

Energy

Grupo EPM 2021

Power Generation Efficiency Indicators



EPM ESSA CHEC HET



Thermal energy efficiency

Current availability/
projected availability

EPM

CHEC

83.8%

102.8%

Energy penalized/
energy generated

0.38%

1.24%



Hydropower efficiency

Current availability/
projected availability

EPM

CHEC

Major Plants (>20 MW)

HET

98.9%

90.6%

108%

Energy penalized/
energy generated

0.08%

0.14%

N.A.

Smaller Plants (<20 MW)

EPM

ESSA

CHEC

Current availability/
projected availability

99.6%

123.6%

103%



Wind energy efficiency

EPM

94.9%

Source: Energy Generation Business Unit

Power Generation Mix

Type of source		Generation system		Net production (GWh)		Net effective capacity (MW)			
		2021		2021		2021		Projection 2024	
		Grupo EPM	EPM	Grupo EPM	EPM	Grupo EPM	EPM	Grupo EPM	EPM
Wind		1	1	60	60	18	18	0	0
Solar		0	0	0	0	0	0	83	83
Distributed generation (Solar)		6	6	1	1	3	3	24	24
Thermal	Greater than 20 MW	2	1	1.342	1.294	397	353	399	353
	Less than 20 MW (Self-generation)	1	0	2	0	5	0	5	0
Hydraulics	Greater than 20 MW	11	8	13.639	13.141	2.887	2.690	5.158	4.919
	Less than 20 MW	25	18	728	492	171	129		
	Total hydraulics	36	26	14.367	13.633	3.058	2.819		
Total		46	34	15.774	14.988	3.481	3.193	5.669	5.379

Source: Energy Generation Business Unit

Installed energy transmission and distribution capacity 2021



Grupo EPM EPM



Universal service - Colombia

6,481,986 Total customers

97.17% Service coverage (%)



Coverage of the service - Other countries (El Salvador, Guatemala y Panamá)

2,337,805 Total customers

93.83% Service coverage (%)



Transmission networks and electric power distribution (km)

294,565

98,745



Power distribution and transmission transformers

413,699

146,644



Substation transformation capacity (MVA)

24,101

8,760



Source: Energy Transmission & Distribution Business Unit and Commercial Business Unit

Electric power transmission and distribution networks Grupo EPM 2021 (in kilometers)

Tension level	Area	Subway	Total
Ultra-high transmission voltage (Voltage ≥ 220 kV)	1,373	6	1,081
High transmission voltage (57.5 kV \leq Voltage < 220 kV)	5,360	43	5,403
Medium transmission voltage (30 kV \leq Voltage < 57.5 kV)	8,308	89	8,398
Medium voltage transmission and distribution (1 kV \leq Voltage < 30 kV)	132,343	2,879	135,222
Low distribution voltage (Voltage < 1 kV)	138,868	5,296	144,164
Total kilometers	286,253	8,313	294,565

Source: Energy Transmission and Distribution Business Unit



Classification according to international standards based on RETIE standard NTC 1340. The length of the lines is according to the guidelines developed internally for cable measurement in the field.

Electric power transmission and distribution networks Grupo EPM 2021 (in kilometers)

Tension level	Area	Subway	Total
National Transmission System (STN) (Voltage ≥ 220 kV)	1,075	6	1,081
Level 4: Regional Transmission System (RTS) (57.5 kV \leq Voltage < 220 kV)	1,641	0	1,641
Level 3: Local Distribution System (LDS) (30 kV \leq voltage < 57.5 kV)	2,312	17	2,329
Level 2: Local Distribution System (LDS) (1 kV \leq Voltage < 30 kV)	48,967	1,008	49,975
Level 1: Local Distribution System (LDS) (Voltage < 1 kV)	41,340	2,378	43,718
Total kilometers	95,336	3,409	98,745

Source: Energy Transmission and Distribution Business Unit



Classification according to CREG Resolution 025 of 1995 and CREG 097 of 2008.
Level 4 (STR) is remunerated in the distribution business together with levels 1, 2 and 3.
Line lengths are determined according to the internally developed guide for cable measurement in the field.

Energy service detail by company 2021

Universal service - Colombia		
	Total customers	2,662,104
	Universalization (%)	97.29
	Total customers	525,420
	Universalization (%)	99.44
	Total customers	208,053
	Universalization (%)	99.18
	Total customers	572,573
	Universalization (%)	93.95
	Total customers	873,216
	Universalization (%)	97.00
	Total customers	1,640,620
	Universalization (%)	96.96
Service Coverage - Other Countries		
	Total customers	426,187
	Service coverage (%)	95.00
	Total customers	510,293
	Service coverage (%)	87.70
 <i>Guatemala</i>	Total customers	1,401,325
	Service coverage (%)	98.78
Total customers		8,819,791
Source: Water and Sanitation Business Unit		

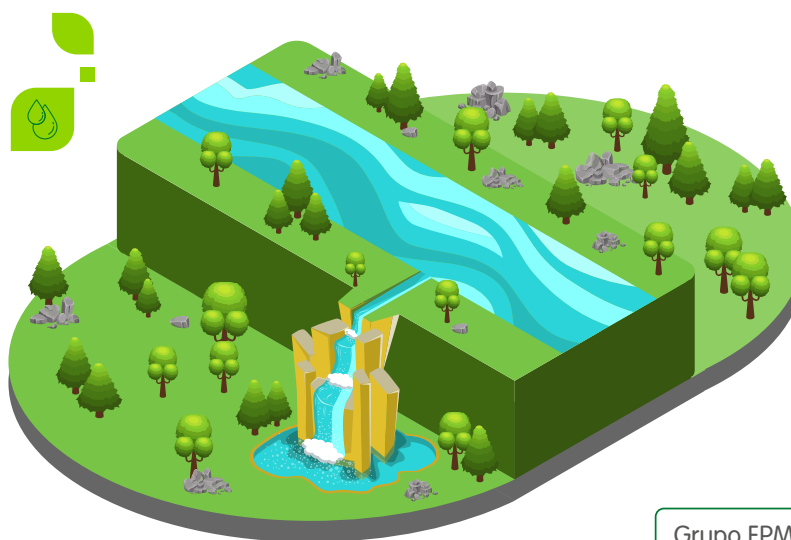


Total customers: includes homes or facilities that enjoy residential public service and those that are without service due to non-payment.

Water and Sanitation

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Indicators of installed water capacity



Grupo EPM EPM



Installed capacity

Drinkable water
treatment plants

39

13

Drinkable water
treatment capacity (m³/s)

20.29

15.46



Water distribution

Primary distribution
networks (km)

540

309

Secondary distribution
networks (km)

6,063

4,009

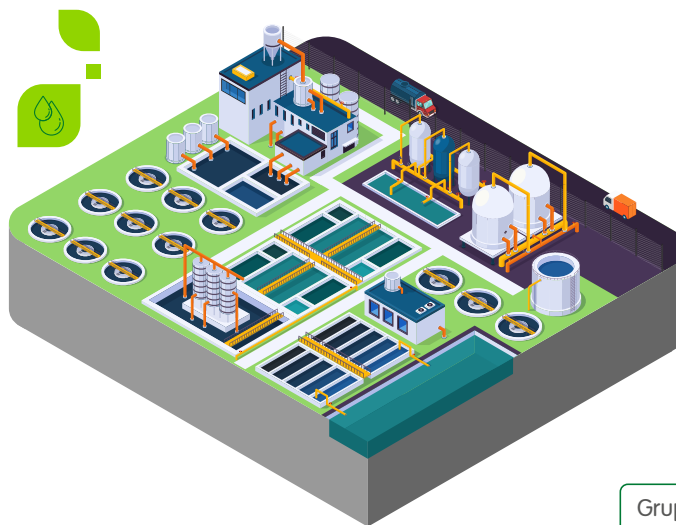


Drinkable water net production

393

300

Indicators of installed sanitation capacity



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■	■

Installed capacity

Wastewater treatment plants	22	4
Wastewater treatment capacity (m³/s)	11.97	2.01

Collection and transportation

Transportation networks (km)	730	416
Transportation networks (secondary) (km)	5,809	4,493

Cleanliness











Tons transported	687,252
Tons entered at La Pradera for final disposition	1,239,701
Leachate treatment plants	1
Leachate treated (m³)	351,940

Treated water in wastewater plants

(million m³)	296	60
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Source: Water and Sanitation Business Unit

Water and Sanitation service detail by company 2021

Company		 Aqueduct	 Sewer	 Cleaning
	Total customers	1,362,502	1,341,700	N.A.
	Universalization (%)	98.05	96.11	N.A.
	Total customers	6,147	6,078	N.A.
	Universalization (%)	100	100	N.A.
	Total customers	105,076	83,555	N.A.
	Universalization (%)	93.05	76.08	N.A.
	Total customers	24,939	22,883	N.A.
	Universalization (%)	93.79	81.29	N.A.
	Total customers	N.A.	N.A.	906,667
	Universalization (%)	N.A.	N.A.	99.29
	Total customers	184,055	183,132	N.A.
	Universalization (%)	100	100	N.A.
	Total customers	1	N.A.	N.A.
Total customers		1,682,720	1,637,348	960,667
Universalization (%) in Colombia		97.63	94.95	99.29
Source: Water and Sanitation Business Unit				



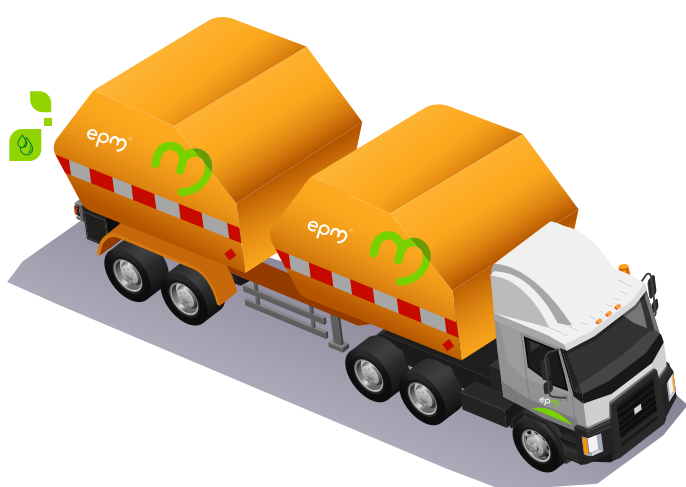
TICSA has no direct customers, but indirectly serves 2,365,560 customers (population covered) through the operation of 11 wastewater treatment plants.

Gas

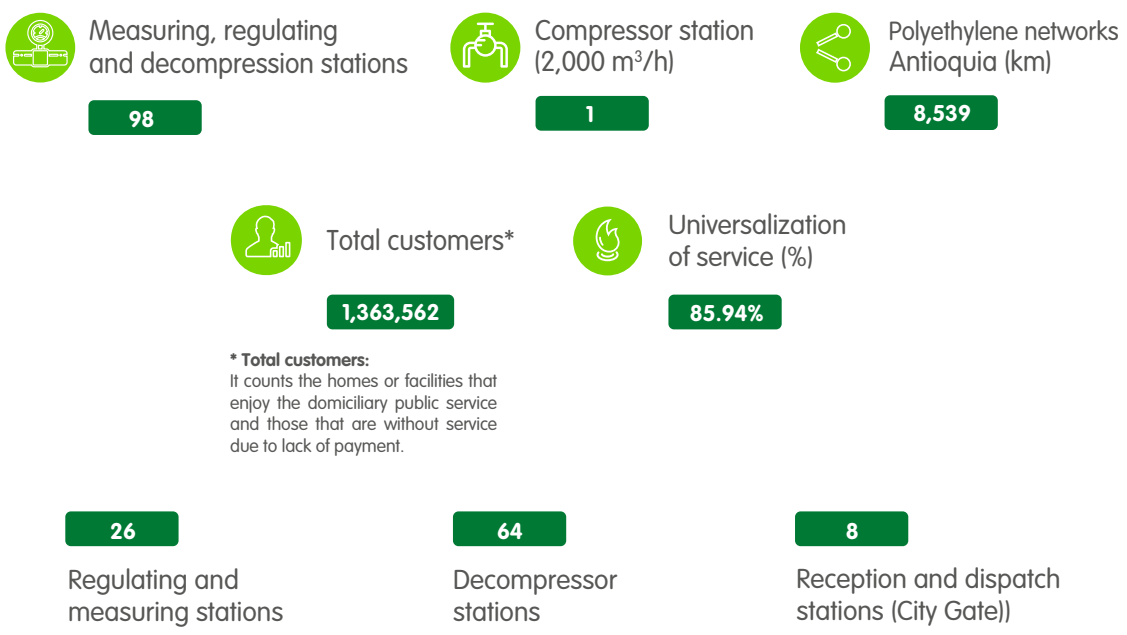
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Installed Capacity for gas

EPM gas service coverage



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Source: Gas Business Unit