Jepírachi: An experience with the Wayuu indigenous community from the Upper Guajira in Colombia

Jepirachi shia sukua’ipa
shi’iyatia tü atúja atawatuushikat
nàama naa wayuu wuimpeje’ewoliikana
yaakana kolompia
Jepírachi: An experience with the Wayuu indigenous community from the Upper Guajira in Colombia

Jepirachi shia sukua’ipa shi’iyatia tū atūjaa asawatuushikat namaa naa wayuu wuimpeje’ewoliikana yaakana kol ompia
Index of Acronyms

- COLCIENCIAS: Former “Francisco José de Caldas” Colombian Institute for Science and Technology Development (currently, Administrative Department of Science, Technology and Innovation of Colombia)
- CORPOGUAJIRA: Corporación Autónoma Regional de La Guajira (Autonomous Regional Corporation of La Guajira)
- CER: Certified Emission Reductions
- CREG: Comisión de Regulación de Energía y Gas de Colombia (Energy and Gas Regulatory Commission of Colombia)
- DNV: Det Norske Veritas
- EPM: Empresas Públicas de Medellin E.S.P.
- PCF: Prototype Carbon Fund
- GG: Greenhouse Gases
- ICBF: Instituto Colombiano de Bienestar Familiar (Colombian Family Welfare Institute)
- IGAC: Instituto Geográfico “Agustín Codazzi” (Agustín Codazzi Geographical Institute)
- INCODER: Instituto Colombiano de Desarrollo Rural (Colombian Institute for Rural Development)
- IPSE: Instituto de Planificación y Promoción de Soluciones Energéticas (Energy Solutions Planning and Promotion Institute)
- MAVDT: Ministerio del Ambiente, Vivienda y Desarrollo Territorial (Ministry of the Environment, Housing and Territorial Development)
- CDM: Clean Development Mechanism
- MME: Ministerio de Minas y Energía (Ministry of Mines and Energy)
- EMP: Environmental Management Plan
- SENA: Servicio Nacional de Aprendizaje (National Vocational Training Service)
- NIS: National Interconnected System
- UNFCCC: United Nations Framework Convention on Climate Change
- UPME: Unidad de Planeación Minero-energética del Ministerio de Minas y Energía de Colombia (Mining and Energy Planning Unit of the Colombian Ministry of Mines and Energy)
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With the “Jepirachi” wind farm, EPM paved the way for Colombia to use wind power as a possible complementary energy source for the country’s network, and as a clean alternative for its future energy supply.

The set-up and operation of the first Colombian wind farm represents a vast learning experience in different areas, from knowledge and appropriation of the technology in all of its phases, to the approach to a harsh natural setting such as that of the Upper Colombian Guajira, trading in Certified Emission Reductions (CER) and registration of the Project as a Clean Development Mechanism (CDM). These are some of the most important milestones achieved while implementing this pioneer project.

However, the Project’s most valuable experience is, perhaps, the process of building trust and inter-cultural relations with the “Wayuu” indigenous population located in the wind farm’s area of influence. This was achieved through community briefings, and a consultation and negotiation processes that, in turn, led to the community’s authorization to build and operate the project in its territory. This relationship was based on a set of principles that were applied throughout the project’s implementation: Respect and appreciation for the mores and customs of the “Wayuu” indigenous population is the starting point in the establishment of agreements and commitments; keeping promises is essential to building trust; community participation at every stage of the Project ensures its legitimacy; and, inter-institutional management and strengthening is a condition needed for the project’s sustainability. Thanks to experiences like this, these practices are now embedded in the daily activities of the EPM Group and in its Corporate Social Responsibility policy.

To celebrate the seventh anniversary of the commissioning of the Jepirachi wind farm, EPM presents this document as a summary of the environmental and social management plan carried out during the implementation of this project.
It is also proof that projects like this can be carried out in indigenous territories, enabling those communities to implement actions for their own development and to improve their quality of life, without giving up their cultural and ancestral values which have kept them for centuries in their traditional habitat.

The Jepirachi wind farm is now a concrete example that corporate social responsibility is not just a rhetorical statement, but rather a way of carrying out inclusive projects which go hand-in-hand with the sustainable development of the communities.

Federico Restrepo Posada
General Manager
EPM
1. Overview

1.1. The Wayuu Ethnic Group

The “Wayuu”\textsuperscript{2} is the largest ethnic group in Colombia, with a population of 277,000 members. It represents 20\% of the country’s indigenous population and 42\%\textsuperscript{3} of the population of the Department\textsuperscript{4} of La Guajira.\textsuperscript{5}

The “Wayuus” speak “Wayuunaiki”, a language that belongs to the Arawak family. Since 1992, this has been the second official language in the Department of La Guajira.

The “Wayuu” live in a territory that covers an area of 15,380 km\textsuperscript{2} of which 12,000 km\textsuperscript{2} are located in Colombia, in the Department of La Guajira, and the remaining 3,380 km\textsuperscript{2} are located in the State of Zulia, in the Republic of Venezuela. Within Colombia, the territory of the “Wayuu” is legally protected as a “Reservation” which means, among other things, a community property that is ungarnishable, unalienable, and perpetual\textsuperscript{6}.

The organization of this ethnic group is based on its ancestral traditions. The “Wayuu” are distributed in clans or families with maternal or matrilineal blood ties, and by spiritual ties, represented by totemic animals that identify each clan and maternal last name. The Wayuu are organized into 22 clans, scattered throughout eight reservations in the peninsula of La Guajira. Most of the population is part of the “Epiyuu” clan (21\%), followed by the “Uriana” clan (17\%) and the “Ipuana” clan (16\%, approximately)\textsuperscript{7}.

Figure 1. Photograph of the “Yonna”, a ritual dance of the “Wayuu”.
Their legal system is based on compensation. The authority and fundamental decisions are made by the most prestigious maternal uncles, according to their courage, or their prudent behavior.

This ethnic group keeps most of its traditional customs and values, especially in terms of language, dance, clothes, food and funeral rituals.
1.2. The “Jepirachi” wind farm

“Jepirachi”, which in “Wayuunaiki” means “winds from the north-east”, is the first wind farm ever built in Colombia. For EPM, this is a pilot experience that is part of its “Program of Research, Projects and Coordinated Activities for Future Large-scale wind Power Development in Colombia”, a long-term project conceived and led by EPM, through which the company is learning about this technology, verifying its performance and adapting it to the particular characteristics of the country. The research program also includes studying the regulatory framework and market-related aspects that allow the future development of this source of alternative energy for Colombia.

The wind farm is located in the Municipality of “Uribia”, in the northern region of La Guajira, close to “Puerto Bolivar” and “Cabo de la Vela”, the main tourist attraction in the Department of La Guajira. It is located in an area that is part of the “Wayuu” reservation.

The “Jepirachi” wind farm consists of 15 Nordex N60 wind generators with a capacity of 1.300 kW each, for a total installed capacity of 19.5 MW nominal power. Each wind generator has a 60 m (196.8 feet) diameter rotor and a generator installed on a 60 meter (196.8 feet) high tower. The wind generators are distributed in two lines of 8 and 7 machines, respectively, with a distance of 1,000 meters (1,093 yards) between lines. Though the average distance between the wind generators is 180 meters (196.8 yards), the actual separation between wind generators and the direction of the line had to be changed due to site-specific considerations, maintaining a -10° North orientation (azimuth 350°).

The wind generators are interconnected by a 13.8 kV underground line, which carries the power to the electrical substation located in the center of the south perimeter of the area occupied by the wind farm.
The “Jepirachi” wind farm was the first project officially registered by Colombia with the United Nations for its Climate Change strategy.
“Jepirachi” operates as a minor plant within the NIS. Therefore, EPM delivers the electricity produced by the “Jepirachi” wind farm to this system.

The substation has a transformer that takes the voltage to 110 kV, and is the starting point for the 800 m (2,624.7 feet) line that connects the park to tower 20 of the Cuestecillas-Puerto Bolivar electric transmission line and through it to Colombia’s National Interconnected System (NIS). This required negotiations with the company ‘Carbones del Cerrejón’, which owns the line, with the power transmission company ‘Transelca”, which owns the connection point in “Cuestecillas” (municipality of Albania, La Guajira), and finally with the Mining and Energy Planning Unit (UPME), of the Ministry of Mines and Energy, to approve the connection.

The energy generated by “Jepirachi” is transported through this line to the “Cuestecillas” substation, from where it is dispatched with the authorization of the CREG (Energy and Gas Regulatory Commission) and supervised and controlled by Commercial Exchange System Administrator (Administrador del Sistema de Intercambios Comerciales -ASIC), which is the firm XM Compañía de Expertos en Mercados S.A. E.S.P. (See Attachment).

The “Jepirachi” wind farm was built between 2002 and 2003, and it was officially inaugurated on December 21, 2003, becoming fully operational in April, 2004.

The project covers an area of 4.9 hectares (12.1 acres), with a protected area of 160.1 hectares (395.6 acres), under an easement-of-way agreement. The use of the project area is shared by the wind farm and the community for their economic and cultural activities pursuant to the “Inter-cultural regulation for the Operation of Special Energy Easements in the Wayuu communities of Kasiwolin and Arutkajui of the Wayuu Reservation of the Upper and Middle Guajira, and in line with the conclusions reached at the prior consultation meeting with the community on the pilot project for the exploitation of wind power by Empresas Públicas de Medellín E. S. P.” (See Chapter 4 and Attachment 1). The easement agreement was made by and between EPM and the communities.
Figure 3. Location of the Jepirachi wind farm

Basic distances

<table>
<thead>
<tr>
<th>Distance</th>
<th>Distance (Km)</th>
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<tr>
<td>Riohacha - 4 vías</td>
<td>56.0</td>
</tr>
<tr>
<td>4 Vías - Uribia</td>
<td>37.2</td>
</tr>
<tr>
<td>Uribia - (Entrada) Cabo de la Vela</td>
<td>65.9</td>
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<tr>
<td>Cabo de la Vela - Wind Farm</td>
<td>15.0</td>
</tr>
<tr>
<td>Wind Farm - Puerto Bolivar</td>
<td>3.3</td>
</tr>
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</table>
Two additional easements were set up outside the wind farm area: one for traffic on the road connecting the wind farm to the Puerto Bolivar - Cabo de la Vela road, and the other for the power transmission line that runs parallel and adjacent to the traffic right-of-way, between the power substation and tower 20 of the “Cuestecitas – Puerto Bolivar” line, covering a total area of 1.7 hectares (4.2 acres).

The wind farm is located in a warm, dry semi-desert zone with a climate with scarce and poorly distributed rainfall. Temperatures range between 26 °C - 30 °C (78.8°F – 86°F) with maximums between 35 °C and 40 °C (95°F - 104°F) and minimums between 18 °C 20 °C (64°F - 68°F).

The topography of the zone is relatively flat. The “Carpintero” mountain range is the closest topographic feature. This area is subject to strong, predominantly East-West trade winds, with an average speed of 9.5 meters per second (16.4 feet per second) at an altitude of 50 meters (164 feet). The winds are stronger and more frequent during the summer (between January and April, and between June and August). Water is scarce; creeks are formed only during heavy rains and disappear as soon as the rain stops.
The strong winds act on the sandy soil, carrying significant quantities of particles in the form of sand storms. As a result of the wind, the noise levels in the area of the project exceed the standards defined for quiet zones.

Two “Rancherias” (settlements) are located in the area of direct influence of the wind farm, where the works and equipment are located: the “Arutkajui” settlement consists of 85 people from the “Epieyu” clan, and the “Kasiwolin” settlement with 165 people from the “Pushaina”, “Uliana” and “Epieyu” clans.

In addition, the wind farm’s area of direct influence also includes the “Media Luna” sector (a transit area to the Puerto Bolivar coal port) which consists of several settlements that were moved to their current location due to the construction of the Port.
The wind farm project’s construction and implementation did not involve displacing the population. When choosing the most appropriate site, besides the required technical and logistic considerations such as the distance to “Puerto Bolívar” for unloading the equipment, and to the power transmission line, EPM sought to avoid interfering with the day-to-day activities of the indigenous community to prevent and minimize environmental impacts. To do so, EPM established minimum distance criteria from key community locations, including settlements, “jagüeyes” (reservoirs to store rain water), “rozas” (orchards with subsistence crops), cemeteries\textsuperscript{17}, and the coast line.

According to Colombian legislation, the “Jepirachi” wind power pilot project did not require an environmental license. However, it did require environmental permits for forestry exploitation, solid waste management, and waste water discharges. These permits were granted by Corporación Autónoma Regional of La Guajira, Corpoguajira\textsuperscript{18} after reviewing the documents presented by EPM.
In addition, the wind farm was built with the authorization of the “Wayuu” community for the use of their territory, and with permission from Corpoguajira, to carry out the works. The wind farm also had the support of the Municipality of Uribia, and the Office of the Governor of the Department of La Guajira, and on-going monitoring by the Bureau of Indian Affairs of Ministry of the Interior and Justice of the Republic of Colombia.

The Project is part of Colombia’s national strategy for climate change. It was certified on December 2002 by the Ministry of the Environment, the national authority responsible for the CDM in Colombia, and for carrying out the registration process with the United Nations Framework Convention on Climate Change (Attachment 2 - Certification by the Vice-Ministry of the Environment). The project’s registration is still in effect.

The construction of “Jepirachi” required an investment of approximately 27.8 million dollar of 2004. This amount was financed using EPM’s own resources and loans from the Colombian banking system. EPM obtained tax exemptions because the project involved an investment in science and technology, according to the rating granted by Colciencias (Colombian Institute for Science and Technology Development, currently called Administrative Department of Science, Technology and Innovation of Colombia).

EPM did not resort to the multilateral banking system to finance this Project. However, it did negotiate the sale of Certified Emission Reductions (CER's) with the Carbon Prototype Fund (CPF) managed by the World Bank. All funds resulting from this sale are reinvested in the community through different projects, as explained below.
2. Information, Consultation and Conciliation Process

EPM carried out an extensive and successful prior consultation process with the “Wayuu” ethnic group to get their approval for locating the Project in their land. This process followed Colombian and international legislation on ethnic minorities, as well as sectorial and corporate policies on the subject matter, particularly the International Labor Organization’s (ILO), Agreement 169 of 1989, approved in Colombia through Law 21 of 1991; Decree 1320 of 1998 which regulates prior consultations with indigenous and African-Colombian communities for exploiting natural resources within their territory; and other provisions contained in Law 99 of 1993, Law 143 of 1994, and the Colombian Constitution.

The consultation process began in 1999 and was carried out during the three-year period that ended in June, 2002. During this period, there were formal information, consultation and negotiation meetings on management measures and heritage, field trips and discussions with key individuals, community participation in the Environmental Impact Study and in the formulation of the Environmental Management Plan, and other activities.

During the information, prior consultation and negotiation process, competent authorities from different levels participated. At the national level, there was participation from the Ministry of the Interior and Justice and the Ministry of the Environment; at the departmental level, there was participation from the Office of the Governor of the department of La Guajira, including the Secretary of Indian Affairs and the Departmental Secretary of Health; and at the municipal level, the Municipality of Uribia, including the Mayor’s Office, the Office of Indian Reservations, the Secretaries of Government and Planning, the Municipal Unit of Agricultural Technical Assistance (UMATA), and other bodies such as Corpoguajira, the National Vocational Training Service (SENA), the Colombian Institute for Rural Development (INCODER), and the traditional leaders and authorities of the community and surrounding areas, who validated the agreements.
The project’s most significant milestones were made public by EPM through local and national media as well as through radio programs, regular publications, conferences, etc.

The scope of the prior consultation process included:

- **Information**: technical and environmental characteristics of the project, corporate environmental policy, studies, activities and construction works to be carried out, foreseeable impacts, people responsible, and timelines.

- **Consultation**: installation of weather stations, social characterization, perception of the project impacts, magnitude, and management measures.

- **Negotiation**: Environmental Management Plan (physical, biotic and social components).

The invitations to these events were sent through the traditional authorities and leaders, always using the translators proposed by the community. Minutes for each meeting were prepared, and signed or fingerprinted by the attendees. These minutes contained the information provided about the project's characteristics, studies required and foreseeable impacts, the communities’ doubts, needs and expectations, and the commitments made by the parties.

The minutes were delivered after each meeting to the traditional, municipal and national authorities. In addition to the minutes, the process was also documented through video and photographic records which testify as to their legitimacy and transparency. The locations and dates were agreed with the communities and their authorities, respecting the time they required to reflect on and consult the decisions related to the project.
Figure 5. Information meeting about the characteristics of the project (“Kasiwolin” settlement, September, 2001).
The criteria used to select socio-environmental management measures resulted from a joint analysis in which EPM, the community and the municipal administration participated. The goal was to structure programs focused on creating the conditions to enable the communities to adapt to the new reality of having a wind power project in their territory while promoting all parties participation and sense of ownership of the project in its different phases. This joint EPM-community-municipality effort also encouraged intercultural exchanges that were based on mutual respect and prompted leaders to make decisions that benefited the community as a whole and improved the quality of life of the local population. This was indeed a key action since the sustainability of several compensation measures depended on the municipality’s participation and had to be adjusted to the Municipal Development Plan.
Before formalizing the agreements, the environmental impact management measures were agreed in meetings and workshops during which the proposals submitted by the community were discussed and, in addition to the management programs, compensation measures aimed at improving the quality of life for the communities in the areas of influence, were defined. These covered issues such as water, health, and education. During the consultation process, EPM emphasized the sustainability of these measures and the ideas of community organization and self-management aimed at the long-term well-being of the communities.

The agreements between EPM and the communities were formalized during an assembly held on June 20, 2002. During this assembly, competent authorities verified the consultation process, including the community participation in the implementation of the Environmental Impact Study (EIS), the joint identification of environmental impacts and management plans, and the agreements made on compensation measures. (See Attachment 4).

The agreed upon environmental management programs, focused mainly on creating jobs and strengthening community organizations. The compensation measures were defined on the basis of benefits for the community instead of benefits for the individual, improvement in the quality of life, sustainability, and the inclusion of the compensation measures in the development plans for the Municipality of Uribia.
The compensation measures focused on several aspects of community development as requested by the communities. EPM financed the solution to the need for potable water for human consumption for the direct benefit of the Kasiwoling and Arutkjui communities, and the settlements in the area of Media Luna. According to Colombian regulations (Law 142 of 1994), EPM transferred ownership of the plant to the Municipality of Uribia, which assumed responsibility for the management, operation, and maintenance of the plant, with contributions from the communities. EPM also implemented other measures such as building and improving “jagüeyes,” or water reservoirs. In education, EPM financed the expansion and furnishing of the Kamusuchiwo’u school. In health, EPM also financed the expansion and furnishing of the health center located in the sector of “Media Luna”, and built a fence around the cemetery. Though electricity for the settlements was identified as one of the needs and expectations discussed, was not considered as a priority at the time by the traditional authorities and the community²³.

The way in which this process took place and the community’s participation during the various stages of the process made it possible to build trust, based on transparency, respecting the culture and keeping promises. This is acknowledged by traditional authorities, leaders and representatives of the institutions involved in the process.

For a closer look at the prior consultation and negotiation process that made it possible to build the wind farm with the free and informed consent of the traditional authorities and the “Wayuu” community, please refer to Attachment 5 (Synthesis of the Information and Consultation Process), and Attachment 6 (Community Participation: Core of the Social Management implemented in the “Jepirachi” wind farm).
3. The Environment Management Plan (EMP)

The project’s implementation involved an Environment Management Plan (EMP) structured by EPM. The Plan is defined as a document which, as a result of the Environmental Impact Study, establishes detailed actions to be implemented to prevent, mitigate, correct or compensate the negative environment impacts and effects of implementing a project, work or activity. Environmental Management Plans include follow-up, monitoring, contingency and abandonment plans, depending on the nature of the project, work or activity. The environmental impacts identified for the project and actions set forth in the EMP are presented below.

3.1. Identifying environment impacts

The Environmental Impact Study (EIS) prepared took into consideration the community’s participation in identifying the physical-biotic and social impacts. The site of the wind farm was chosen according to technical, environmental and sociocultural aspects, in an effort to avoid or minimize impacts, such as noise, and to avoid interfering with the community’s everyday activities, sacred sites and rituals, and to protect the fauna and flora by establishing easements of between 200 and 1,000 meters from places such as reservoirs, crops, cemeteries, coast line and settlements.
The physical, biotic and social impacts identified in the EIS for the construction and operation stages of the “Jepirachi” wind farm—and their valuation—are described in Table 1.

**Some of the most significant impacts are described below:**

- The electricity generated using the power of the wind replaces the thermal energy generated by gas and coal in the national energy grid, thus reducing the use of fossil fuels and hence, greenhouse gas emissions. This helps mitigate global climate change (a positive environment impact).

- During the construction of the wind farm, the main impacts were caused by the excavations for the foundations and plazas for the wind generators, the construction of the substation, the roads, and the connection to the system. These caused deterioration in air quality, modified the soil, damaged plant cover, contaminated the soil, increased noise levels, and damaged infrastructure.

- Since this is a relatively flat area that is subject to strong winds and mostly high visibility from several observation points, the main negative impact is on the landscape due to the presence of the wind generators, although this impact is lessened by the presence of other industrial facilities in the area (coal port, railroad, industrial roads, telecommunications antennas, etc.). The next impact is on the birds, mainly during the project’s operation and life, although this effect is deemed site-specific and occasional due to the low rotational speed of the equipment and the easements indicated.

- Given the open nature of wind farms, the wind generators did not need to be isolated, which basically did not affect the traditional use of the soil (goat herding and traditional agriculture).

- The impact caused by increased noise levels produced by the rotation of the wind generator blades carries less weight but is considered almost equally important.

The construction of the “Jepirachi” wind farm did not require resettling Wayuu Indians or any other population group.
Table 1. Summary of impacts, ranking and evaluation

<table>
<thead>
<tr>
<th>Project phase</th>
<th>Area</th>
<th>Impact</th>
<th>Presence</th>
<th>Evolution</th>
<th>Duration</th>
<th>Magnitude</th>
<th>Class</th>
<th>Rating*</th>
<th>Importance</th>
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<tr>
<td>Construction and operation</td>
<td>Social</td>
<td>Job creation</td>
<td>1,0</td>
<td>0,8</td>
<td>0,1</td>
<td>0,7</td>
<td>+</td>
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<td>Contribution to national technological knowledge</td>
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<td>0,4</td>
<td>0,7</td>
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<td>+</td>
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<td>Landscape modification</td>
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<td>Operation</td>
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<td>0,8</td>
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<td>-</td>
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<td>Increased noise levels</td>
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<td>0,1</td>
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<td>-</td>
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<td>0,8</td>
<td>-</td>
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<td>0,8</td>
<td>-</td>
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Table 1. (continuation) Summary of impacts, ranking and evaluation

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<th>Project phase</th>
<th>Area</th>
<th>Impact</th>
<th>Presence</th>
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<tr>
<td>Construction</td>
<td>Physical</td>
<td>Air quality deterioration</td>
<td>1,0</td>
<td>0,7</td>
<td>0,05</td>
<td>0,4</td>
<td>-</td>
<td>2,11</td>
</tr>
<tr>
<td>Construction</td>
<td>Physical</td>
<td>Soil alteration and loss</td>
<td>0,9</td>
<td>0,6</td>
<td>0,5</td>
<td>0,02</td>
<td>-</td>
<td>1,43</td>
</tr>
<tr>
<td>Construction and operation</td>
<td>Biotic</td>
<td>Road kills of domestic animals</td>
<td>0,3</td>
<td>0,8</td>
<td>1,0</td>
<td>0,2</td>
<td>-</td>
<td>1,24</td>
</tr>
<tr>
<td>Construction</td>
<td>Biotic</td>
<td>Deterioration of current plant cover</td>
<td>0,7</td>
<td>0,7</td>
<td>0,5</td>
<td>0,002</td>
<td>-</td>
<td>1,05</td>
</tr>
<tr>
<td>Construction and operation</td>
<td>Physical</td>
<td>Soil contamination</td>
<td>0,3</td>
<td>0,5</td>
<td>0,7</td>
<td>0,3</td>
<td>-</td>
<td>0,95</td>
</tr>
</tbody>
</table>

* The environmental rating is the result of the individual valuation of each impact and makes it possible to determine each impact's environmental importance. The rating measures 4 criteria: presence, evolution, duration, and class.
Other impacts relate to the additional resources which the Municipality of Uribia receives from taxes as well as the project’s tourist and technological attraction which goes hand-in-hand with the tourism to Cabo de la Vela, located about 15 km from the wind farm.

Because an indigenous community lives in the area, the main environmental impacts identified relate to the community’s cultural and organizational aspects: effects on the land of the reservation, job creation, increased potential for conflicts, effects on the archeological heritage, and changes to the local community dynamics. Lastly, it was believed that the implementation of the project would strengthen local community organization.

The type and rating of the impacts described above indicate the friendliness of wind power technology and that the environment is not seriously affected. In addition, the impact can be reduced by adopting appropriate measures.

The measures used to manage social impacts during the project’s construction are part of a Social Management Plan and involve programs, actions and strategies focused on handling social and cultural relations with the different communities and institutional players in the surrounding areas, and are part of the institutional policies framework to manage the impacts caused by the development works.

The programs and measures taken to compensate the impacts caused during the operation were carried out hand-in-hand with the wind farm’s progress and were framed within the social and physical-biotic component of the Environment Management Plan (EMP).
3.2. The social component of the EMP

The measures taken to handle the impacts of the social component are part of a Social Management Plan involving programs, actions and strategies focused on handling social relations with different community and institutional players from the surrounding area.

During the project’s construction, the social component was developed through an inter-administrative agreement signed with the SENA’s (National Technical School) Guajira Regional Office, with an inter-disciplinary team, while the handling of the physical-biotic components was included during the implementation of project’s civil works.

The Plan defined the participation in municipal and community development programs and projects that had been identified with the community, which contributed to improve the quality of life of the population in several areas: Social (projects related to health care, education, public utilities, housing, recreation, sports); Cultural (projects to strengthen their cultural identity, such as practices, customs, and traditions, among others); Economic (projects related to herding, fishing, handcrafts and eco-tourism); and Institutional and Organizational (projects related to project evaluation and management, training, public utilities, public administration).
According to the above, the following specific programs were implemented:

- Information and communications
- Job creation
- Environmental education
- Community participation and reinforcement
- Education for officers
- Cultural heritage management
- Implementation and follow-up of compensation measures
- Establishment of easements and recognition by territory occupation and compensation
- Technological dissemination

Expanded information on each program is included in Attachment 7.

### 3.3. The physical-biotic component of the EMP

The physical-biotic component of the environmental management plan was developed by linking the environmental parameters to the construction phase. To achieve preventive management of the impacts, a series of programs were implemented to protect the soil and vegetation, manage biodegradable and non biodegradable solid waste, and manage the quality of air, among others.

Some of the most relevant aspects were how the impact on the landscape and the protection of the fauna were managed. The former was managed through preventive actions such as selecting the site where the landscape was least fragile, using the largest generation capacity turbines to decrease the total number of turbines required as well as to harmonize them with the predominant landscape in the area of the project.
Fauna management and protection, in turn, involved removing the wind generators from the areas through which some seabirds travel and other educational, and preventive design measures.

The following specific programs were carried out (see details in Attachment 8):

- Linking environmental parameters to construction
- Protection of soil and vegetation
- Solid waste
- Air quality
- Impact on the landscape
- Protection of fauna in the area

Air quality, landscape quality and restoration of intervened areas were monitored through the University of La Guajira.

The epidemiological monitoring system was developed together with the University of Antioquia’s National School of Public Health to determine the hygienic and sanitation conditions in the project’s area of influence, and to follow effects on the health of the community during the construction stage.

The commitments made by EPM during the wind farm’s construction were fully kept, and were monitored by the environmental authority Corpoguajira. Attachment 9 shows specifically the issues related to compensation measures and to easements, the cost of which was USD 816.504.
4. Soil usage

Keeping in mind that Colombian indigenous territories or reservations enjoy special protections under Colombian law, such as not being garnishable, having no expiration, and being unalienable, EPM had to apply the legal concept of easement to be able to use the land required for the wind farm.

There was an extensive negotiation process with the traditional authorities of the “Arutkajuí” and “Kasiwolin” communities to define the terms of the compensation to be paid for the use of their land, after obtaining the necessary opinion from Instituto Colombiano de la Reforma Agraria INCORA (Colombian Institute for Agrarian Reform, currently INCODER)29, to locate the wind farm within the Reservation according to the coordinates submitted to that entity.
4.1. Location

To define the location of the wind farm and the easement area, technical, economic and environmental criteria were applied in an effort to reduce as much as possible, any limitations on the use of the land and to prevent or minimize social and cultural impacts.

One of the most important criteria for the location of the farm was the easement from places that are symbolic representations of the “Wayuu” heritage (cemeteries, dwelling places of the forebears, orchards, “jagüeyes” and grazing areas).

The procedure to negotiate the easements with the communities in the area of direct influence of the project was carried out according to the guidelines of Article 23, Decree 2164 of 1995 issued by the Ministry of Agriculture, about Indian reservations (which provides partial regulations for Chapter 14, Law 160 of 1994 with respect to the assignment of land and property titles to the communities to create, restructure, expand, and regularize indian reservations within the national territory).

The following considerations were applied to the valuation of the compensation:

- Reservation land is nonnegotiable and, therefore, it has no market value.

- The “Wayuu” land of the “rancherías” has intangible cultural assets which are difficult to value.

- Agricultural criteria are not appropriate for valuing land in a semi desert area.
4.2. Compensation

EPM agreed with the traditional authorities that compensation would be made in kind, in infrastructure or in assets which would improve the quality of life for the communities where the project would be implemented and which mainly benefit the collective and not individuals.

Las contraprestaciones concertadas fueron las siguientes:

“Kasiwolin” community:
- Protection harbor (breaker at sea to facilitate access of boats to the beach for fishing and sea transportation purposes)
- Fishing boats equipped with engines and fishing gear

“Arutkajui” community:
- Housing improvements
- Fishing boats equipped with engines and fishing gear
- Water storage tanks
In addition, an agreement was reached, called “Intercultural regulation for the operation of the special easements for power in the “Wayuu” communities of “Kasiwolin” and “Arutkajui” in the “Wayuu” reservation of the Middle and Upper Guajira within the context of the conclusions obtained from the prior consultation on the pilot project for the use of wind power by Empresas Públicas de Medellin E.S.P.” (see Attachment 1). This agreement included the area occupied by the works of the wind farm, as well as the easements for the power transmission lines and for traffic granted to EPM, in order to establish intercultural criteria and rules to govern such use, especially the definition of responsibilities and competencies of the parties in a way that would allow for a harmonious interaction between EPM, government authorities (from the central government, the Department of La Guajira and the municipality of Uribia), and the traditional “Wayuu” authorities to comply with the objectives of the rules.

The creation of the power and traffic easements in the Jepirachi wind farm was formalized before the Public Property Records Office of Riohacha in the public record of the Indian Reservation of the Middle and Upper La Guajira. These easements were formalized by Public Deeds 046 and 047 dated June, 2003 recorded in the Sole Notary Public of Uribia and correspond to the lands in the “rancherías” of “Arutkajui” and “Kasiwolin”.

These deeds specify the limits of the protection areas and the easements to be used by power grids and roads, as well as EPM’s agreement to the fact that, for the construction of any other facility outside the established area, a new negotiation has to be carried out with the traditional authorities or the people that are directly affected.

The intercultural use regulations provide that the “Arutkajui” and “Kasiwolin” communities may continue to use the land covered by the easements for regular fishing, beach collection, grazing, horticulture, and transit activities. The communities agreed not to do any construction in the easement and protection areas, to abstain from any activities that jeopardize the normal operation and security of the wind farm facilities, lines and equipment, and not to negotiate with third parties the location of other wind power or other types of projects in their area of influence.

The easements granted do not restrict the fundamental use that the communities make of their land. This has been demonstrated during the operation, especially with respect to goat grazing and beach access.
Due to the environmentally friendly characteristics of wind power, in parallel with the development of the “Jepirachi” project, EPM started a long process with the World Bank so that the emissions avoided by the operation of “Jepirachi” could be sold in international markets within the framework of the Kyoto Protocol.

This process involved extensive participation by EPM, not only in the processes of the project itself, but also in cooperation with the national environmental authorities, to develop the methodologies and regulations required to apply the Kyoto protocol, since “Jepirachi” was the first project in Colombia that intended to use that mechanism.
5.1. The process with the Carbon Prototype Fund (CPF)

In 2002, EPM and the Carbon Prototype Fund (CPF), managed by the World Bank, entered into an agreement to sell the reduction of CO$_2$ emissions (ERPA$^{31}$) achieved by the operation of the “Jepirachi” wind farm.

On April 1, 2006, the United Nations Framework Convention for Climate Change registered the “Jepirachi” wind farm as a Clean Development Project (CDP) under number 0194. The project successfully completed all the stages of the CDP project cycle, enabling the emissions to be certified and sold in the formal carbon market. The Project also certified that it had completed all the procedures and actions required by national and international authorities.

In December, 2002, when the world carbon market was not yet consolidated, the PCF and EPM agreed on a payment of USD 3.5 for each ton of CO$_2$ emissions into the atmosphere prevented by the operation of the wind farm (this amount is currently over €11 in the international market$^{32}$). EPM, seeking benefits for the communities in the area, negotiated a premium of USD 0.50 for each equivalent ton of greenhouse gas emissions reduced. This premium is to be used exclusively for investment in projects, programs and actions that will effectively contribute to an improved quality of life for the people in the area of influence of the wind farm, and to strengthen their institutions. Those commitments are part of the Institutional and Community Strengthening Plan for the “Jepirachi” project.
The “Jepirachi” wind power project receives USD 3.5 for every ton of CO₂ avoided. In recent negotiations, EPM agreed with MGM Carbon Portfolio (part of the company MGM International, which specializes in greenhouse gas reduction projects), on a price of €11.65 for emissions prevented by the “La Vuelta” and “La Herradura” hydroelectric projects.
In 2007 the PCF, which is managed by the World Bank, agreed to increase the premium to be paid for programs to benefit the local community to USD 1.4 for each ton of emissions reduced, provided a verification confirmed the full implementation of the Institutional and Community Strengthening Plan, and only up to a maximum of USD 400,000 during the life of the ERPA (until 2019 approximately, when the emission of 434,000 tons will have been prevented) (See Attachment 10 “Jepirachi: Amendment to the Prototype Carbon Fund Emission Reductions Purchase Agreement”). This increase applies to the reduction of emissions verified after the second semester of 2006 and also includes the reduction of emissions during 2007 and 2008, which have not been paid yet.

Although “Jepirachi” is not a project funded by the World Bank, in agreement with EPM and during the implementation of the verification process for programs associated to the CDM, the Prototype Carbon Fund has followed-up on the compliance with its safeguards with respect to social and environmental issues See Box 1 that shows the conclusions of the first verification visit which took place in 2007). Although recommendations have been made with respect to some specific issues, the reports reveal that EPM’s compliance has exceeded the requirements established by the World Bank.

During April 2009, the second verification of emissions reductions was carried out by a consulting company\textsuperscript{33} for the period between August 2006 and December 2008. During this period there was a reduction or approximately 33,000 tons of CO\textsubscript{2}. 

\textsuperscript{33}
Box 1. Results from the safeguards supervision visit (2007)

The main conclusions of the first verification visit on social and environmental safeguards by the World Bank, which took place in 2007, are presented next.

**Environmental aspects**

- The project complies with the preparation of an environmental impact study and environmental management plan, which is currently being implemented.

- Good environmental practices were used during construction, especially with respect to archaeological issues. These practices exceeded the requirements of the agreement with the PCF.

- There is adequate disposal of the project’s waste, and it should be noted that any hazardous waste is transported to Medellin for final disposal.

- Members of the Wayuu community confirmed that the visual and noise impact is within legal limits in Colombia.

- Because bird collisions are an unavoidable impact, the verification team believes that EPM should begin a plan to monitor and manage information about incidents with birds.
Social aspects

- The verification team highlights the great work carried out by EPM in promoting development in accordance with the cultural characteristics of the community. This was confirmed through field visits.

- During the implementation stage, EPM sought to establish a plan that would make it possible to build long-term relations with the community, and not a temporary impact plan. During construction, the “Wayuu” received a one-time payment for easements and a set of compensation measures. The second, current phase, involved an expanded social plan which is implemented and monitored on an ongoing basis.

- The verification team made some comments and recommendations both for EPM and for the World Bank, with respect to the compensation measures.

- Management and preservation of items with cultural or religious value was also carried out according to the directives of the agreement with the PCF. The selection of the project’s site took into consideration that no important sites for the “Wayuu” would be affected.

6. Environmental and social management during the operations phase

Once EPM complied with what was agreed in the Environmental Management Plan during the construction phase, the Company started the social and environmental management for the operations phase, through effective participation in projects to improve living conditions for the communities located in the project’s area of influence: “Kasiwolin” and “Arutkajui”.

For this purpose, EPM implemented a strategy of inter-institutional and community management and coordination, within the framework of the Plan for Territorial Order and Municipal Development of Uribia, and the life plans of the “Wayuu” communities living in the park’s area of influence, among other programmatic plans with local, regional and national private and public institutions.

As an operating mechanism, work tables have been set up with the participation of various actors (public institutions, NGO’s, and community organizations, among others) to agree on the participation in institutional and community development.

EPM’s social investments are based on its Corporate Social Responsibility Policy. This participation is achieved through four strategies: institutional and community strengthening, inclusion in development projects, social hiring, and constant communications.

This process is coordinated directly with the municipality of Uribia, provided the plans, programs or projects to be agreed are included in the Municipal Development Plans and in the Territorial Order Plans or Schemes. In those plans, EPM is another player in the local and regional development that interacts with the municipal administration, the organized community, and other institutions that are present in the territories.
As part of its Corporate Responsibility Policy, EPM participates in development projects that fall within the following categories:

- **Infrastructure**: Includes basic sanitation and housing improvements associated with basic sanitation, environmental improvement of roads, waterworks, and rural electrification.

- **Education and culture**: Includes projects to improve the quality of formal education in which the Company participates in the implementation or improvement of educational strategies that include the teaching component in coordination with the Institutional and Municipal Education Plan. In addition, EPM participates in sports, recreation, artistic and cultural programs that are articulated with formal education processes.

- **Productive development**: This line seeks to make a contribution by implementing productive projects consistent with the degree of development of municipal programs and make it possible to leave installed capacity, and strengthen the processes of self-management, community development, and cooperatives.

In addition, EPM is currently implementing the Environmental Monitoring Plan for the operation phase. This plan involves physical and biotic aspects to verify the results of the Environmental Management Plan, and to make any necessary corrections to special programs such as impact of the wind generators or power lines on the birds, survival of the experimental cactus plantation, restoration of vegetation, perception of the landscape, and impact caused by noise.

Related to the above, new areas for intervention and institutions have been identified, and agreements made for joint project management.
EPM’s institutional strength has enabled the Company to carry out a planned and constant social management action, with a long-term vision that respects the functions of other State entities and focuses on putting them together in an inter-institutional work. The social management that has been carried out is responsive to the socioeconomic and cultural complexities of the “Wayuu” community in the wind farm’s area of influence. In this respect, the investments made by the Company, the institutions present in the region, and the communities, implemented through the Inter-institutional and Community Strengthening plan (ICSP), amply exceed the investments made using the additional USD 0.50 premium received from the CDM indicated before.

This has been reflected in agreements in which an increasing number of institutions from the region, as well as organized communities, participate, with indicators that show the improvement to the quality of life for some segments of the population. This has also been reflected in the creation of local capabilities compared to the base line or reference state without the project, which was characterized by historic marginality, little State presence, meager participation processes, and almost complete lack of basic services.

During the past several years, EPM has directed its activities to the unification of the participation of regional and government institutions to develop social programs aimed at improving the quality of life for the indigenous communities in the area of influence of the “Jepirachi” wind farm. Some of the most outstanding programs include training and education for the production of “Wayuu” handcrafts (weaving), and integrated family care that includes health and nutrition components, and the construction of kitchens (see project details below).

The following tables summarize the activities carried out by EPM in the area of the Jepirachi wind farm project, and in La Guajira, from 2004 until December, 2009.

Some of the interventions listed below include only the resources contributed by EPM, even if other entities and institutions have participated through inter-institutional agreements. In addition, some of the benefits obtained from their implementation are shown:
<table>
<thead>
<tr>
<th>Year 2004 Project/agreement</th>
<th>Nutritional improvement and health and education actions for 250 children from the area of influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating entities</td>
<td>Uribia Mayor’s office, Instituto Colombiano de Bienestar Familiar, Fundación Anna Watta Kai, Departmental Secretary of Health, Escuela Normal de Uribia, Nuestra Señora del Perpetuo Socorro Hospital, and EPM.</td>
</tr>
<tr>
<td>Purpose</td>
<td>Strengthen the nutritional recovery centers – CERN. The initial phase lasted one year but the participating institutions decided to expand it for another 6 months (starting September 23, 2005).</td>
</tr>
<tr>
<td>EPM’S contribution</td>
<td>USD 17,805</td>
</tr>
</tbody>
</table>
| Benefits                    | • Diagnostics of the children’s nutritional status.  
• Care for 210 Wayuu children through 12 nutrition recovery centers CEREN, with actions in food aid, health, education, and materials.  
• 200 children received general medical care, have all their vaccinations, and are parasite free.  
• 210 children served with school reparation actions and oral fluoride applications.  
• Civil registration with the State for 110 children (100% of the registration program).  
• 110 children in the process of registration with the SISBEN.  
• 36 mothers trained in food handling and preparation, hygiene, proper handling of water, garbage and excreta.  
• Equipping 12 CEREN with children’s and kitchen furniture.  
• Creation of 12 committees to support the CEREN with monitoring functions.  
• Expansion of the health program to the Upper Guajira by the Departmental Secretary of Health.  
• Census of midwives in the area and design of a training workshop to improve this traditional practice and reduce mother and newborn mortality rates.  
• Commitment by the municipality to the nutritional improvement program through ongoing supply of potable water from the desalinization plant. |
| Other activities by EPM in 2004 | • Provision of 150 school packages for children of the “Kamusuchiwo” school.  
• Advertising participation in the V Ethnic Education and Cultural Summit and the V Science and Technology Fair in the municipality of Uribia.  
• Participation in the Wayuu Cultural Festival (participation through advertising and information booth on Jeripachi) |
### Years 2005 and 2006

#### Project/Agreement

- **Participating entities**: Municipio de Uribia, SENA, Fundación “Anna Watta Kai”, EPM.
- **Objective**: Strengthen the creation of ethnic tourism, fish and meat processing, and preventive and corrective maintenance of desalinization plants.
- **EPM’s contribution**: Total cost: USD 62,681  
  EPM’s contribution: USD 33,426
- **Achievement/Benefits**
  - Certification of 23 young “Wayuu” Indians on how to strengthen the tourist activity, focused on complimenting the first training phase that began in 2004. They were certified on customer care competencies by SENA, as a pioneering experience in the country.
  - Consolidation of the Annas Woumain (wealth of our land) pre-cooperative to receive tourists. The handicrafts store opened in December 15, 2006.
  - Certification of 11 youths in preventative maintenance and minor corrections for reverse osmosis desalinization equipment.
  - Certification of 17 people in the fish, seafood, and dried meat preservation and packing course.

#### Other EPM activities in 2005 - 2006

- Certification of 23 young “Wayuu” Indians on how to strengthen the tourist activity, focused on complimenting the first training phase that began in 2004. They were certified on customer care competencies by SENA, as a pioneering experience in the country.
- Consolidation of the Annas Woumain (wealth of our land) pre-cooperative to receive tourists. The handicrafts store opened in December 15, 2006.
- Certification of 11 youths in preventative maintenance and minor corrections for reverse osmosis desalinization equipment.
- Certification of 17 people in the fish, seafood, and dried meat preservation and packing course.

### Years 2007-2008

#### Project/Agreement

- **Participating entities**: La Guajira University, EPM
- **Objective**: Monitoring the physical biotic component of the programs included in the environmental management plan.
- **EPM’s contribution**: USD 23,804
- **Achievement/Benefit**
  - Under an agreement with EPM, the University, through its Environmental Studies Institute INSEAG, followed, monitored and researched the social environmental programs defined during the wind farm’s operating phase.
  - Monitoring air and landscape quality, solid waste management, quality of water from the desalinization plant, wastewater management and restoration of vegetal cover.
  - In addition, an experimental project for growing aloe and Guajira thistle was carried out.
<table>
<thead>
<tr>
<th>Project/Agreement</th>
<th>Integrated care for 56 families in the Media Luna sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating entities</td>
<td>Municipality of Uribia, SENA, La Guajira University, Fundacion Cerrejon, ICBF, Anna Watta Kai Foundation, EPM.</td>
</tr>
<tr>
<td>Objective</td>
<td>Improve nutritional status, health and housing for 56 families in the Media Luna sector</td>
</tr>
<tr>
<td>EPM's contribution</td>
<td>USD 34,849</td>
</tr>
</tbody>
</table>
| Achievement/Benefit                                                               | • “Ayatejirrawa” (teamwork) project. This is a continuation of a project that started in 2004 but with extended coverage for care and services to include the nutrition, health, education, development of productive projects, and housing improvement components for 79 families who received nutrition and medical care. Includes the establishment of a productive project (handcrafts)  
  • Housing improvement program. Through a guided self-construction process, improvements were made to the kitchens in 56 houses using ferro-cement techniques and Lorena-type kitchen. The families received support with materials and technical advice |

<table>
<thead>
<tr>
<th>Years 2007-2008 project/agreement</th>
<th>Creation and consolidation of micro-enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating entities</td>
<td>SENA.</td>
</tr>
<tr>
<td>Objective</td>
<td>Training for production of Wayuu handcrafts</td>
</tr>
<tr>
<td>EPM's contribution</td>
<td>USD 8,236</td>
</tr>
</tbody>
</table>
| Logro/beneficios                                                                 | • Consolidation of the Annas Woumain pre-cooperative  
  • Improving capability to produce goods and services for tourists and visitors  
  • Increase installed capacity by providing looms and production materials.  
  • 21 artisans trained on how to make bags, and how to make and embroider typical blankets  
  • 6 artisans trained in weaving double-sided hammocks  
  • 15 artisans trained in weaving ‘capaterras’ (larger bags that were previously used only by men)  
  • 5 youths trained on the manufacture of typical hats  
  • 10 youths trained on the manufacture of ‘waireñas’ (typical woven footwear)  
  • One handicrafts store and one workshop equipped with 2 large looms and 4 small ones, two machines for making ‘waireñas’, and materials to make and embroider typical blankets  
  • Second place in the Bogota National Handicrafts Contest  
  • 33 students and 2 teachers from the “Kamusuchiwo’u” school were trained |
| Other EPM activities during 2007-2008                                             | • Participation in the “Dividivi” Festival³⁸ in Riohacha (participation through advertising)  
  • Participation in the Wayuu Cultural Festival (participation through advertising)  
  • Delivery of school packages to children from the “Kamusuchiwo’u” school  
  • Publication of a syllabus on planting the Guajira thistle and aloe, as a result of a research project carried out by a team of professionals from the Universidad de la Guajira’s Environmental Studies Institute and EPM |
### Año 2009
**Proyecto /convenio**

<table>
<thead>
<tr>
<th>Participating entities</th>
<th>Healthy housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipality of Uribia, Office of the Governor of Guajira, Anna Watta Kai Foundation, Corporación Buen Ciudadano, EPM</td>
<td></td>
</tr>
<tr>
<td><strong>Objective</strong></td>
<td>Housing construction for 50 families from “Kasiwolin” and “Arutkajui”, in the Media Luna sector, 20 of which are for the wind farm’s area of direct influence</td>
</tr>
<tr>
<td><strong>EPM’s contribution</strong></td>
<td>USD 49,505</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project/Agreement</th>
<th>Desalinization plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating entities</td>
<td>Municipality of Uribia, EPM</td>
</tr>
<tr>
<td><strong>Objective</strong></td>
<td>Recover and put into operation the desalinization plant, and implement a community micro-waterworks for the “Kasiwolin” and “Arutkajui” settlements</td>
</tr>
<tr>
<td><strong>EPM’s contribution</strong></td>
<td>USD 100,000</td>
</tr>
</tbody>
</table>

#### Other EPM activities during 2009

- Participation in the Francisco El Hombre Festival (participation through advertising)
- Participation in the Wayuu Cultural Festival (participation through advertising)
- Delivery of school packages for 750 children from the Kamusuchiwo’u school
- In addition, activities were carried out to bring electricity to the Kasiwolin and Arutkajui settlements, together with the Municipality of Uribia and the Office of the Governor of Guajira. This will take place after construction of the Puerto Bolivar-El Cabo line starts. This construction is being promoted by the Office of the Vice President of the Republic through the Institute for Planning and Promotion of Energy Solutions for Non-interconnected Areas - IPSE, which will be implemented during 2010. This will bring electricity from the National Interconnected System to the community through Electrificadora del Caribe, Electrocaribe which will act as operator.

Through this set of programs for the period 2004-2010, EPM signed direct contracts for USD 437,905; moreover, the company participated in agreements for USD 436,624 to which it contributed USD 143,691. The Company also participated in other educational and cultural activities with USD 37,163 (as sponsorship for cultural events or for school kits for children).

The comparison between the investments in social management and the revenue received from the sale of emissions reductions certificates, especially the premium specifically designated for social projects, shows that that revenue does not have a significant effect on the project’s financial results indicators (See Chart 2). However, through this additional management effort EPM demonstrates its commitment to minimize the problem of global warming, and its corporate social responsibility to the communities in the areas of influence of its projects.
Table 2. Calculation of PCF 2004 -2006 payments

Until 2010, EPM has only received the payments for the first period of verification of greenhouse gas emissions reductions, which correspond to the years 2004, 2005 and 2006. The following Table shows the details of those payments:

Revenue from the CDM for the Jepirachi Wind farm 2004-2006 verification period

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost (US dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total invoiced(^1) (48,485 tons of (\text{CO}_2) equivalent)</td>
<td>193,940</td>
</tr>
<tr>
<td>World Bank deductions(^2)</td>
<td>(-)103,522</td>
</tr>
<tr>
<td>Net received</td>
<td>90,418</td>
</tr>
<tr>
<td>Revenue for EPM(^3)</td>
<td>66,176</td>
</tr>
<tr>
<td>Income for social and environmental investment(^4)</td>
<td>24,243</td>
</tr>
<tr>
<td>Total social environmental investment from CDM/year</td>
<td>8,081</td>
</tr>
</tbody>
</table>

Source: Carbon Finance Payment Calculation Sheet. Jepirachi Wind Project

Notes:
\(^1\) The calculation of the invoiced amount uses a unit price of USD4 per ton, which includes USD 0.5 for social benefit premium
\(^2\) Includes CDM project preparation costs, Kyoto protocol cost, and other costs related to the CERS issue. These quantities were agreed in 2002 in the Certified Emissions Reduction Agreement (CERA) when the carbon market and the Kyoto protocol were just starting. This is reflected in the low prices for the emissions reductions and the high transaction costs.
\(^3\) Money to which EPM is entitled and has no mandatory investment conditions
\(^4\) This represents the USD 0.5 per ton premium specifically assigned to social programs in the area of influence.
7. Project’s benefits and achievements for the community in the area of influence, the region, and the country

7.1. For the community in the area of influence

One of the most important results of the prior consultation process implemented to put the “Jepirachi” wind farm project in operation, was that the bases were established for the creation and strengthening of the Anna Watta Kai Foundation, promoted by traditional authorities and leaders. Those leaders have seen how the farm has evolved since the beginning and have participated in the consolidation of this new organization that is now an active participant in the joint management of projects aimed at improving living conditions for the communities in the area, and in the search for viability and sustainability of compensation measures such as the desalinization plant, with institutions and companies from around the region, and also from service contracts entered EPM which are an indication of its administrative, legal, and technical growth.

The generation of local capabilities among the communities through training and education processes has enabled greater community interaction with territorial entities and regional institutions that have increasingly been participating in local initiatives.
Rescuing and strengthening cultural practices, such as handcrafts (traditional designs, combinations of colors, shapes and finishes in handicrafts, weaving techniques, product diversification, training in ecotourism, etc.) have made it possible to strengthen not only cultural identity but also social motivation and cohesion, especially among women from various generations, in handcrafts activities. This in turn has created new sources of income for the participants and their families, who already have a handcrafts collection center called “Annas Woumain” (wealth of our land) which, in addition to being a place for working and meeting every day, is the place where the products are displayed and sold to tourists and visitors to the wind farm and to the area.

The strengthening of the traditional authority should also be noted. This has been achieved by recognizing them as legitimate interlocutors during the process of making decisions for the project during its various stages, their active participation, and their commitment to the search for community well-being and social cohesion.

The improvements in the communities’ quality of life compared to the baseline, without the project, show progress indicators such as consumption of potable water and permanent availability of this resource obtained from the desalinization plant or through tanker trucks provided by the municipality of Uribia whenever the plant’s service has been interrupted.

The communities, aware of their rights and duties, and the responsibilities they must assume, together with government institutions to ensure an efficient and sustainable potable water service, have reinforced their management capabilities with the municipality of Uribia by developing competencies and by following up and supervising the operation of the desalinization plant delivered by EPM as a compensation measure. Thus, they have achieved permanent availability of water, a resource that is in short supply in La Guajira, through the commitment of the municipal entity and contributing to the search for solutions to the municipality’s administration and operations problems.
Additionally, compensation measures such as equipping the “Media Luna” health center and the “Kamusuchiwo’u” school have improved the presence of institutions in the area and have made it possible to achieve the vision through which those measures were agreed, by articulating programs and projects aimed at strengthening services. In 2003, the Kamusuchiwo’u School had basic elementary programs, 300 children and 13 teachers. Now, it is called the Integrated Educational Unit that had been projected in the territorial order plan for the municipality of Uribia, with 4 years of high school, 30 teachers and 748 students. The “Media Luna” health center in 2003 was permanently staffed by a health promoter and, occasionally, a doctor. It now has more regular attention, surgical instruments and other supplies for patient care as a result of the synergies and initiatives by the players who are present in the region.

There has also been an improvement in family income levels during the various stages involved in the project’s implementation. During the construction stage there were 147 people from the region involved in the project, and during the operating stage there have been 68 direct, indirect, and temporary jobs created in the wind farm. The sale of handcrafts made with better techniques that rescue traditional designs, provision of cleaning goods and supplies, transportation, lodging, food, security, fuel sales, and guides, as well as a new fishing gear and equipment negotiated with EPM in exchange for the easements, among other things, have also contributed to this improvement.

The confluence of inter-institutional activities in the wind farm’s area of influence, made more dynamic by the project, is also a significant achievement as evidenced by the growing participation of regional companies and institutions in the identification and implementation of projects aimed at improving the quality of life for the families in the area, with the active participation of the communities, which take roles and responsibilities for their implementation and follow-up.

“EPM informed us, the “Wayuu”, what our rights were as a Reservation, that the land could not be sold... we were entitled to a prior consultation process.” (Wayuu native - 2010).
Special emphasis is given, in the words of a group of “Kasiwolin” women who participated in a workshop to evaluate the process (“Kasiwolin”, March, 2010), to the fact that the trust built between EPM and the community is due, in addition to their keeping EPM word and living up to their commitments, to the fact that “EPM informed us, the Wayuu, what our rights were as a Reservation, that the land could not be sold”, and also taught them that “we were entitled to a prior consultation” and “we were entitled to health and education. EPM clarified our rights with respect to culture and values”.

They also underlined, with respect to community organization that “Good things have happened and it has all been because there is organization and there are people who are working to improve the quality of life”.

For them, it has also meant expanding their role, which was clear in the Wayuu socio-cultural system but new in their interaction with the “arijuna” (white man or foreigner) that posed new challenges and demanded active participation from women in the decision-making process. Previously, women’s participation was not seen. The Wayuu woman did not look and did not speak.” Today, the women take part in meetings, talk to the tourists and, with the training provided on traditional knowledge such as weaving, they get together to weave and receive income from the sale of their products, thus contributing to the household economy and improving their family’s diet: “Now we can decide what to eat, and buy chicken, fish, meat, also vary the diet.”

They also highlight the way in which the negotiation was carried out, without pressure of any kind and during which “no money was negotiated but rather work and benefits.” They also acknowledge that “although EPM has a Western culture, the Company really was interested in strengthening the “Wayuu” by our presence here. They were interested in highlighting the culture, the values. This is important for the Wayuu because they feel important showing the identity which, in addition, should be preserved. We have to leave things for the coming generation and the most important one is an identity”.

In fact, their greatest wish, emphasized during the evaluation exercise, is to strengthen their culture: “In the future, that is the job, but to strengthen it already having water, energy, and quality of life, to have development with identity”.
7.2. For the region

The existence of the “Jepirachi” wind farm has helped increase tourism in Cabo de la Vela, and the wind farm is included in several tour packages to this natural paradise. This has also resulted in a stimulus for the demand of regional and local goods and services.

The existence of the wind farm has also raised the Departmental administration’s interest in participating in future development of wind technology in La Guajira, to take advantage of its full potential. This is evidenced by the passing of Ordinance 082 from the Department of La Guajira (December, 2009), authorizing the Governor to participate in corporations for wind power generation or commercialization.

In addition, a technology adaptation project is being implemented in the wind farm that has made it possible, step by step, to produce new parts or adapt them to the realities of the area, manufactured in cities of the Colombian Caribbean, such as Barranquilla. This means that there are significant advances in the adoption of this technology and that knowledge could enable the future creation of Colombian companies capable of manufacturing parts and spares for wind generators.
7.3. For the country

For Colombia, Jepirachi represents an environmentally sustainable energy alternative, to complement hydroelectric and thermoelectric power, which could be beneficial for diversifying the country’s energy mix and for its possibilities in the carbon market.

During the implementation of all the activities related to the project, EPM has been noted for its participation in the “Study of a national strategy for implementing the CDM in Colombia”\textsuperscript{39}, carried out in 2000, and for its support to the creation of the National Designated Authority\textsuperscript{40}. Also for fostering the law through which Colombia adhered to the Kyoto protocol\textsuperscript{41}, the issuance of CONPES 3242\textsuperscript{42} (National Economic and Social Policy Council), the formulation of principles, criteria and requirements applicable to sustainable development, exclusively for Colombia\textsuperscript{43}, and for promoting the proposed regulation to provide tax benefits for clean energy projects.

In addition, with the idea of sharing experiences in this area, EPM promoted and participated in a task group that included the Ministry of the Environment, Housing and Territorial Development, the World Bank, Isagen and other entities from the energy sector in Colombia, which developed a “Country Methodology" for CDM projects that represents a major advance for the Colombian electrical sector (ACM0002 Regional Project Electricity System”, option c). This methodology is applicable to “Jepirachi” and any other Project connected to the National Transmission System. EPM was also the proponent of this proposal.

EPM also promoted the development of the normative framework in Colombia, including the proposed norm for tax breaks for clean energy projects (Law 788 of 2002\textsuperscript{44}). Nevertheless, so far the company has not used the benefits provided by this law, especially the income tax benefit, because the wind farm has not produced any taxable surplus.
EPM also participated in the creation of the Committee for Wind and Alternative Energy Sources of the UPME and the ICONTEC
(Instituto Colombiano de Normas Técnicas), aimed at drafting standards to serve as reliable guidelines to implement new wind power projects in Colombia, and to develop the national wind map that would identify potential areas in terms of wind and weather conditions, by sub region.

The process led by EPM has encouraged other agents in the electrical sector to take an interest in La Guajira for developing wind farms and has stimulated several small wind power projects.

The “Jepirachi” wind farm has become a teaching tool for college students because it is a unique technology in the Colombian energy market. The wind power experience in “Jepirachi” and La Guajira has been presented in multiple conferences about energy, the environment, and CDM, in Colombia and overseas. There have also been chairs and courses about wind power established in the Colombian universities and technological institutes.

### 7.4. For Latin America and international cooperation

EPM has hosted directly over 300 visits from members of Congress, Ministers, students from public and private universities, private companies in general, and others that are part of EPM’s major energy clients. There have also been visits by entities from the central government and from the region, NGO’s, groups of foreign visitors interested in wind power in Colombia, the World Bank, students from universities in neighboring countries (Venezuela, Ecuador, and Panama) and domestic and foreign research groups.
Bilateral cooperation agreements have also been signed with governments that already have the technology, such as the recent agreement between the Chanceries of Colombia and Costa Rica which allows the exchange of experiences, techniques and operators in wind farms using the pitch technology for EPM technicians in Costa Rica, as well as the presence of Costa Rican technicians in “Jepirachi”, to receive training and exchange technical experiences in the use of the Stall46 technology.

It is important to point out that EPM participated in the creation of the World Bank’s “Carbon Community Fund” to support low-income communities through CDM projects. The bank established this fund using the “Jepirachi” experience as a model.

This whole process has enabled EPM to learn how to plan, build, and operate a wind power project under conditions as complex as those of the Upper Guajira, and to reinforce its lessons in terms of intercultural relations. The “Jepirachi” wind farm was the first experience in the formulation and implementation of a CDM project in Colombia, approved according to the requirements and considerations of CMNUCC47 from the Kyoto Protocol. For this reason, all the documentation and verification and monitoring reports are available in that organization’s Internet site:

http://cdm.unfccc.int/Projects/DB/SGS-UKL1135244574.04/view.
8. Relevant links

- Corporación Regional de la Guajira (Corpoguajira): http://www.corpoguajira.gov.co
- Guajira governor’s office: http://www.laguajira.gov.co
- Colombian Institute for Rural Development (Instituto Colombiano para el Desarrollo Rural - INCODER): http://www.incoder.gov.co
- Alexander von Humboldt Biological Resources Research Institute (Instituto de Investigación de Recursos Biológicos Alexander von Humboldt): http://www.humboldt.org.co
- Ministry of the Interior and of Justice (Ministerio del Interior y de Justicia); Department: Directorate for Indigenous, Minorities and Rom Affairs (Dirección de Asuntos Indígenas, Minorías and Rom): http://www.mij.gov.co
- Office of the President of the Republic of Colombia (Presidencia de la República de Colombia): http://web.presidencia.gov.co
- System for the Identification of Potential Social Program Beneficiaries (Sistema de Identificación de Potenciales Beneficiarios de Programas Sociales - Sisben): http://www.sisben.gov.co/
9. Attachments

The following attachments are found in the enclosed DVD.

**Attachment 1.** Intercultural Regulation of the Jepirachi easements.

**Attachment 2.** Certification from the Vice-Ministry of Environment.

**Attachment 3.** XM Certification.

**Attachment 4.** Minutes for the Signature of the Agreements.


**Attachment 6.** Community Participation: Basis of Social Management at the Jepirachi Wind Farm.

**Attachment 7.** Environmental management plan – Social Component - During Construction.

**Attachment 8.** Environmental Management Plan – Physical biotic component - During construction.

**Attachment 9.** Implementation of Measures for Compensation and for Easements in the Jepirachi Wind Farm.

**Attachment 10.** Jepirachi. Amendment to the Prototype Carbon Fund Emission Reductions Purchase Agreement.
10. Complementary materials

The following complementary videos are found in the attached DVD.

**Video:** Jepirachi - Tejiendo con el viento (Weaving with the wind) (2005)

**Video:** Jepirachi - La energía del viento (The Wind Power) (2006)
11. Notes to the document

*All monetary amounts in this document are expressed in US dollars (USD) and updated as of June 30, 2009, unless otherwise indicated.

Empresas Públicas de Medellín E.S.P (EPM) is a State-owned enterprise, owned only and exclusively by the Municipality of Medellín, capital of the Department of Antioquia, Republic of Colombia. It is the parent company of a business group that is present in a large part of the Colombian territory, and provides public utilities: power (generation, transmission, distribution and commercialization), water and sanitation (potable water, sewer and wastewater treatment), natural gas distribution (for residential, industrial and vehicular use), and information and communications technologies.

The word “Wayuu” is the name the indigenous people use to refer to themselves, and it also means person in general, indigenous of the same ethnic group, ally, and partner.

General 2005 Census. National Statistics Administration Department (Departamento Administrativo Nacional de Estadística.)

The Republic of Colombia consists of second-level territorial entities called Departments and Districts, and third-level entities called Municipalities and Indigenous reservations. Departments are territorial entities with the autonomy to manage sectional affairs and to plan and promote social and economic development within their territories, according to the terms established by the Constitution. They perform administration and coordination actions, complement municipal activities, act as intermediaries between the central government and the municipalities, and provide any services defined by the Constitution and the Law.

La Guajira, with an area of 20,848 km², is the northernmost Department in Colombia and in South America. It is located in the peninsula of the same name (data obtained from the Office of the Governor of Guajira).

Article 63 of Colombia’s Political Constitution provides that “assets for public use, natural parks, community land for ethnic groups, reservation lands, archaeological heritage of the nation and all other assets defined by Law are unalienable, perpetual, and ungarnishable.” In addition, Article 329 ratifies that “Reservations are a collective property and may not be sold.”

Environmental Impact Study. Environmental characterization of the study area.

Municipality located to the north of the Department of La Guajira, with a population of 116,674 inhabitants (DANE National Census, 2005). Most of the population is part of the “Wayuu” people.

Colombia’s main port for coal exports. It is owned by BHP Billiton, Xstrata and AngloAmerican, a multinational mining company that is exploiting the world’s largest open pit coal mine, El Cerrejón, which covers 69,000 ha. This port was used to bring into the country the equipment for the Jepirachi wind farm.
NIS is the system that consists of the following interconnected elements: generation plants and equipment, regional and inter-regional transmission lines, distribution grids, and the users’ electrical loads according to the definition found in Law 143 of 1994.

Transelca is Colombia’s second-largest power transmission company and carries out activities related to the provision of high-voltage power transport and connection to the National Interconnected System in the Colombian Caribbean coast.

UPME is a special administrative unit, of a technical nature, within the national government, under Colombia’s Ministry of Mines and Energy, governed by Law 143 of 1994, and by Decree 255 of January 28, 2004. Its mission is to carry out sustainable development within the mining and energy sectors in Colombia for the creation of national government policies, and to make decisions that benefit the country by processing and analyzing information.

CREG is a technical entity, created by the Laws 142 and 143 of 1994. It is, in charge of establishing regulations to create conditions that ensure energy supply, open the market to free competition, define methodologies to calculate the tax to be charged to regulated users and end-users using economic, social, environmental, and competitive criteria.

XM Compañía de Expertos en Mercados is the company that operates and administers the Colombian electricity market.

Property Easement, or simply Easement, is a tax levied on a property to be used in another property from another owner for its use. Colombian Civil Code, Title XI: About Easements.

Year 2009.

In addition to practical usefulness, the territory represents a cultural and social order that models a modality of space occupancy and gives meaning to the resources. For the “Wayuu”, owning land and belonging to a territory are based on the existence of six fundamental elements: cemeteries, dwelling places of the ancients and forebears, vegetable gardens, rain water cachements, and grazing areas.

Corporación Autónoma Regional de la Guajira (Autonomous Regional Corporation of Guajira). This is the highest environmental authority in the Department of La Guajira, charged with managing renewable natural resources and the environment. Regional Autonomous Corporations are corporate entities of a government nature, created by Law 99 of 1993, in charge of administering the environment and renewable natural resources within their jurisdiction, and promoting their sustainable development, according to the laws and the policies of the Ministry of the Environment.

http://www.humboldt.org.co/sina/corporaciones.htm
Currently, the Directorate of Indian Affairs, Minorities and Rom, the entity responsible in Colombia for proposing policies and recognizing and protecting ethnic and cultural diversity, especially for indigenous peoples, Roms (or Gypsies) and LGTB (lesbians, gays, transgender and bisexual) groups. In addition, the Directorate oversees the design, programming and inter-institutional coordination of mechanisms that will make it possible to exercise the rights embodied in the Political Constitution and the Law, and to guarantee the Colombian nation’s ethnic and cultural diversity. Its functions are defined in Article 3, Decree 1720 of 2008.

Currently known as the Ministry of the Interior and of Justice (Ministerio del Interior y de Justicia).

Currently known as the Ministry of the Environment, Housing and Territorial development (Ministerio del Ambiente, Vivienda y Desarrollo Territorial).

The Carbon Prototype Fund (CPF) supports projects for clean production in energy and other areas, and provides funding by selling carbon certificates (CER). Colombia is part of the committee of host countries for the World Bank’s Carbon Prototype Fund. This makes it possible to submit clean development mechanism projects to be financed through the carbon funds managed by the World Bank.

In this respect, it is important to note that in Colombia, for an agent who commercializes in the wholesale electricity market to provide residential electricity service in any area, the agent must first have charges (costs of providing the service) approved by the Creg. EPM acts as an integrated distributor and commercializer to supply electricity to the regulated market. For this purpose, the company has commercialization charges that have been approved only for its area of influence, which is Medellin, the Aburrá Valley, and the rest of the department of Antioquia, where it operates as a grid operator. As long as the company does not have commercialization charges approved for other areas, the regulation prevents it from providing electrical service in the regulated market, of which the communities around the wind farm and those located in Cabo de la Vela are part.


At the time “Jepirachi” was built, EPM’s actions were based on the Corporate Environmental Policy approved in 2000, which included the following principles: integrated management of the environment, continuous improvement of social management, and interaction with stakeholders. The spirit of these principles provided for:

Integrated management of the environment: environmental management based on an integrated, preventive approach, multidisciplinary methods, teamwork, communications, negotiation and participation mechanisms for use with all stakeholders involved, and by the individual and collective social responsibility of employees, suppliers and contractors towards the environment. In addition, it was based on compliance with environmental legislation and applicable technical standards.
Continuous improvement of environmental management: through planning, implementation, review, and updating of processes and activities that interact with the environment.

Technical, economic and environmental integration in all works and projects, and environmental management related to innovation, promotion of research, technological and human talent development, and resource optimization in order to improve productivity, efficiency, and rationalization of environmental costs.

Interaction with stakeholders: timely information, consultation, negotiation, and effective participation are the basis for the relationships with the stakeholders, reinforcing loyalty, respect, trust, and mutually beneficial interactions.

In addition, it is based on EPM’s social responsibility principle, defined as:
Focus on the common good, based on respect for the rights of others, the search for socioeconomic development of the cities and regions within its area of influence, and the coexistence between the company and the community under conditions of the efficiency and equality.

The search for economic and social sustainability, because corporate decisions aimed at creating economic value must consider the company’s financial viability and must be socially sustainable.

Management’s effectiveness in administering public goods and services begins with knowledge of the short- and long-term real needs of the community, with proactive strategies, with pertinent and real answers to the signals and challenges of the environment, and providing timely promotion for the social management processes according to the priorities and resources required to achieve effective results.

The social activities carried out to make the project viable have focused on the effective participation of the communities during the different stages of the process, and is based on the respect for the ethnic and cultural identity of the “Wayuu”, on establishing relationships of trust, on the search for equality and community benefits, without paternalistic attitudes, and through the application of intercultural actions and coexistence.

Carried out during a workshop with students from the “Kamusuchiwo’u” school in Media Luna, Uribia, in August, 2002.

Property easement, or simply easement, is a tax levied on a property to be used in another property from another owner for its use. Colombian Civil Code, Title XI: About Easements.

INCODER –Instituto Colombiano para el Desarrollo Rural (Colombian Institute for Social Development) - is a national government public establishment under the Ministry of Agriculture and Rural Development. Its mission is implementing rural development policies in coordination with the communities and public and private institutions that have to do with the agriculture, forest, and fisheries sectors, facilitating access by rural communities to productive and social factors to help improve their quality of life and the country’s socioeconomic development.
Decree 2164/95, which partially regulates Chapter XIV, Law 160 of 1994 in matters pertaining to the provision of and ownership title over land to indigenous communities to create, restructure, expand, and normalize Indigenous reservations within the national territory. Articles 21 and 23 of the Law provide:

“... Article 21.- LEGAL NATURE. Indigenous reservations are the collective property of indigenous communities in whose favor they are created and, according to Articles 63 and 329 of the Political Constitution, are unalienable, ungarnishable, and perpetual.

Reservations are a special legal and sociopolitical institution that consists of one or more indigenous communities which, under a collective ownership title that has the same guarantees as private property, are owners of their own territory, and govern the territory and their internal life according to the indigenous forum and their own regulation system.

PARAGRAPH. Members of the indigenous community in the reservation may not assign in any manner, rent on their own account, or mortgage the land that constitutes the reservation.

ARTICLE 23 - EASEMENTS AND CONSTRUCTION OF WORKS. Indigenous reservations are subject to the easements established by applicable laws. When it is necessary to build national or regional interest infrastructure works within a reservation, those works may only be built after negotiations with the authorities of the community and the environmental license, if required, has been granted, and after determining the appropriate indemnification, compensation, benefit or participation.

The environmental license will be granted according to the provisions of Article 330 of the Political Constitution and Law 99 of 1993.

In all cases foreseen in this article an intercultural regulation of use shall be prepared through negotiations with the community and with the participation of the Ministry of the Interior.”... (The underlines are by EPM).

Agreements for Future purchase-sale of emissions reductions (Emission Reductions Purchase Agreement, ERPA from its initials in English).


Det Norske Veritas (DNV).

Anna Watta Kai, “well-being for the future” is a Foundation created by members of the “Wayuu” community in the area of influence of the “Jepirachi” wind farm, on January 24, 2004. The purpose of the Foundation is to work for their communities and reaffirm their values and cultural principles. It was the first community organization in the wind farm’s area. From the start, the Foundation has played a key role in the community with the programs that are implemented there.
The CEREN is a strategy of the Colombian Family Welfare Institute (Instituto Colombiano de Bienestar Familiar –ICBF), created to recover the nutritional level of boys and girls who need it, through a multidisciplinary intervention involving the family and the community.

SISBEN is the Colombian government’s system for the identification of potential beneficiaries of social programs (Identificación de Potenciales Beneficiarios de Programas Sociales). It is an identification based on the standard of living and allows for a technical, objective, uniform, and fair selection of beneficiaries of government social programs, according to their specific socioeconomic status. http://www.sisben.gov.co/

The Wayuu Cultural Festival is the most important cultural event in the Department of La Guajira. It was created in 1985 to celebrate the 50th anniversary of the foundation of the municipality of Uribia, where it takes place. It is held every year between May and June to highlight and preserve ancestral customs, traditions and folklore of the Guajira culture. With a mixture of traditional music, rituals, customs, handicrafts, forums, expeditions and games, the Wayuu show the world their huge cultural wealth which, transmitted from one generation to the next in the form of myths and legends, helps preserve it.

It was declared National Cultural Heritage through law and 22 of 2006, and included in the public cultural policies.

The Dividivi National Festival and Pageant is the event that identifies La Guajira in the national sphere. It is named after the Dividivi tree, considered the symbol of the Department, where it grows wild. This festival is held on June 28, 29 and 30 and July 1, day on which the creation of the Department of La Guajira is celebrated.

The final report of this study, published in April 2000, can be found at the following address: http://www.cecodes.org.co/cambio_climatico/legislacion/NSSColombia.pdf

For the Colombian case, according to Decision 17 of the 7th Conference of the Parties to the United Nations Framework Convention on Climate Change, CMNUCC/COP 7; the Ministry of the environment, Housing and Territorial Development is the Designated National Authority - DNA, a role that was ratified before the Secretary of the UNFCCC by the Colombian Government through a Consular Note dated May 22, 2002 from the Ministry of Foreign Relations. The function of the Designated National Authority in this case is to approve the projects submitted for registration to the Executive Board of the Clean Development Mechanism according to the projects’contribution to the country’s sustainable development. Resolution 0453 of 2004 issued by the Ministry of the Environment, Housing and Territorial Development “…adopts the principles, requirements, and criteria, and establishes a procedure for national approval of greenhouse gas emissions reduction projects which aspire to the category of Clean Development Mechanism CDM.”

The Kyoto Protocol on Climate Change is an international agreement aimed at reducing the emissions of six gases that cause global warming: carbon dioxide (CO$_2$) methane gas (CH$_4$) and nitrous oxide (N$_2$O), in addition to three industrial chlorinated gases: hydro fluorocarbons (HFC), per fluorocarbons (PFC) and sulfur hexafluoride (SF6), by an approximate total of at least 5% between 2008 and 2012 compared to the emissions of 1990. This system is part of United Nations Framework Convention on Climate Change (UNFCCC), signed in 1992 during what became known as the Rio de Janeiro Earth Summit. The protocol made binding what the UNFCCC had not been able to achieve at the time.
The Congress of Colombia, through Law 629 of December 27, 2000, approved Colombia’s adhesion to the Kyoto Protocol, which became effective for the country on February 16, 2005.

42CONPES document 3242 dated August 25, 2003 for “Institutional strategy for the Sale of Environmental Services for the Mitigation of Climate Change.” The document can be consulted at the following address: http://www.dnp.gov.co/archivos/documentos/Subdireccion_Conpes/3242.PDF

43Published in the following address: http://www1.minambiente.gov.co/juridica_normatividad/normatividad/viceministerio_ambiente/ambiental/mitigacion_cambio_climatico/Attachment%201%20-%20criterios%20y%20requisitos.pdf

44Article 18, Law 788 of 2002, provides:
“OTHER EXEMPT INCOME. The following article is added to the Tax Code:
“Article 207-2. Other exempt income: income produced by the following items, with the controls and requirements established by the Regulation, are exempt:
1. Sale of electrical energy generated using wind resources, biomass, or agricultural waste, carried out only by generator companies, for a period of fifteen (15) years, provided the following requirements are met:
a) Apply for, obtain and sell carbon dioxide emission certificates according to the terms of the Kyoto Protocol;
b) At least fifty percent (50%) of the resources obtained from the sale of those certificates are invested in social works within the region where the generator operates. (…)

45This is a private, nonprofit, multinational organization that works to promote standardization, certification, metrics and management of quality in Colombia.

46Pitch and Stall are different technologies for power control in order to maintain a constant rotation speed on the wind generators when wind speeds are above the rated speed.

47The United Nations Framework Convention on Climate Change (UNFCCC) is an international treaty on the environment produced by the United Nations Conference on Development and the Environment (UNCDE), known informally as Earth Summit, held in Rio de Janeiro between June 3 and 14, 1992. The purpose of the treaty is to stabilize atmospheric concentrations of greenhouse gases at a level that will prevent dangerous anthropogenic interference with the climate system.