condemned for the material and moral damages derived from the described event, which, in the opinion of the plaintiff, amount to the sum of \$ 2,128,885,110 COP. | 2,700 |
| | Ana Aydee Prada Ochoa | Payment of compensation for the death of Mr. ALIRIO SILVA PIMIENTO in a work accident in the Municipality of San Joaquin, due to voltage discharge. | 1,681 |
| | Promotora Agrotropical Colombiana S.A.S. | Declare breach of the commercial offer No. ON-013-2008 of October 3, 2008,2. ESSA be ordered to pay \$ 886,313,271.31 COP for Damages. | 1,163 |
| | Gabriel Mendez Jaimes | Declare ESSA administratively liable for the damages caused to the plaintiff. | 988 |
| | Gloria Edilse Gomez | Declare ESSA administratively liable for the death of Omar Mendez Lozano and be ordered to pay Material and Non-Material Damages. | 888 |
| | Blanca Sepulveda Oviedo | Non-Material Damage / Loss of Profit / Damage to Healt | 860 |
| | Derly Patricia Alvarez Rojas | Non-Material Damage due to pain, affliction, anguish, uneasiness felt by each of the 19 plaintiffs for the death of Mr. Barragan, where they requested 100 MMLWE for each of the direct victims and 50 MMLWE for each of the indirect victims/Damage to social and family life and/or alteration to the conditions of existence/Damage to health caused exclusively to the plaintiff or victim/Loss of profits for \$ 7,087,850.00 COP for Mrs. Derly Patricia Alvarez and future losses for \$ 61,155,000 for | 735 |
| | Esther Rosa Cantillo Lascarro | Non-Material Damage/Damage to Social and Family Life today, Damage to Health. | 670 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|---------|----------------------------|---|---------------|
| | Nancy Pinzon Suarez | Declare existence of labour contract between Mr. Eudoro Pinzon and company Ingenieros En Obra from April 11, 2016 and declare the company as passively liability for the work accident suffered by the worker. Declare ESSA jointly and severally liable for paying the following amounts: to Mrs. Celina Suarez a \$ 305,000,000 COP amount. To Ivan Dario Pinzon Suarez as a son, a \$ 90,000,000 COP amount, to Nancy Pinzon Suarez as daughter, a \$ 90,000,000 COP amount. To Uber Dario Pinzon Suarez as a son, a \$ 105,000,000 amount, to Yuri Tatiana Pinzon Suarez as daughter, a \$ 105,000,000 amount, and to William Ferney Pinzon Suarez as son, a \$ 105,000,000 amount. In conclusion, for Material Damages, a \$ 320,000,000 COP total amount, and for Non-Material Damages a \$ 480,000,000 COP amount, for a \$ 700,000,000 COP total. | 631 |
| | Luis Ernesto Acevedo Silva | Declare the defendants liable for the wounds, sequels loss of working capacity and other damages suffered by Luis Ernesto Acevedo due to a fall caused by a crash against a lighting pole located on the platform, in the vicinity of balcón del Tejar in Bucaramanga, Profits for \$ 12,408,726 COP, Loss of Future Profits for \$ 73,738,436 COP, Total Loss of Profits for \$ 86,146,972 COP, Non-Material Damage for \$ 176,850,000 COP, Physiological Damage or Damage to Social and Family Life for \$ 176,850,000 COP. Total compensation for \$ 439,846,972 COP. | 555 |
| | Carlos Abel Perez Mantilla | Non-Material Damages | 541 |
| | Ana Mercedes Leal | Third: Declare that Mr. Oscar Alberto Camacho Leal suffered a work accident on October 1, 2014 while performing his duties in the service of Mecm Contratistas Profesionales Sas, which caused his death. Fourth: Declare that the beneficiary of the work in which the worker Oscar Alberto Camacho Leal lost his life on October 1, 2014 is the Electricadora de Santander. Fifth: Declare the solidary Liability contemplated in Article 34 Labour Code (CST, Código Sustantivo de Trabajo) between the companies Mecm Contratistas Profesionales Sas and Electricadora de Santander for the liabilities declared on the occasion of the employer's fault in the work accident in which Mr. Oscar Alberto Camacho Leal lost his life. | 537 |
| | Marina Reyes Manzano | Emerging Damage/Loss of Profits/Future Loss of Profits/Non-Material Damage to the three plaintiffs Marina, Celso and Alexander | 461 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|------------------------|---------------------------------------|---|---------------|
| | Diana Rocio Rivera Galeano and others | Declare that the work accident in which Juan Alberto Granados Ramirez lost his life occurred due to lack of verification fault of the employer. 4. Declare that the Electrificadora de Santander is jointly and severally liable with the employer for the value of the compensation to which the legitimated survivors, such as his daughter and his surviving permanent companion, are entitled. | 369 |
| | Mabel Astrid Ariza Vargas | Non-Material Damages/Damage to Health/Emerging Damage/Loss of Profits | 363 |
| | Marta Ines Barrera | Declare administrative, extra-contractual and jointly and severally liable the municipality of Barrancabermeja, Electrificadora de Santander S.A. ESP and empresa de transportes Trans Surencó S.A.S, Mr. Felix Alejandro Erazo and Mr. William Betancourt Castellanos for the damages suffered and caused to the plaintiffs | 342 |
| Total, ESSA | | | 36,422 |
| Emvarias | Jac Vainillal and others | Direct Repair Sanitary Landfill Compensation to Communal Action Board | 10,518 |
| | Junta De Accion Comunal La Cejita | Declarations | 8,844 |
| | Various | Labour Liability and Direct Compensation | 5,105 |
| | John Jairo Mesa Isaza | Employer's Liability | 166 |
| | Luz Dary Echavarria Rojas | Employer's Liability with Comultrevv | 25 |
| | Fabiola Londoño Higueta | Joint Labour Liability with Coomultreevv Ctto 140 of 2010 | 24 |
| | Francelly Zulieth Duque Lopez | Joint Labor Liability with Coomultreevv Ctto 140 of 2010 | 24 |
| | Martha Cecilia Echavarria Rojas | Joint Labor Liability with Coomultreevv Ctto 140 of 2010 | 24 |
| | Ligia Beatriz Pereira Giron | Survivor's Pension | 10 |
| Total, Emvarias | | | 24,740 |
| CENS | Orlando Emiro Contreras Velasco | Declare that the plaintiffs have the right within their entire pension life, the pension be readjusted in accordance with the parameters indicated in article 1 of Law 71 of 1988 and not those established in art. 14 of Law 100 of 1993, order CENS to pay the Plaintiffs retroactively, the amounts left to be pendant and apply the greater increase; equally, each unpaid value must be properly indexed. That is condemned to recognize | 2,005 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|---------|----------------------------|--|---------------|
| | | and pay the interests due to default that is dealt with in art.141 of Law 100 of 1993. | |
| | Mariana Bautista Ortiz | Declare civil, administrative, patrimonial and extra-contractually liable the State and Cens S.A. E.S.P., of the damages caused to the plaintiffs due to the death of Mr. Ramon Alipio Alvarez Paez (R.I.P.) occurred on April 26, 2016, in the Miraflores district, Puerto Leon sector of the Banco de Arena Parish, in the Municipality of Zulia, Department of Norte de Santander, as a consequence of an electric discharge produced by a high-voltage line. Material and Non-Material Damages are requested for the plaintiffs. | 1,414 |
| | Geomara Carreno | For Non-Material Damages, an amount of 1300 MMLWE. Damages in social and Family Life. Material Damages. Loss of Profits. | 1,368 |
| | Paht Construcciones S.A.S. | Order the settlement of Contract CT-2015-000070, concluded between the parties, where Cens S.A. E.S.P., must readjust the contractual equity in favor of Paht Construcciones S.A.S., applying the theory of unpredictability, as well as the amounts for complement of the payment of Act No. 6 for works executed, recognized and not paid. | 1,351 |
| | Other Labour Processes | Other Labour Processes of less than \$250 million COP | 1,306 |
| | Eleida Carrascal Velazquez | Obtain recognition and payment by CENS and the Norte de Santander Department, in favor of the plaintiff, the value of the Material Damages (Emerging Damage, Loss of Profits and Non-Material) caused by the total destruction of the commercial establishment called Ferreteria y Materiales Diego Alejandro, in events that occurred on February 5, 2015, which caused detriment to its patrimony and to income, not only for the Loss of Income, but also for the cost caused by the recovery of his house. | 1,102 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|---------|--|---|---------------|
| | Clinica Oftalmologica Penaranda S.A.S. | Declare CENS directly and civilly liable in the modality of extra-contractual liability for damages for the destruction of the Excimer Laser equipment for refractive surgery. | 909 |
| | Other Administrative Processes | Other Administrative Processes (7) of less than \$250 million COP. | 852 |
| | Sara Franco Guerrero | Order CENS S.A. E.S.P. and Electroning S.A.S. to pay for moral damages 100 MMLWE to each of the plaintiffs and the direct victim/pay for Damages to Social and Family life 100 MMLWE to each of the plaintiffs. | 839 |
| | Jeison Orlando Ortiz Valenzuela | Declare jointly and severally CENS and the Municipality of Aguachica-Alcaldía-Secretaria Planeacion, administratively liable for all Damages and Losses caused to the plaintiffs by the death of Mr. Fabio Alberto Ortiz Valenzuela, in events that occurred on March 29, 2014, cause of electrocution. Recognize interests in arrears from its execution. Condemn defendant entities to pay procedural costs and legal agencies. | 819 |
| | Julio Cesar Pena Villamizar | Declare CENS S.A. E.S.P. liable for the death of the minor Gerson Fabian Pena Capacho, occurred on October 27, 2006. Order CENS to pay for Moral Damages the sum of 100 MMLWE for each of the 8 plaintiffs. Order to pay for Material Damages and funeral expenses equivalent to 8 MMLWE. Order to pay interest arrears for the amounts resulting from the process' costs. | 648 |
| | Carlos Enrique Salamanca Soto | Order continuity of the payment of 12% on the pension allowance, resume the contributions discounted from the moment of compatibility of the pension properly indexed and the payment of interest arrears according to article 141 of the law 100 of 1990, plus the process costs. | 513 |
| | Luis Alberto Pena Villamizar | Order the payment of legal and conventional social benefits between the period in which the retirement pension was recognized and August 31, 2009, the recognition of the additional month of June of wage 14, arrears indemnity, indexation and interest arrears. | 442 |
| | Domingo Hernandez Carvajal | Declare administratively, extra-contractual, patrimonial and jointly and severally liable the Municipality of Salazar and to CENS, for Material and Non-Material Damages, caused by the accident suffered by the convener on August 3, 2016/Non-Material Damages/Damages to Health/Emerging Damage/Loss of Earnings/ Future Loss of Earnings. | 397 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|-------------------------|--|--|---------------|
| | Carlos Augusto Rangel Alvarez | Convention Benefits | 365 |
| | Diomar Jesús Manzano Garcia | Declare CENS and EPM administratively and materially liable for the damages caused to Diomar Jesús Manzano Garcia and Marlene Tarazona Bayona, as a result of failure in the electric power service where a deflagration was generated that destroyed part of the paddock, fences, crops and irrigation hoses, on their property. Interest arrears for the amounts that result in favor of the plaintiffs, from the date in which the payment should have been made until that in which it is actually made. | 353 |
| | Daniel Orlando Suarez Navas | Refund of the 12% Pension Health Contributions | 333 |
| | Carlos Augusto Ropero Gaona | Declare that CENS has violated fundamental rights of the plaintiff, due to his dismissal without due process to which he was submitted from 07 and 18 February 2013 and the consequent reinstatement. | 320 |
| | Manuel Jesús Navarro | Declare CENS S.A E.S.P. administratively and extra-contractually liable for damages caused to the plaintiffs by the death by electrocution of the minor Katherine Dayana Olivos Sanchez. Order CENS S.A E.S.P., to pay for Non-Material Damages, an amount of one hundred (100) MMLWE for each of the injured parties. | 317 |
| | Jorge Leonardo Ballesteros Franco | Order payment of compensation for unfair dismissal, severance and interest, holidays and arrears compensation referred to in Article 99 of Law 50 of 1990, along with process costs. | 280 |
| | Jesús Alejandro Sinisterra | Order CENS S.A. E.S.P. pay the plaintiff the amounts that were illegally discounted from his liquidation for wages and social benefits caused in the period between May 18, 2009 and the dismiss date. | 264 |
| Total, CENS | | | 16,197 |
| Aguas Nacionales | Conjunto Residencial Tarento | Appeal in guarantee: Monetary recognition for the damages caused in rainstorm happened in the month of March of 2006, that flooded the residential compound, where a construction contract was being executed and the plaintiff were performing an audit. | 8,499 |
| | Various Administrative | Other processes. | 2,535 |
| | Matilde Andrade de Palacios and others | Declare administratively and severally liable without dividing quotas of all the damages suffered by the plaintiffs for the reckless and irresponsible conduct that directly caused the accident. | 2,166 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|--------------------------------|----------------------------|---|----------------|
| | Adrian Heber Murillo Ortiz | Declare and order the Municipality of Quibdo, Aguas del Atrato, Aguas Nacionales E.P.M. S.A. ESP, administratively liable without division of quotas for all Non-Material Damages, alteration of life conditions and Material Damage for Emerging Damage suffered by the Plaintiffs, due to the negligent, reckless and irresponsible conduct that originated decisively the accident that caused serious damage to Mr. Adrian Heber Murillo Ortiz, occurred on May 30, 2014. | 1,031 |
| | Cice Consortium | AMB-9- "Unforeseeable" conditions that gave rise to damage and clogging of the tunnel boring machines and the application for reprogramming the works. | 18,718 |
| | Cice Consortium | Reinforcing steel. The Contracting Party to assume the costs derived from the greater amount of steel used in the manufacture of the concrete tubes used for the lining of the Interceptor tunnel. | 3,253 |
| | Cice Consortium | AMB-10- Order for recognition and payment of the cost overruns generated by the events that gave rise to AMB10 (low yields, "unpredictable" soil conditions) | 21,410 |
| | Cice Consortium | Recognition of cost overruns due to the over-consumption of tools for the cutting wheels of the tunneling machines ANV 2200mm and AVN 2400mm. | 8,058 |
| | Cice Consortium | Recognition and payment of the financial cost overruns incurred by the CICE Consortium, due to a change in the cash flow expected in the contract. | 3,907 |
| | Cice Consortium | Recognition of the cost of social and environmental management for the additional period initially agreed in the contract. | 692 |
| | Cice Consortium | Cost overruns incurred in the construction of the CE5 chamber, due to unpredictable conditions caused by the poor condition in the existing pipeline. | 144 |
| | Cice Consortium | Cost overruns incurred by the contractor for the longer term of execution of the works, for supervision, management and financial costs. | 12,780 |
| | HHA Consortium | Controversies in term, design engineering and financials. | 397,442 |
| Total, Aguas Nacionales | | | 480,635 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|--------------------------------------|---|---|------------------|
| Aguas Regionales | Maria Inés Osorio Montoya, Sandra Milena Triana Lopez, Tomas Jimenez Triana, Octavio Jimenez Hernandez, Julian Jimenez Osorio | Configuration type criminal fraud and direct reparation with which requests for declaring liable the Municipality of Apartado and Aguas Regionales for the death of the young Cesar Augusto Jimenez Osorio determined by the injuries suffered in events that occurred on June 1, 2016 in the city of Apartado, consequently, to pay Material Damages (past and future), Non-Material Damages and Damages to Health. Initial phase of the investigative stage | 2,595 |
| Total, Aguas Regionales | | | 2,595 |
| ENSA | Compañías generadoras | Liabilities Guarantee | 194,249 |
| | Autoridad Nacional de los Servicios Públicos | Liabilities Guarantee | 48,746 |
| | Empresa de Transmisión Eléctrica S.A. | Liabilities Guarantee | 3,687 |
| | Empresa de Transmisión Eléctrica S.A. | Liabilities Guarantee | 18,912 |
| | Ente Operador Regulador de El Salvador | Liabilities Guarantee | 1,524 |
| | Empresa Nacional de Autopistas S.A. | Banking Guarantee | 650 |
| | Other | Other processes | 25,640 |
| Total, ENSA | | | 293,408 |
| Aguas de Malambo | T & A Proyectos Ltd.. | Problem additional amounts of work and greater permanence of work in the execution of contract No. 22-2012. | 723 |
| | Nelson Mercado Luna | Payment of invoice No. 0095 in virtue of alleged works carried out to attend emergency in Carrera 22 with Calle 22 of the Municipality of Malambo. | 138 |
| | Fabian Bacca Jimenez | Recognition by Aguas de Malambo of a labour relationship acquired in the years 2015 and 2016 where he served as a worker for the company Temporal S.A.S. and, consequently, the payment of vacations, bonuses, severance, bonus for subscription of the convention, and compensation for unfair dismissal. | 18 |
| Total, Aguas de Malambo | | | 879 |
| Total, Contingent Liabilities | | | 1,699,033 |

Figures stated in millions of Colombian pesos

Regarding uncertainty in the estimated dates of payment and amounts to be paid, for contingent liabilities the same business rules indicated in note 28.1.3 apply. Lawsuits.

28.3.2 Contingent Assets

Lawsuits

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|-------------------|---|--|----------------|
| EPM | Municipality of Bello | Complete nullification of the complex administrative act contained in Resolutions 2717 of 2009 and 0531 of 2010. PTAR Bello. | 112,259 |
| | Municipality of Bello | Reimbursement of amounts paid by EPM, for the purpose of determining and liquidating the surplus effect, PTAR Bello. | 107,079 |
| | Comisión de Regulación de Energía y Gas -CREG | Nullification of the administrative act - issued by the CREG, official letter MMECREG-438 of 28-02-98 by which the right of petition presented by EPM is answered. | 85,756 |
| | Others Administrative | Processes of amounts less than \$2,991 million COP. | 6,928 |
| | The Nation Ministry of Health and Social Protection (MINSALUD, La Nacion Ministerio de Salud y Protección Social) | MINSALUD, has the legal and constitutional obligation to recognize and cancel the value of the services provided to members in relation to medicines and / or procedures, interventions or elements not included in the Mandatory Health Plan (POS). | 6,509 |
| | Ministry of the Environment and Territorial Development (Ministerio del Medio Ambiente y Desarrollo Territorial) | Nullification invoked, declare that within the costs related to the construction and operation of the Proyecto Hidroeléctrico Porce III, EPM may include the costs related to readjustments and other concepts. | 4,728 |
| | Interconexión Eléctrica S.A. E.S.P. (ISA) | Civilly liable for not recognizing EPM the value that corresponds to the remuneration that ISA received between 1995 and 1999, for the line modules that correspond to the STN's use assets in Las Playas and Guatapé substations. | 3,365 |
| | Poblado Club Campestre Ejecutivo S.A. | Liability for damage to the collector owned by EPM, which collects and transports wastewater from the sanitation basin of the La Honda stream in the Municipality of Envigado. | 3,150 |
| | Other Fiscals | Processes of amounts less than \$3,155 million COP. | 2,145 |
| Total, EPM | | | 331,919 |
| CENS | DIAN, -Dirección de Impuestos y Aduanas Nacionales | Declare null the following administrative acts: Sanction Resolution No. 900.001 of September 14, 2015, and Resolution (Resolución) No. 007390 of September 29, 2016, issued by the DIAN. As reinstatement of rights, Order the defendant to make reimburse the amounts paid by CENS S.A. E.S.P. for the higher income and supplementary tax and the penalty for inaccuracy established in resolution No. 007390 dated September 29, 2016, with current and default interest in accordance with the provisions of art. 863 of the Tax Code. | 3,893 |
| | Consortium CDE Ltd. | Payment of resources owed in favor of CENS | 1,226 |
| | Comercializadora Nave Ltd. | Declare the company Comercializadora Nave LTD., breached the contract signed with CENS S.A. E.S.P., for which it is requested to declare the termination of the contract. | 141 |
| | Ruben Dario Sanchez | Declare liable for the damages caused to CENS in the electrical infrastructure, of which \$ 20,524,812 COP correspond to material damages and the remaining amount to labour. | 118 |
| | Other Civil Processes | Other Civil Processes (33) for less than \$7 million COP | 99 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|--------------------|--|--|---------------|
| | Luis Eduardo Baquero Penaranda | Pension overpayment | 25 |
| | Municipality of Abrego | Shares and Pension Bonds | 18 |
| | Unspecified Persons | Order to pay the amount of \$ 15,194,752 for Unregistered Power | 16 |
| | E.S.E. HOSPITAL MENTAL RODESINDO SOTO | Shares and Pension Bonds | 15 |
| | Unspecified Persons | Order compensation for damages due to the punishable conduct of manipulation of measuring equipment, executed by the user in \$ 12,052,508 COP, according to pre-liquidation of power left to invoice. | 14 |
| | Ivan Leal Vega | Pension overpayment | 14 |
| | Unspecified Persons | Order compensation for damages due to the punishable conduct of manipulation of measuring equipment, executed by the user in \$ 11,783,891 COP, according to pre-liquidation of power left to invoice. | 12 |
| | Unspecified Persons | Order compensation for damages due to the punishable conduct of manipulation of the measuring equipment, executed by the user in pesos (COP) M/C according to pre-liquidation of the energy left to invoice. | 11 |
| | Unspecified Persons | Investigate the above described conducts to determine the parties' involvement in the commission of the events that motivate the present complaint, make criminally liable and that CENS S.A. E.S.P., is called as a victim, to enforce their rights that have been constitutionally and legally conferred, by virtue of the legislative act 03 of 2002, amending art. 250 of the C.N. and Law 906 of 2004, Art. 22. | 9 |
| | Unspecified Persons | Investigate the above described conducts to determine the parties' involvement in the commission of the events that motivate the present complaint, make criminally liable and that CENS S.A. E.S.P., is called as a victim, to enforce their rights that have been constitutionally and legally conferred, by virtue of the legislative act 03 of 2002, amending art. 250 of the C.N. and Law 906 of 2004, Art. 22. | 8 |
| Total, CENS | | | 5,619 |
| CHEC | Corporación Autónoma Regional de Caldas -CORPOCALDAS | Compensation for Damages, total nullification of resolution 126 of June 27, 2013. | 511 |
| | Unidad Administrativa de Gestión Pensional y Contribuciones Parafiscales de la Protección Social | Declare partial nullification of the official settlement No. RDO 513 of March 28, 2014 issued by the UGPP. | 355 |
| | Autoridad Nacional de Licencias Ambientales - ANLA | Declare total nullification of resolution 1064 of September 10, 2014. | 308 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|--------------------------------|--|--|---------------|
| | Fernando Alonso Ocampo Arias | Impose in favor of CHEC S.A. E.S.P., Easement for power conduction. | 284 |
| | Oscar Humberto Giraldo Castaneda | Recover the amounts for power left to invoice | 154 |
| | Edgar Alberto Leon | Amounts for power left to invoice | 131 |
| | Sandra Milena Tamayo | Amounts for power left to invoice | 117 |
| | Jhon Henry Cortes Martinez | Amounts for power left to invoice | 109 |
| | Darío Luis De Los Ríos | Recover the amounts for power left to invoice | 95 |
| | John Fredy Correa Pineda | Recover the amounts for power left to invoice | 73 |
| | Ingetrans S.A. | Material Damages in a Contract Execution | 54 |
| | Olimpo Leon Avello | Recover the amounts for power left to invoice | 46 |
| | Jose Gabriel Mejia Quiceno | Recover the amounts for power left to invoice | 44 |
| | Elkin Suarez Soto | Recover the amounts for power left to invoice | 27 |
| | Sandro Escarpeta Garcia | Recover the amounts for power left to invoice | 24 |
| | Jose Dumar Velez | Recover the amounts for power left to invoice | 21 |
| | Carlos Alberto Munoz Calvo | Recover the amounts for power left to invoice | 18 |
| | Jose Guillermo Ortiz Olarte | Recover the amounts for power left to invoice | 12 |
| | Alfredo Gallego Estrada | Recover the amounts for power left to invoice | 11 |
| | Alvaro Velazco | Recover the amounts for power left to invoice | 10 |
| | Francisco Javier Jaramillo Hoyos | Impose Easement for power conduction. | 10 |
| | Jair Dario Calle Rendon | Recover the amounts for power left to invoice | 9 |
| | Martha Lilia Echeverry Serna | Criminal complaint for Patrimonial Damage in favor of CHEC | 3 |
| | Carlos Arturo Calvo Londoño | Recover the amounts for power left to invoice | 2 |
| Total, CHEC | | | 2,428 |
| EDEQ | Superintendencia de Servicios Públicos Domiciliarios (SSPD) | Declare nullification of Resolutions that liquidated the special contribution for the Quindío Energy Company (EDEQ, Empresa de Energía del Quindío) for the 2014 period. | 284 |
| Total, EDEQ | | | 284 |
| Aguas Regionales | Superintendencia de Servicios Públicos Domiciliarios (SSPD) | Nullification and reinstatement of rights overpayment for official settlements 20175340030676 of July 4, 2017 Sewage and SSPD No. 20175340030606 of July 4, 2017 Aqueduct, as well as the acts that resolve appeals for reconsideration and appeal. | 51 |
| | Oscar Evelio Gallo Pérez y Juan Francisco Perez Piedrahita | Criminal type configuration. Fluid fraud. Initial phase of investigative stage. | 8 |
| | Superintendencia de Servicios Públicos domiciliarios Territorial Occidente | 04/27/2018 MC Lawsuit presented. Nullification and reinstatement of rights, by revocation of the resolution denying appeal for reconsideration, and in second instance it was revoked, nevertheless, the administrative act presented inconsistency because the regulation that supported the first instance decision and is revoked and then cited. | 3 |
| Total, Aguas Regionales | | | 62 |

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|--|---|---|----------------|
| Emvarias | Marta Nelly Quintero R. | Mortgage Executive | 25 |
| Total, Emvarias | | | 25 |
| Agua de Malambo | Superintendencia de Servicios Públicos Domiciliarios (SSPD) | Refund overpayment by Aguas de Malambo S.A. E.S.P., for the concept of the special contribution corresponding to the year 2015, for the Sewerage utility. | 5 |
| Total, Aguas de Malambo | | | 5 |
| Total, Contingent Assets - Lawsuits | | | 340,342 |

Figures stated in millions of Colombian pesos

Guarantees

The group has granted the next guarantees:

| Company | Third party (Plaintiff) | Complaint | Amount in COP |
|---|-------------------------|---|---------------|
| ESSA | Seguros del Estado | Established and granted for covering lawsuits (Tax) against the Municipality of Bucaramanga | 133 |
| Total ESSA | | | 133 |
| Total Contingent Assets - Guarantees | | | 133 |

Figures stated in millions of Colombian pesos

28.3.3 Estimated payments and collections

The estimate of the dates on which the Group will have to disburse payments related to contingent liabilities or will collect payments for contingent assets provisions included in this notes to the Consolidated statement of financial situation at the cut-off date, is the following:

| Year | Contingent Liabilities | Contingent Assets |
|-----------------|------------------------|-------------------|
| 2019 | 212,937 | 99,047 |
| 2020 | 37,882 | 128,191 |
| 2021 | 10,114 | 9,724 |
| 2022 And Others | 1,051,443 | 137,621 |
| Total | 1,312,376 | 374,584 |

Figures stated in millions of Colombian pesos

Note 29. Other Liabilities

The breakdown Other Liabilities is as follows:

| Other Liabilities | 2018 | 2017 |
|--|----------------|----------------|
| Non-Current | | |
| Collection in Favour of Thrid Parties ⁽¹⁾ | 10 | 10 |
| Payments Received in Advance | 4,371 | 4,740 |
| Government Grants | 25,778 | 25,153 |
| Assets Received from Customers or Third Parties | 31,784 | 33,808 |
| Other Deferred Credits | 21,159 | 21,228 |
| Transfer of Financial Assets and Guarantees | 36,425 | 33,668 |
| Total Other Liabilities Non-Current | 119,527 | 118,607 |
| Current | | |
| Collection in Favour of Thrid Parties ⁽¹⁾ | 115,715 | 97,692 |
| Payments Received in Advance | 67,786 | 73,189 |
| Government Grants | 763 | 638 |
| Assets Received from Customers or Third Parties | 153 | 7 |
| Transfer of Financial Assets and Guarantees | 6,231 | 1,621 |
| Total Other Liabilities Current | 190,648 | 173,147 |
| Total Other Liabilities | 310,175 | 291,754 |

Figures stated in millions of Colombian pesos

- ⁽¹⁾ Corresponds to Collection in Favor of Third Parties for Public Lighting Agreements, Portfolio Collection, Cleaning Utility, Taxes, among others.

29.1 Deferred Reinsurance Commissions

The detail of Deferred Reinsurance Commissions, which is included in the Revenue Received in Advance, is as follows:

| Deferred Reinsurance Commission Revenue | 2018 | 2017 |
|---|--------------|--------------|
| Initial Balance | 7,288 | 9,052 |
| Amortization | (676) | (1,764) |
| Final Balance | 6,612 | 7,288 |

Figures stated in millions of Colombian pesos

29.2 Government Grants

Movement of Government Grants to the cutoff date is as follows:

| Grants | 2018 | 2017 |
|---|---------------|---------------|
| Initial Balance | 25,790 | 26,576 |
| Granted during the Period | 353 | 442 |
| Recognized in the Profit for the Period | (2,090) | (1,051) |
| Foreign Currency Exchange Effects | 1,587 | (107) |
| Other Changes | 901 | (69) |
| Final Balance | 26,541 | 25,791 |
| Non-Current | 25,778 | 25,153 |
| Current | 763 | 638 |
| Recorded Value as of December 31 | 26,541 | 25,791 |

Figures stated in millions of Colombian pesos

The Group has received grants from the Inter-American Development Bank (IDB) for the micro and small business financing program; by Financiera del Desarrollo (FINDETER) as a favorable rate credit for the construction of aqueduct and sewage infrastructure; by the Fund for the Reconstruction of the Coffee Region (FOREC, Fondo para la Reconstrucción del Eje Cafetero) for the reconstruction of energy networks as a consequence of the earthquake in that region of the country; by the Financial Fund for Development Projects (FONADE, Fondo Financiero para Proyectos de Desarrollo) for the promotion of telecommunications in rural schools and by the Oficina de Electrificación Rural of Panama and the National Investment Fund in Electricity and Telephony (Fondo de Inversión Nacional en Electricidad y Telefonía) of El Salvador for the construction of infrastructure rural electricity.

The Group has not defaulted in any of the conditions related to grants.

29.3 Revenue Received in Advance

The breakdown of Revenue received in advance at the cut-off date is as follows:

| Revenue Received in Advance | 2018 | 2017 |
|--|---------------|---------------|
| Non-Current | | |
| Leases | 399 | 572 |
| Sales | 117 | |
| Power Utilities Sales | 3,855 | 4,168 |
| Total Revenue Received in Advance Non-Current | 4,371 | 4,740 |
| Current | | |
| Leases | 381 | 392 |
| Sales | 8,520 | 8,731 |
| Power Utilities Sales | 45,640 | 37,927 |
| Aqueduct Utilities Sales | 1,591 | 120 |
| Sewage Utilities Sales | 83 | 164 |
| Cleaning Utilities Sales | 677 | 1,230 |
| Natural gas Utilities sales | 5,406 | 8,330 |
| Other Revenue Received in Advance | 5,488 | 16,295 |
| Total Revenue Received in Advance Current | 67,786 | 73,189 |
| Total Revenue Received in Advance | 72,157 | 77,929 |

Figures stated in millions of Colombian pesos

Note 30. Changes in Liabilities due to Financing Activities

The reconciliation of Liabilities due to Financing Activities is as follows:

| Reconciliation of liabilities due to financing Activities 2018 | Initial Balance | Cash Flows | Changes Other than Cash | | Other Changes ¹ | Total |
|---|-------------------|------------------|-------------------------|-----------------------|----------------------------|-------------------|
| | | | Currency Exchange | Changes in Fair Value | | |
| Credits and Loans (See Note. 22) | 16,958,723 | 3,179,749 | 280,935 | - | 415,393 | 20,834,800 |
| Liabilities due to Leses (See Note. 24) | 196,491 | (1,040) | - | - | 33 | 195,483 |
| Pension Bonds (See Note. 24) | 640,720 | (34,798) | - | - | 37,266 | 643,188 |
| Hedging Instruments | 46,596 | (77,241) | - | (163,086) | 1,266 | (192,465) |
| Dividends or Surpluses Payed | 340,996 | (1,629,893) | - | - | 1,331,104 | 42,207 |
| Capital Grants | 25,790 | 353 | - | - | 397 | 26,540 |
| Other Finance Flows | - | 195,939 | - | - | (195,939) | - |
| Total Liabilities Arising from Financing Activities | 18,209,315 | 1,633,069 | 280,935 | (163,086) | 1,785,459 | 21,549,754 |

Figures stated in millions of Colombian pesos

| Reconciliation of liabilities due to financing Activities 2017 | Initial Balance | Cash Flows | Changes Other than Cash | | Other Changes ¹ | Total |
|---|-------------------|----------------|-------------------------|-----------------------|----------------------------|-------------------|
| | | | Currency Exchange | Changes in Fair Value | | |
| Credits and Loans (See Note. 22) | 14,848,008 | 1,870,505 | 59,730 | - | 180,480 | 16,958,723 |
| Liabilities due to Leses (See Note. 24) | 197,214 | (935) | - | - | 211 | 196,490 |
| Pension Bonds (See Note. 24) | 625,619 | (29,826) | - | - | 44,926 | 640,719 |
| Hedging Instruments | 65,680 | (12,384) | - | 117,615 | (124,315) | 46,596 |
| Dividends or Surpluses Payed | 38,537 | (1,395,464) | - | - | 1,697,923 | 340,996 |
| Capital Grants | 26,576 | 143 | - | - | (928) | 25,790 |
| Other Finance Flows | - | 26,234 | - | - | (26,234) | - |
| Total Liabilities Arising from Financing Activities | 15,801,635 | 458,273 | 59,730 | 117,615 | 1,798,297 | 18,209,314 |

Figures stated in millions of Colombian pesos

¹ Includes interest paid during the year for \$ 1,268,260 (2017: \$ 1,118,565), that by company's policy are classified as operating activities in the Statement of Cash Flows; the variation in the measurement at amortized cost of Credits and Loans \$ 1,271,472 (2017: \$ 1,023,498); Exchange Effect \$ 110,875 (2017 \$ 174,330); Dividends and Surpluses \$ 1,331,104 (2017 \$ 1,697,923); Business Combination \$ - (2017 \$ 10,505) and Others \$ 340,268 (2017 \$ 10,605).

Note 31. Regulatory Deferral Accounts

The balance of the deferred regulatory accounts as of the date of presentation of the Consolidated Financial Statements corresponds to the local regulatory framework applicable to the subsidiary Elektra Noreste S.A. (ENSA), established by the Autoridad Nacional de los Servicios Públicos de Panamá (ASEP). This entity is responsible for regulating and establishing the final rates that the Company bills its customers. The Company keeps its accounting records in accordance with the uniform system of accounts established by the ASEP for electric companies.

The regulated system under which the Company operates allows any excess or deficiency between the estimated electric power costs considered in the tariff and the current costs incurred by the Company to be included as a compensatory adjustment, to be recovered from (or returned to) customers, in the next tariff review. Any excess in power costs charged to customers is accumulated as credit balance in the deferred regulatory account in the consolidated financial statement of the Group and entails a reduction in the next tariff revision to be applied to customers. Likewise, any deficit in the cost of energy charged to customers is accumulated as a debit balance in the deferred regulatory account in the consolidated statement of financial position of the Group and leads to an increase in the next rate revision to be recovered from the customers.

Deferred regulatory accounts with debit balance represent probable future income associated with certain costs that are expected to be recovered from customers through the tariff process. Deferred regulatory accounts with credit balance represent probable reductions in future revenues associated with amounts that are expected to be credited to customers through the tariff process.

The movement of Regulatory Accounts is as follows:

| Regulatory Accounts | Assets | |
|--------------------------------------|----------------|---------------|
| | 2018 | 2017 |
| Initial Balance | 48,842 | 15,813 |
| Profit for the Period | 52,884 | 33,643 |
| Exchange Rates/Discount Rates Effect | 10,142 | (614) |
| Final Balance | 111,868 | 48,842 |

Figures stated in millions of Colombian pesos

The balances associated with the Regulatory Deferral Accounts in accordance with the regulation must be recovered or returned in the following two semesters.

The movement of the Deferred Tax associated with the Regulatory Accounts is as follows:

| Deferred Tax Associated to Regulatory Accounts | Liabilities | |
|--|---------------|---------------|
| | 2018 | 2017 |
| Initial Balance | 14,653 | 4,744 |
| Profit for the Period | 15,928 | (3,204) |
| Foreign Currency Exchange Effect | 2,979 | 13,113 |
| Final Balance | 33,560 | 14,653 |

Figures stated in millions of Colombian pesos

Cash Flows generated by Regulatory Accounts amounted to \$ 63,026 (2017: \$ 33,029), which, by the Group's policy, are classified as operating activities in the Statement of Cash Flows.

Note 32. Revenue from Ordinary Activities

The breakdown of Revenue from Ordinary Activities is the following:

| Revenue from Ordinary Activities | 2018 | 2017 |
|---|-------------------|-------------------|
| Sales of Goods | 18,266 | 52,045 |
| Rendering of Services | | |
| Power Generation Service ⁽¹⁾ | 3,853,158 | 3,464,670 |
| Power Transmission Service | 259,997 | 315,762 |
| Power Distribution Service ⁽²⁾ | 10,360,426 | 10,262,251 |
| Power Inter-Segment Elimination | (1,350,517) | (1,981,671) |
| Natural Gas ⁽³⁾ | 847,081 | 730,707 |
| Sanitation | 590,327 | 566,950 |
| Aqueduct ⁽⁴⁾ | 1,083,065 | 957,918 |
| Cleaning ⁽⁵⁾ | 222,470 | 201,047 |
| Insurance and Reinsurance Services ⁽⁶⁾ | 9,353 | 8,222 |
| IT Services | 339 | 339 |
| Construction Contracts | 125,697 | 43,254 |
| Other Services | 156,053 | 116,546 |
| Refunds ⁽⁷⁾ | (271,561) | (241,396) |
| Total Rendering of Services | 15,904,154 | 14,496,644 |
| Leases | 83,110 | 76,992 |
| Gain Sale of Assets ⁽⁸⁾ | 7,311 | 1,647 |
| Total | 15,994,575 | 14,575,283 |

Figures stated in millions of Colombian pesos

- (1) Includes greater sales to large customers at EPM, increase in quantities, mainly due to the new demand from Ecopetrol Rubiales, Grupo Femsa, Corona and the Éxito Group.
- (2) Revenue from the energy distribution service increased due to the higher unit cost and the increase in consumption. Also increase in prices and amounts in subsidiaries such as: CHEC, COMEGSA, DELSUR, ENSA, ESSA and CENS that recorded higher sales in the stock market, standing out those made to Enertolima.
- (3) The increase due to higher sales in the secondary market and greater demand for thermals on the Coast.
- (4) The increase corresponds basically to EPM executing Construction Contracts of the agreement with the Municipality of Medellín for the urban planning works of the Galería Bolívar Project; in the subsidiary ADASA by a larger number of customers, higher consumption and higher average sale price in the unregulated market and by the consolidation of the revenues of Empresas Públicas de Rionegro, a subsidiary that only started to be consolidated as of October 2017.
- (5) Increase originated in the EMVARIAS subsidiary due to the updating of the classification of residential users' facilities to commercial and industrial users, the update of gauging and tariffs for large generators
- (6) Correspond to revenue from commissions assigned and net premium accrued from the subsidiary Maxseguros
- (7) Refunds presented an increase due to a higher return of the reliability charge associated with greater power generation.

- (8) Corresponds to sales of assets by EPM, mainly for a land of the Poblado substation and for the sale of specialized vehicles by Empresas Varias de Medellín.

The group does not have any pledge on ordinary revenue, contingencies that have not been recognized affecting income or firm commitments with customers for the rendering of future services of which Losses are estimated.

Construction Contracts

The Group recognized revenue from Construction Contracts of Assets within the scope of IAS 11 - Construction Contracts as of the cut-off date, for \$ 125,697 (2017: \$ 43,254).

The method used to determine the degree of progress of previous construction contracts is the proportion of the contract costs incurred in the work already performed to date, in relation to the total estimated costs for the contract.

Note 33. Other Revenue

El breakdown of Other Revenue is as follows:

| Other Revenue | 2018 | 2017 |
|---------------------------------------|----------------|----------------|
| Compensations ⁽¹⁾ | 109,633 | 17,314 |
| Recoveries ⁽²⁾ | 104,848 | 226,216 |
| Other Ordinary Income | 58,402 | 44,677 |
| Commissions | 32,448 | 31,284 |
| Utilization | 7,855 | 7,930 |
| Valuation of Investment Property | 4,352 | 10,848 |
| Tender Sale | 2,587 | 738 |
| Professional Fees | 2,185 | - |
| Goods and Services Sales Margin | 2,094 | 2,297 |
| Government Grants | 2,091 | 928 |
| Remainings | 179 | 129 |
| Public Utilities Management Contracts | 90 | 269 |
| Photocopies | 4 | 3 |
| Total | 326,768 | 342,633 |

Figures stated in millions of Colombian pesos

- (1) Includes \$ 67,966 recognized in EPM for indemnities received for the incident that occurred in 2017 at the Playas Hydroelectric Plant (Central Hidroeléctrica Playas); for damages in the transport of some equipment of the Ituango Project (Proyecto Ituango) in 2016 and for damages in the Porce Hydroelectric Plant (Central Hidroeléctrica Porce). In addition, \$ 15,000 of the civil liability policy for the affectation to third parties for the Ituango Project and compensation for lost profits for \$ 16,150, and in 2017, \$ 5,908 of the compensation for emergent damage related to the Playas plant is included.
- (2) 2017 includes Refunds for overpayments of the tax on the estate of the taxable period 2011 for \$ 127,205.

Note 34. Costs of Services Rendered

The breakdown of Costs of Services Rendered is the following:

| Costs of Services Rendered | 2018 | 2017 |
|---|-------------------|------------------|
| Cost of Goods and Public Services (Utilities) for Sale ⁽¹⁾ | 7,164,001 | 6,281,940 |
| Personal services | 780,488 | 705,675 |
| Depreciations | 758,843 | 723,248 |
| Orders and Contracts for Other Services | 673,220 | 591,507 |
| Orders and Contracts for Maintenance and Repairs | 319,049 | 329,772 |
| Materials and Other Operating Expenses | 181,161 | 179,283 |
| Licenses, Contributions and Royalties | 152,397 | 163,022 |
| Amortizations | 137,180 | 94,488 |
| General | 100,777 | 107,695 |
| Insurances | 98,500 | 96,798 |
| Professional Fees | 93,606 | 102,239 |
| Consumption of Direct Inputs | 83,222 | 80,364 |
| Taxes and Rates | 73,850 | 64,358 |
| Leases | 60,319 | 58,855 |
| Public Utilities | 24,339 | 24,312 |
| Sold Goods | 17,140 | 20,839 |
| Depletion | 9,322 | 7,741 |
| Intangible Assets Impairment Loss | 6,052 | 6,324 |
| Value Reduction of Inventories | 308 | 1,113 |
| Cost due to Losses in Rendering of the Aqueduct Utility | 201 | 1,023 |
| Property, Plant and Equipment Impairment Loss | - | 56,619 |
| Total | 10,733,975 | 9,697,215 |

⁽¹⁾ Includes the value for Power Purchases in Block and in the Stock Exchange, Connection Costs, use of Networks, Lines and Pipelines, Sales Costs and Natural Gas Distribution, among Other Costs. The increase compared to the previous period is mainly due to the use of Networks due to greater sales to large customers, greater Power Purchase in the Stock Market and in the long term, and higher sales of Natural gas in the secondary market.

Note 35. Administrative Expenses

The breakdown of Administrative Expenses is the following:

| Administrative expenses | 2018 | 2017 |
|---|------------------|------------------|
| Personnel Expenses | | |
| Payroll Expenses | 395,297 | 379,848 |
| Social Security Expenses | 98,639 | 100,962 |
| Pension Expenses | 44,796 | 44,000 |
| Benefits in Interest Rates to Employees | 8,054 | 6,682 |
| Other Post-Employment Benefit Plans Other than Pension | 5,237 | 5,767 |
| Other Long-Term Benefits | 4,894 | 6,293 |
| Termination Benefits | 1,918 | 1,778 |
| Total Personnel Expenses | 558,835 | 545,330 |
| General Expenses | | |
| Other miscellaneous provisions ⁽¹⁾ | 318,874 | 37,712 |
| Taxes, contributions and rates ⁽²⁾ | 188,053 | 188,608 |
| Provision for contingencies ⁽³⁾ | 134,381 | 133,382 |
| Charges, fees and services | 111,904 | 125,458 |
| Impairment of Property, Plant and Equipment | 61,022 | 81,471 |
| Maintenance | 56,314 | 54,376 |
| Intangibles | 36,691 | 30,356 |
| Provision for Dismantling, Removal or Rehabilitation | 31,549 | 73 |
| Amortization of Intangibles | 25,740 | 41,533 |
| Other general expenses ⁽⁴⁾ | 23,963 | 19,015 |
| Surveillance and Private Security | 17,612 | 17,091 |
| Studies and Projects | 15,420 | 17,350 |
| General Insurances | 15,342 | 12,409 |
| Christmas Lights | 14,547 | 20,260 |
| Publicity and Advertising | 14,355 | 19,783 |
| Public Utilities | 12,979 | 12,013 |
| Services of Cleaning, Cafeteria, Restaurant and Laundry | 10,591 | 10,001 |
| Leases | 10,492 | 10,627 |
| Communication and Transportation | 9,277 | 8,880 |
| Promotion and Publications | 9,080 | 15,168 |
| Licenses and Safeguards | 6,690 | 6,156 |
| Learning Contracts | 5,070 | 4,576 |
| Provision Onerous Contracts | 4,797 | 5,836 |
| Printing, Publications, Subscriptions and Affiliations | 4,157 | 4,809 |
| Materials and Inputs | 4,031 | 4,783 |
| Legal Expenses | 3,727 | 2,917 |
| Information Processing | 3,519 | 2,363 |
| Fuels and Lubricants | 2,131 | 819 |
| Management Contracts | 2,004 | 2,368 |
| Photocopies | 1,754 | 2,009 |
| Travel Expenses and Allowances | 1,623 | 2,006 |
| Cleaning, Laundry and Cafeteria Elements | 1,616 | 1,845 |
| Organización de eventos | 1,443 | 2,903 |
| Processes Expenses | 1,197 | 2,025 |
| Repairs | 882 | 890 |
| Industrial Safety Equipment | 596 | 208 |
| Social Assets | 545 | 1,236 |
| Risk Centrals Consultation | 430 | 250 |
| Design and Studies | 381 | 329 |
| Industrial Safety | 370 | 396 |
| Public Relations | 267 | 382 |
| Cultural Events | 228 | 1,440 |
| Total General Expenses | 1,165,644 | 906,112 |
| Total | 1,724,479 | 1,451,442 |

Figures stated in millions of Colombian pesos

- ⁽¹⁾ Includes provisions of \$ 137,318 for the guarantee that covers the construction and operation of the Ituango-Pescadero Hydroelectric Plant, \$ 100,445 for the Ituango Connection, \$ 42,917 to continue assistance to evacuees' attention due to the project's contingency, and \$ 31,388 for the project. environmental contingency

- (2) Decrease is explained by the lower wealth tax in the national subsidiaries due to the fact that in 2017 the last installment was recorded.
- (3) Includes the update of the change of claim for 9 labour lawsuits of EADE former workers and provision for \$ 38,877 caused for the assistance to those affected by the contingency of the Ituango Hydroelectric project that occurred on April 28, 2018.
- (4) Includes expenses for Industrial Safety, Industrial Safety Equipment, Public Relations, Warehouse, Videos, Losses for Construction Contracts, Organization and Commissioning Expenses, Quality Control Expenses.

Note 36. Other Expenses

The breakdown of Other Expenses is as follows:

| Other Expenses | 2018 | 2017 |
|--|----------------|---------------|
| Loss on Assets Disposal ⁽¹⁾ | 102,781 | 30,990 |
| Other Ordinary Expenses ⁽²⁾ | 64,028 | 10,104 |
| Contributions to Non-Corporate Entities | 15,025 | 21,159 |
| Arbitral Awards and Extrajudicial Conciliations ⁽³⁾ | 12,360 | 8,439 |
| Loss on Asset Sale | 4,162 | 7,321 |
| Loss due to Changes in Fair Value in Investment Property | 479 | 475 |
| Court rulings | 371 | 113 |
| Donations | 318 | 617 |
| Assumed Taxes | 3 | 44 |
| Total | 199,527 | 79,262 |

Figures stated in millions of Colombian pesos

- (1) Includes \$78,295 for asset retirement due to the contingency of the Ituango Hydroelectric Project.
- (2) Includes \$45,639 recognized for the assistance to the community affected by the contingency of the Ituango Hydroelectric Project.
- (3) Includes in EPM \$ 10,017 for the Arbitral Award in the case of Energía del Rio Piedras S.A. E.S.P.

Note 37. Financial Income and Expenses

37.1 Financial Income

The breakdown of Financial income is as follows:

| Financial Income | 2018 | 2017 |
|---|----------------|----------------|
| Interest Revenue: | | |
| Bank Deposits | 38,023 | 37,486 |
| Income from Interest on Financial Assets at Amortized Cost | 35 | 713 |
| Interests by Debtors and Arrears | 176,293 | 139,088 |
| Monetary Readjustment Gains | 13 | 6 |
| Gains from Valuation of Financial Instruments at Fair Value | 26,339 | 24,997 |
| Gains from Valuation of Financial Instruments at Amortized Cost | 1,989 | 6,455 |
| Gains for Trust Rights | 23,750 | 37,021 |
| Other Financial Income | 4,394 | 7,136 |
| Total Financial Income | 270,836 | 252,902 |

Figures stated in millions of Colombian pesos

37.2 Financial Expenses

The breakdown of Financial expenses is as follows:

| Financial Expenses | 2018 | 2017 |
|--|------------------|------------------|
| Interest Expenses: | | |
| Interests on Liabilities under Financial Leasing | 37,795 | 35,786 |
| Other Interest Expenses | 62,262 | 67,618 |
| Total intereses | 100,057 | 103,404 |
| Total Expenses due to Interest on Financial Liabilities not measured at Fair Value with change in Profit | 829,912 | 750,008 |
| Other Financial Costs: | | |
| Commissions | 8,433 | 8,229 |
| Other Financial Expenses ⁽¹⁾ | 111,391 | 160,636 |
| Total Financial Expenses | 1,049,793 | 1,022,277 |

Figures stated in millions of Colombian pesos

- (1) In 2017 the valuation of financial instruments at fair value of the hedges are not under hedge accounting due to the cancelation of the underlying in November 2017.

Note 38. Net Exchange Difference

The effect of transactions in foreign currency was as follows:

| Net Exchange Difference | 2018 | 2017 |
|---|------------------|------------------|
| Exchange Difference Revenue | | |
| <u>Own Position</u> | | |
| For Goods and Services and Others | 5,376 | 4,394 |
| For Liquidity | 62,336 | 36,954 |
| Accounts Receivable | 119,608 | 74,451 |
| Other Adjustments in Exchange Difference | 13,686 | 19,508 |
| <u>Financial</u> | | |
| Gross Income | 43,000 | 129,294 |
| Total Exchange Difference Revenue | 244,006 | 264,601 |
| Exchange Difference Expenses | | |
| <u>Own Position</u> | | |
| For Goods and Services and Others | (15,415) | (4,610) |
| For Liquidity | (7,358) | (6,135) |
| Accounts Receivable | (76,298) | (41,747) |
| Other Adjustments in Exchange Difference | (87,684) | (10,516) |
| <u>Financial</u> | | |
| Gross Expenses | (321,368) | (42,863) |
| Total Exchange Difference Expenses | (508,123) | (105,871) |
| Net Exchange Difference | (264,117) | 158,730 |

Figures stated in millions of Colombian pesos

Rates used for the exchanging foreign currency in the Consolidated Financial Statements are:

| Currency | Code | Exchange to USD as of December 31 | | Exchange Rate as of December 31 | | Average Exchange Rate as of December 31 | |
|----------------------|------|-----------------------------------|--------|---------------------------------|----------|---|----------|
| | | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| United States Dollar | USD | - | - | 3,249.75 | 2,984.00 | 3,218.55 | 2,991.76 |
| Guatemalan quetzal | GTQ | 7.74 | 7.34 | 420.03 | 406.27 | 416.37 | 407.55 |
| Mexican peso | MXP | 19.69 | 19.57 | 165.01 | 152.51 | 160.23 | 155.87 |
| Chilean peso | CLP | 694.00 | 614.98 | 4.68 | 4.85 | 4.70 | 4.71 |

Note 39. Dividends on Equity Investment

The Dividends on Equity Investments is as follows:

| Participation in Equity Investments | 2018 | 2017 |
|--|---------------|---------------|
| Dividends and Participations ⁽¹⁾ | 68,209 | 49,764 |
| Revenue by Business Combination (See Note. 10) | - | 32,669 |
| Revenue by Sale of Equity Investments, Net ⁽²⁾ | (3,042) | 32 |
| Total Effect by Participation in Equity Investments | 65,167 | 82,465 |

Figures stated in millions of Colombian pesos

- (1) Includes dividends of investments classified in Financial Instruments (See Note 14. Other Financial Assets).
- (2) Corresponds In 2018 to loss due to Sale of Equity Investment held in Ecosistemas de Uruapan S.A. de C.V. (see Note 9.4) and in 2017 Includes mainly income for \$ 11 corresponding to the Sale of the investment classified in Financial Instruments held by the subsidiary Tecnología Intercontinental S.A. of C.V. TICSА in Aquasol Pachuca S.A. of C.V.

Note 40. Income Tax

40.1 Tax Provisions

Tax Provisions applicable and in effect, establish the following:

- The nominal rate of income tax is 33% and a 4% surcharge for EPM and its subsidiaries in Colombia.
- For the subsidiaries in Guatemala, the tax is determined by the Regime on the Profits of Lucrative Activities, consisting on applying a rate of 25% on the utility; or by the Simplified Optional Regime on Income from Lucrative Activities, consisting on applying a tax rate on the monthly taxable income. From the period 2014 onwards, the tax rate is 5% on the first Q 30,000 (GTQ), and 7% on the surplus; likewise, the tax legislation contemplates a Regime on Capital Income which establishes a rate of 10% and a tax of 5% on the distribution of dividends and profits to both resident and non-resident shareholders.
- For the subsidiaries in El Salvador, 30% for companies with taxable income greater than US \$ 150,000 and 25% for companies that do not exceed said limit; for subsidiaries in Panama and Mexico a tax rate of 30% and for the subsidiaries of Chile the nominal rate is 27% for 2018 and following periods.

Residential Public Utilities in Colombia are excluded from determining the Income Tax by the system or presumptive income calculated based on the net tax equity of the immediately preceding year.

- During the taxable period, the Congress of the Republic of Colombia approved Law 1943 of 2018 modifying the current tax rates, which generated a significant impact of recovery of the deferred tax of EPM and its national subsidiaries.
- The holding company of the EPM Group uses the tax benefit called "Special deduction for investment in productive real fixed assets", equivalent to 40% of the investments made during the taxable period. This benefit is valid for the generation segment of EPM on the occasion of the legal stability contract signed with the National Government in 2008.

40.2 Reconciliation of the Effective Rate

Reconciliation between the Accounting Gain and the Tax Gains and the composition of the Income Tax expense for the 2018 and 2017 periods is as follows:

| Income Tax and Complementary | 2018 | 2017 |
|---|------------------|------------------|
| Earnings Before Taxes | 2,597,976 | 3,076,215 |
| Plus Items that Increase Income | 1,898,828 | 815,193 |
| Surplus of Unrealized Exchange Difference over Realized | 184,339 | -84,837 |
| Dividends effectively perceived from Controlled | 391,940 | 343,803 |
| Non-Deductable Provisions | 701,683 | 161,264 |
| Financial Lease | 92,368 | 36,198 |
| Losses on Disposal of Assets | 90,466 | 22,934 |
| ECE Regime Gains | 73,636 | 63,331 |
| Other Non-Deductable Costs and Expenses and Taxed Revenue | 364,396 | 272,500 |
| Less Items that Decrease Income | 2,278,742 | 2,281,193 |
| Special Deductions (AFRP/Disability/Science and Technology) | 792,263 | 792,906 |
| Not Taxed Dividends | 317,601 | 208,387 |
| Excess of Tax over Accounting Depreciation and Amortization | 427,442 | 422,958 |
| Not Taxed Recoveries | 140,920 | 139,883 |
| Compensation for Emerging Damage | 91,573 | 8,021 |
| Payment against Provisions | 194,892 | 208,431 |
| Operating Lease | 88,784 | 36,690 |
| Others Not Taxed | 196,964 | 423,544 |
| Tax effects on foreign subsidiaries | 28,303 | 40,374 |
| Ordinary Liquid Income for the Period | 2,218,062 | 1,610,215 |
| Less Exempt Income | 56,387 | 64,146 |
| Less Compensation for Losses/Surplus of Presumptive Income | 570,796 | 21,694 |
| Others | - | 87 |
| Taxable Liquid Income | 1,590,879 | 1,524,462 |
| Income Tax Rate for Colombia | 33% | 34% |
| Income Tax Surcharge for Colombia | 4% | 6% |
| Occasional Income Tax Rate for Colombia | 10% | 10% |
| Income Tax for Colombia | 677,702 | 425,888 |
| Occasional Income Tax for Colombia | 539 | 8 |
| Occasional Income Tax Rate for Foreign Subsidiaries | 78,445 | 164,441 |
| Less Tax Discounts | 9,767 | 124,836 |
| Income Adjustment for Previous Periods | (172,029) | 7,642 |
| Current Tax | 574,890 | 473,143 |
| Detail of Current and Deferred Expenses | | |
| Current Tax and Income Surcharge | 574,890 | 473,143 |
| Deferred Tax | (357,496) | 312,817 |
| Income Tax | 217,394 | 785,960 |

Figures stated in millions of Colombian pesos

40.3 Income Tax Recognized in Profits or Losses

The most significant components of the income tax expense at the cut-off date are:

| Income Tax | 2018 | 2017 |
|--|------------------|----------------|
| Current Income Tax | | |
| Expenses for Current Income tax | 745,033 | 465,463 |
| Recognized Adjustments in the Current Period related to Current Income Tax of Previous Periods | (172,029) | 7,642 |
| Net expenses for Current Income Tax, PPUA, Reserves and Rectifications | - | 38 |
| Other Current Income Tax | 1,886 | - |
| Total Current Income Tax | 574,890 | 473,143 |
| Deferred Tax | | |
| Net Deferred Tax Expenses related to the Origin and Reversal of Temporary Differences | (123,162) | 348,826 |
| Net Expenses (Revenue) for Deferred Tax related to Changes in Tax Rates or Regulations ¹ | (234,860) | 4,665 |
| Tax Benefits for Tax Losses, Tax Credits or Temporary Differences used during the period ² | 1,782 | (40,674) |
| Derecognition of Accounts (or reversals. Recognized Write-offs in previous Accounts) Deferred Tax Assets | 371 | - |
| Net Expenses (Revenue) x Deferred Tax related to Changes in Accounting Policies/errors. | (611) | - |
| Other Deferred Taxes | (1,016) | - |
| Total Deferred Tax | (357,496) | 312,817 |
| Income Tax | 217,394 | 785,960 |

Figures stated in millions of Colombian pesos

(1) Deferred Tax Expenses (Revenue) related to changes in tax rates for 2017 corresponds to variations in the rate of deferred tax determination in Mexican subsidiaries and in relation to the 2018 period originated by the amendment incorporated in the Law 1943 of December 28, 2018, applicable rates as of January 2019. The rates used to determine the deferred tax are:

37% for 2018 (33% rent and 4% surcharge), which varied from the one used the previous year of 40%, this for the short-term items that are reversed during 2018. For generation a 37% rate is used considering the legal stability contract signed with the National Government of Colombia.

33% for 2019, which varied with respect to the one used the previous year of 37%, this for the medium-term items that revert during 2019, due to the surcharge elimination.

32% for 2020, which varied with respect to the one used the previous year of 33%, this for the long-term items that revert during 2020.

31% for 2021, which varied with respect to the one used the previous year of 32%, this for the long-term items that revert during 2021.

30% for 2022, which varied with respect to the one used the previous year of 31%, this for the long-term items that revert during 2022 and following.

For Properties, Plant and Equipment, the current rate was used considering the year in which the difference is expected to be reversed, taking as reference the remaining useful life of each asset.

For the case of assets whose Profit is expected to be realized as Occasional Income, a 10% rate is used.

27% for temporary differences generated in subsidiaries in Chile, 30% for subsidiaries in Panama and Mexico and 25% for other subsidiaries in Central America.

- Current Income tax expenses are affected, result of the recoveries from previous periods of income tax and complementary, since EPM received during the taxable period 2018 refunds from the tax authority for an amount close to \$ 440,000 MM, for the offsetting and recoveries in the Income And Complementary taxes, by the application of article 66 of Law 1739 of 2014, Tax on the assets of the 2011 period under the legal stability contract, and Wealth Tax by decreasing the net equity and consequently reducing the tax base.

On the amounts not recognized in return by the Directorate of National Taxes and Customs (DIAN) for the concept of tax on the assets of the taxable period 2011, EPM in exercise of the means of control of nullity and reinstatement of the right filed a Lawsuit before the Administrative Tribunal of Antioquia against the tax authority, whose claims amount to approximately \$ 258,000 MM.

Rates used for determining Deferred Tax for the Subsidiaries in Colombia, are:

| Year | 2018 | 2019 | 2020 | 2021 | 2022 |
|-------------------|------------|------------|------------|------------|------------|
| Income | 33% | 33% | 32% | 31% | 30% |
| Surcharge | 4% | - | - | - | - |
| Total Rate | 37% | 33% | 32% | 31% | 30% |

The Power Generation segment of EPM, has a rate of Income and Complementary tax of 33%, stabilized for 20 years under the legal stability contract EJ-04 of March 31, 2008, modified by OTHER IF EJ -01 June 4, 2010.

- ⁽²⁾ For 2017, the Expenses (Revenue) for Deferred Tax related to Tax Benefits of Tax Losses, Tax Credits or Temporary Differences used in the period corresponds to benefits for Tax Losses used by the subsidiaries in Chile and Mexico.

40.4 Temporary Difference without Effect on Deferred Tax

The deductible temporary differences and the unused tax losses and credits, for which the Group has not recognized deferred tax assets, are detailed below:

| Concept | 2018 | 2017 |
|---|--------------|--------------|
| More than One Year and Up To Five Years | 179 | - |
| More Than Five Years | 47 | 931 |
| Without a Time Limit | 5,342 | 5,559 |
| Unused Tax Losses | 5,568 | 6,490 |
| Without a Time Limit | 59 | 35 |
| Unused Tax Credits | 59 | 35 |
| More than One Year and Up To Five Years | 2,229 | 8 |
| Excess of Presumptive Income over Ordinary Liquid Income | 2,229 | 8 |
| Total | 7,856 | 6,533 |

Figures stated in millions of Colombian pesos

Deductible Temporary Differences and Losses, Tax Credits and Excesses of Presumptive Income on Ordinary Liquid Income not used correspond to Unused Tax Losses by Aguas de Malambo S.A. E.S.P. for \$ 5,521 million (2017 \$ 6,486), EV Alianza Energética S.A. for \$ 47 (2017 \$ 4), Unused Tax Credits by Aguas de Malambo S.A. E.S.P. for \$ 59 million (2017 \$ 35) and Excess of Presumptive Income on Ordinary Liquid Income Unused by EPM Inversiones S.A. for \$ 2,222 million (2017 \$ 0), EV Alianza Energética S.A. for \$ 7 (2017 \$ 8).

The value for the Asset or Liability on Income Tax is as follows:

| Concept | 2018 | 2017 |
|---|-----------------|------------------|
| Asset of Liability on Income Tax | | |
| Total Liability on Income Tax Non-Current | (33,701) | - |
| Income Tax ⁽¹⁾ | (33,701) | - |
| Total Liability on Income Tax Current | (91,264) | (148,088) |
| Income Tax ⁽¹⁾ | (91,264) | (147,903) |
| CREE Tax and Surcharge | - | (185) |
| Total Asset on Income Tax | 118,400 | 415,669 |
| Income Offsetting | 118,400 | 415,669 |
| Total (Liability) Asset on Income Tax, Net | (6,565) | 267,581 |

Figures stated in millions of Colombian pesos

- ⁽¹⁾ Corresponds to Tax Liabilities for works of EPM and EDEQ, which represents the possibility of companies partially paying the Income and Complementary Taxes through the Financing and Execution of public works of social importance in the Zones Most Affected by the Conflict (ZOMAC) instead of transferring the resources to the DIAN. This possibility arose with Law 1819 of 2016 and was regulated by Decree 1915 of 2017.

This liability is backed by a Commercial Trust agreement which is executed as the works framed in this program are being built.

40.5 Income Tax Recognized in Other Comprehensive Income

The detail of the Tax Effect corresponding to each component of the Other Comprehensive Income of the Consolidated Statement of Comprehensive Income is as follows:

| Other Accumulated Comprehensive Income | 2018 | | | 2017 | | |
|--|------------------|------------------|------------------|------------------|------------------|------------------|
| | Gross | Tax Effect | Net | Gross | Tax Effect | Net |
| Reclassifications of Property, Plant and Equipment into Investment Property | 13,439 | (1,643) | 11,796 | 13,439 | (1,360) | 12,079 |
| New Measurements of Defined Benefit Plans | (47,279) | 18,898 | (28,381) | (43,995) | 14,437 | (29,558) |
| Equity Investments Measured at Fair Value through Equity | 2,300,129 | (131,826) | 2,168,303 | 2,309,259 | (135,913) | 2,173,346 |
| Participation in Other Comprehensive Income of Associates and Joint Ventures | (3,643) | - | (3,643) | (2,582) | - | (2,582) |
| Cash Flow Hedges | (21,581) | (48,921) | (70,502) | (24,762) | 18,974 | (5,788) |
| Conversion of Financial Statements of Foreign Businesses abroad | 817,052 | - | 817,052 | 716,675 | - | 716,675 |
| Total | 3,058,117 | (163,492) | 2,894,625 | 2,968,034 | (103,862) | 2,864,172 |

Figures stated in millions of Colombian pesos

40.6 Deferred Tax

The breakdown of Deferred Tax is as follows:

| Deferred Tax | 2018 | 2017 |
|-------------------------------|--------------------|--------------------|
| Deferred Tax Asset | 249,700 | 225,317 |
| Deferred Tax Liability | (2,556,008) | (2,854,341) |
| Total Net Deferred Tax | (2,306,308) | (2,629,024) |

Figures stated in millions of Colombian pesos

40.6.1 Deferred Tax Asset

| Deferred Tax Asset | Initial Balance | Changes Included in Other Comprehensive Income | Net changes included in Profit for the period | Attributable Exchange Difference | Translation/adjustments Effect | Effect due to Loss of Control in Subsidiaries | Other | Restatements for Errors | Restatement or Policy Changes | Exchange Difference Effects | Final Balance |
|--|------------------|--|---|----------------------------------|--------------------------------|---|-----------------|-------------------------|-------------------------------|-----------------------------|------------------|
| Assets | 909,466 | 1,133 | 214,319 | (67) | (2,624) | (187) | (6,260) | (142,985) | 10,488 | 15,906 | 999,190 |
| Property, Plant and Equipment | 516,787 | - | 177,184 | - | - | - | - | 2,235 | - | 8,897 | 705,103 |
| Intangibles | 23,441 | - | (10,958) | - | - | - | - | - | - | 469 | 12,952 |
| Investment Property | 2,594 | - | (2,594) | - | - | - | - | - | - | - | - |
| Investments and Derivative Instruments | 49,040 | (73) | (37,740) | - | - | - | 217 | - | - | 670 | 12,114 |
| Accounts Receivable | 246,734 | - | (67,523) | - | (2,624) | - | (6,494) | 91 | 10,488 | 1,308 | 181,980 |
| Cash and Cash Equivalents | 168 | - | (168) | - | - | - | - | - | - | - | - |
| Inventories | 3,145 | - | 3,515 | (51) | - | - | - | - | - | 27 | 6,636 |
| Other Assets | 67,557 | 1,206 | 152,603 | (16) | - | (187) | 17 | (145,311) | - | 4,536 | 80,405 |
| Liabilities | (684,149) | 39 | (37,442) | - | 97 | - | (13,203) | (13,941) | 1,204 | (2,095) | (749,490) |
| Credits and Loans | 153,429 | - | 136,417 | - | 97 | - | - | - | - | (979) | 288,964 |
| Accounts Payable | 77,966 | - | (53,089) | - | - | - | (21) | - | - | 128 | 24,984 |
| Employee Benefits | 534,663 | 1,452 | (302,997) | - | - | - | - | - | - | 19 | 233,137 |
| Derivative Operations | 24,985 | - | (24,762) | - | - | - | - | - | - | - | 223 |
| Provisions | 203,763 | - | (6,913) | - | - | - | - | (6,039) | - | 60 | 190,871 |
| Other liabilities | 378,585 | - | (254,586) | - | - | - | (10,276) | (7,902) | 1,204 | 1,561 | 108,586 |
| Unused Tax Losses and Credits | - | - | - | - | - | - | - | - | - | - | - |
| Effect of Asset Disposal | (2,057,540) | (1,413) | 468,488 | - | - | - | (2,906) | - | - | (2,884) | (1,596,255) |
| Total Deferred Tax Asset | 225,317 | 1,172 | 176,877 | (67) | (2,527) | (187) | (19,463) | (156,926) | 11,692 | 13,811 | 249,700 |

Figures stated in millions of Colombian pesos

40.6.2 Deferred Tax Liability

| Deferred Tax Liability | Initial Balance | Changes Included in Other Comprehensive Income | Net changes included in Profit for the period | Attributable Exchange Difference | Translation/adjustments Effect | Effect due to Loss of Control in Subsidiaries | Other | Restatement or Policy Changes | Exchange Difference Effects | Final Balance |
|--|------------------|--|---|----------------------------------|--------------------------------|---|------------------|-------------------------------|-----------------------------|--------------------|
| Assets | 3,737,243 | 61,633 | (44,336) | - | (12) | - | (171,825) | (432) | 10,483 | 3,593,185 |
| Property, Plant and Equipment | 3,318,135 | - | (369,163) | - | (12) | - | (128,467) | - | 2,588 | 2,823,081 |
| Intangibles | 59,039 | - | 2,571 | - | - | - | (27,148) | - | 83 | 34,545 |
| Investment Property | 7,492 | - | (6,091) | - | - | - | - | - | - | 1,401 |
| Investments and Derivative Instruments | 158,536 | 61,633 | (110,958) | - | - | - | 1,959 | - | 8 | 111,178 |
| Accounts Receivable | 162,600 | - | 400,733 | - | - | - | 365 | (432) | 6,559 | 570,257 |
| Cash and Cash Equivalents | 167 | - | (167) | - | - | - | - | - | - | - |
| Inventories | 3,376 | - | (2,023) | - | - | - | 1 | - | 11 | 1,364 |
| Other Assets | 27,898 | - | 40,762 | - | - | - | (18,535) | - | 1,234 | 51,359 |
| Liabilities | (882,901) | (831) | (137,556) | (47) | (208) | - | (3,888) | 1,149 | (11,746) | (1,037,177) |
| Credits and Loans | 61,721 | - | (35,358) | - | (208) | - | 1,032 | 1,019 | 234 | 27,421 |
| Accounts Payable | 150,514 | - | (53,921) | (47) | - | - | - | - | 26 | 96,572 |
| Employee Benefits | 442,157 | 441 | (267,120) | - | - | - | 253 | - | (383) | 175,348 |
| Derivative Operations | 1,588 | 141 | 57,729 | - | - | - | - | - | 141 | 59,599 |
| Provisions | 12,532 | - | (9,472) | - | - | - | - | - | (46) | 3,014 |
| Other liabilities | 506,127 | - | (297,896) | - | - | - | (2,268) | 130 | (8,839) | 197,124 |
| Unused Tax Losses and Credits | - | - | (1) | - | - | - | 1 | - | - | - |
| Effect of Asset Disposal | (2,057,540) | (1,413) | 468,483 | - | - | - | (2,906) | - | (2,879) | (1,596,255) |
| Total Deferred Tax Liabilities | 2,854,342 | 60,802 | (181,892) | (47) | (220) | - | (175,713) | 717 | (1,263) | 2,556,008 |

Figures stated in millions of Colombian pesos

The relevant differences in the Deferred Tax Asset and Liability, are mainly caused by the application of the new rates introduced by Law 1943/2018, meaning, a recovery of the Income Tax; to the extent that the Deferred Tax on temporary differences to 2017, was calculated with a higher income rate based on the rates in force under Law 1819 of 2016, in harmony with paragraph 47 of IAS 12.

Another significant item is the Unrealized Exchange Difference by the application of the exchange rate at the end of the reporting period, which when compared to the exchange rate established by the fiscal rule, generates a temporary difference greater than that reported in the calculation of the deferred tax of the previous year, i.e., the exchange difference for debt causes the accounting base of the financial liability to be higher than its fiscal base.

40.6.3 Temporary Differences

The most significant concepts on which Temporary Differences were presented are the following:

In assets, the largest effects on the deferred tax arise from temporary differences in property, plant and equipment, in accounts receivable in relation to portfolio provisions due to the difference in the portfolio cleaning-up provision under tax-law and the impairment of portfolio under IFRS and as a result of the assessment at amortized cost of accounts receivable. The unrealized rate difference in the cxc is another representative item in the temporary differences, a concept introduced by Law 1819/2016.

For Assets, the greatest effects arise from Temporary Differences in the ownership of Plant and Equipment by virtue of purchase and sale of Assets between companies of the EPM Group, which implies the recognition of Unrealized Accounting Profits in the Group, over which the companies individually considered should be taxed, and by the valuation at amortized cost of the long-term accounts receivable. In accounts receivable from the commercial portfolio, it corresponds to the portfolio provisions due to the difference in portfolio cleansing provision under the tax rule and the impairment of the portfolio under the accounting standard under the expected loss method; additionally, there are temporary differences by the effect of the amortized cost valuation of short-term loans between economic associates.

For Liabilities, the items that impact the calculation of the deferred tax are, mostly, the settlement of the provision corresponding to installments of pension bonds, the actuarial calculation in pensions and pension commutation of EADE, the amortization of actuarial calculation in EMVARIAS pensions and, the credits and loans for the valuation at amortized cost of bonds, securities issued, credits and short-term loans, also includes the one that is generated by the temporary differences in the valuation at amortized cost of the loans and Long-Term Loans between associates. On the other hand, the temporary differences of the liabilities for Long-Term Employee Benefits such as retirement pensions, installments of pension premiums bonds and actuarial calculation of retroactive severance and interest to severance and the unrealized exchange difference of accounts payable.

For Items without Future Tax Effects, as is the case of Tax Liabilities and the financial gains generated in the assets of the plan of EPM, CHEC and EMVARIAS for being exempt income in accordance with the provisions of number 7 of the Article 235-2 of the Tax Statute, no Deferred Tax was generated.

The temporary differences over which no deferred tax was generated were, among others, investments in subsidiaries, associates and joint ventures, according to paragraph 39 of IAS 12; likewise, in the items that do not have future tax consequences, as it is the case of Liabilities for Taxes and the Assets of the pan of EPM, CHEC and EMVARIAS corresponding to items exempt of income tax.

The approval of dividends in the EPM Group after the revelation date and before the Financial Statements were authorized for publication, does not generate income tax consequences since it is established as a policy for the national subsidiaries that only tax-free profits and reserves are distributed. The tax effects that may be generated by the dividends decreed by the foreign subsidiaries, with the entry into force of Article 69 of Law 1943/2018, shall be considered as income exempt capital under the Colombian Holding Companies (CHC) framework.

New Regulations for Subsidiaries in Colombia

Financing Bill Colombia

During 2018, the National Government presented a financing bill to the Congress of the Republic, whose purpose, according to the explanatory memorandum, is to cover additional requirements received during the approval process of the General National Budget Law (PGN, fir its Spanish initials) for 2019 in the Congress of the Republic, whose additional resources required amount to \$14,000⁵ billion Colombian pesos. This corresponds to an austere budget, but that allows the continuation of social and economic programs of vital importance for the country's fairness and economic growth.

The initiative is supported by information collected by the Ministry of Finance and Public Credit that collects the opinion of citizens, associations, companies, academic and territorial entities, and public entities of different nature against the creation of new income and the modification of existing ones.

Under this scenario and after exhausting the stages required for the inception of the bill within the Colombian legal system, on December 28, 2018, Law 1943 of 2018 "By which financing laws for the restoration of the equilibrium in the national budget and other provisions are dictated" was enacted.

Thus, among the main modifications, the following can be highlighted:

General rate of income tax and complementary

The rates of income tax and complementary are modified, as follows:

Year 2019: Thirty-three percent (33%)

Year 2020: Thirty-two percent (32%)

Year 2021: Thirty-one percent (31%)

Year 2022 and forward: Thirty percent (30%)

Presumptive income

Shall have a phasing-out, as follows:

Year 2018: 3.5%

Years 2019 and 2020: 1.5%

Year 2021 and forward: 0%

The exemption is maintained in the determination of presumptive income for Public Utilities.

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Other elements

- It is allowed to take as tax deductions in the income tax the VAT paid in the acquisition, import, construction and forming of real productive fixed assets, including the required services to put the good in use conditions, and those assets acquired through leasing.
- The possibility of taking as a tax deduction of 50% of the industry and commerce tax is incorporated. It is expected that, starting in 2022, this discount will be of 100%.
- The sale of electric power generated based on wind energy, biomass or agricultural waste, solar, geothermal or ocean will be exempt income tax for a period of 15 years according to the definitions of Law 1715 of 2014 and Decree 2755 of 2003.
- Tax benefits are implemented through the figure of Mega-Inversiones with the possibility of accessing a stable tax regime.

Translator note: In Spanish one billion is 1,000,000,000,000 (10¹²), while in English is 1,000,000,000 (10⁹). The stated amount is 14,000,000,000.

- The sub-capitalization rule that limited the deductibility of the interest paid when there is over-indebtedness is modified, specifying that such limitations only apply with respect to the debts contracted between national economic associates.

Note 41. Related Party Disclosures

EPM, Holding Company of the EPM Group, is an industrial and commercial company of the State, decentralized from the municipal order, which sole owner is the Municipality of Medellín. Its capital is not divided into shares.

Subsidiaries, Associates, Joint Ventures, are considered as related parties of the Group, including Subsidiaries of Associates and Joint Ventures, Key Management Personnel, as well as the entities on which Key Management Personnel may exercise control or joint control and the Post-Employment Benefit Plans for Employee Welfare.

Balances and transactions between the companies of the EPM Group have been eliminated in the consolidation process and are not disclosed in this note. The total value of the transactions performed by the Group with its Related Parties during the corresponding period is presented below:

| Transactions and Balances with Related Parties | Revenue ⁽¹⁾ | Costs/ Expenses ⁽²⁾ | Amounts Receivable ⁽³⁾ | Amounts Payable ⁽⁴⁾ | Guarantees Received ⁽⁵⁾ |
|---|------------------------|--------------------------------|-----------------------------------|--------------------------------|------------------------------------|
| Associates: | | | | | |
| 2018 | 146,319 | 34,656 | 45,000 | 12,459 | - |
| 2017 | 111,811 | 189,470 | 42,746 | 35,885 | - |
| Key Management Personnel from the Company or its Controller: | | | | | |
| 2018 | 189 | 18,936 | 1,038 | 1,304 | 964 |
| 2017 | - | 20,963 | 2,444 | 3,814 | 704 |
| Other Related Parties: | | | | | |
| 2018 | 23,231 | 67,728 | 9,826 | 214,522 | - |
| 2017 | 526,772 | 1,146,786 | 688,160 | 798,142 | - |

Figures stated in millions of Colombian pesos

- (1) Revenue from transactions with Associates corresponds to the sale of services related to information and communication technologies, information services and complementary activities related. Revenue generated with other related parties correspond mainly to the Sale of Power, Provision of Public and Financial Services.
- (2) Corresponds to Costs and Expenses from transactions with Power Purchase, Acquisition of Goods and Services, including services related to communications and complementary activities, with associates and other related parties.
- (3) The Group has Accounts Receivable with its related parties derived from the Sale of Power, Provision of Public Utilities, Sale of Services associated with information and communication technologies, information services, among others. The EPM Group carries out the rating of the portfolio under criteria that allow prioritizing the management of its recovery through the dependencies in charge of the latter or collection entities. The collection applies according to the billing cycle with respect to Residential Public Utilities.
- (4) The payment policy, for most cases, is of 30 days date of filing for the invoice.
- (5) Guarantees received correspond to mortgage guarantees on housing loans granted to key personnel of the management.

Transactions between the Group and its related parties are carried out under conditions equivalent to those that exist in transactions between independent parties, in terms of their purpose and conditions.

Transactions and Balances with Related Government Entities

The total financial surplus paid to the Municipality of Medellín as of December 2018 was \$ 1,503,504 (2017 \$ 1,309,136).

Remuneration to the Board of Directors and key Personnel of the Group:

The remuneration to the members of the Board of Directors and Key personnel of the Group's Management is as follows:

| Concept | 2018 | 2017 |
|---|---------------|---------------|
| Wages and Other Short-Term Employee Benefits | 26,896 | 30,353 |
| Pensions and Other Post-Employment Benefits | 479 | 478 |
| Other Long-Term Employee Benefits | 1,725 | 725 |
| Remuneration to Key Management Personnel | 29,099 | 31,556 |

Figures stated in millions of Colombian pesos

Amounts disclosed are those recognized as Costs or Expenses during the period report for Compensation to key management personnel.

Note 42. Capital Management

Capital of the Group includes indebtedness through the Capital Market, Commercial Banks, Development Banks, Development Agencies and Multilateral Banks, at a national and international level.

The Group manages its capital in order to plan, manage and assess the attainment of financial resources in the national and international financial markets, for strategic investments, and investment projects, through different options that optimize costs, that guarantee the stability of adequate financial indicators and adequate credit rating, and minimize financial risk. For this, the following capital management policies and processes have been defined:

Financial Management: corresponds to the performance of all long-term credit operations, in order to guarantee the timely availability of the resources required for the normal operation of the company and to materialize the investment and growth decisions, striving to optimizing financing costs.

The Group has not made any changes to its Capital Management objectives, policies and processes during the period ended as of cut-off date, nor has it been subject to external capital requirements.

In order to face the changes in the economic conditions, the Group implements proactive management mechanisms for their financing, enabling as far as it is feasible, different financing alternatives, so that at the time performance of any long-term credit operation is required, there will be access to the source that each time has availability of competitive market conditions at the required time.

Following are presented the values that the Group manages as capital:

| Capital Management | 2018 | 2017 |
|-----------------------------------|-------------------|-------------------|
| Bonds and Loans | | |
| Commercial Bank Loans | 5,720,503 | 5,056,601 |
| Multilateral Bank Loans | 3,865,275 | 1,668,268 |
| Development Bank Loans | 1,996,764 | 919,922 |
| Issued Bonds and Debt Securities | 1,034,287 | 1,073,732 |
| Other bonds and securities issued | 8,206,867 | 8,240,200 |
| Other Loans | 11,104 | - |
| Total Debt | 20,834,800 | 16,958,723 |
| Total Capital | 20,834,800 | 16,958,723 |

Figures stated in millions of Colombian pesos

Note 43. Financial Risk Management Objectives and Policies

The Group is exposed to the financial risk, which is defined as the possibility of occurrence of an event that affects negatively the financial results, among which are market risk, liquidity risk, credit risk and operating risk.

Market risk refers to the changes or volatility of market variables that can generate economic losses. The market variables refer to exchange rates, interest rates, securities, commodities, among others; and their changes may impact, for example, the financial statements, cash flow, financial indicators, contracts, project viability and investments.

Credit risk refers to the possible default of payment obligations by third parties derived from contracts or financial transactions performed.

Liquidity risk is the scarcity of funds and the inability to obtain the resources at the time they are required to cover the contractual obligation and carry out investment strategies. The scarcity of funds leads to the need to sell assets or contract financing operations in unfavorable market conditions.

Finally, operating risk, from a financial standpoint, is defined as deficiencies or failures in the processes, technology, infrastructure, human resources or occurrence of unforeseen external events.

The Management, with Integral Risk Management, aims to lead the definition and implementation of the strategy for comprehensive risk management, in order to achieve adequate protection and assurance of the assets, resources and interests of the EPM Group.

The Group's policy is to manage the risks that affect its activity and its environment, adopting the best practices and international standards of Integral Risk Management (GIR), as a way to facilitate compliance with the purpose, strategy, objectives and business purposes, both statutory and Legal. It has an information system that facilitates the Integral Risk Management, guarantees the confidentiality, availability and reliability of the information and allows analysis and monitoring of risks and improvement plans. The Group has implemented an Integral Risk Management System and has a methodology for the identification, analysis, assessment, control and monitoring of risks, among which are those associated with money laundering and terrorism financing, which reduces vulnerability, and propose and implement effective mechanisms for the proper development of business, processes, projects and contracts. The valuation tables of the consequences of the materialization of the risks and the probability tables are available as evaluation criteria, which are applicable at the different management levels defined in the Methodological Guide for Integral Risk Management.

The activity of monitoring and reviewing the Integral Risk Management is aligned with the process of Management Monitoring established in the Group, in order to propose and implement improvement actions. The established monitoring and review scheme assess, among others, the following aspects:

- The strategy for the implementation of Integral Risk Management.
- Changes in the internal and external context that imply adjusting treatment of identified risks or that generate new risks.

- Variation of the risks in terms of frequency, probability and consequence.
- Assessment criteria for the probability and consequence of the risks.
- The deployment and effectiveness of treatment plans.

The Group manages the financial risks associated with the different levels of management, for which it identifies risks within the market, liquidity and credit grouping that are classified in the category of financial risks and quantifies their impact and implements mitigation strategies.

43.1. Market Risk

Market Risk is the risk that the fair value of the future cash flows of a financial instrument may fluctuate due to changes in market prices. The Group has identified that financial instruments affected by market risk include:

- Cash and cash equivalents (Fixed Income Securities and Fiduciary Charges)
- Investments at Fair Value through Profits.
- Investments Measured at Fair Value through Equity.

The sensitivity analyzes correspond to the financial situation as of December 31, 2018 and apply for the following concepts:

- Cash and cash equivalents (Fixed Income Securities and Fiduciary Charges).
- Investments at Fair Value Through Results.

The methodology used to measure Market Risk is the Value at Risk (VaR), consisting of the quantification of the maximum loss that the portfolio could present in a month with a confidence level of 95%. For the quantification of VaR, the methodology defined by the Financial Superintendence in the Basic Financial Accounting Circular (CE100 of 1995) is used.

43.2. Interest Rate Risk

Interest Rate Risk is the risk that the fair value or future cash flows of a financial instrument may fluctuate as a result of changes in market interest rates. The EPM Group has identified that financial instruments affected by interest rate risk include:

- Cash and Cash Equivalents
- Investments at Fair Value through Profits.
- Financial Liabilities measured at Amortized Cost - Credits and Loans
- Financial Liabilities measured at Fair Value through changes in Other Comprehensive Income - Derivative Instruments

Concentration of Interest Rate Risk materializes when there are large individual exposures and significant exposures to counterparties whose probability of default is determined by factors such as the economic sector, currency and credit ratings. Interest rate risk management seeks to preserve capital and maintain or increase profitability. The EPM Group has defined policies on risk in interest rates, through the identification of risks, the determination of the position of rates and the simulation of possible hedging strategies. This assist decision making, oriented to maintaining the position to hedge it, and later the results of the executed strategies are assessed.

Sensibility analysis to interest rates

The following table indicates the sensibility to a possible reasonable change in the interest rates of financial instruments exposed to this risk, without considering the effect of hedge accounting. Keeping all other variables constant, the pre-tax profit/loss of the EPM Group's equity would be affected by changes in variable interest rates as follows:

| | Increase/Decrease in Basic Points | Financial Effect | |
|--|-----------------------------------|-------------------------|-----------|
| | | In Earning Before Taxes | In Equity |
| 2018 | | | |
| Financial Assets Measured at Fair Value with changes in Profit | | | |
| Investment at Fair Value with changes in Profit | 100 | (15,084) | (12,067) |
| | (100) | 15,084 | 12,067 |
| Financial Liabilities Measured at Amortized Cost | | | |
| Credits and Loans | 100 | (79,034) | (63,228) |
| | (100) | 79,034 | 63,228 |
| Financial Liabilities Measured at Fair Value with Changes in Other Comprehensive Income | | | |
| Derivative Instruments | 100 | (3,991) | (3,193) |
| | (100) | 3,991 | 3,193 |
| 2017 | | | |
| Financial Assets Measured at Fair Value with changes in Profit | | | |
| Investment at Fair Value with changes in Profit | 100 | 2,654 | 2,123 |
| | (100) | (2,643) | (2,115) |
| Financial Liabilities Measured at Amortized Cost | | | |
| Credits and Loans | 100 | (137,213) | (109,770) |
| | (100) | 137,213 | 109,770 |
| Financial Liabilities Measured at Fair Value with Changes in Other Comprehensive Income | | | |
| Derivative Instruments | 100 | 303 | (11,956) |
| | (100) | (303) | 12,576 |

Figures stated in millions of Colombian pesos

The Group considers that the sensibility analysis is representative in respect to the exposure of the Interest Rate Risk.

43.3. Exchange Risk

Exchange Risk is the risk that the fair value or future cash flows of a financial instrument may fluctuate as a result of changes in exchange rates.

The Group has identified that financial instruments affected by exchange risk include:

- Cash and Cash Equivalents
- Investments at Fair Value through Profits
- Financial Liabilities measured at Amortized Cost - Credits and Loans
- Financial Liabilities measured at Fair Value through changes in Other Comprehensive Income - Derivative Instruments

The exposure to exchange risk relates, first, to financing activities in a currency other than the functional currency and with the hedging operations contracted.

The Group manages its exchange risk through hedging operations over a medium-term period. It is the Group's policy not to close speculative hedging transactions, so that the conditions of the hedging derivative instruments replicate the conditions of the underlying with the purpose of maximizing hedge effectiveness.

The Group hedges its exposure to fluctuations in exchange rates using different hedging instruments, including Swaps, Forwards and Options at different terms.

Sensibility Analysis to Exchange Rates

The following table indicates the sensibility to a possible reasonable change of 100 Colombian pesos in the exchange rate to American Dollars without considering the effect of hedge accounting. The effect is caused by the variation in monetary and non-monetary assets. Keeping other variables constant profit/loss before taxes and the Group's assets would be affected by changes in exchange rates as follows:

| | Increase/Decrease in Basic Points | Financial Effect | |
|--|-----------------------------------|-------------------------|-----------|
| | | In Earning Before Taxes | In Equity |
| 2018 | | | |
| Financial Assets Measured at Fair Value with changes in Profit | 100 | 29,238 | 23,391 |
| | (100) | (29,238) | (23,391) |
| Financial Liabilities Measured at Amortized Cost | | | |
| Credits and Loans | 100 | (333,672) | (266,937) |
| | (100) | 333,672 | 266,937 |
| Financial Liabilities Measured at Fair Value with Changes in Other Comprehensive Income | | | |
| Derivative Instruments | 100 | 64,773 | 51,819 |
| | (100) | (64,773) | (51,819) |
| 2017 | | | |
| Financial Assets Measured at Fair Value with changes in Profit | 100 | 1,795 | 1,436 |
| | (100) | (1,795) | (1,436) |
| Financial Liabilities Measured at Amortized Cost | | | |
| Credits and Loans | 100 | (241,285) | (193,028) |
| | (100) | 241,285 | 193,028 |
| Financial Liabilities Measured at Fair Value with Changes in Other Comprehensive Income | | | |
| Derivative Instruments | 100 | 59,183 | 47,346 |
| | (100) | (59,183) | (47,346) |

Figures stated in millions of Colombian pesos

The Group considers that the sensibility analysis is representative in respect to the exposure of the Exchange Risk.

43.4. Credit Risk

Credit Risk is the risk that one of the counterparts does not comply with the obligations derived from a financial instrument or purchase contract and that this will translate in a financial loss. The Group has identified that the financial instruments affected by credit risk include:

- Cash and Cash Equivalents
- Other Financial Assets
- Accounts Receivable and Other Accounts Receivable

Credit Risk Management by type of financial instrument is detailed below, it is considered representative in relation to the exposure to Credit Risk:

Cash and Cash Equivalents and Investments at Fair Value in Profit: For Credit Risk management, the EPM Group allocates quotas by issuer, counterparty and intermediary, considering the financial, risk and fundamental analyses of the entities, emphasizing the patrimonial support of the shareholders. The methodology considers the characteristics of the investment portfolio and applicable regulations. Credit Risk Concentration is limited since it complies with the provisions of the business rules manual for treasury operations. The description of the factors that define the concentration of risk is detailed below:

- The quotas are updated quarterly based on the latest available Financial Statements of analyzed entities.
- When the value of the consolidated portfolio of temporary investments exceeds the equivalent of 10,000 Monthly Minimum Legal Wages Enforced (MMLWE), no more than 20% of this value should be concentrated in the same issuer, counterparty or intermediary except for securities issued by governments that comply with current regulations.
- Securities intermediaries, other than supervised banking institutions, can act as counterparts to perform operations, but cannot be considered as admissible issuers.
- Broker-dealer companies that act as counterparty to treasury operations must have at least the second risk rating in terms of strength or quality in portfolio management.
- Stock broker Companies backed by banks, that is, banked counterparts, must have a minimum equity of 30,000 MMLWE.

Finally, efforts to avoid Risk Concentration are oriented at establishing, analyzing, monitoring and controlling the quotas, for this, controlling current quotas and their occupation status. On the other hand, the justifications related to the need to temporarily surpass the quotas are submitted for approval.

Accounts Receivable measured at Amortized Cost and Other Accounts Receivable: EPM Group is exposed to the risk that users or customers who use Public Utilities may default or not pay for said services. Accounts receivable from Public Utilities debtors are classified into two large groups: those originated by default in payment and the other group corresponds to financing or payment agreements with customers that are made as a portfolio recovery strategy or for the linking new clients.

EPM Group companies evaluate the behavior and value of Accounts Receivable at each period's end to determine if there is objective evidence of Portfolio Impairment and identifies possible effects on future cash flows. The criteria used to determine whether there is objective evidence of impairment loss are:

- Customers defaulting on their payment obligations.
- Knowledge or evidence of the customer entering processes of corporate restructuring, insolvency or liquidation.
- The rise of social turmoil, be it of public order or natural disasters, which according to experience are directly correlated with the default of accounts.

In order to avoid an excessive concentration of risk, EPM Group Companies have developed and put into operation various strategies that allow it to mitigate the risk of default, among which are:

- **Persuasive collection** by making phone calls and sending letters to customers with assistance from specialized collection agencies.
- Segmentation of customers to identify those with the highest risk, based on the amounts, to execute personalized collection activities.
- Possibility of payment agreements or partial payments that lead to the recovery of exposed capital.
- Compensation of receivables and payables by the EPM Group with customer that are also suppliers.
- When the former strategies do not generate satisfactory results, coercive collection actions are implemented through suspension of the service.
- If the former strategies do not generate satisfactory results, the collection of receivables through the judicial process is proceeded.

The Group considers that the value that best represents its exposure to Credit Risk at the end of the period, without considering any collateral taken or other credit enhancements is:

| Concept | 2018 | 2017 |
|---|------------------|------------------|
| Cash and Cash Equivalents (Fixed Income Bonds and Fiduciary mandates) | 445,080 | 156,891 |
| Other Financial Assets | 1,277,941 | 305,344 |
| Accounts Receivable ⁽¹⁾ | 460,261 | 474,742 |
| Other Accounts Receivable ⁽¹⁾ | 214,760 | 124,732 |
| Maximum Exposure to Credit Risk | 2,398,042 | 1,061,709 |

Figures stated in millions of Colombian pesos

⁽¹⁾ Corresponds to the amount of the Portfolio Provisions.

Impairment of Accounts Receivable: Expected Credit Losses are estimated considering the probability that an uncollectible loss may or may not occur and are recognized as Profit or Loss in the Statement of Comprehensive Income, section Profit for the Period against a lower value of the financial asset. The Group assesses the credit risk of accounts receivable on a monthly basis at the time of presenting the reports in order to determine the value correction for expected credit losses on financial assets.

Non-compliance with the agreements is measured in accordance with what is indicated in the contracts for the provision of services and the regulations of the subsidiary in each country.

43.5. Liquidity Risk

Liquidity Risk refers to the possibility of insufficient resources for the timely payment of operations and commitments of the entity, and thus the Group would be forced to obtain liquidity in the market or to liquidate investments in an onerous manner. It is also understood as the possibility of not finding buyers for offered bonds.

The Group has identified that the financial instruments affected by the liquidity risk include:

- Non-Derivative Financial Assets
- Debt Financial Instruments with Variable Interest Rates
- Debt Financial Instruments with Fixed Interest Rates

To control Liquidity Risk, time-series comparisons of figures are made of benchmark indicators and of liquidity levels at different time-frames. From that assessment, investment strategies that do not affect the liquidity of the Group are formulated, considering the cash-budget and the market risk analyses to consider the diversification of the funding sources, the capacity to sell assets and the creation of contingency plans.

Generally, the main aspects considered in said analysis are:

- a. **Liquidity of securities:** analyses characteristics of the issuer, amount, and negotiation volume.
- b. **Market liquidity:** analyses the market's general behavior and forecasts rates to infer future behavior.
- c. **Portfolio liquidity:** cash flows are coordinated to determine investment strategies according to future requirements of liquidity, and diversification is sought to avoid the concentration of securities by issuer, rates and/or terms.

The following table shows the analysis of contractual expirations remaining for non-derivative financial liabilities and assets:

| | Average Effective Interest Rate | Less than 1 year | From 1 to 2 years | From 2 to 3 years | From 3 to 4 years | More than 4 years | Total contractual obligation |
|---|---------------------------------|------------------|-------------------|-------------------|-------------------|-------------------|------------------------------|
| 2018 | | | | | | | |
| Non-Derivative Financial Assets | 4.73% | 1,133,713 | 19,450 | - | 8,000 | 2,600 | 1,163,763 |
| Debt Financial Instruments with Variable Interest Rates | 5.69% | 1,436,375 | 1,363,233 | 315,519 | 1,750,339 | 6,694,780 | 11,560,246 |
| Debt Financial Instruments with Fixed Interest Rates | 7.68% | 1,890,752 | 176,553 | 1,751,528 | 176,553 | 5,072,613 | 9,067,998 |
| 2017 | | | | | | | |
| Non-Derivative Financial Assets | 4.63% | 174,760 | 8,402 | 7,000 | 8,000 | 2,000 | 200,162 |
| Debt Financial Instruments with Variable Interest Rates | 6.33% | 1,447,600 | 1,843,851 | 1,282,056 | 334,277 | 3,153,412 | 8,061,196 |
| Debt Financial Instruments with Fixed Interest Rates | 7.71% | 238,999 | 1,747,699 | 243,663 | 1,729,399 | 4,912,824 | 8,872,585 |

Figures stated in millions of Colombian pesos

Values included in the tables above for Non-Derivative Financial Assets and Liabilities may change in view of changes in the interest rate with variable respect to the interest rate estimated at the end of the reporting period. The Group considers that cash flows cannot occur earlier than indicated above.

The following table shows the analysis of contractual expirations remaining for derivative financial liabilities:

| | Less than 1 year | From 1 to 2 years | From 2 to 3 years | From 3 to 4 years | Total contractual obligation |
|----------------|------------------|-------------------|-------------------|-------------------|------------------------------|
| 2018 | | | | | |
| Swap Contracts | 21,520 | (45,843) | 12,165 | (192,984) | (205,142) |
| Total | | | | | |
| 2017 | | | | | |
| Swap Contracts | 45,094 | 30,857 | (14,388) | (3,037) | 53,046 |
| Total | 45,094 | 30,857 | (14,388) | (3,037) | 53,046 |

Figures stated in millions of Colombian pesos

The main method for the assessment and follow-up of liquidity is the projection of the cash flow that is performed at the Group companies and is consolidated in the cash budget. From this, a daily follow-up and projections of this cash position are continuously made, in order to:

- Follow up the liquidity needs related to the operating and investment activities associated to the acquisition and disposal of long-term assets.
- Pay, prepay, refinance and/or obtain new credits, according to the cash flows generation capacity in the Group.

These projections consider debt financing plans of the Group, fulfillment of ratios, compliance with organizational objectives and applicable regulations.

Finally, and in addition to the Investment Management and Cash Flow Forecast as part of the prudent Liquidity Risk management strategy, in order to control the current and working capital ratio, the EPM Group seeks to guarantee an adequate liquidity to through the availability of long-term financing with credit alternatives. As of December 2018, it has appropriately approved and renewable credit lines with local banking for approximately \$ 2.5 Thousand Billion COP, a quota available to be placed in the local

bond market of \$ 1.5 Thousand Billion COP; additionally, it has signed financing facilities and disbursements such as: credit agreement for USD 750 million with HSBC, a credit agreement for USD 550 million with IDB Invest and a credit agreement for \$ 1.0 Thousand Billion COP with Bancolombia.

43.6. Insurance Risk

EPM Group has established a captive reinsurance company, domiciled in Bermuda, registered in REACOEX Colombia and rated by AM Best with A-, and it is through this company how the reinsurance risk is transferred from the insurance company in Colombia (Currently, SURA) to the reinsurer market, for the policies of: Material Damages + Loss of Profit, Sabotage and Terrorism, Directors and Administrators, Infidelity and Financial Risks ("Crime"), Errors and Omissions, Civil Liability and Coverage for cyber risks.

As mentioned, said Risk Management is done through Maxseguros EPM Ltd., which consolidates the assumed risks and cedes them through reinsurance operations.

In reference to the policies of Selection, Cession and Management of Reinsurance, these are performed based on a strategy established jointly by the Integral Risk Management Executive of EPM and Maxseguros EPM Ltd., which may change from year to year. In accordance with the fluctuations of the reinsurance market and the conditions of the insured risks, however, it is sought to have a solid backing and a minimum score of A- or equivalent is required.

Reinsurance companies with which operations were executed in 2018 were the following:

| Reinsurer | Risk Score |
|-----------------------------------|------------|
| Liberty Mutual USA | S&P A |
| Chubb Seguros (Federal Insurance) | S&P AA |
| AIG (National Union Fire 78%) | AM Best A |
| Swiss Re International SE | AM Best A+ |
| Hannover Re | S&P AA- |

The values of the insured assets are as follows:

| Type of Asset | 2018 | 2017 |
|--|-------------------|-------------------|
| Minor and Wind Power Plants (<20MW) | 1,622,096 | 1,487,587 |
| Major Hydroelectric Power Plants (>20MW) | 9,708,524 | 8,926,698 |
| Planta térmica La Sierra (Thermo-Electric Plant) | 1,043,534 | 927,989 |
| Waters Assets | 838,041 | 813,527 |
| Transmission and Distribution Assets | 1,743,721 | 1,551,178 |
| Corporate Assets | 1,193,592 | 1,085,395 |
| Natural Gas Assets | 16,938 | 15,435 |
| Total | 16,166,446 | 14,807,809 |

Figures stated in millions of Colombian pesos

Note 44. Fair Value Measurement on a Recurring and Non-Recurring Basis

The methodology established in IFRS 13 Fair Value Measurement specifies a Hierarchy in the assessment techniques based on whether the variables used in the determination of the fair value are observable or

not. The Group determines the fair value on a recurring and non-recurring basis, as well as for disclosure purposes:

- Based upon prices quoted in active or passive markets identical to those the Group can access on the measurement date (level 1).
- Based upon assessment techniques commonly used by market participants that use variables different from prices quoted which are observable for the asset or liability, directly or indirectly (level 2).
- Based upon internal assessment techniques of cash flow discounts or other assessment models, using variables estimated by the company that are non-observable for the asset or liability, in the absence of variables observed in the market (level 3).

During 2018 and 2017 in the Group no transfers have been made between the fair value hierarchy levels, either for transfers in and out of the levels.

Assessment techniques and variables used in the company for measurement of fair value for recognition and disclosure:

Cash and cash equivalents: include Fixed-Income Instruments and Fiduciary Mandates. The latter reflects the balance of the Collective Investment Funds (FIC) held by the EPM Group. These funds are used as a savings and investment mechanism and are managed by trust companies. Through these funds, resources are invested in a portfolio of assets, which are restated at fair value. The EPM Group uses the Market Approach as the valuation technique for this item, these items are classified in level 1 of the fair value hierarchy.

Investments at fair value through profit and loss and through equity: includes investments made to optimize the liquidity surpluses, i.e., all those resources that are not immediately allocated to the performance of the activities that constitute the corporate object of the companies. The EPM Group uses the Market Approach as assessment technique, these items are classified in level 1 of the fair value hierarchy. For equity investments, Cash Flow is the methodology used; it is estimated at the market price for those listed on the stock exchange; the others are valued at historical cost.

Derivative instruments - Swaps: the Group uses derivative financial instruments, such forwards, futures, swaps and options to hedge financial risks, mainly Interest rate risk, Exchange risk and commodities prices. Such derivative financial instruments are recognized initially at their fair value as of the date when the derivatives agreement is executed and are later reassessed at their fair value. The Group uses as assessment technique for the swaps the discounted cash flow, with an income approach. The variables used are: interest rate swap curve for rates denominated in US dollars, to discount cash flow in US dollars; and external interest rate swap curve rates denominated in Colombian pesos, to discount cash flows in pesos. These items are classified in level 2 of the fair value hierarchy.

Accounts Receivable - Business Combination: originated in Business Combination by acquisition of the subsidiary Empresas Públicas de Rionegro, the discount of the payment flows is considered applying the discount rates of the average CDT 360 days. This item is classified in level 2 of the Fair Value Hierarchy.

Contingent Collaterals: originated in Business Combinations by acquisitions of the subsidiaries Espiritu Santo Energy S. de R.L. and subsidiary Empresas Varias de Medellín S.A E.S.P. (EMVARIAS), the discount of the payment flows is considered by applying the discount rates: LIBOR Rate and TES Rate, respectively. These items are classified in level 2 of the Fair Value Hierarchy. (See Note 28. Provisions, Contingent Liabilities and Contingent Assets).

Investment Property: properties (land or buildings, considered in whole or in part, or both) held (by the Group on their own behalf or by a financial lease) to obtain income, capital gains or both, instead of:

- Its use in the production or supply of goods or services, or for administrative purposes; or
- Its sale in the ordinary course of operations.

The Group uses two valuation techniques for these items. Within the market approach, the Comparative or Market Method is used, which consists of deducting the price by comparing transactions, supply and demand and appraisals of similar or comparable properties, previous adjustments of time, conformation

and location. Items valued with this technique are classified in level 2 of the fair value hierarchy. Within the Cost Approach, the Residual Method that applies only to buildings is used and is based on the determination of the Updated Construction Cost, less the depreciation for age or condition. These items are classified in level 2 of the Fair Value Hierarchy.

The following table shows for each of the Fair Value Hierarchy levels, the assets and liabilities of the Group, measured at fair value on a recurring basis to the cut-off date, as well as the total value of the transfers between level 1 and level 2 occurred during the period:

| Fair Value Measurement on a Recurring Basis 2018 | Level 1 | | Level 2 | | Level 3 | Total |
|---|-----------------------------------|-----------|-----------------------------------|---------|---------|-----------|
| | Transfers to Level 2 ¹ | Level 1 | Transfers to Level 1 ² | Level 2 | Level 3 | |
| Assets | | | | | | |
| Negotiable or Designated at Fair Value | | | | | | |
| Cash and Cash Equivalents - Fiduciary Mandates | - | 445,080 | - | - | - | 445,080 |
| | - | 445,080 | - | - | - | 445,080 |
| Other Investments at Fair Value (See Note. 14) | | | | | | |
| Fixed Income Securities | - | 1,167,359 | - | 11,326 | - | 1,178,685 |
| Variable Income Securities | - | 93,608 | - | - | - | 93,608 |
| Investments Pledged as Collateral | - | 5,647 | - | - | - | 5,647 |
| | - | 1,266,614 | - | 11,326 | - | 1,277,940 |
| Other Equity Investments (See Note. 14) | | | | | | |
| Variable Income Securities | - | 1,467,361 | - | 17,367 | 144,145 | 1,628,873 |
| | | 1,467,361 | 17,367 | 17,367 | 144,145 | 1,628,873 |
| Fiduciary Rights (See Note. 14) | | | | | | |
| Fiduciary for Management | - | 438,997 | - | - | - | 438,997 |
| | | 438,997 | - | - | - | 438,997 |
| Derivatives (See Note 14) | | | | | | |
| Futures Contracts | - | - | - | - | - | - |
| Swaps | - | 3,130 | - | 189,335 | - | 192,465 |
| | - | 3,130 | - | 189,335 | - | 192,465 |
| Investment Property (See Note. 6) | | | | | | |
| Urban and Rural Land | - | - | - | 70,040 | 261 | 70,301 |
| Buildings ad Houses | - | 125 | - | 20,834 | 121 | 21,080 |
| | | 125 | - | 90,874 | 382 | 91,381 |
| Liabilities | | | | | | |
| Contingent Consideration (See Note. 28) | | | | | | |
| Provision - Business Combination | - | - | - | 192,484 | 15,723 | 208,207 |
| | | - | - | 192,484 | 15,723 | 208,207 |
| Total | - | 3,621,307 | 17,367 | 116,418 | 128,804 | 3,866,529 |
| | | 93.66% | | 3.01% | 3.33% | |

Figures stated in millions of Colombian pesos

| Fair Value Measurement on a Recurring Basis 2017 | Nivel 1 | Nivel 2 | Nivel 3 | Total |
|---|------------------|-----------------|---------------|------------------|
| Assets | | | | |
| Negotiable or Designated at Fair Value | | | | |
| Cash and Cash Equivalents - Fiduciary Mandates | 156,891 | - | - | 156,891 |
| | 156,891 | - | - | 156,891 |
| Other Investments at Fair Value (See Note. 14) | | | | |
| Fixed Income Securities | 238,428 | - | - | 238,428 |
| Variable Income Securities | 61,481 | - | - | 61,481 |
| Investments Pledged as Collateral | 5,435 | - | - | 5,435 |
| | 305,344 | - | - | 305,344 |
| Other Equity Investments (See Note. 14) | | | | |
| Variable Income Securities | 1,599,999 | - | 36,782 | 1,636,781 |
| | 1,599,999 | - | 36,782 | 1,636,781 |
| Fiduciary Rights (See Note. 14) | | | | |
| Fiduciary for Management | 386,655 | - | - | 386,655 |
| | 386,655 | - | - | 386,655 |
| Derivatives (See Note 14) | | | | |
| Futures Contracts | - | 97 | - | 97 |
| Swaps | - | 19,445 | - | 19,445 |
| | - | 19,542 | - | 19,542 |
| Debtors (See Note. 13) | | | | |
| Other accounts receivable - business combination | 2,017 | - | - | 2,017 |
| | 2,017 | - | - | 2,017 |
| Investment Property (See Note. 6) | | | | |
| Urban and Rural Land | - | 108,705 | - | 108,705 |
| Buildings ad Houses | - | 18,035 | - | 18,035 |
| | - | 126,740 | - | 126,740 |
| Liabilities | | | | |
| Contingent Consideration (See Note. 28) | | | | |
| Provision - Business Combination | - | 144,453 | - | 144,453 |
| | - | 144,453 | - | 144,453 |
| Derivatives (See Note. 25) | | | | |
| Swaps | - | 66,138 | - | 66,138 |
| | - | 66,138 | - | 66,138 |
| Total | 2,450,906 | (64,309) | 36,782 | 2,423,379 |
| | 101.14% | -2.65% | 1.52% | |

Figures stated in millions of Colombian pesos

During the year 2017 there were no transfers between levels.

The following tables present a reconciliation of the assets and liabilities of the Group measured at fair value on a recurrent basis with unobservable variables (classified in level 3 of the fair value hierarchy) at December 31, 2018 and 2017:

| Changes in Level 3 of the Fair Value Hierarchy 2018 | Initial Balance | Changes Recognized in Other Comprehensive Income ¹ | Transfers | Final Balance |
|--|-----------------|---|------------|---------------|
| | | | to level 3 | |
| Assets | | | | |
| Other Equity Investments (See Note. 14) | | | | |
| Variable Income Securities | 36,782 | 505 | - | 37,287 |
| | 36,782 | 505 | - | 37,287 |
| Investment Property (See Note. 6) | | | | |
| Urban and Rural Land | - | - | 261 | 261 |
| Buildings and Houses | - | - | 121 | 121 |
| | - | - | 382 | 382 |

Figures stated in millions of Colombian pesos

| Changes in Level 3 of the Fair Value Hierarchy 2017 | Initial Balance | Changes Recognized in Other Comprehensive Income ¹ | Transfers | Final Balance |
|--|-----------------|---|------------|---------------|
| | | | to level 3 | |
| Assets | | | | |
| Other Equity Investments (See Note. 14) | | | | |
| Variable Income Securities | 30,049 | 6,733 | - | 36,782 |
| | 30,049 | 6,733 | - | 36,782 |

Figures stated in millions of Colombian pesos

¹ Includes \$ 505 (2017 - \$ 6,733) presented in the item Exchange Differences for foreign business conversion, recognized in Other Comprehensive Income.

Recorded Value and the Estimated Fair Value of assets and liabilities of the Group that are not recognized at fair value in the consolidated statement of financial position, but require their disclosure at fair value, as of December 31, 2018 and 2017 is as follows:

| 2018 | Recorded Value | Level 1 | Level 2 | Total |
|-----------------------------------|---------------------|----------------|------------------|------------------|
| Assets | | | | |
| Public Utilities | 2,887,714 | 563,310 | 1,656,250 | 2,219,560 |
| Employees | 157,980 | 16,455 | 135,491 | 151,946 |
| Construction Contracts | 1,689 | 34 | 782 | 816 |
| Economic Associates | - | - | 30,583 | 30,583 |
| Other Accounts Receivable | - | - | 30,583 | 30,583 |
| Total Assets | 3,047,383 | 579,799 | 1,853,689 | 2,433,488 |
| Liabilities | | | | |
| Development Bank Loans | 1,996,764 | 43,021 | - | - |
| Other Issued Bonds and Securities | 8,206,867 | - | - | - |
| Multilateral Bank Loans | 3,865,275 | - | - | - |
| Commercial Bank Loans | 5,720,503 | 475,479 | 2,471,986 | 2,471,986 |
| Issued Bonds and Securities | 1,034,287 | - | - | - |
| Other Loans | 11,105 | - | - | - |
| Total Liabilities | 20,834,801 | 518,500 | 2,471,986 | 2,471,986 |
| Total | (17,787,418) | 61,299 | (618,297) | (38,498) |
| | | -159% | 1606% | |

Figures stated in millions of Colombian pesos

| 2017 | Recorded Value | Level 2 | Total |
|-----------------------------------|---------------------|---------------------|---------------------|
| Assets | | | |
| Public Utilities | 2,089,112 | 2,089,112 | 2,089,112 |
| Employees | 141,950 | 141,950 | 141,950 |
| Construction Contracts | 434 | 434 | 434 |
| Other Accounts Receivable | 1,396,167 | 1,396,167 | 1,396,167 |
| Total Assets | 3,627,663 | 3,627,663 | 3,627,663 |
| Liabilities | | | |
| Development Bank Loans | 919,922 | 919,922 | 919,922 |
| Other Issued Bonds and Securities | 8,240,200 | 8,240,200 | 8,240,200 |
| Multilateral Bank Loans | 1,668,268 | 1,668,268 | 1,668,268 |
| Commercial Bank Loans | 5,056,601 | 5,056,601 | 5,056,601 |
| Other Loans | 1,073,732 | 1,073,732 | 1,073,732 |
| Total Liabilities | 16,958,723 | 16,958,723 | 16,958,723 |
| Total | (13,331,060) | (13,331,060) | (13,331,060) |
| | | 100% | |

Figures stated in millions of Colombian pesos

As of December 31, 2018, there were no items in level 3 and in 2017, there were no items in levels 1 and 3.

Note 45. Service Concession Arrangements

At the cut-off date the Group manages as operator several concessions that contain provisions for the construction, operation and maintenance of facilities, as well as the provision of public utilities such as water supply, collection and treatment of waste water, according to application regulations.

The remainder term of the concessions where the company acts as operator is detailed below:

| Entity/Agreement | Activity | Country | Concession period | Initial remaining period |
|--|---|----------|-----------------------|--------------------------|
| Empresas publicas de Medellin - Municipio de Barbosa | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years (extendable) | 9 years |
| Empresas publicas de Medellin - Municipio de Caldas | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years (extendable) | 10 years |
| Empresas publicas de Medellin - Municipio de Itagui | Construction of aqueduct and sewage networks to render the utilities to the assigned neighborhoods. | Colombia | 30 years (extendable) | 29 years |
| Empresas publicas de Medellin - Municipio de Copacabana | Execution of works for the supply of drinking water, sewage and the rendering of such utilities. | Colombia | 20 years (extendable) | 12 years |
| Empresas publicas de Medellin - Municipio de Girardota | Rendering of the Aqueduct and Sewage Utilities. | Colombia | 20 years (extendable) | 14 years |
| Empresas publicas de Medellin - Municipio de Sabaneta | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 10 years (extendable) | 6 years |
| Empresas publicas de Medellin - Municipio de La Estrella | Execution of works and rendering of the supply of drinking water and sewage utilities. | Colombia | 10 years (extendable) | 6 years |
| Empresas publicas de Medellin - Municipio de Envigado | Rendering of water supply and sewage utilities. | Colombia | 10 years (extendable) | 9 years |
| Empresas publicas de Medellin - Municipio de Bello | Execution of works and rendering of the supply of water (aqueduct) and sewage utilities. | Colombia | 10 years (extendable) | 4 years |
| Aguas Regionales - Municipio de San Jeronimo | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years | 19 years |
| Aguas Regionales - Municipio de Santa Fe | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years | 19 years |
| Aguas Regionales - Municipio de Sopetran | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years | 19 years |
| Aguas Regionales - Municipio de Olaya | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years | 19 years |
| Aguas Regionales - Municipio de Apartado | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years | 19 years |
| Aguas Regionales - Municipio de Carepa | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years | 19 years |
| Aguas Regionales - Municipio de Chigorodo | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years | 19 years |
| Aguas Regionales - Municipio de Mutata | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years | 19 years |
| Aguas Regionales - Municipio de Turbo | The Municipality agrees to make available and facilitate the use of networks and other infrastructure for the rendering of water supply and sewage utilities. | Colombia | 30 years | 19 years |

| Entity/Agreement | Activity | Country | Concession period | Initial remaining period |
|---|---|-----------------------|-------------------------|--------------------------|
| Aguas de Oriente - Municipio El Retiro | Operate and maintain Networks and other infrastructure received during the concept of an adequate Service Provision | Colombia | Without Explicit Period | 155 meses |
| Adasa - Econssa Chile S.A. | Exploitation of Public Utilities for the production and distribution of drinking water, collection and disposal of wastewater and other services related to said activities | Region de Antofagasta | 30 years | 15 years |
| Aquasol Morelia - Morelia | Wastewater Treatment | Mexico | 20 years | 16 years |
| Desarrollos Hidraulicos de Tampico - Tampico | Wastewater Treatment | Mexico | 24 years | 21 years |
| Ecosistema de Celaya - Jumapa de Celaya | Wastewater Treatment | Mexico | 20 years | 13 years |
| Ecosistema de Colima - Municipio de Colima y Villa de alvarez | Wastewater Treatment | Mexico | 34 years | 23 years |
| Ecosistema de Ciudad de Lerdo - Ayuntamiento del Municipio de Lerdo | Wastewater Treatment | Mexico | 20 years | 10.5 years |
| Ecoagua de Torreon - Sistema municipal de agua y saneamiento de Torreon | Wastewater Treatment | Mexico | 20 years | 3.7 years |
| Ecosistema de Tuxtla - Sistema municipal de agua potable y alcantarillado | Wastewater Treatment | Mexico | 20 years | 15 years |
| Ecosistema de Uruapan - Municipio de Uruapan | Wastewater Treatment | Mexico | 15 years | 12 years |

Concession Agreements for Provision of Aqueduct and Sewage Utilities

In Colombia:

Concession Agreements between companies of the Group domiciled in Colombia with the municipalities establish the conditions under which the aqueduct and sewerage networks are administered, operated and maintained for the provision of the Drinking Water and Sanitation of Wastewater Utilities to its inhabitants, in the terms, conditions and rates established by the Commission for the Regulation of Drinking Water and Basic Sanitation (CRA, Comisión de Regulacion de Agua Potable y Saneamiento Basico).

The agreements indicate the following rights and obligations for the Group companies as operator in the Service Concession Agreement:

- The right to receive from the municipality the totality of the aqueduct and sewage networks and to have exclusivity as system operator.
- Obligation to make exclusive use of the aqueduct and sewage networks for the purposes for which they are intended, maintain and return them under the use conditions in which they were received.
- Some concession agreements have the option to be renewed automatically for equal periods unless one of the parties expresses the intention not to continue with it.
- The concession agreements do not establish the obligation of construction of Property, Plant and Equipment elements.

Upon termination of the Concession, the Group companies must return the aqueduct and sewage networks without any consideration to the municipalities. No changes have occurred in the terms of the concession agreements during the period.

In Chile:

The ADASA Concession Agreement, domiciled in Antofagasta - Chile, with the Empresa Concesionaria de Servicios Sanitarios S.A. (Econssa S.A.) establishes the conditions for the financing and execution of works required for the maintenance, replacement and expansion of the infrastructure and facilities necessary to satisfy the demand of the related Public Utilities, during the term of exploitation right, in the operational territory of the concession and in accordance with the Development Plan approved by ECONSSA CHILE S.A. or that which qualifies the Superintendence of Sanitation Services in terms of article fifty-eight of the General Law of Sanitary Services.

As part of the contract that granted the Concession to the Company, it received real estate, furniture, facilities, rights of water use and easements, which are used in the exploitation of sanitary concessions. The Company is prohibited from assigning, encumbering, leasing or constituting any right in favor of third parties over the goods received through the concession, which must be returned at the end of the Contract in the state in which they are found. Subsequent investments made by the Company, in that part that cannot be recovered via rates because their estimate of use exceeds the remaining term of the Sanitary Concession, will be recovered in said portion at the end of the concession, where ECONSSA Chile S.A. will make reimbursement of these investments, provided that the investment reimbursement clauses are applicable, as indicated and established the respective contract of transfer subscribed.

As part of its obligations, the Company must present annually specific information on the assets of use maintained in loan, as well as the new investments made in the framework established in the transfer agreement signed between both Companies, including a registry of each and every one of the facilities and networks of the sanitary services for the production and distribution of drinking water and sewage collection and disposal.

Note 46. Operating Segments

46.1 Information by Segments

For management purposes, the Group is organized into segments based on its products and services, and has the following eight operating segments on which information is presented:

- Electric Power Generation Segment, whose activity consists in the Generation of Electric Power and commercialization of Large Electric Power Blocks, from the acquisition or development of a portfolio of Power Proposals for the market.
- Electric Power Distribution Segment, whose activity consists in transporting electric power through a set of lines and substations, with their associated equipment, which operate at voltages below 220 KV, the commercialization of energy to the end user of the regulated market and the development of related and complementary activities. It includes the Regional Transmission System (STR), the Local Distribution System (SDL), the Public Lighting Utility and the provision of associated services.
- Electricity Transmission Segment, whose activity consists in the transportation of energy in the National Transmission System (STN), consisting of the set of lines, with their corresponding connection equipment, operating at voltages equal to or greater than 220 KV. The National Transmitter (TN) is the legal entity that operates and transports electricity in the STN or has established a company whose purpose is the undertaking of such activity.
- Segment of Distribution and Commercialization of Natural Gas, whose activity consists of the gas conduction from the city gate to the final user, through medium-pressure and low-pressure pipes. It includes the sale of gas by different systems, among them distribution by network, vehicular natural gas, compressed natural gas and service stations.
- Water Supply Segment, whose activity consists of conceptualizing, structuring, developing and operating systems to provide water. It includes carrying out the commercial management of the portfolio of services related to water supply for different uses, in addition to the use of the productive chain, specifically in the production of energy, and the supply of raw water.
- Wastewater Management Segment, includes the activities of conceptualizing, structuring, developing and operating wastewater and solid waste management systems.
- Solid Waste Management Segment, includes carrying out the commercial management related to these services and the use of biosolids and other byproducts of wastewater treatment and solid waste management.
- Others Segment, which corresponds to the other activities that are not included in the segments mentioned above. Includes: Entidad Adaptada de Salud (EAS) and Medical and Dental Services Unit, billing and collection services for third parties, income received from investment properties (leases), social financing, EATIC Laboratory tests, provision of the specialized transport service and services

associated with information and communication technologies, information services and related activities.

The Group has not added operating segments to conform these eight reportable segments; however, it carries out the activity of energy commercialization, which consists in the purchase of electricity in the wholesale market and its sale to other market agents or to regulated or non-regulated end users. Therefore, the Group includes its financial information in the corresponding segments of this activity.

The Management supervises results of the operating segments separately in order to make decisions about the allocation of resources and evaluate their performance. Said segment performance is evaluated on the basis of the gain or loss from operations before taxes and discontinued operations and is measured uniformly with the losses or Profits from operations of the Consolidated Financial Statements.

Transfer prices between operating segments are agreed as between independent parties in a manner similar to that agreed with third parties.

| 2018 | Power Generation | Power Transmission | Power Distribution | Natural Gas | Water Supply | Wastewater Management | Solid Waste Management | Others | Total segments | Inter-Segments Eliminations | Consolidated |
|---|-------------------|--------------------|--------------------|------------------|------------------|-----------------------|------------------------|-------------------|--------------------|-----------------------------|--------------------|
| Revenue Outer Customers | 2,891,158 | 201,949 | 10,237,830 | 866,380 | 1,108,340 | 685,696 | 226,205 | 103,785 | 16,321,343 | - | 16,321,343 |
| Inter-Segment Revenue | 912,323 | 62,680 | 477,272 | 9,269 | 23,819 | 80,149 | 1,222 | 60,652 | 1,627,386 | (1,627,386) | - |
| Total Revenue, Net | 3,803,481 | 264,629 | 10,715,102 | 875,649 | 1,132,159 | 765,845 | 227,427 | 164,437 | 17,948,729 | (1,627,386) | 16,321,343 |
| Costs and Expenses without Depreciation, Amortization, Provisions and Impairment of Property, Plant & Equipment and Intangibles | (1,930,458) | (71,700) | (8,464,646) | (737,306) | (544,452) | (361,555) | (181,451) | (202,131) | (12,493,699) | 1,523,318 | (10,970,381) |
| Depreciation, Amortization, Provisions and Impairment of Property, Plant & Equipment and Intangibles | (587,881) | (42,755) | (591,224) | (18,145) | (174,821) | (50,492) | (13,864) | (18,518) | (1,497,700) | 9,627 | (1,488,073) |
| Accounts Receivable Impairment | (2,762) | (725) | (36,296) | (15,422) | (7,322) | (3,829) | 12 | (6,697) | (73,041) | 3,580 | (69,461) |
| Other Expenses | (154,979) | (4,823) | (27,110) | (420) | (6,424) | (2,381) | (3,783) | (549) | (200,469) | 941 | (199,528) |
| Profit for Interests and Gains | 34,677 | 1,332 | 153,998 | 40,466 | 34,983 | 116,011 | 6,245 | 75,715 | 463,427 | (225,347) | 238,080 |
| Financial Income (Different from Interests and Gains) | 10,665 | 664 | 8,933 | 2,117 | 1,100 | 5,501 | 4,306 | 2,815 | 36,101 | (3,345) | 32,756 |
| Total Financial Income | 45,342 | 1,996 | 162,931 | 42,583 | 36,083 | 121,512 | 10,551 | 78,530 | 499,528 | (228,692) | 270,836 |
| Expenses for interests | (288,455) | (52,733) | (288,955) | (46,891) | (90,366) | (161,465) | (4) | (230,315) | (1,159,184) | 229,215 | (929,969) |
| Financial Expenses (Different from interests) | (21,119) | (1,098) | (41,044) | (1,631) | (19,418) | (6,980) | (5,632) | (21,601) | (118,523) | (1,301) | (119,824) |
| Total Financial Expenses | (309,574) | (53,831) | (329,999) | (48,522) | (109,784) | (168,445) | (5,636) | (251,916) | (1,277,707) | 227,914 | (1,049,793) |
| Net Exchange Difference | (189,860) | (10,978) | (61,792) | 6,245 | (126) | 3,463 | (1) | (11,068) | (264,117) | - | (264,117) |
| Equity Method for Participation in Profits of Associates and Joint Ventures | - | - | - | - | - | - | - | (18,017) | (18,017) | - | (18,017) |
| Effect due to Participation in Equity Investment | - | - | 1,285 | - | - | - | - | 65,137 | 66,422 | (1,255) | 65,167 |
| Earnings for the Period Before Taxes | 673,309 | 81,813 | 1,368,251 | 104,662 | 325,313 | 304,118 | 33,255 | (200,792) | 2,689,929 | (91,953) | 2,597,976 |
| Income Tax | 71,034 | (28,770) | (400,035) | (42,358) | 156,808 | (177,564) | (15,340) | 191,821 | (244,404) | 27,010 | (217,394) |
| Net Movement of Regulatory Accounts related to Profit for the period | - | - | 36,956 | - | - | - | - | - | 36,956 | - | 36,956 |
| Net Profit for the Period | 744,343 | 53,043 | 1,005,172 | 62,304 | 482,121 | 126,554 | 17,915 | (8,971) | 2,482,481 | (64,943) | 2,417,538 |
| Total Assets without Investments in Associates and Joint Ventures and Debit Balances of Deferred Regulatory Accounts | 21,063,269 | 2,133,221 | 14,608,450 | 1,139,092 | 6,101,078 | 5,204,786 | 322,928 | 11,121,931 | 61,694,755 | (11,063,909) | 50,630,846 |
| Investments in Associates and Joint Ventures accounted for using the Equity Method | - | - | - | - | - | - | - | 1,746,569 | 1,746,569 | - | 1,746,569 |
| Debit Balances of Deferred Regulatory Accounts | - | - | 111,868 | - | - | - | - | - | 111,868 | - | 111,868 |
| Total Assets and Debit Balances from Deferred Regulatory Accounts | 21,063,269 | 2,133,221 | 14,720,318 | 1,139,092 | 6,101,078 | 5,204,786 | 322,928 | 12,868,500 | 63,553,192 | (11,063,909) | 52,489,283 |
| Total Liability | 12,767,880 | 1,350,728 | 9,143,632 | 702,839 | 2,907,281 | 2,445,644 | 247,294 | 4,808,783 | 34,374,081 | (3,954,576) | 30,419,505 |
| Deferred Liabilities related to Balances of Regulatory Accounts | - | - | 33,560 | - | - | - | - | - | 33,560 | - | 33,560 |
| Total Liabilities and Credit Balances of Deferred Regulatory Accounts | 12,767,880 | 1,350,728 | 9,177,192 | 702,839 | 2,907,281 | 2,445,644 | 247,294 | 4,808,783 | 34,407,641 | (3,954,576) | 30,453,065 |
| Additions of Non-current Assets | 2,029,298 | 189,929 | 1,045,663 | 19,873 | 340,390 | 424,629 | 25,319 | 123,348 | 4,198,449 | - | 4,198,449 |

Figures stated in millions of Colombian pesos

| 2017 | Power Generation | Power Transmission | Power Distribution | Natural Gas | Water Supply | Wastewater Management | Solid Waste Management | Others | Total segments | Inter-Segments Eliminations | Consolidated |
|---|-------------------|--------------------|--------------------|-----------------|------------------|-----------------------|------------------------|-------------------|--------------------|-----------------------------|--------------------|
| Revenue Outer Customers | 2,440,325 | 257,350 | 9,572,126 | 734,405 | 1,013,807 | 594,542 | 208,992 | 96,369 | 14,917,916 | - | 14,917,916 |
| Inter-Segment Revenue | 1,033,732 | 61,221 | 976,118 | 7,367 | 17,072 | 80,045 | 597 | 50,827 | 2,226,979 | (2,226,979) | - |
| Total Revenue, Net | 3,474,057 | 318,571 | 10,548,244 | 741,772 | 1,030,879 | 674,587 | 209,589 | 147,196 | 17,144,895 | (2,226,979) | 14,917,916 |
| Costs and Expenses without Depreciation, Amortization, Provisions and Impairment of Property, Plant & Equipment and Intangibles | (1,669,984) | (103,857) | (8,473,525) | (675,539) | (498,794) | (304,638) | (173,589) | (198,429) | (12,098,355) | 2,139,244 | (9,959,111) |
| Depreciation, Amortization, Provisions and Impairment of Property, Plant & Equipment and Intangibles | (309,852) | (67,045) | (565,906) | (19,520) | (167,571) | (41,418) | (13,258) | (11,847) | (1,196,417) | 6,871 | (1,189,546) |
| Accounts Receivable Impairment | 8,017 | (1,617) | (42,311) | (731) | (4,149) | (18,304) | (1,338) | (16,367) | (76,800) | - | (76,800) |
| Other Expenses | (26,700) | (248) | (28,604) | (1,125) | (14,119) | (4,818) | (3,588) | (427) | (79,629) | 367 | (79,262) |
| Profit for Interests and Gains | 64,308 | 1,109 | 168,873 | 35,054 | 27,261 | 91,872 | 6,930 | 95,941 | 491,348 | (277,746) | 213,602 |
| Financial Income (Different from Interests and Gains) | 4,344 | 318 | 10,012 | 1,656 | 2,031 | 2,996 | 9,075 | 13,692 | 44,124 | (4,824) | 39,300 |
| Total Financial Income | 68,652 | 1,427 | 178,885 | 36,710 | 29,292 | 94,868 | 16,005 | 109,633 | 535,472 | (282,570) | 252,902 |
| Expenses for interests | (264,121) | (42,836) | (298,835) | (50,911) | (89,721) | (114,755) | - | (252,223) | (1,113,401) | 259,990 | (853,411) |
| Financial Expenses (Different from interests) | (72,669) | (2,892) | (49,101) | (2,838) | (17,838) | (14,687) | (7,620) | (20,016) | (187,661) | 18,795 | (168,866) |
| Total Financial Expenses | (336,790) | (45,728) | (347,936) | (53,749) | (107,559) | (129,442) | (7,620) | (272,239) | (1,301,062) | 278,785 | (1,022,277) |
| Net Exchange Difference | 21,665 | (462) | 14,761 | 100 | (5,564) | (25,471) | - | 153,701 | 158,730 | - | 158,730 |
| Equity Method for Participation in Profits of Associates and Joint Ventures | - | - | - | - | - | - | - | (8,802) | (8,802) | - | (8,802) |
| Effect due to Participation in Equity Investment | 1,224 | 1,224 | 3,625 | - | 1 | 11 | - | (17,517) | (11,432) | 93,897 | 82,465 |
| Earnings for the Period Before Taxes | 1,230,289 | 102,265 | 1,287,233 | 27,918 | 262,416 | 245,375 | 26,201 | (115,098) | 3,066,600 | 9,615 | 3,076,215 |
| Income Tax | (274,513) | (34,715) | (469,114) | (4,579) | (13,067) | 12,968 | (9,450) | (26,335) | (818,805) | 32,845 | (785,960) |
| Net Movement of Regulatory Accounts related to Profit for the period | - | - | 36,847 | - | - | - | - | - | 36,847 | - | 36,847 |
| Net Profit for the Period | 955,776 | 67,550 | 854,966 | 23,339 | 249,349 | 258,343 | 16,751 | (141,433) | 2,284,642 | 42,460 | 2,327,102 |
| Total Assets without Investments in Associates and Joint Ventures and Debit Balances of Deferred Regulatory Accounts | 18,343,053 | 1,719,111 | 13,869,245 | 967,170 | 5,818,751 | 5,123,336 | 305,502 | 10,630,276 | 56,776,444 | (11,324,518) | 45,451,926 |
| Investments in Associates and Joint Ventures accounted for using the Equity Method | - | - | - | - | - | - | - | 1,804,909 | 1,804,909 | - | 1,804,909 |
| Debit Balances of Deferred Regulatory Accounts | - | - | 48,842 | - | - | - | - | - | 48,842 | - | 48,842 |
| Total Assets and Debit Balances from Deferred Regulatory Accounts | 18,343,053 | 1,719,111 | 13,918,087 | 967,170 | 5,818,751 | 5,123,336 | 305,502 | 12,435,185 | 58,630,195 | (11,324,518) | 47,305,677 |
| Total Liability | 10,205,126 | 999,386 | 8,810,207 | 571,969 | 2,863,381 | 2,352,310 | 244,782 | 4,970,358 | 31,017,519 | (4,594,704) | 26,422,815 |
| Deferred Liabilities related to Balances of Regulatory Accounts | - | - | 14,653 | - | - | - | - | - | 14,653 | - | 14,653 |
| Total Liabilities and Credit Balances of Deferred Regulatory Accounts | 10,205,126 | 999,386 | 8,824,860 | 571,969 | 2,863,381 | 2,352,310 | 244,782 | 4,970,358 | 31,032,172 | (4,594,704) | 26,437,468 |
| Additions of Non-current Assets | 2,138,214 | 270,695 | 1,099,408 | 22,478 | 291,979 | 446,373 | 13,391 | 133,899 | 4,416,437 | - | 4,416,437 |

Figures stated in millions of Colombian pesos

46.2 Information by Geographic Area

Revenue from Outer Customers

| Country | 2018 | 2017 |
|--|-------------------|-------------------|
| Colombia (Country of Residence of EPM) | 10,661,294 | 9,614,640 |
| Guatemala | 1,975,441 | 1,921,914 |
| Panama | 2,056,850 | 1,911,027 |
| El Salvador | 887,256 | 801,102 |
| Chile | 556,070 | 534,278 |
| Mexico | 176,483 | 123,210 |
| Ecuador | 3,316 | 4,994 |
| Bermuda | 8,765 | 8,229 |
| Elimination of International Inter-Segments | (4,132) | (1,478) |
| Total Countries Different from Colombia | 5,660,049 | 5,303,276 |
| Total Consolidated Revenues | 16,321,343 | 14,917,916 |

Figures stated in millions of Colombian pesos

Revenue information is based on the customer's location.

There is no single client in the Group that generates more than 10% of its ordinary income.

Non-Current Assets

| Country | 2018 | 2017 |
|--|-------------------|-------------------|
| Colombia (Country of Residence of EPM) | 31,381,539 | 28,606,870 |
| Chile | 3,574,900 | 3,627,065 |
| Panama | 2,292,551 | 2,026,401 |
| Guatemala | 2,218,423 | 1,987,493 |
| El Salvador | 347,581 | 315,612 |
| Mexico | 20,975 | 53,779 |
| Total Countries Different from Colombia | 8,454,430 | 8,010,350 |
| Total Non-Current Assets | 39,835,969 | 36,617,220 |

Figures stated in millions of Colombian pesos

For these purposes, non-current assets include Property, Plant and Equipment, Intangible Assets and Investment Property including assets for the acquisition of subsidiaries and credit.

Note 47. Events after the Reporting Period

On March 1, 2019, the Norwegian-Chilean firm Skava Consulting delivered the results of the root cause analysis of the contingency of the Ituango hydroelectric project. The study, which was conducted independently and is based on the scientific method, was aimed at analyzing the root cause of a specific event: the occluding of the auxiliary diversion tunnel (GAD), a structure that was in operation since September 2017 and in April 2018 it was the only water outlet of the Cauca River while the dam and tailrace were completed, among other main works of the project.

The auxiliary diversion tunnel (GAD) was built as a temporary alternative that, once it came into operation, would allow the technical and ultimate sealing of the original diversion tunnels.

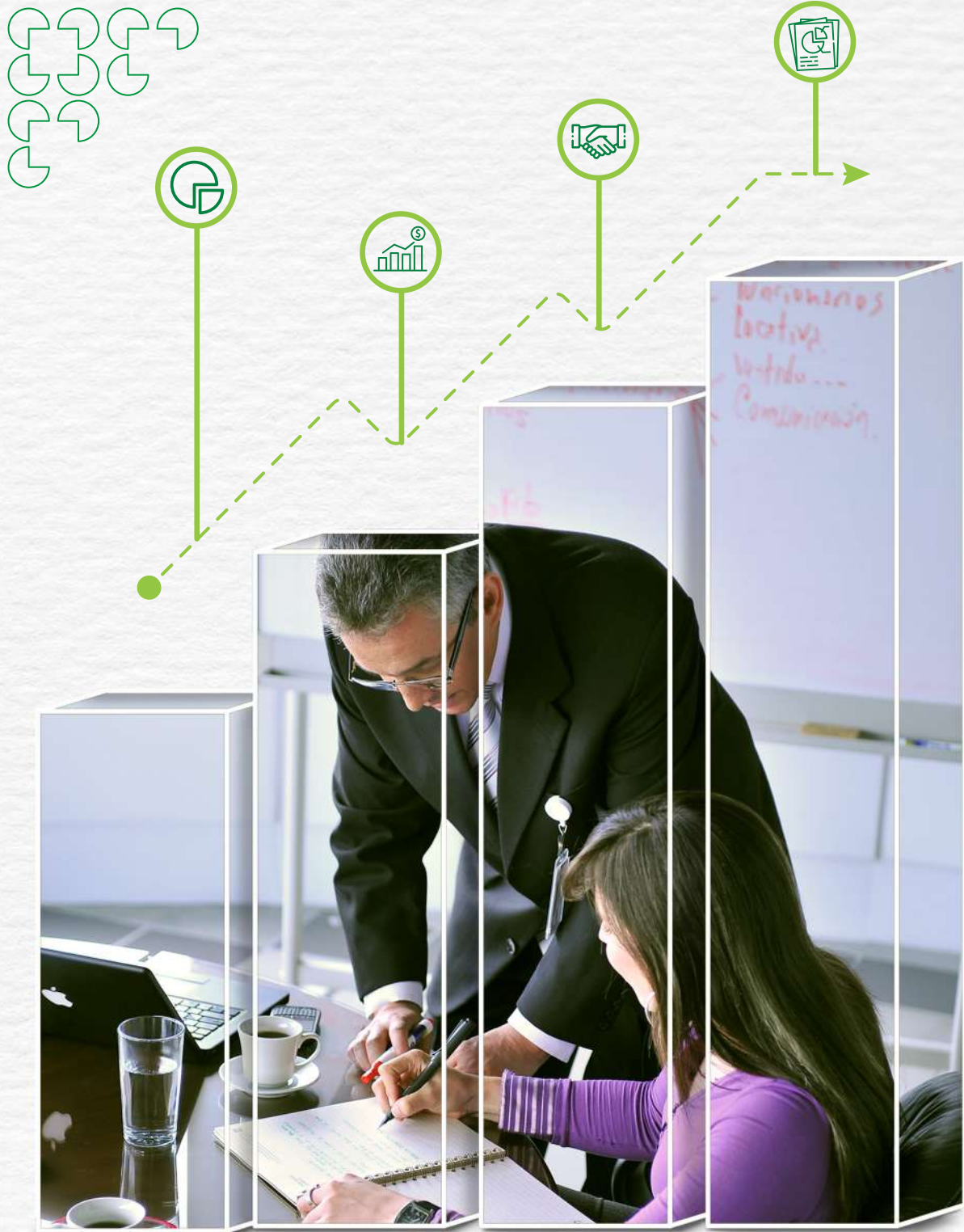
The consulting team that participated in the root cause investigation was composed of 7 German, Swiss and Chilean engineers. Among them 3 professionals with more than 25 years of experience in this industry, 2 with a doctorate degree and 2 with a master's degree, experts in geotechnical engineering with experience in tunnels and dams, and in rock, geology, hydrology and civil engineering for mining projects, metro systems and hydroelectric power plants.

Based on the available documental and analytical evidence, Skava Consulting considered as most probable hypothesis that the obstruction of the auxiliary diversion tunnel (GAD), was due to the "progressive erosion in weak areas of the rock", located on the floor of the tunnel, that were not properly addressed due to a design deficiency during the advisory stage.

To the date of presentation of the separate financial statements, the financial effect of the results of the root cause analysis for the contingency of the project is not estimated.

EPM continues the recovery of the Ituango project, always with the priority of reducing the risks for the people who live downstream from the main works.

After the revelation date of the consolidated financial statements and before the authorization for publication date, no relevant events occurred that imply adjustments to the figures.





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INDEPENDENT AUDITOR'S REPORT

To the Board of Directors
Empresas Publicas de Medellin E.S.P.:

We have audited the consolidated financial statements of Empresas Publicas de Medellin E.S.P. and Subsidiaries (the Group), which comprise the consolidated statement of financial position as of December 31, 2018, and the consolidated statements of income and other comprehensive income, changes in equity and cash flows for the year ended on that date and their respective notes, which include significant accounting policies and other explanatory information.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with Financial Reporting Standards approved by the General Accountancy of the Nation and for such internal control as Management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conduct our audit in accordance with International Standards on Auditing accepted in Colombia. Those standards require that we comply with ethical requirements and that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our qualified audit.



Opinion

In our opinion, the accompanying consolidated financial statements referred above, present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2018, its consolidated financial performance and its consolidated cash flows for the year then ended, in accordance with Financial Reporting Standards approved by the General Accountancy of the Nation, applied in a consistent manner with the preceding year.

Emphasis of Matter

Without qualifying our opinion, we draw attention to:

- a) In the year 2010, Hidroeléctrica Ituango S.A. E.S.P. concluded with EPM Ituango S.A. E.S.P., a BOOMT (Build, Operate, Own, Maintenance and Transfer) Contract, for the construction of the Ituango Hydroelectric Project, which was assigned to Empresas Públicas de Medellín E.S.P. in 2013. Through this contract Empresas Públicas de Medellín E.S.P. is required to make the necessary investments for the financing, construction, operation, maintenance and commissioning of the hydroelectric power plant and then transfer it back to Hidroeléctrica Ituango S.A. E.S.P. after 50 years. The Ituango Hydroelectric Project is located over the Cauca River, in the northwest area of the department, some 170 kilometers from the city of Medellín. It sits on property of the municipalities of Ituango and Briceno where the main works are being built, and of Santa Fe de Antioquia, Buritica, Peque, Liborina, Sabanalarga, Toledo, Olaya, San Andrés de Cuerquia, Valdivia and Yarumal. This power plant will generate 2,400 MW, which represents 17% of the country's electricity demand. The dam will have a height of 225 meters, 20 million m³ of volume and a ridge of 550 meters in length; It is located at about 8 km downstream of the Pescadero bridge, on the Cauca river, on the road to Ituango, on the site of the Ituango river mouth at the Cauca river.

As indicated in note 4 to the consolidated financial statements, a contingency was presented in the Ituango Hydroelectric Project; in chronological order the description of the main events:

- April 28, 2018: due to a geological event that blocked the diversion tunnel of the Cauca River with approximately 160 thousand cubic meters of rock and soil, impoundment of water was generated upstream of the dam.
- May 7, 2018: to protect the communities, the environment and the infrastructure of the project, the decision was made to release the impounded water through the power house of the Ituango Hydroelectric Project.



- On January 16 and February 5, 2019: intake gates # 2 and # 1, respectively, were closed, with which the flow of water through the powerhouse was suspended, what caused a reduction of the water flow of the Cauca river.
- February 8, 2019: began the recovery of the Cauca River flow through the water flow through the spillway.
- March 1, 2019: Skava Consulting delivers the results of the root cause analysis of the contingency.

The events described above are under evaluation by the Company and by control and surveillance bodies, therefore, at the date of issuing our opinion, not all the related financial and environmental effects, responsibilities, deterioration and costs are known, aside from those indicated in note 4, for this reason, the consolidated financial statements do not fully reflect the effects resulting from this situation.

- b) Note 22 to the consolidated financial statements, which indicates that Empresas Publicas de Medellin E.S.P. obtained waivers from the Inter-American Development Bank (IDB) and the French Development Agency (FDA) related to the fulfillment of the financial covenant, in accordance with the provisions of the multilateral banking contracts, measured in relation to the financial indicators of long-term financial debt on EBITDA as of December 31, 2018 of these consolidated financial statements. In relation to the obligation with the Bank of Tokyo-Mitsubishi financial institution for \$ 285,154 million, which guarantor is the Japan Bank for International Cooperation (JBIC), the waiver has not been obtained, thus reclassification of the total financial long-term debt to short term was made, according to the provisions of the Financial Reporting Standards approved by the General Accountancy of the Nation given the breach of the covenant; The JBIC indicated that once the consolidated financial statements are known, it will evaluate the possibility of modifying the contract or granting the waiver.

Other Matter

The consolidated financial statements at and for the year ended December 31, 2017 are presented for comparative purposes only, were audited by another independent auditor whose report dated March 20, 2018 expressed an unmodified opinion on those statements.

(Autograph signature of the partner)

(Manually write: KPMG S.A.S)

Gonzalo Alonso Ochoa Ruiz

Partner

March 26, 2019

Medellin



Certification of the legal representative and the accountant of EPM

March 26, 2019

**Board of Directors
Empresas Públicas de Medellín E.S.P.**

The undersigned legal representative and accountant of Empresas Públicas de Medellín E.S.P certify that the balances of the consolidated financial statements of Empresas Públicas de Medellín E.S.P and its subsidiary companies as of December 31, 2018 and 2017, were faithfully taken from the accounting books, which were prepared in accordance with the International Financial Reporting Standards (IFRS)—published and applicable for the period and included in the Public Accounting System—and that the disclosed information reflects the financial, economic, social, and environmental situation and operation of Empresas Públicas de Medellín E.S.P and subsidiary companies in a reliable manner. Furthermore, they note that the information appearing on the aforementioned consolidated financial statements was verified, regarding:

- a) All the transactions that have been made in the covered years have been accurately registered on the respective periods, pursuant to the appropriate acknowledgement of the proper quantities and accounts, measured by the reasonable costs, and appropriately revealed.
- b) The transactions were disclosed pursuant to the provisions of the current IFRS issued by the International Accounting Standards Board (IASB) and to the interpretations issued by the IFRS Interpretations Committee. Such financial statements are aligned with the accounting principles generally accepted in Colombia, recorded in the annex of Decree 2420 of 2015 and its subsequent modifications adopted by the Colombian General Accounting Office through Ruling 037 of 2017.
- c) All the assets, liabilities, and net equity of the consolidated financial statements reflect the existence of rights and obligations of Empresas Públicas de Medellín E.S.P and its subsidiary companies.
- d) The disclosures of accounting notes were prepared with clarity and in accordance with the IFRS.

The consolidated financial statements do not contain flaws, inaccuracies, or errors that may prevent the actual financial position and financial performance of the entity from being known.


Jorge Londoño De la Cuesta
CEO


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Director of Accounting and Costs
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estamos ahí.

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