





Environmental Dimension

Environmental management 156

Hummingbird taking a bath.
Photograph by our employee Edwin Vargas from the Grupo Energía Bogotá Project Management department

6.9 We protect the environment



(307-1) At the Group, we continue with a track record of zero penalties and improved relations with the environmental authorities. One of our commitments is to maintain this trend.

(102-11) (103-1) Our environmental management activities are aimed at protecting and preserving the environment, as part of our responsibility for ensuring the social and environmental development of the territories in which we operate. We also establish genuine relations with the environment, which implies that we not only comply with regulations, but also that we act with due diligence and the precautionary principle. We monitor our emissions and our environmental management plans and we engage in offsetting processes whenever they are required.

(103-1) (103-2) (103-3) We are responsible for complying with and implementing our environmental management plans, environmental licenses and regulations. We also advise and support monitoring, supervision and verification of the activities performed during project construction. Our work is



framed by the environmental provisions of Decree Law 2811/1974, Law 99/1993 and Decree 1076/2015.

Our green initiatives

(103-2) In 2018, jointly with Alexander von Humboldt Institute, we managed an offsetting portfolio for each of the 12 electric energy transmission projects in the licensing process, in order to capitalize on this institute's broad knowledge and experience on biodiversity.

With this institution's support, we also completed a handbook for Ecosystem Restoration in the Sub-Andean Region: The Case of the Barbas-Bremen Land Conservation District, a valuable tool based on one of the country's most important reserves to manage biodiversity, with the possibility of replication. We presented this handbook at the 2018 International Environmental Fair (FIMA, for the Spanish original) and it is available for use and application by all stakeholders committed to the environment.

Another tool we developed jointly with Alexander von Humboldt Institute was the *BioTablero* (Bio-Scorecard), a support system to make decisions on the Group's and TGI's environmental offsetting. This ensures enhanced biodiversity management in our projects.

During the year, we submitted to the Ministry of Environment and Sustainable Development the *Bosques para la Paz* (Forests for Peace) project at Tesalia-Alfárez, as a strategy to fulfill the environmental offsetting requirements derived from the UPME 05-2009 Tesalia-Alfárez Project, pursuant to Resolution 0470/2017, which is currently under review by the Ministry and by the Environmental Licenses National Authority (ANLA, for the Spanish original). In addition to fulfilling environmental offsetting obligations, this project enables to coordinate community empowerment initiatives and payment for environmental services, as defined in our sustainability strategy.

(304-3) We also continued the process of ecological restoration at the Tominé Reservoir, implemented on 16 ha with

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transmission projects licensed and in the licensing process have offsetting portfolios.

restoration strategies, which were maintained and monitored. The next step will be to adapt these restored areas for educational and tourism activities with ecological and environmental purposes. For additional information, see the Annexes.

(305-5) Another major achievement in 2018 was offsetting 1,994 t of CO₂ equivalent through forestry plantations in eastern Colombia; these were certified by an institution accredited by the United Nations Framework Convention on Climate Change (UNFCCC). These are to offset our 2017 emissions.

In our operations we use sulfur hexafluoride (SF₆), a gas with high global warming effect, which we use for technical and safety reasons as electrical insulation at electric substations. Our operations include monitoring gas pressure and preventive maintenance plans, as well as monitoring the variables that determine the gas quality for the intended purposes. Since 2017, we perform gas recovery in order to prevent fugitive emissions and reduce their demand.

(103-2) In 2019, we will continue offsetting emissions and to work on consolidating a Business Group climate strategy. To this end, we have established the goal of updat-

LEFT Mosaic of bryophytes and lichens, identified in the Catalog of Banned Species, Protection for Progress, prepared by TGI



To view the handbook for Restoration of Ecosystems in the Sub-Andean Region, the Case of the Barbas-Bremen Land Conservation District, scan this QR code.

ing our carbon footprint and standardizing carbon footprint measurements throughout the Organization, because there are still inconsistencies in the emissions inventories and absence of scope three measurements at some Group companies.

TGI

At TGI, management of environmental impacts is steered by the Group's Occupational Safety and Health and Environmental Policy, with the goal of achieving zero accidents in operations and no harm to people, assets and the environment. In order to fulfill this commitment, we have established priorities for the mitigation of the most significant impacts: greenhouse gas (GHG) emissions (carbon dioxide and methane) into the atmosphere and sound pressure levels.

In order to offset emissions, we have acquired carbon credits through a reforestation project certified by ICONTEC, equivalent to 12,000 t. We are also committed to saving energy and water at the Company's facilities: during the year, we achieved energy consumption savings of 24.6% compared to 2017.

In 2018, we also designed and implemented activities to raise awareness among employees; we identified emission sources and verified our carbon footprint, and we monitored emissions in the field, all of which is included in our greenhouse gas report.

One of our most significant challenges in the future is to identify, quantify and offset our emissions. To this end, during the year we will work on a strategy to manage involuntary emissions and environmental noise,

During 2018, we measured the carbon footprint of TGI, Grupo Energía Bogotá and Contugas. Our reported emissions total 158,872 t of CO₂eq, including the three scopes. (305-1)(305-2)(305-3)

and we will prepare a greenhouse gas report that will be verified by an external entity.

Another achievement during the year was the acquisition of properties in the Mamapacha and Bijagual moors (*páramo*) to create a 600 ha forestry and environmental reserve, which enabled us to preserve biological corridors that serve as the habitat for wildlife species such as the spectacled or Andean bear (*Tremarctos ornatus*).

As part of our habitat protection work, we promoted the development of the catalog *Especies en veda, protección para el progreso* (Banned Species, protection for progress), as part of the offsetting program for lifting banned animal species, trees and epiphytes in Casanare, Boyacá and Santander.

BELOW-RIGHT

At Grupo Energía Bogotá, we are concerned about the protection of the flora, fauna and water resources in our project areas





Cálidda

Based on an independent study performed by an external consultant, we verified that the use of natural gas has prevented emissions of 50 million t of CO₂ into the atmosphere in Lima, Peru.

The following are some of the highlights of our environmental management in 2018:

- Approval of the Statement of Environmental Impact for the installation and operation of pipelines for the gas distribution project located at Los Pantanos de Villa Wildlife Reserve. This allows us to perform works in this protected natural area.
- Structuring of a program to use transportation services and waste disposal achieved savings of approximately USD 20,000.
- Our Environmental Management System was strengthened and certified in accordance with the ISO 14001:2015 standard for Cálidda.
- Program for the implementation of environmental controls for the first cleaning of Cálidda Gas Pipeline.
- Installation of a chiller cooling system for the offices of Cálidda operating with natural gas. This innovative initiative enabled migration from electric energy to natural gas, thereby contributing directly to the reduction of greenhouse gas (GHG) emissions.

Contugas

During 2018, as part of our environmental management, we started up our *Huella Verde* (Green Footprint) strategy to promote environmental conservation, in the framework of three environmental responsibility programs: *Ica Limpia*, *Reservando Vida* and *Yo Reduzco* (Clean Ica, Reservation for Life and I Reduce). As part of these programs, we carried out activities to clean the Ica River, to plant trees in the Pueblo Nuevo district (Chincha) and the recycling drive at Contugas, among others.

Another result this year was signing an inter-institutional agreement, as an addendum to a specific inter-institutional cooperation agreement between the government's Natural Protected Areas National Service and Contugas. This was achieved thanks to the fulfillment of 100% of the environmental noise monitoring program and of 100% of environmental obligations.

In 2019, we will work on updating the Environmental Impact Assessment, on improving the Central Waste Warehouse and on the results of a study on the change in energy mix used by the industry sector in Ica.

Our challenge in the medium term is to be able to determine the effects of a potential leak of natural gas or a spill of odorant (which is added for safety reasons in order to make natural gas perceptible to smell) through modeling of dispersion of atmospheric pollutants. In the long term, at the administrative offices we will implement devices to rationalize the use of water and energy, as well as equipment at fixed sources to reduce atmospheric emissions whenever we exceed allowable levels for the generator groups in Ica.

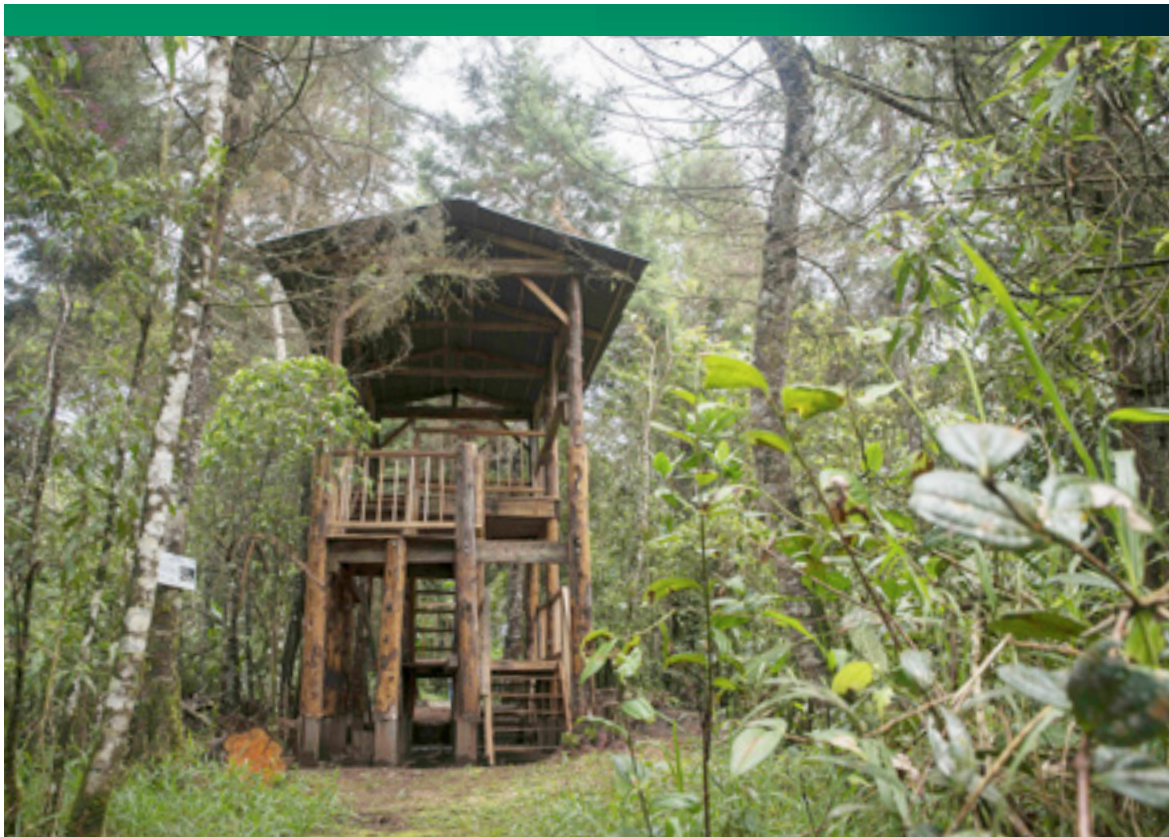
TRECSA

During 2018, we became the first energy transportation company in Guatemala to be certified as free from polychlorinated biphenyl (PCB). In order to obtain this recognition we took an inventory of all our assets that use dielectric oils and we confirmed that they were free from PCB, a toxic substance that is dangerous for human health and the environment.

We also performed archaeological rescues, such as the release of the Sololá-Las Cruces towers (Site Nimajú and Los Pinos), towers 15, 19, 100 and 99, and we obtained a resolution approving the environmental impact study for the Chiantle Substation.

In 2019, we will continue working on environmental management in the areas where our projects are located in order to prevent risks associated with delays in obtaining environmental permits and licenses.

At Cálidda, a study performed by a consultant verified that the use of natural gas has prevented emissions of 50 million t of CO₂ into the atmosphere in Lima, Peru.



Birding site built by Grupo Energía Bogotá at the Barbas-Bremen reserve

The environmental initiative at **Barbas-Bremen**

One of the areas in Colombia with greatest biodiversity is the Coffee growing region, which has become an important destination for visitors. Barbas-Bremen is located in this area between the municipalities of Salento, Filandia and Circasia (Quindío) and Pereira (Risaralda).

It is a large reserve rich in flora, fauna and water resources, featuring strategic ecosystems such as Andean and Sub-Andean forests. Its vegetation includes species in critical danger such as *copachi*, the wax palm, curly cumin and *molinillo*. Some of its animal species include the night monkey and the water dog, and some of its bird species include the Cauca guan (*Penelope perspicax*), the multicolored tanager (*Chlorochrysa nitidissima*) and the subtropical doradito (*Pseudocolopteryx acutipennis*).

This majestic ecosystem is preserved by the regional autonomous authorities of Quindío (CRQ, for the Spanish original) and Risaralda (Carter), by the local governments, by the communities and by companies, including Grupo Energía Bogotá. At this ecosystem, we will carry out a voluntary offsetting

plan for the performance of the UPME 02-2009 energy transmission project, Armenia Substation.

We also launched an ecological restoration project through the reforestation of 30 ha and planting of over 33,000 native trees; we also recovered another 15 ha through enrichment of forests. Some of the districts we benefited are Membrillar, La Concha, San Antonio and El Roble (Circasia), and Las Cruces and Bizcocho (Filandia). The local communities actively participate in this program, particularly students at local schools, who contributed by planting native species and installing fences to protect wetland areas.

Another initiative was the agreement with Alexander von Humboldt Institute to develop the *Handbook for Ecosystem Restoration in the Sub-Andean Region: The Case of the Barbas-Bremen Land Conservation District*. It is the first handbook developed for this conservation district and is intended as a real and practical contribution for management and preservation of river basins and wetlands, as well as for the recovery of degraded areas.