



Sustainability Report 2018



Sustainability Report 2018



Letter from the Brazilian General Director

[102-14, 102-15]

Dear reader,

The results allow Itaipu to continue to occupy a prominent position in the energy sector and in the integration between countries. This is a matter of pride for all of us, and for the Brazilian and Paraguayan population, and brings in the drag a lot of responsibility.

In 2018, Itaipu produced 96,585,596 MWh. In the accumulated 34 years of operation, there were generated more than 2.6 billion MWh, a brand that makes our plant the largest generator of clean and renewable energy in the world.

In addition to the fourth largest annual production, we have, for the second time, achieved our best mark in harnessing water resources: 99,27%. That is, from the water that came to the plant, almost the totality was transformed into energy.

This index was obtained thanks to an exceptional performance of our technical area. Moreover, to ensure that Itaipu maintains these high levels of efficiency, we start the technological update of the plant and its substations, strategic project of the company and one of our main challenges in the coming years.

An important goal is to keep our dam as one of the safest on the planet. Last year, a group of civil consultants, with notorious knowledge, has ensured that it is in perfect condition, and wide instrumentation and full-time monitoring ensure its safety.

Another highlight was the announcement of the construction, by Itaipu, of two new bridges between Brazil and Paraguay. The investment is part of international agreements concluded between the two countries and will benefit trade and trans-frontier tourism, contributing to the development and welfare of the local community, in line with our strategic objectives.

When I took office as Brazilian Director-General on February 26, 2019, we prioritized the rationalization of resources for greater synergy between areas and directorships, and the principles of public administration, efficiency, legality, impersonality, and morality.

Our mission is to prepare the company for the post-2023 scenario, when Brazil and Paraguay should establish new financial bases for the plant operation. With the reduction of costs and in view of the production, demand, and growth of both countries, the goal is that Itaipu delivers electricity at even more competitive prices, benefiting its consumers.

Our commitment goes beyond excellent operational and financial results. Currently, we have carried out sustainable development projects, aligned with the 2030 Agenda, working directly with the communities of 54 municipalities in Paraná, besides Mundo Novo (in Mato Grosso do Sul).

For all this, in fact, it is an honor to be ahead of this company, integrating the Itaipu family, which is a heritage of Brazil and Paraguay, and reference in cooperation, energy efficiency, and promotion of sustainability. That is what we generate!

Good reading!

A handwritten signature in blue ink, reading "Joaquim Silva e Luna". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Joaquim Silva e Luna
Brazilian General Director

Summary

[201-1]

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1. About the Report

[102-7, 102-32, 102-50, 102-51, 102-52, 102-54, 102-56]

The 16th edition of the Sustainability Report of Itaipu Binational reports its initiatives and results in the Brazilian territory from January 1 to December 31, 2018. Only economic, governance and energy production information consolidate binational data. This document follows the guidelines of the Global Reporting Initiative (GRI) and has been prepared in accordance with the GRI Standards: Core option. [102-50, 102-51, 102-52, 102-54]

Information is also presented from two foundations of social interest constituted and of which Itaipu participates: Foundation Itaipu Technological Park (FPTI), addressing the research theme, innovation and regional development; and Itaipu Foundation, with regard to health services offered in the influence area of of the company. [102-7]

Another foundation that Itaipu maintains is the Itaipu Foundation – BR of Welfare and Social Assistance (Fibra), closed private pension fund (pension funds), nonprofit, with the objective of complementing the benefits granted by social security employees on the Brazilian side of Itaipu and its own employees. [102-7]

1. About the Report

The industrial area of the plant and the offices located in the cities of Foz do Iguaçu, Santa Helena, Guaíra and Curitiba were considered as significant operating units.

The elaboration of the sustainability reports is the attribution of the Social Responsibility Advisory Department, with the assistance of the Planning and Coordination area and of all the directorships of the company. [102-32]

In order to attest to the integrity of the information, Itaipu submits its reports to independent verification since 2004 and the company responsible for conducting the assurance is contracted through bidding process. This document was verified by KPMG Assessores Ltda. and information on the assurance procedure is available on pages 95 to 98. [102-56]

For the elaboration of this publication were considered principles of Integrated Reporting <IR>, such as the generation of value, in alignment with the demands of Centrais Elétricas Brasileiras (Eletrobras). Throughout the year, a study was also conducted for a proposal to consolidate the sustainability and annual reports. We considered the guidelines of the GRI and <IR>, the Global Compact Principles and the United Nations (UN) Sustainable Development Goals (SDG), with a focus on optimizing the processes of elaboration and integrating data whenever possible. In this edition, for the second consecutive year, the data collect for this report and the Itaipu annual report was unified, although the publications were separate.

Definitions

- The definition of “employees” refers to the people who compose the company’s own staff. The term “workers” includes employees, young apprentices, trainees and employees of third-party service providers.
- Area of activity refers to the territory composed of the communities of 541 municipalities of Paraná, besides the Mundo Novo (in Mato Grosso do Sul), with about 1.3 million inhabitants.

¹ Altônia, Anahy, Assis Chateaubriand, Boa Vista da Aparecida, Braganey, Brasilândia do Sul, Cafelândia, Campo Bonito, Capitão Leônidas Marques, Cascavel, Catanduvas, Céu Azul, Corbélia, Diamante do Oeste, Diamante do Sul, Entre Rios do Oeste, Formosa do Oeste, Foz do Iguaçu, Francisco Alves, Guaíra, Guaraniaçu, Ibema, Iguatu, Iracema do Oeste, Itaipulândia, Jesuítas, Lindoeste, Marechal Cândido Rondon, Maripá, Matelândia, Medianeira, Mercedes, Missal, Mundo Novo, Nova Aurora, Nova Santa Rosa, Ouro Verde do Oeste, Palotina, Pato Bragado, Quatro Pontes, Ramilândia, Santa Helena, Santa Lúcia, Santa Tereza do Oeste, Santa Terezinha de Itaipu, São José das Palmeiras, São Miguel do Iguaçu, São Pedro do Iguaçu, Serranópolis do Iguaçu, Terra Roxa, Toledo, Três Barras do Paraná, Tupãssi, Ubitatã, Vera Cruz do Oeste.



Materiality

[102-40, 102-42, 102-43, 102-44, 102-46, 102-47, 102-48, 102-49, 103-1]

In order to attend internal and external demands, and improve information management, the 2018 sustainability report brings a new materiality matrix. The process consisted of sequential steps guided by standards and methodologies of world reference.

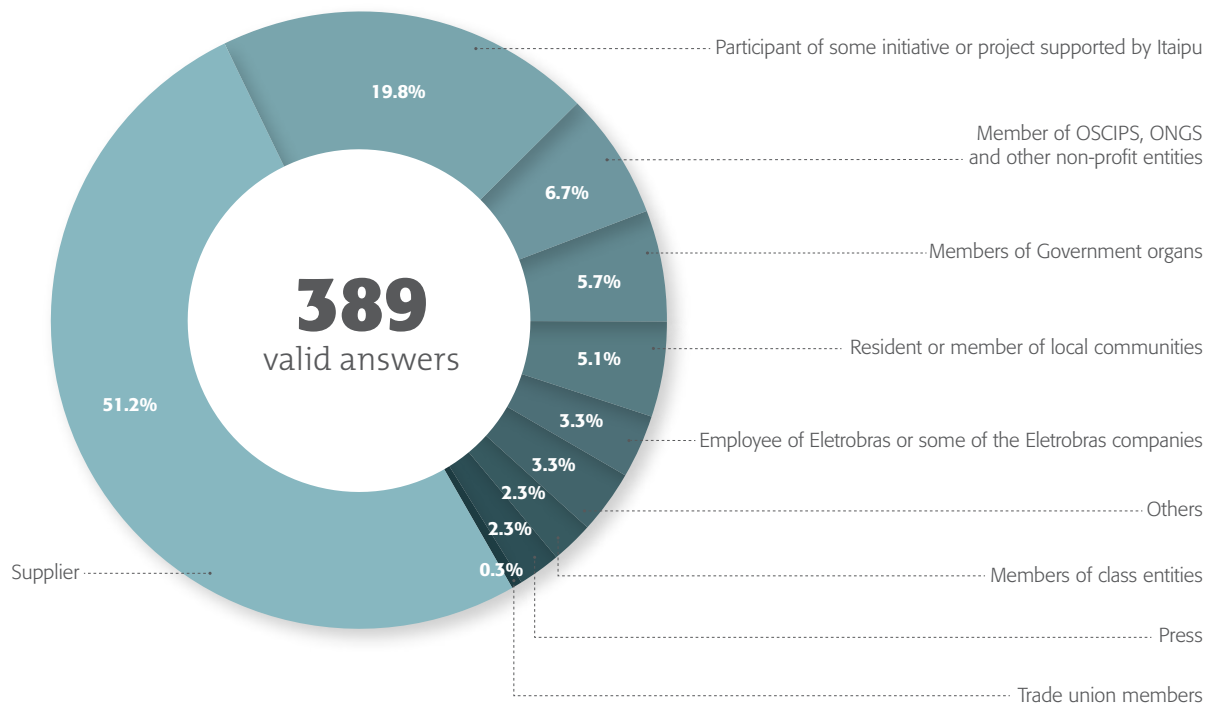
The first step analyzed and selected material topics for the electrical sector, from specialized publications, benchmarking and previous materiality matrixes of the company itself.

The following step was carried out with internal and external agents of Itaipu, who prioritized some of these topics – considering the principle of stakeholder inclusiveness. [102-43]

The activities performed were:

- Individually **interviews** with strategic professionals from Itaipu, including the Brazilian Director-General;
- In-person **technical visits** and analysis of publications. We used **reports and news** of mass media and the Jornal de Itaipu Eletrônico (JIE), in addition to **official documents** such as public opinion research, and other **corporate reports**; and
- **On-line** research in two unprecedented **ways**:
 - » Open to all Itaipu employees, resulting in 310 replies;
 - » With the principal external **stakeholders**, identified from previous materiality processes, and groups directly related to the company, such as prefectures, directors of **Eletrobras companies**, suppliers and actors involved in working groups, Itaipu's programs and actions [102-42].

This enlargement resulted in 389 valid responses from the following groups of interest:



All these different activities identified the relevant aspects in common for the various stakeholders of the entity. This compiled was consolidated based on a specific methodology, validated and approved by the Strategic Planning Advisory Department, resulting in the list of material topics:

List of Material Topics [102-40, 102-44, 102-47]

Material Topic	GRI topic related	Stakeholders who consider the topic material
Corporate governance	<ul style="list-style-type: none"> ▪ Strategy ▪ Ethics and integrity ▪ Governance 	<ul style="list-style-type: none"> ▪ Senior Management ▪ Workers ▪ Government ▪ Society
Transparency and internal controls	<ul style="list-style-type: none"> ▪ Economic performance ▪ Public policy ▪ Disaster/ Emergency Planning and Response 	<ul style="list-style-type: none"> ▪ Senior Management ▪ Collaborators ▪ Government ▪ Society ▪ Suppliers ▪ Local communities
Anti-corruption and compliance practices	<ul style="list-style-type: none"> ▪ Anti-corruption 	<ul style="list-style-type: none"> ▪ Senior Management ▪ Collaborators ▪ Government ▪ Society ▪ Suppliers ▪ Local communities
Energy production	<ul style="list-style-type: none"> ▪ Organizational profile ▪ Availability and Reliability ▪ Access 	<ul style="list-style-type: none"> ▪ Senior Management ▪ Workers ▪ Government ▪ Society
Corporate sustainability	<ul style="list-style-type: none"> ▪ Employment ▪ Occupational Health and safety ▪ Training and education ▪ Diversity and Equal Opportunities ▪ Non-discrimination ▪ Freedom of association and collective bargaining ▪ Supplier environmental and social assessment and Human rights assessment ▪ Forced or compulsory labor ▪ Child labor 	<ul style="list-style-type: none"> ▪ Senior Management ▪ Workers ▪ Government ▪ Society ▪ Suppliers ▪ Local communities
Environmental management	<ul style="list-style-type: none"> ▪ Materials ▪ Energy ▪ Water ▪ Biodiversity ▪ Effluents and waste ▪ Rights of indigenous and traditional peoples ▪ Greenhouse gas emissions and climate change 	<ul style="list-style-type: none"> ▪ Senior Management ▪ Government ▪ Society ▪ Local communities ▪ Indigenous Communities
Regional development	<ul style="list-style-type: none"> ▪ Indirect economic impacts ▪ Procurement practices ▪ Local communities ▪ Research and development 	<ul style="list-style-type: none"> ▪ Senior Management ▪ Government ▪ Society ▪ Local communities

Changes in relation to the previous document are:

- The topic **“Corporate governance”** has been introduced and appears separately by virtue of the effects it produces on other material topics;
- **“Transparency and internal controls”** and **“anti-corruption and compliance practices”** were separated and included the requirements previously associated with the single topic “Transparency and internal and external control”, in view of its importance to stakeholders and corporate processes;
- The previous topic **“Energy production and water management”** was divided into “energy production” and “Environmental Management”, which includes aspects related to “hydraulic safety”;
- It is considered that the topics **“Corporate sustainability”** and **“regional development”** include content previously reported in “sustainable business development and areas of influence”; “Human rights and working conditions”; “Research, development and innovation”; and “greenhouse gas emissions and climate change”.

In addition, disclosures used as evidence for other methodologies such as the **Corporate Sustainability Index (ISE)** of Brazil, Bolsa, Balcão [B]³ and the certification of the **Lasting Initiative for Earth (LIFE)** were also answered. [102-46]

The limits of the topics and aspects about the organization refer to the operation in Brazil, except for binational themes, whose content is inseparable conceptual and operationally. Information published in previous reports, which have undergone changes in this document, is flagged in the respective disclosures. [102-46,102-48]

The process has brought improvements in the way of reporting management aspects, contributing, above all, to the transparency of practices. The analysis and consolidation of the results considered: checking the principle of stakeholders inclusiveness, completeness and the sustainability context to the set of topics raised; assigning the degree of impact and importance of the topic to stakeholders (materiality matrix); and the correlation of the topics with the aspects and disclosures of the GRI Standards and the Sector Supplement “GRI Electric Utilities Sector”. [102-49]

As a challenge in measuring results, it was approved in the **tactical guidelines** for 2019-2023 **The Itaipu Sustainability Index**, a proposal for a systemic methodology for conducting formal performance evaluation processes, which includes aspects to quantify the scope of the effects outside the organization.



The materiality matrix has brought improvements in the way of reporting management aspects, contributing, above all, to the transparency of practices.

2. Where we are

[102-1, 102-2, 102-3, 102-4, 102-5]



On the Banks of Two Countries

The Treaty of Itaipu, an international agreement between Brazil and Paraguay, signed on April 26, 1973, created and governs the binational entity called Itaipu, an emerging company in the field of international public law, responsible for harnessing the hydroelectric potential of the Paraná River, where the plant is located. [102-1, 102-2, 102-5]

Itaipu Binacional maintains its headquarters in the following cities: Brasília, in Brazil, and Asunción, Paraguay, in addition to offices located in the municipalities of Curitiba, Foz do Iguaçu, Guaíra, Santa Helena and Ciudad del Leste, in Paraguay. [102-3, 102-4]

3. Our Strategies

[102-5, 102-6, 102-16, 103-2]

Profile

[102-16]

Mission

To generate quality electrical energy via socially and environmentally responsible practices, fostering sustainable economic, tourist and technological development in Brazil and Paraguay.

Vision

By 2020, Itaipu Binacional will establish itself as a generator of clean, renewable energy with the best operational performance and sustainability practices in the world, fostering both sustainable development and regional integration.

Policies and Fundamental Guidelines

- Respect with the Human Being
 - Binational Integration
 - Proactivity and Innovation
 - Recognition of People's Work
 - Corporate Sustainability
 - Regional Sustainable Development
- Accountability and Rendering Accounts
 - Ethics Values

3. Our Strategies

According with the Treaty of Itaipu, its administration is shared by the Brazilian and Paraguayan governments, who have the same rights to acquire the energy produced for their own consumption. The two national governments commissioned the Centrais Elétricas Brasileiras (Eletrobras), a Brazilian mixed-economy company linked to the Ministry of Mines

and Energy, and the Administración Nacional de Electricidad (Ande), an autarchy of Paraguay, practical arrangements for the establishment of Itaipu, each of which has 50% of the capital. [102-5, 102-6]

Still according to the Treaty, it is permissible for a country to acquire the energy not consumed internally in order to meet its demands.

Strategic Objectives [103-2]



Stakeholders

- SO 1 Safety of energy production with the best quality indexes;
- SO 2 Economic-financial equilibrium;
- SO 3 Corporate Sustainability;
- SO 4 Sustainable development in the area of influence, considered the specificities of each country.



Internal processes – Operational excellence and sustainable development

- SO 5 Improve management and corporate governance practices;
- SO 6 Improve the efficiency of energy production processes by keeping the technological infrastructure up to date;
- SO 7 Ensure water safety by consolidating the socio-environmental management process by watershed;
- SO 8 Foster social, economic, environmental and cultural development in the area of influence, considered the specificities of each country;
- SO 9 Conserve the environment and the biological diversity, integrating the community;
- SO 10 Potentialize the tourism development of the region;
- SO 11 Fostering research and innovation for energy and technological development, with an emphasis on sustainability.



Learning and growth

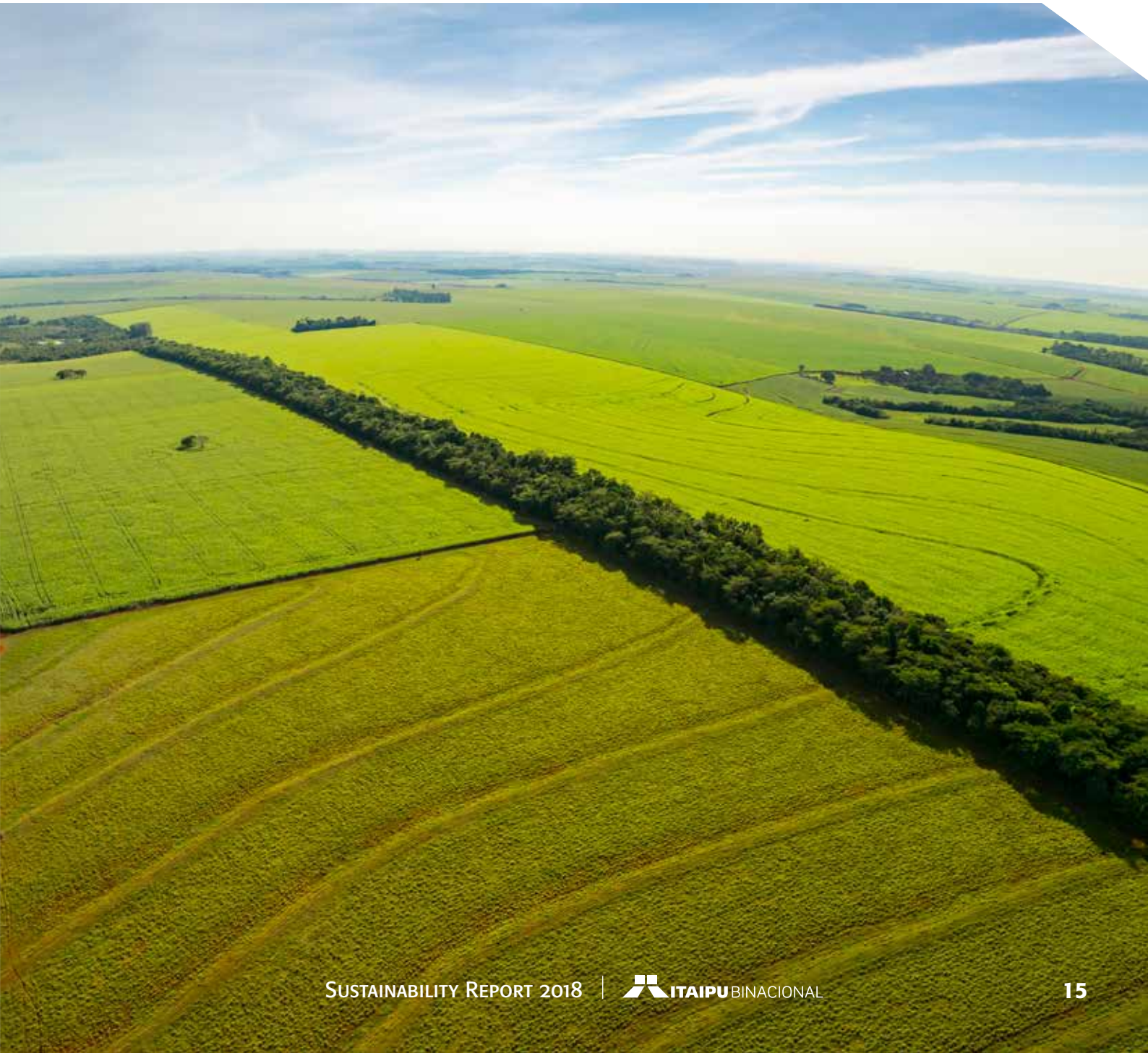
- SO 12 Develop in people the essential competences for the implementation of the business strategy;
- SO 13 Foster an organizational culture with a focus on process efficiency and results;
- SO 14 Maintain the human capital with a high level of motivation, commitment and performance;
- SO 15 Provide essential information and systems for the implementation of the business strategy.

Business Goals

[103-2, 103-3]

These are the references that guide the formulation of the programs and actions of the operational plan and measure the business performance and the contributions to sustainability, necessary to achieve the strategic objectives. They are reviewed and updated annually. The analysis of the following performances includes, in addition to the metrics of the tactical guidelines, the targets of greenhouse gas emissions established voluntarily in Declaration of Commitment signed with Eletrobras, in 2016.

For 2019, important indicators of sustainability performance evaluation were approved. The main ones are socio-environmental performance in the Corporate Sustainability Index (ISE) of Brazil, Bolsa, Balcão [B]³, in alignment with Eletrobras; and, for the first time, the Itaipu Sustainability index, to perform a self-assessment on issues such as anti-corruption, risks, compliance practices, environmental management, climate change, human rights and social impacts.



Business Goals

[103-2, 103-3]

SUSTAINABLE DEVELOPMENT GOALS (SDG)			GLOBAL COMPACT PRINCIPLES*		
1 No Poverty	7 Affordable and Clean Energy	13 Climate Action	1 Businesses should support and respect the protection of internationally proclaimed human rights	6 The elimination of discrimination in respect of employment and occupation	
2 Zero Hunger	8 Decent Work and Economic Growth	14 Life Below Water	2 Make sure that they are not complicit in human rights abuses	7 Businesses should support a precautionary approach to environmental challenges	
3 Good Health and Well-being	9 Industry, Innovation, and Infrastructure	15 Life on Land	3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	8 Undertake initiatives to promote greater environmental responsibility	
4 Quality Education	10 Reducing Inequality	16 Peace, Justice, and Strong Institutions	4 The elimination of all forms of forced and compulsory labor	9 Encourage the development and diffusion of environmentally friendly technologies	
5 Gender Equality	11 Sustainable Cities and Communities	17 Partnerships for the Goals	5 The effective abolition of child labor	10 Businesses should work against corruption in all its forms, including extortion and bribery	
6 Clean Water and Sanitation	12 Responsible Consumption and Production				

*More information about the Global Compact can be found on page 94.

Material Topic	Related GRI topic	Business indicators	Goals for 2018	Performance at 2018	Goals for 2019	SDG and the Global Compact Principles
Corporate Governance	Strategy	Economic-Financial Equilibrium index ¹	≥ 98% e ≤ 102%	103.7 ↓	≥ 98% e ≤ 102%	
Transparency and Internal Controls	Strategy	Total EBITDA payable Index	≤ 5	6.6 ↓	≤ 4	
Anti-corruption and Compliance Practices	Ethics and integrity Anti-corruption	Number of Gap's in SOX processes-relevance MW (Material Weakness)	0	0 ↑	0	
Energy Production	Availability and Reliability	Generation Availability Index	≥ 94%	97.16% ↑	≥ 94%	
		Forced Unavailability Index	≤ 0.5%	0.09% ↑	≤ 0.5%	
		Safety index of service to electrical systems in Brazil and Paraguay	≥ 95%	99.87% ↑	≥ 95%	
		Water quality index of the reservoir and its main tributaries (trophic state of the reservoir) ²	≤ 40	40 ↑	≥ 24 e ≤ 54	
Environmental Management	Water Biodiversity	Percentage of basin areas worked in total area of Brazilian territory ³	26%	2% ↓	28%	

Material Topic	Related GRI topic	Business indicators	Goals for 2018	Performance at 2018	Goals for 2019	SDG and the Global Compact Principles
Regional Development	Indirect Economic Impacts	Annual growth of visitors to the Itaipu tourist complex (Brazilian bank)	631,210 visitors	617,151 visitors ↓	682,579 visitors	
	Diversity and Equal Opportunities	Overall favorability index of organizational climate survey (Brazilian bank) ⁴	80%	77.70% ↓	86.70%	
Corporate Sustainability	Training and Education	Average overall result of all employee assessments in the performance management system (Brazilian bank)	≥ 1.8	2.37 ↑	≥ 1.9	
	Environmental Management	Greenhouse gas emissions and climate change ⁴	Annual absolute reduction in the consumption of fossil fuels of the own fleet ⁵	1.50%	47% ↑	2.00%
Annual absolute reduction in electricity consumption ⁵			1.50%	40% ↑	2.00%	
Annual absolute reduction of total distances traveled on flights contracted on line planes for the transport of employees and visitors ⁵			0.60%	9% ↑	0.80%	
Annual relative reduction in the consumption of fossil fuels of the own fleet ⁵⁻⁷			1.50%	50% ↑	2.00%	
Annual relative reduction in electricity consumption ⁵⁻⁷			1.50%	43% ↑	2.00%	
Annual relative reduction of total distances traveled on flights contracted on line planes for the transportation of employees and visitors ⁵⁻⁷			0.60%	13% ↑	0.80%	

¹ the economic-financial perspective of Itaipu is structured to meet the objectives of Annex C of the Treaty of Itaipu and the respective indicators were elaborated to ensure that the energy tariff maintains a balance of 100% between revenues and expenses, and that in 2023 repayment of the debt is integral.

² the indicator will undergo methodological change from 2019 to adapt to the best practices found in the market.

³ by virtue of the expansion of the company's area of operation, the indicator will need to have the methodological bases changed to 2019.

⁴ the goal of organizational climate research has undergone methodological change and the measurement will consider the result of the general favorability of the quality index in the work environment, from the Best Places to Work survey (read more in the chapter Our People).

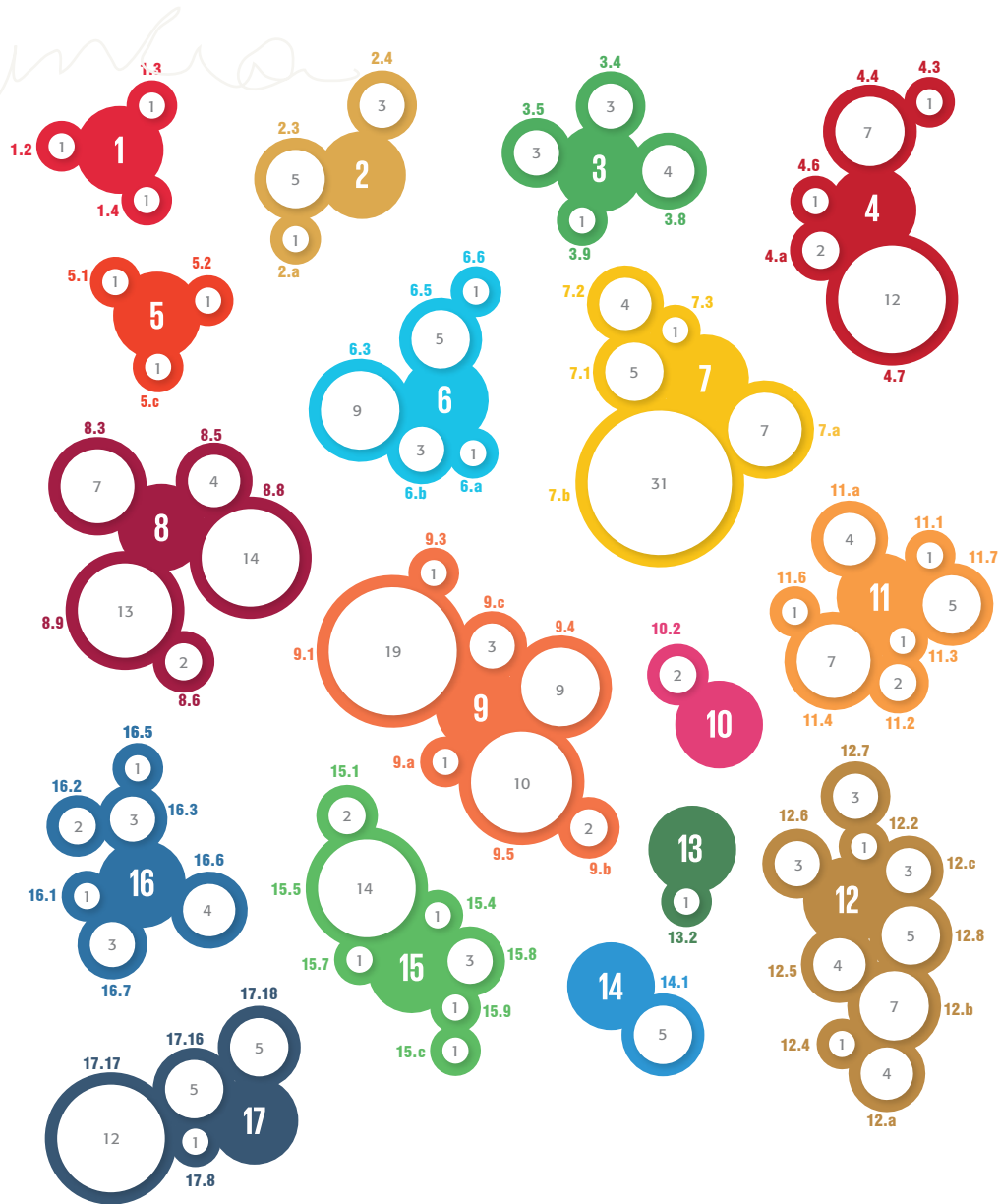
⁵ goals set voluntarily in declaration of commitment signed with Eletrobras, in 2016. The comparison is made in relation to the average of 2011-2015.

⁶ the relative reductions considered the average annual energy generation of Itaipu in the period of 2011-2015, which was 93,234,700 MWh.

⁷ the performance much higher than the goals is the result of the actions described in the chapter Our Socio-Environmental Performance.

Itaipu's policies, strategic objectives and business goals are aligned with the main international documents of sustainability, and today, its socio-environmental actions respond to the 17 Sustainable Development Goals (SDG) of the United Nations (UN). SDG are global targets, also known as 2030 Agenda, taken up by UN member countries, established to improve the living conditions of the world population. Among 521 programs and actions of the business plan, it was identified that 233 of them contribute with 76 of the total of 169 SDG goals, as shown in the chart below.

Number of Brazilian Bank Actions Aligned with 2030 Agenda Goals



Sustainability Policy

[102-16, 103-2, 103-3]



It establishes the principles and values to be followed in the daily activities and actions that promote sustainable development in Brazil and Paraguay. It is aligned with the strategic plan and government policies of the two countries. Its guidelines are distributed in four dimensions presented in the following table.

Dimensions

Principles



Corporate

- Rational, balanced and efficient management of people, resources and business processes;
- Ethical, transparent and fair relations, respecting differences;
- Broad, integrated and collaborative actions vision and management;
- Commitment to continuous improvement and innovation;
- Integrated business risk management;
- Sustainable purchases and development of local suppliers.



Environment

- Generation, incentive and use of energy from clean and renewable sources;
- Working in partnership with social actors for sustainability;
- Conservation and preservation of the environment and respect for biodiversity.



Economic development

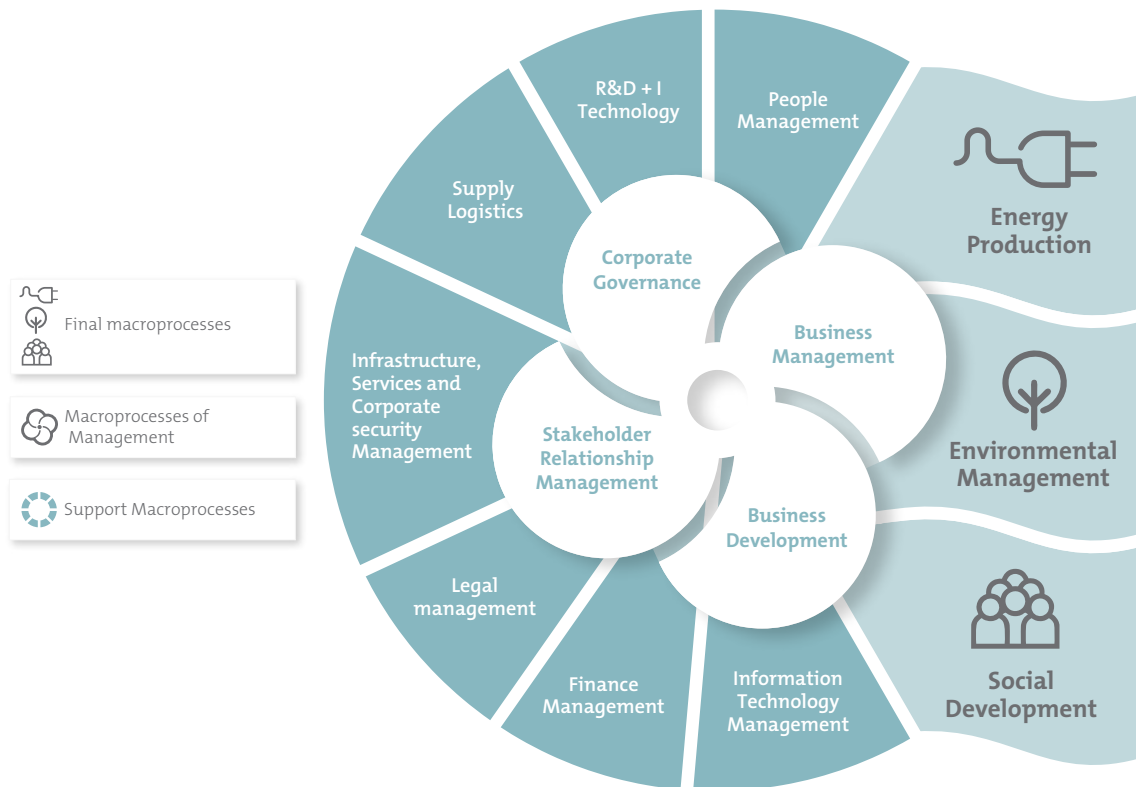
- To be an active agent in sustainable human development;
- Promote the sustainable development of the territory.



Cultural

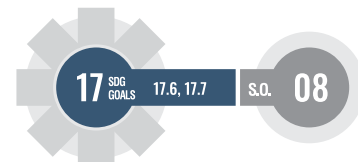
- Effective use of the competencies and experiences present in the structure of Itaipu Binacional and its foundations;
- Promote and consolidate the culture of sustainability as an example for the world;
- Valorization of sustainable attitudes.

Value Chain



Shared Management

[102-21, 102-29, 102-31, 102-43, 203-1, 203-2, 413-1]



Joint Action Agenda on SDG for Municipalities in the Western Region of Paraná

To boost the implementation of the 2030 Agenda in the region, with the support of the United Nations Development Program (UNDP), proposes dialogues between all actors involved, the evaluation and constant monitoring of actions and the training of managers and local leaders with focus on compliance with the SDG.

More than 150 meetings were held, with the participation of about 2000 people, in order to jointly define a priority agenda for the municipalities, aligned with the SDG. As a result, the platform Oeste 2030 was launched, software with 67 socio-environmental indicators. It is the largest database on SDG at the municipal level in the country. Another delivery was the report "Panorama SDG: West of Paraná in Numbers", with a series of indicators of municipalities for the implementation of public policies.

West Development Program

It aims to promote integrated economic development in the region through a participatory process, access to new technologies and mobilization for innovation. It is a regional reference for referrals and debates on the economic demands of the territory. Creation of the award and Innovation Regional Challenge InovaOeste and the Regional Health Council of Western Paraná.

External Initiatives Supported by Itaipu

[102-12]

- Commitment and attitude campaign by Maria da Penha Law – the law is stronger
- Earth Letter
- Letter from Milan
- Istanbul consensus on water – "Water Deal"
- Declaration of corporate commitment to confronting sexual violence against children and adolescents
- Responsible business conduct guidelines for multinational companies of the Organization for Economic Cooperation and Development (OECD)
- National Committee Impellor ElesPorElas (HeForShe) – UN Women
- Child Friendly Company – Abring Foundation
- FAO-Food and Agriculture Organization of the United Nations
- Forum of Agenda 21 of Paraná and Foz do Iguaçu
- GestãoTransparente.Org
- Journey of the Environmental Education Treaty for sustainable societies
- Memorandum of Understanding with UNESCO: Integrated water resources management
- Memorandum of understanding between the United Nations Industrial Development Organization (Onudi) and Eletrobras: Use of renewable energies and efficient energy technologies
- Memorandum of understanding between the United Nations Development Program (UNDP), Itaipu Binacional and the Itaipu Technological Park Foundation (FPTI): A joint action agenda on the Sustainable Development Goals (SDG) with the municipalities of the western region of Paraná
- Sustainable Development Goals (SDG)
- Business Pact against Sexual exploitation of children and adolescents on Brazilian highways
- National Human Rights Plan
- Principles of women's Empowerment (WEPs) of the United Nations Global Compact and UN women
- Principles of the United Nations Global Compact
- Principles for Responsible Business Education (PRME)
- Business Network for Learning and eradicating child labor
- Treaty of the Bacia do Prata
- UNDESA-Department of Economic and Social Affairs of the United Nations

Participation in National and International Associations and Organizations

[102-13]



1		+	Trash and Citizenship Forum
2		+	Food and Agriculture Organization of the United Nations (FAO)
3			National Union of Health Self-management institutions (UNIDAS)
5		○	Permanent Committee on Gender Issues of the Ministry of Mines and Energy and linked companies
		⊕	Consecutive Council of Women's Empowerment Principles (WEPs)-United Nations Global Compact and UN women
		○	Municipal Council of Women's Law of Foz do Iguaçu
6		+	Brazilian Water Resources Association (ABRH)
		+	World Water Council (World Water Council-WWC)-Section Brazil Brazilian
7		+	Association of Electric Power Transmission companies (Abrate)
		+	Brazilian Association of Electric Energy Generating Companies (Abrage)
		+	Brazilian Association of Companies of Electric Power (ABCE)
		+	Brazilian Association of Independent Electric Energy Producers (Apine)
			Memory Center of Electricity in Brazil
		⊕	Electric Energy Research Center (CEPEL)
		○	International Renewable Energy Centre (CIBiogas)
		+	Brazilian Committee of the Committee on Regional
		+	Energy Integration Brazilian Committee of Dams (CBDB)
		+	Integrated Energy Efficiency Committee of the Eletrobras System (Cieese)
		⊕	Brazilian National Committee for the production and transmission of electric energy (Cigré-BR)
		+	World Energy Council (CBCME)
			Getúlio Vargas Foundation (FGV)
+	International Energy Agency (IEA)-Bioenergy Task 37		
○	International Hydropower Association (IHA)		
○	Lights Brazil Institute		

8 		Tourism development Agency of the Iguazu Falls region and Itaipu Lake Pathway – ADETUR
		SAP Users Association of Brazil
		Association of users of Informatics and Telecommunications
		Institute of Tourism Promotion of Iguazu
		Association of Sales and Marketing officers of Brazil (ADVB)
		Brazilian Association of Risk Management
	+	American Chamber of Commerce for Brazil (Amcham)
		Financier of studies and projects (FINEP)
	+	Foundation Business Management Committee (FUNCOGE)
	⊕	Polo Internacional Iguassu Institute
		Brazilian Institute of Corporate Governance
	+	United Nations Development Program-UNDP
		Safe work program of the Superior Labor Court
9 	+	Brazilian Association of Maintenance and Asset Management (Abraman)
		Brazilian Association of Soil Mechanics and geotechnical engineering-ABMS
	+	Brazilian Concrete Institute (IBRACON)
10 		Telecom Council Utilities UTC Latin America
		Institute WCF – Brazil
11 	+	Brazilian Association of Technical Standards (ABNT)
	+	Business Movement for conservation and sustainable use of biodiversity (MEB)
15 	⊕	Life Institute (Lasting Initiative for Earth)
	+	Biodiversity Corridor network of the Paraná River
	+	Subcommittee of the Environment of Eletrobras (SCMA)
16 		Integrated Center for studies and Programs of sustainable development (CIEDS)
		ABRINQ Foundation for the Rights of the Child
	○	Border committee between Brazil, Paraguay and Argentina to confront violence and trafficking in women
	⊕	Brazilian Council for Corporate Volunteering (CBVE)
	○	Council of Paraná of Corporate Citizenship (CPCE)
	○	Permanent Forum of Agenda 21 Paraná
		Ethos Institute of Business and Social responsibility
	⊕	International Association for Volunteer Effort – IAVE
17 	+	Permanent Committee on Gender Issues of the Ministry of Mines and Energy and linked companies
	+	Advisory Council on the principles of Women's Empowerment (WEPs)-United Nations Global Compact and UN women
	+	Municipal Council of Women's Law of Foz do Igua





4. Our Governance

[102-16, 102-18, 102-19, 102-20, 102-22, 102-23, 102-24, 102-26, 102-27, 102-34, 103-2, 103-3, 205-1, 205-3, 406-1]

Itaipu has been promoting a series of actions aimed at improving its governance, greater administrative transparency, efficiency in the use of its resources and effectiveness in achieving its strategic objectives.

The Treaty of Itaipu and its annexes A, B and C, in addition to the diplomatic agreements (reversal notes) and subsequent binational standards are the instruments ruling governance. In specific cases, there may be compliance with the internal laws of each country, and all strategic decisions must be backed by the Treaty. [102-16]

Annex A of the Treaty (Statute) and the company's bylaws define the tasks and competences of the Board of Directors and the Executive Board.

The appointment of the members of the two organs is the responsibility of the Brazilian and Paraguayan governments, being the same number of representatives of each country – including a member of the Ministry of Foreign Affairs.[102-22, 102-23, 102-24]

4. Our Governance

The directors are independent and have a four-year mandate, with no specifications as to their professional training. It is foreseen that there may be renewal or early replacement of the mandates, according to governmental decisions. [102-22, 102-23]

Six annual ordinary meetings are scheduled, and there may be extraordinary meetings at any time. All decisions are made with parity of votes. The ordinary meetings are presided, alternately, by a counselor of each country, and, alternately, by all. [102-22, 102-23]

For the meetings, reports are prepared by the governing bodies, internal audit and General Ombudsman, as well as other information on technical, economic, environmental and social aspects. As requested by the Board of Directors, there may be the creation of committees to meet specific demands. [102-19, 102-20, 102-29, 102-31]

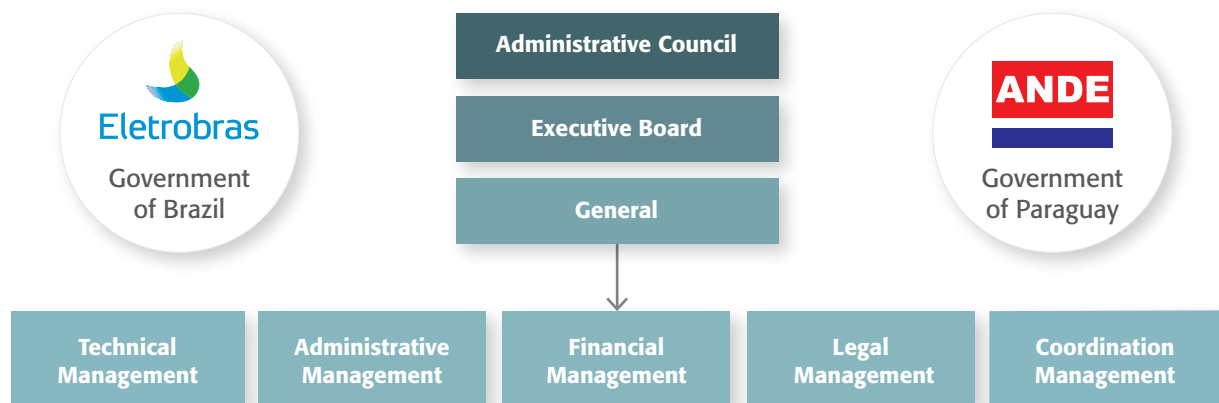
In the meetings also participate the two general directors of Itaipu-who do not have the right to vote. Since 2017, the Social Responsibility Advisory Department has submitted the management results to the organ, twice a year, including the sustainability reports. [102-18]

In relation to the Executive Board, members have five years of mandate, and there may also be renewal or early replacement at any time by governmental decision. The directors meet twice a month.



Governance Structure

[102-18, 102-22, 102-23]



* the Ombudsman, the internal audit and the Compliance advisory are organizational units linked to the Administrative Council.

Composition of high governance in 05/24/2019

	Brazil	Paraguay
Administrative Council	José Carlos Aleluia Costa	Pedro Augustin Ferreira Estigarribia
	Luiz Fernando Leone Vianna	Oswaldo Román Romei
	Célio Faria Júnior	Vacância
	Carlos Eduardo Xavier Marun	Juan Carlos Barreto Miranda
	Wilson Pinto Ferreira Junior	Ángel Manuel Armando Aquino Etcheverry
	Pedro Miguel da Costa e Silva	Crecencio Molinas Lugo
Representative of the Ministry of Exteriores Relations	Otávio Brandelli	Victor Luis González Segovia
Directors	Brazilian	Paraguayan
	General Director	General Director
	Joaquim Silva e Luna	José Alberto Alderete Rodriguez
	Technical Executive Director	Technical Director
	Mauro José Corbellini	José Maria Sánchez Tilleria
	Legal Director	Executive Legal Director
	César Eduardo Ziliotto	Iris Magnolia Mendoza Balmaceda
	Administrative Director	Executive Administrative Director
	João Pereira dos Santos	Alberto Cabrera Villalba
	Executive CFO	Financial Director
Anatalicio Ridsen Junior	Monica Lujan Perez dos Santos	
Coordination Director	Executive Coordination Director	
Newton Luiz Kaminski	Miguel Ángel Gómez Acosta	

Business Management

[102-26, 102-27, 102-28, 102-29, 102-31]

Itaipu's operational management strategies are defined by the Administrative Council and the Executive Board, based on consensus among the representatives of the partner countries. Specific issues, including the approval of the financial statements, require prior opinions from Eletrobras and Ande.

The management model adopted is called Business Planning and Control system, which manages resources in a coordinated manner and provides for the elaboration of the Business Plan composed of the Strategic Plan, the Tactical Guidelines and the Operational Plan. The Strategic Plan defines the mission, vision, fundamental policies and guidelines and strategic objectives. A brief business challenge will be discussing the vision, currently with a 2020 horizon.

The main tool for the elaboration and execution of this plan is the Balanced Scorecard (BSC), which presents, in addition to the strategic objectives, goals and business indicators formalized and published through the Tactical Guidelines. To subsidize the elaboration of its strategic map (BSC), the SWOT analysis methodology is used, which considers different scenarios, environments and trends, including its impacts, risks and relevant opportunities.

Process management and project management are also supported for the preparation of the Operational Plan for the next five years. In relation to processes, there is a transversal alignment of the flows to the other management elements. Regarding projects, there is a methodology that should be used for proposition, monitoring and evaluation of the physical and budgetary performance of business projects.



Compliance and Anti-Corruption

[102-16, 102-17, 102-30, 102-33, 103-2, 103-3]

The fight against corruption and fraud is expressed in the fundamental policies and guidelines, in the Ethics Code, in the sustainability policy, in the business plan, in the general bidding norm, in the regulation-personnel, in the General Ombudsman's Office/General defender's Office, the conduct code for suppliers, and the scope of Compliance Advisory assignments.

These documents guide the conduct of directors, officers, employees and the entire value chain. Complaints are received by the Ethics Committee and the general Ombudsman. In addition, Itaipu voluntarily endorses external initiatives, such as the Global Compact Principles, the Sustainable Development Goals and the Ethos Institute Guidelines, which require combating all forms of corruption, including extortion and bribe. [102-16, 102-17]

It stands out in 2018, the creation, in both countries, of the Compliance Advisory, an area that responds directly to the Executive Board, with assignments to plan, coordinate, integrate and align the activities pertinent to the integrity system and compliance, the corporate risk management system and internal control processes. [102-33]

Another breakthrough was the beginning of the implementation of the binational integrity and

compliance program, which considered anti-corruption aspects in its scope. Among the actions in progress are: [102-30]

- Evaluation of the level of maturity in relation to integrity and compliance;
- Creation of the integrity and compliance policy;
- Development of a methodology for the analysis of corruption risks and the effectiveness of internal controls;
- Improvement of relationships with suppliers and third parties, using tools such as "Due diligence" and "Background Check";
- Proposal for a review of the Ethics Code;
- Periodic trainings to disseminate the concepts of the theme.

For the year 2019, these actions are planned:

- Elaboration of the risk matrix for specific integrity for suppliers;
- Specific clauses for procurement, bidding and procurement notices;
- Guiding relationship with suppliers for contract managers and employees participating in procurement processes.

Sarbanes-Oxley Law (SOx)

[103-2, 103-3, 205-1]

The adequacy of business processes to the precepts of the Sarbanes-Oxley Law (SOx) has contributed to the improvement of governance in recent years, aiming to attested authenticity, integrity and transparency of the information used in the elaboration of financial reports.

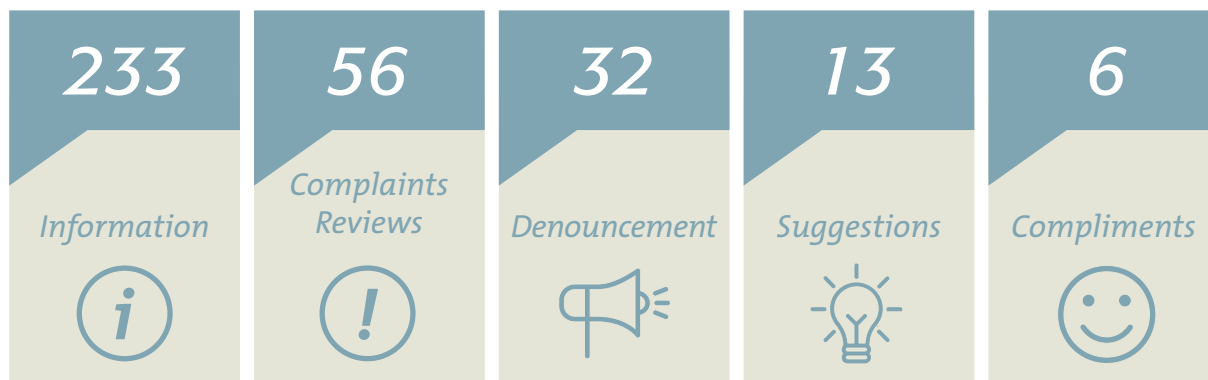
Actions are periodically carried out to improve the internal controls of the 23 mapped processes, which cover 100% of the operations, whose performance and effectiveness are verified by internal and external audits, minimizing the risks of error, fraud or corruption. [205-1]

In 2018, there was continuity of mitigation actions of remediation plans, which maintained the business and information technology environments at a high level of control. In addition, external training was contracted to empower employees from various areas responsible for SOx processes.

Within this context, the implementation of the Integrated Corporate Risk Management System was maintained, based on internationally recognized methodologies such as the COSO ERM 2017 (Committee of Sponsoring Organizations of the Treadway Commission) and ISO 31000 (International Standardization Organization). The work will be supported by the Compliance Advisory.

Complaint Channels

[102-17, 102-33, 102-34, 103-2, 103-3, 205-3, 406-1]



■ Brazilian General Ombudsman

The General Ombudsman, an area with almost 10 years of existence, has undergone several changes in its operation, approved by the Executive Board in December 2018. The General Ombudsman function continues to be exercised by employees of the own board appointed by the Administrative Council, with a two-year mandate, extendable and with the guarantees inherent to the function.

One of the changes reduces the response time of the manifestations, which was before 30 working days, for 15 working days. Mechanisms will be implemented for the areas to send the information requested by the General Ombudsman in time.

Other amendments propose the assurance of secrecy and confidentiality by all who should know the manifestations, directly or indirectly; and the inclusion of conflict mediation as one of the attributions of the area.

To unify and strengthen external communication channels, we decided to transfer management of the Contact Us channel from the Itaipu website, from the Social Communication to the General Ombudsman from 2019 onwards.

In addition, satisfaction research was implemented for the complainant to evaluate the service of the canal. The updates meet the suggestions of the employees who participated in a survey applied in April to all the Ombudsman of the Eletrobras system. At Itaipu, 334 Brazilian employees responded.

As an institutional channel, it is the responsibility of the General Ombudsman to record the complaints and, after a screening, refer them, according to their classification, to the indicated organs. In case of lack of ethics, the referral is made to the Ethics Committee; disciplinary absences are forwarded to the management area; and finally, when it comes to lack of integrity, the referral will be made to the new Compliance Advisory. The complaints accepted are then taken to the legal area and, if proceeding, forwarded to the Brazilian General Director for deliberation. [102-34]

In total, the General Ombudsman received 352 manifestations, being 233 requests for information, 56 complaints/criticism, 32 denouncement, 13 suggestions, six compliments and two considered not applicable. The remainder of the demonstrations (ten) is in the category other reasons. Among the complaints recorded in 2018, only five were considered as well founded, and none of them were classified as an act of corruption or discrimination. [205-3, 406-1]

With the revision of the norm, the General Ombudsman will present periodic reports to the director of the affected area by the manifestations and to the General Management, which shall also be included in the annual report to the Executive Board. In the documents, information about possible breaches of deadlines and breach of secrecy and confidentiality by the people who take notice and provide clarification to the demands of the General Ombudsman. This process may report critical concerns to the Council. [102-33]

Ethics Committee

[102-17, 102-25, 103-2, 103-3, 205-3, 406-1]

It is the responsibility of the Ethics Committee to receive and evaluate complaints about non-ethical conduct that constitute an infringement of the values, principles and norms of the Ethics Code of Counselors, directors, employees and companies providing third party services for Itaipu. Manifestations can be done verbally or in writing, by e-mail or by telephone. [102-17]

Its composition is of six members, divided equally between Brazilians and Paraguayans, who are employees appointed by the Executive Board, with at least one representative of the Legal Management of each country. The mandate is three years, and there is only one renewal. Decisions are adopted by a majority of votes, in meetings held every two months. Only deliberations are made with the presence of all the members.

The Committee may designate two members to carry out preliminary analysis of authorship and nationality before the procedure has been established. After the analysis, a report is sent to the General Directors with recommendations. In order to avoid conflicts of interest,

participation in meetings and deliberations of members who have any kind of kinship or relationship with the investigation is prohibited. [102-25]

In cases of infringement committed by a member of the Committee, the Executive Board designates a group responsible for the investigation. In cases of offences committed by Director or Counselor, the assessment is performed by the Ethics Committee "ad hoc", with members designated by the Council, Eletrobras and Ande.

From 2018 onwards, it was determined that the General Board should periodically receive reports from this committee. Previously, reports were sent only when requested. The adoption of indicators and performance goals of the organ should be debated after the modifications brought by the implementation of the Compliance Advisory.

As occurred in the General Ombudsman, there were no records of complaints related to cases of corruption or discrimination in 2018. [205-3, 406-1]

Other Initiatives

- Independent binational Internal Audit, which works in conjunction with Brazilian and Paraguayan auditing teams and responds directly to the Executive Board. In 2018, an updated standard that specifies the profile of the chief auditor of both countries, a professional who may be appointed from the own staff or through an external selective process;
- External audit contracted by binational bidding, which operates with joint teams of Brazilian and Paraguayan auditors, to verify accounting processes and financial statements and is changed every two years;
- Review of the sponsorship policy, defining the procedures relating to its concession and the respective accounts, in addition to periodic assessments carried out by internal and external audits;
- Ethics Code;
- Conduct Code for Suppliers;
- Hiring of rating companies to assess financial strength and the ability to pay debts;
- Requirement to provide accounts for the application of funds passed through agreements and sponsorships.



Periodic assessments carried out by internal and external audits.





5. Our Operational and Economic-Financial Performances

[102-6, 102-7, 103-2, 103-3, 201-1, EU2, EU30]

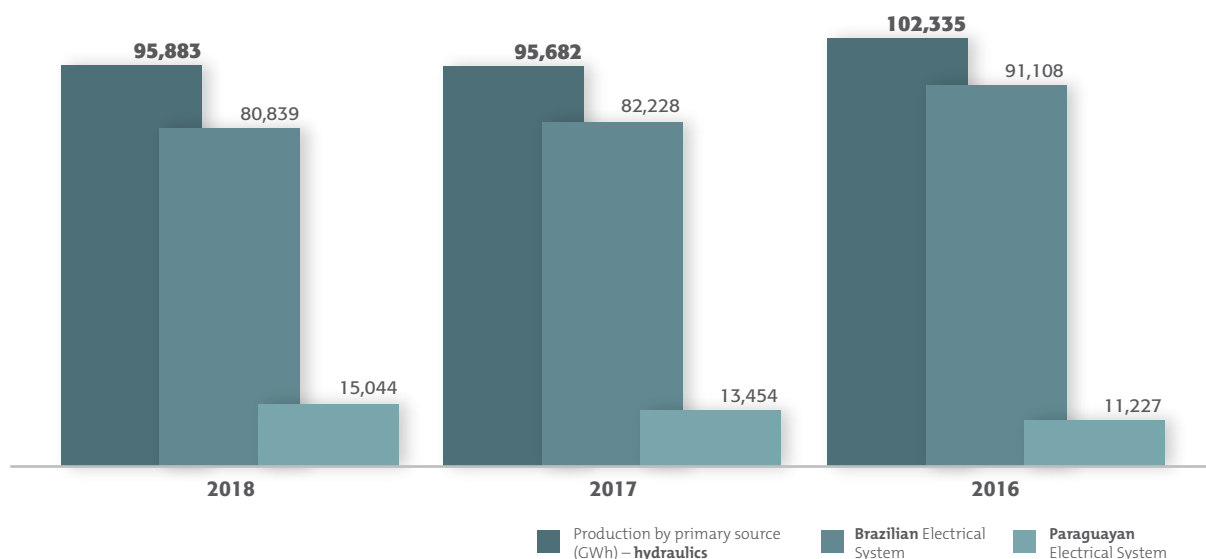
Operational Efficiency

With 20 generating units and an installed capacity of 14,000 MW, Itaipu's energy production in the year was 96,586 GWh, a result that was among the top five since the start of the operation, accumulating a total of 2.6 billion MWh of energy, clean and renewable, generated in 35 years. [EU1]

In 2018, the net energy generated was 95,883 GWh. Of the total, 80,839 GWh were provided for Centrais Elétricas Brasileiras (Eletrobras), which corresponds to 15% of the demand of the Brazilian market. For the Administración Nacional de Electricidad (Ande), 15,044 GWh were supplied, serving almost 91% of the demand of the Paraguayan market. Associated with the productivity index of 99.3%, the figures show that the plant is at the height of its operational efficiency. [102-6, 102-7]

5. Our Operational and Economic-Financial Performances

Electrical Energy Production [EU2]



This efficiency has been illustrated by a concept called “dance with the waters”, which establishes a system of coordination of decisions regarding the scheduled availability of generation and transmission assets, systematically to the hydrological signal and eventually to the consumer demand signal.

Dance with the Waters

[103-2, 103-3, 201-2, EU6]

This concept covers integrated works of the Superintendence of Engineering, Construction, Maintenance and Operation.

The production of energy in a hydroelectric powerplant is directly related to four factors: turnaround, machines availability, availability of transmission and consumption. As important as these factors, it is the coordination in its use, focusing on optimizing the production and the flow of energy.

The water from the Itaipu reservoir depends on rainfall and reservoirs in the Southeast and Midwest regions, as well as the flows of the incremental rivers such as Piquiri, Ivaí and Tibagi in the state of Paraná.

The engineering, construction, assembly, operation and maintenance activities directly affect the availability and forced unavailability of plant equipment, including the generating units. Preventive maintenance and operation inspections are two examples of these activities. In 2018, there was no human failure in real-time operation with impact on production and/or equipment, which contributes to the prevention of accidents and to a very low rate of forced unavailability of 0.09%.

The schedule and the execution time of maintenance interfere with the programmed availability and the forced unavailability of the generating units, which even exceeded their goals in the year (read the table of goals available on pages 16-17). The results represented a high reliability index of the system, since they were almost all the time ready for production and the water from the reservoir was availed virtually without waste.

This annual plan of rigorous maintenance is safely combined with the hydrological scenario in order to meet the consumption demands of countries, which happen through the National System Operator (ONS) in Brazil, and the state-owned Ande, in Paraguay. They also stand out as part of the Dance with the Waters, the analysis of risks and opportunities associated with climate change and subsequent adoption of measures. The constant control of the water level in the reservoir, either in a period of scarcity or abundance, and the pursuit for the optimization of production generates effects in the sector of the two countries. [201-2]

Availability Factor of Plant Generating Units

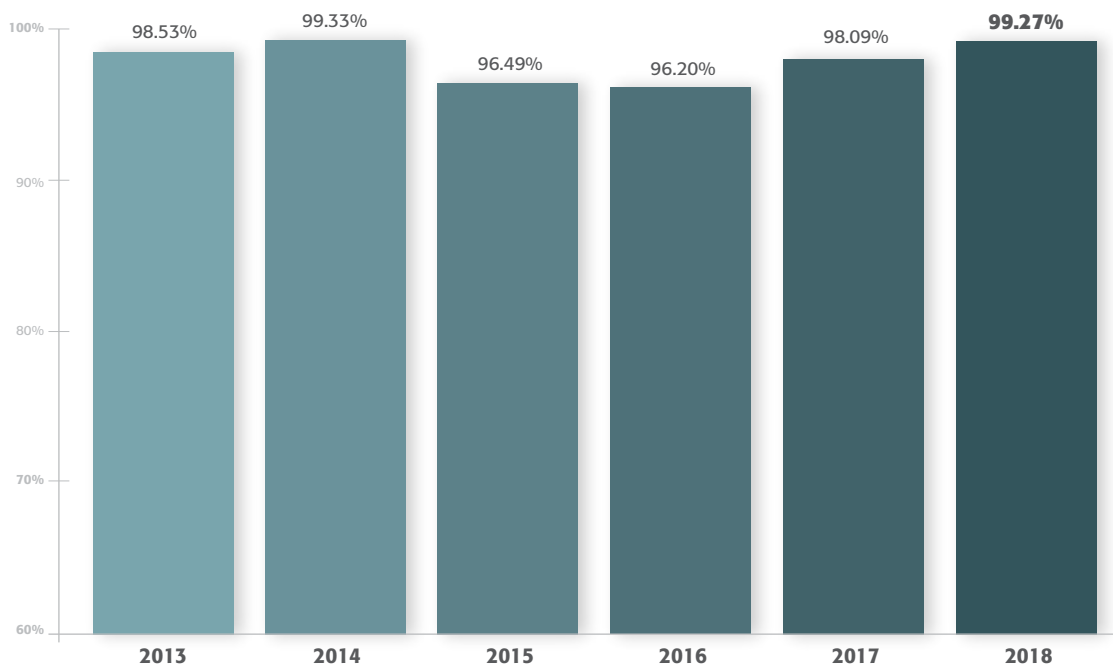
[EU30]

In 2018, the best historical index was recorded, of 97.16%, fulfilling the established goal of obtaining a value equal to or greater than 94%. The average availability factor measures the percentage of time during which the generating units remained in operation or were available for energy production.

	2018	2017	2016
Number of planned interrupt hours	4,818.24	4,917.09	6,369.00
Number of unplanned interrupt hours (forced interrupt)	160.34	167.20	128.00
Average availability factor	97.16%	97.10%	96.30%

Operative Capacity Factor

Operative capacity Factor (FCO) of 2018 was 99.27%, above the average value of the previous five years (97.73%) and the second highest in history, that is, almost every volume of water that passed through the plant was transformed into energy, as the graph below indicates.



Dam and Flood Safety in Paraná River

[103-2, 103-3, 413-2, EU21]



Every four years, as a security measure, Itaipu conducts a Civil Consultants Meeting - Board. Created in 1974, it is a group of Civil Engineers recognized for its high level of technical knowledge about the construction project of the plant and the performance of its civil structures.

These specialists analyze the data on the conditions of the dam structure (auscultation) gathered over the past four years and perform visual inspections throughout the plant to assess their conditions of use and safety. As foreseen, the Board 2018 was carried out, confirming that Itaipu remains among the safest dams in the world, and presenting preventive actions to be undertaken in the coming years to be evaluated on the Board 2022.

Constantly, the safety conditions of the dam are monitored by about 3,000 equipment, as well as by the technicians of Itaipu itself, who perform visual inspections and manual readings to check if there is any alteration in the structures, foundations and Instruments. Also, with a focus on security, the company maintains the Center for Advanced Studies on Dam Safety (CEASB).

Because it is a conventional hydroelectric powerplant, that is, without the possibility of a sensitive variation of the quota of its reservoir, Itaipu has reduced capacity to dampen floods. Despite this, the plant seeks to operate in order to minimize flood impacts in communities below the dam.

To ensure the safety of the population, an emergency action plan with a binational reach is maintained, and a Flood Commission monitors the volume of water received, including rainfall located on the reservoir and its contribution basin. The company issues a daily hydrological bulletin, informing levels of the Paraná River downstream of the plant at various points of interest, on the Brazilian and Paraguayan banks, as well as the States considered as normal, attention, alert and severe. [413-2, EU21]

Whenever the hydrological Yesulations identify possibilities of social impacts resulting from increases in levels in the Paraná River, the Commission informs the population, through civil defense and other public agencies in Brazil and Paraguay.

Operational Safety Management System

Application capable of simultaneously monitoring more than 15,000 variables of various systems of the company and update them every ten minutes. The Operational Safety Management System (SOP) analyzes and classifies data and information such as availability, unavailability, availability with restrictions, programmed or forced impediments of all relevant

equipment and its substations in such a way as to measure how much the operation at each moment is compliant with the ideal conditions of the project.

SOP has the format in circular chart, with four safety strips: "great", "good", "alert" and "critical". The tool is available, in real time, including for managers and senior management of the company.

Technological Update of the Generating Units

[102-15, 201-2]

The first stage has an expected duration of four years and covers the elaboration of the executive projects, manufacturing, testing in factories, updating the systems of the control rooms and local tests.

One of the main challenges for the company, the technological update of the 20 generating units is expected to last 14 years and the investment will be US \$660 million. The first phase of the bidding (pre-qualification of companies and consortia interested in participating in the work) was completed in December 2018.

In the beginning of the 2000's, the equipment gained a "layer" more modern, with the Digital System of Supervision and Control (SCADA) and the Energy Management System (EMS), initiating the process of digitizing the plant. The units U9A and U18A, deployed between 2004 and 2006, also use digital control technology.

In this process of technological updating, the intention is to fully replace analog equipment and systems with digital equivalents, with new information and functionalities. For this, a multidisciplinary team composed of Brazilians and Paraguayans from the plant itself has been coordinating several studies over the last few years.

More than replacing, the plan is to rethink features and processes, in addition to allowing a more detailed reading of the generating units, which are in excellent condition and will not be part of the scope of the update at this time. The focus is on the control, protection, supervision, regulation, excitation and monitoring systems of the generating units and substations, such as circuit boards, sensors and gauges, among others, scattered over several kilometers along the power house, dam, substations and spillage.

The first stage has an expected duration of four years and covers the elaboration of the executive projects, manufacturing, testing in factories, updating the systems of the control rooms and local tests, to only then advance to the next phase, of stopping the generating units. The expectation is that the systems of two machines will be upgraded annually.

The upgrading of the Itaipu powerplant is a complex activity and can also be considered as one of the most challenging for the electric sector, which has required a strategic accompaniment of directors and advisors. The ultimate goal is to ensure that the plant's equipment maintains its reliability and is ensured the continuity of the company's high performance in the coming decades, with even better scores of energy production and reflections including in the economy of the two partner countries. The higher the production of hydroelectric plants such as Itaipu, for example, the lower the risk of Brazil and Paraguay needing to resort to the use of thermoelectric, whose energy is more expensive and pollutant.



Economic-Financial Performance

[103-2, 103-3, 201-1]

The accounting practices applied follow a rigid pattern of transparency control.

The Treaty of Itaipu, in its annex C, defines the financial bases of the company and the commitments to the economic and financial equilibrium, as foreseen in the strategic plan. Both reflect on the operationalization of corporate actions and in the fulfillment of the sustainability policy.

As a legally international company, with binational management and accounts, the accounting practices applied follow a rigid pattern of transparency control adopted by Brazil and Paraguay.

The accounts are jointly verified by external audits of the two partner countries and the results are communicated annually to the Executive Board of Itaipu and to the Administrator Council. Regarding the receipts, they are due to the provision of electricity services provided to Eletrobras and Ande, which hire the installed power available.

The Treaty contributes to the predictability of revenues and cash flow and reduces the risks posed by hydrological crises that interfere with energy generation. According to annex C, the fare (defined at Itaipu as the unit cost of the electricity service) charged should be sufficient to cover all service costs, operating expenses, investments and financial obligations.

As set out in annex A to the Treaty, the reference currency adopted by Itaipu is the U.S. dollar. Operating revenues and costs are calculated and accounted for in the U.S. currency, but the amounts are received/executed in Reais or Guaranis, so the exchange variations generate impact on management.



Value Added Statement (in thousands of US \$)* [201-1]

	31.dec.2018	31.dec.2017
Generation of Added Value		
Revenues		
Contracted power	3,291,012	3,291,012
Remuneration for electricity assignment	327,096	329,392
Royalties and reimbursement for energy additional to the one tied to the contracted power	125,828	120,110
Sundry revenues (expenses)	(3,648)	(10,811)
	3,740,288	3,729,703
(-) Inputs acquired from third parties		
Materials	12,448	17,798
Outsourced services	114,000	128,037
Other operating expenses	135,462	225,740
	261,910	371,575
Gross Added Value	3,478,378	3,358,128
(+) Added value received as transfer		
Financial revenues	31,315	60,584
	31,315	60,584
Value Added to be Distributed	3,509,693	3,418,712
Distribution of Added value		
Compensation		
Labor		
Direct remuneration	244,938	261,118
Benefits	139,264	145,736
Actuarial provisions ¹	503,796	136,358
Labor indemnities ²	31,029	65,485
FGTS	5,608	6,056
	924,635	614,853
Government		
INSS and IPS	32,285	33,862
Royalties	539,958	519,066
Remuneration for electricity assignment	327,096	329,392
	899,339	882,320
Third-party capital		
Debt charges	520,314	628,126
Monetary variation	(116,771)	24,850
Other financial expenses	-	183
	403,543	653,159
Own capital		
Yields from capital	50,274	48,460
Reimbursement for management and supervision charges	41,536	39,930
	91,810	88,390
	1,190,366	1,179,990
Income (loss) for the year ³	1,190,366	1,179,990
Distributed Value Added	3,509,693	3,418,712

* the data is binational. The financial statements are available for consultation.

¹ the item had the nomenclature altered (it was "post-employment benefits" in the past cycle) to standardize the term adopted in the financial statements of Itaipu. It refers to contracts for recognition of the sponsor's debts and accounting provisions arising from the actuarial obligations with future benefits to employees, relating to the health care program and the Retirement and Pensions Program of both banks.

² Accounting Provisions arising from labor indemnities by shutdown: Permanent voluntary termination plan, in Brazil, and indemnity for time of service in Paraguay.

³ comprises the accounting result obtained in each fiscal year. According to Itaipu's specificities, it is not used as a basis of calculation for remuneration of equity, participation in results or constitution of accounting reserves. The results are accumulated in the asset, and until 2023, the year provided for the total amortization of the construction debt of the undertaking and revision of Annex C of the Treaty, the sum of the amounts accumulated in the results heading shall be equivalent to the total of the fixed assets and intangible assets of the entity, minus the amount of capital, since, as defined in Annex C, the amortization of loans and financing is an integral part of the cost of the electricity service and the depreciation of the asset and the amortization of the intangible assets are not accounted for by the entity.





6. Our People

[102-7, 102-8, 102-35, 102-36, 102-37, 102-38, 102-39, 103-2, 103-3, 401-1, 401-3, 403-2, 404-1, 404-2, 404-3, 405-1, 405-2, 410-1, 412-2, EU14]

At Itaipu, people management is strategic and contributes to develop their employees in search of excellence in energy production and in administrative and support processes.

The company returned to conduct organizational climate research and took advantage of the unprecedented participation in the "150 Best Companies to Work" to analyze its people management practices.

The implementation of the Safe Work Management System contributed to the elaboration of the new Occupational Health and Safety Policy.

During the year 2018, the Performance Management System achieved high rates of employee participation, which consolidates it as a channel of dialogue between managers and teams. Another highlight was the Virtual Environment of Corporate Education, which began to offer distance educational actions.

Learning trails of business management and corporate governance processes were concluded, improving the understanding of the purpose and the strategic objectives of the entity by employees.

6. Our People

General Employee Data

[102-7, 102-8]

Employees, by employment contract and gender [102-8]	Employment contract	2018		
		M	F	Total
	Temporary ¹	26	9	35
	Permanent ²	1,110	268	1,378
	Total	1,136	277	1,413

Employees, by employment contract and region [102-8]	Region	2018		
		Temporary ¹	Permanent ²	Total
	Foz, CHI, St ^a Helena and Guaíra	13	1,226	1,239
	Curitiba	21	148	169
	Brasília	1	4	5
	Total	35	1,378	1,413

Workers, by employment contract and gender [102-8]	Employment contract	2018		
		M	F	Total
	Permanent	535	148	683
	In Project	541	204	745
	Total	1,076	352	1,428

¹ among the employees, requested employees and other organs (23) and Directors and Counselors (12)

² among the employees, they are permanent employees (1,378)

Hiring and Remuneration

[102-36, 102-37, 103-2, 103-3, 401-1, 405-2]

The hiring of Itaipu is carried out through an external selective process in order to ensure the universality and isonomy of access to the company. This measure is not foreseen in its statute but is considered fundamental for a transparent and fair process of job opportunity.

The selection process does not make distinctions of gender or any other and respects the principle of inclusion by offering specific opportunities for people with disabilities and for black people.

Periodically, surveys are carried out on remuneration and management practices of people in order to support the updating of the Career Plan and Compensation for Skills (PCR).

Integrated with the PCR, the competency management model was approved binationally and predicts that the rise of the professionals happens according to the requirements of good performance, schooling, time in the position/complexity of activities and availability of opportunities.

The positions have a salary range that delimits the initial and final salary, and the movements between these salaries are regulated by the career plan. The wage table is readjusted according to trade unions. [102-36]

In addition to negotiating the collective agreement, the company conducts periodic meetings with the unions, as a channel for analysis and debate of employee claims, through the Labor Relations Committee. The union representatives are released from their labor activities for the exercise of their duties.

Ratio of base salary between men and women by employee category [405-2]

	Management ¹	University	Non-university	Global
Average Base salary ratio	0.984	0.908	0.950	1.031
Number of men employees	104	422	599	1,125
Number of female employees	26	157	93	276
Total number of employees	130	579	692	1,401

¹ for employees in managerial positions, the value of the base salary was added to the complementary function gratification, resulting from the creation of the referential salary level for managerial functions-DET/GB/GP/0205/10, of 03/12/10, effective from 01/01/11.

The data in the table above indicate that the average global salary of women is higher than the average global wage of men, because of the proportion of women in managerial positions is higher than that of men. The proportion of women in managerial function (19.8%) is slightly higher than the proportion of women in the company (19.6%).



Professional Development

[103-2, 103-3, 404-1, 404-2, 404-3, 410-1, 412-2]

Itaipu has already conducted six annual cycles of the Competency Performance Management System (SGD), integrated into the corporate culture and established as a formal communication channel between employees and managers. This model allows both parties to identify the strengths of the professionals and their career development opportunities.

Percentage of employees receiving regular performance and career development reviews [404-3]	Employee category	2018	
		M	F
	Management	82.69%	73.08%
	University	86.02%	84.08%
	Non-university	93.16%	89.25%
	Total	87.29%	82.13%

The cases of unrealized assessments are mainly from employees removed or refer to the first assessments of employees in probative period, whose results still do not influence the vertical career progression. Council and Board members are not assessed. [404-3]

Since 2014, the company has been conducting the Corporate Education project, defined based on strategic maps, the model of competency management and the value chain. In 2018, the drawings of the business management trails were concluded – in which a sustainability module and 2030 Agenda – and corporate governance were inserted. Also started the tracks of relationship management with stakeholders and environmental management. The trails of business development, information technology management and people management were revised.

Also noteworthy is the optimization of the Virtual Environment of Corporate Education, by offering educational actions in the format of distance learning. One example was the management mentoring course, developed by Harvard Business School, which was attended by 162 participants. [404-2]

Average employee training hours per gender and employee category [404-1]	Employee category	2018	
		M	F
	Management	93.84	98.42
	University	111.92	63.74
	Non-university	77.15	56.63
	Total	86.40	

Regarding human rights trainings, seven employees participated in the UN Global Compact's "Due Diligence on Human Rights" course, with support from Itaipu. With a workload of 8 hours, the program encourages companies to identify, prevent, monitor, act and communicate the real and potential impacts of their human rights activities. [412-2]

One of the prerequisites for a security agent of the own staff and of the outsourced staff can work in the role is to always be with your vigilant refresher course on day. Among the topics that are attended by recycling schools are 2 hours on human rights. In the year, 100% of the security agents of the own staff and 65% of the third-party surveillance agents carried out the aforementioned recycling course. [410-1, 412-2]

Other Highlights

[EU14, EU18]



Regulatory Standards (NRs): 688 employees in training required by the NRs of the Ministry of Labor while in 2017 were 676. Among the courses, work in height (NR 35), aerial platform operation (NR 11) and services in electrical installations (NR 10) [EU18]

Post-Graduation: continuity of the Maintenance Management course, in partnership with the Federal Technological University of Paraná, for 36 employees of the Superintendence of maintenance, being 19 Brazilians.

Valuation of internal knowledge: more than 200 trainings taught by employees for professionals in the technical area

Methodology of safe Work management system: 80 employees of the maintenance Superintendence trained

Occupational Health and Safety

[103-2, 103-3]

The prevention of occupational accidents and illnesses are strictly monitored by the relevant areas at Itaipu. In 2018, the new Health and Safety Policy was applied to the technical maintenance professionals, due to the risks of exposure in the work environment. The goal is to reduce in an even more significant way accidents and incidents, as well as to offer improvement in working conditions.

The company is also developing in a binational way the project of the Safe Work Management System (SGTS), with support of external consultancy, structured in five pillars, deployed in 20 elements, with the structure of Plan-Do-Check-Act (PDCA), management tool for continuous process improvement.

Between programs and procedures of the SGTS, two primary objectives: to reduce the unsafe conditions of the workplace and to awaken the safety look of the employee, so that the risks are identified before an occurrence.

The first results of the FGTS were: contribution to reduce the number of work accidents that, in 2018, was 27% lower than the average recorded in the previous two years; proposed new occupational health and safety regulations for the execution of activities.

In order to meet the norms, Itaipu acquired equipment that guarantees better working conditions in confined spaces, through prior and continuous monitoring of gases within these environments, such as industrial ventilators and gas detectors.

Occupational Health and Safety Indexes

[403-2]

Types and rates of injuries, occupational diseases, lost days, absenteeism and deaths related to work [403-2]

Variable	2018	
	M	F
Injury rate ¹	4.04	3.80
Occupational disease rate	0.45	0.00
Rate of lost days ²	117.73	15.21
Lost days ³	262.00	8.00
Absenteeism rate ⁴	1.98	2.54
Number of deaths	0.00	0.00
Number of accidents ⁵	11.00	
Frequency index ⁶	4.00	
Severity Index ⁷	98.00	

*The data could not be reported by region. The data presented do not include service providers of outsourced companies, because Itaipu has limited control in terms of gender, absences and accidents involving these workers.

The information provided is in accordance with the Brazilian standard ABNT NBR 14280.

¹ calculation based on the number of injuries with removal from typical accidents * 106/hours-man worked.

² calculation based on the number of days lost due to typical accidents * 106/hours-man worked.

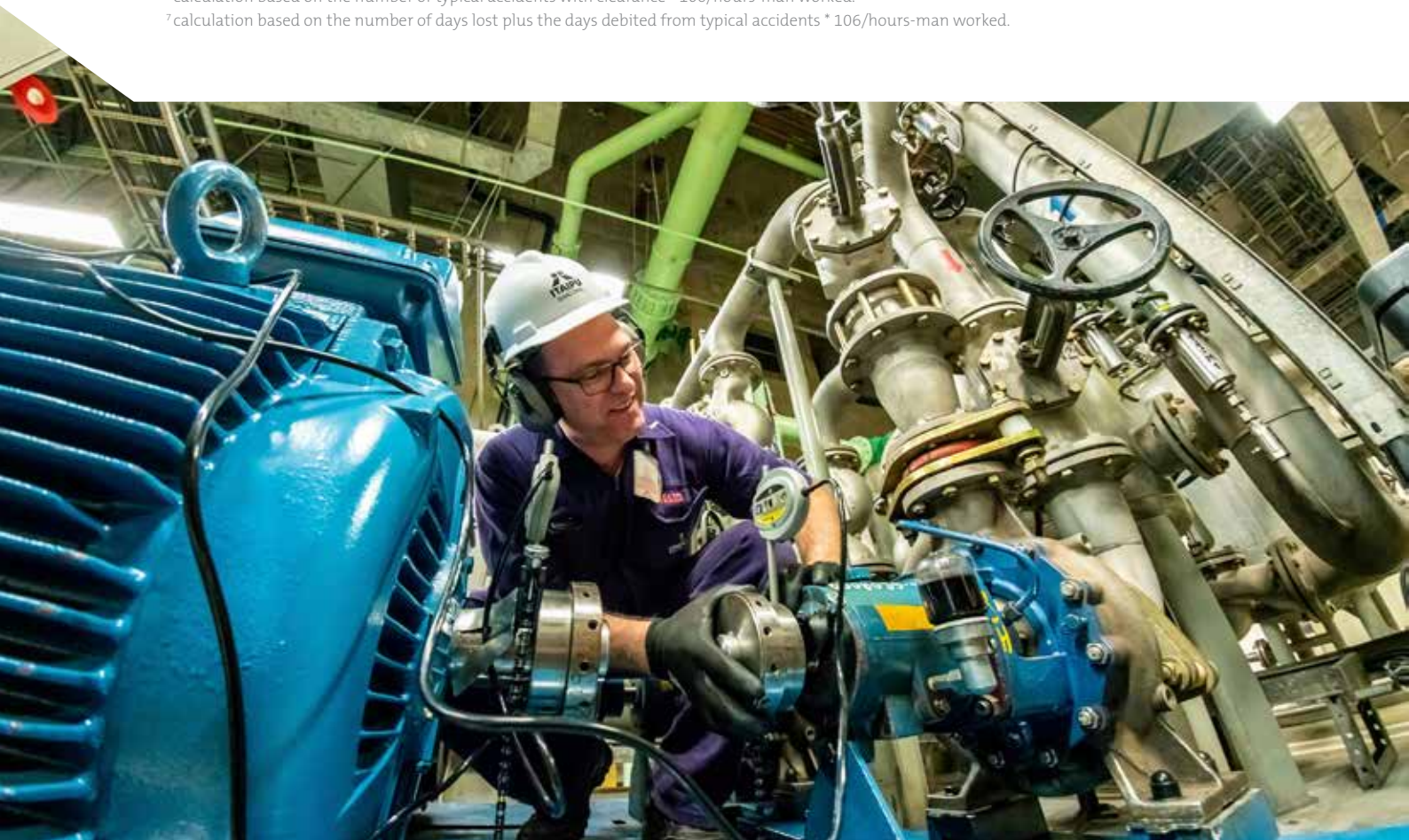
³ days away from work due to personal injury, excepted the day of the accident and the day of return to work.

⁴ calculation based on the total hours-man worked (programmed) and considers standard of 167 hours in the month, holidays, absences, licenses and overtime, but does not include maternity/paternity leave and electoral compensation.

⁵ refers to the number of typical accidents with removal.

⁶ calculation based on the number of typical accidents with clearance * 106/hours-man worked.

⁷ calculation based on the number of days lost plus the days debited from typical accidents * 106/hours-man worked.



Hearing Conservation Program

It gathers a series of preventive actions and monitoring of the exposure to noise and hearing health of employees. In 2018, the speech therapy team conducted 1,008 visits to 946 employees, in which no new case of occupational hearing loss was identified. Noise surveys were carried out through 159 dosimetries in several areas of the company and distributed more than 5,000 hearing protectors.

Employee Restriction Review Committee

Since 2009, is responsible for accompanying employees with labor restrictions. In 2018, it followed 29 employees, two of whom completed the rehabilitation by the INSS and returned to work, being one internally re-adapted and two retirees for invalidity.

Quality of Life at Work

The Reviver Program for the valorization of health and quality of life has been operating for 24 years with the objective of encouraging awareness about quality and healthy lifestyle. Develops actions of: prevention and treatment of chemical dependence; work gymnastics, gyms and walking in the power plant after hours; healthy walking and running; and blood donation campaigns.

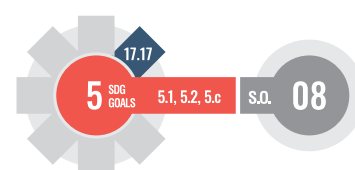
The Pink October event held 169 visits to workers, in itinerant stations in the company, with lectures on preventive actions in health for an audience of 120 people. The Blue November held 204 visits in the itinerant stations, and the lecture "Let's talk about health?" 90 people.

197 employees were assisted in the Healthy Weight Support program with multidisciplinary actions focused on adopting healthier habits and reducing behavioral risk factors.

These practices contributed to positioning Itaipu among the 20 best Brazilian companies in the dimension Health, Safety and Quality of Life at Work Management of the Quality Index and People Management of the Best Place to Work 2018 research.

Diversity and Equality

[103-2, 103-3, 401-3, 405-1, 413-1]



Itaipu, in its commitment to the topic, relies on the gender equity program, focusing on promoting gender equality in the corporate environment.

The actions developed are discussed within the Gender Equity Committee, which has representatives from all directorships. The debates contributed to the beginning of the restructuring of the Gender Equity Policy Action Plan, supported by UN Women, based on an internal survey conducted in 2017.

In order to clarify the topic, a workshop was held "What gender equity has to do with the life and career of men", for a group of 30 men nominated by the members of the Committee, conducted by the team of PdH Insights, from the creators of the portal Papo de Homem. A second activity was undertaken by UN Women and brought global concepts for discussion.

It also opened a dialogue with the adolescent public of socio-environmental programs of the company. Workshops were held by the authors of the book "Extraordinary: Women who revolutionized Brazil ", with the participation of 405 young people.

During the campaign of the 16 days of activism for the end of violence against women, a lecture on domestic violence, the laws of Femicide and Maria da Penha was promoted to 70 public security agents.

There was also the participation of the company at the 62 session of the UN Commission on the situation of women in New York, in which the present countries undertook to act to eliminate violence, discrimination, sexual harassment, cyberbullying and other Human rights violations.

Own employees, by age group and gender [405-1]	2018		
	Age group	M	F
< 30 years	104	27	131
From 30 to 50 years	759	199	958
< 50 years	273	51	324
Subtotal	1,136	277	1,413

Percentage of own employees, by age group and employee category [405-1]	2018		
	Employee category	< 30	Between 30 and 50
Council	0%	33.3%	66.7%
Board	0%	16.7%	83.3%
Management	0.8%	55.4%	43.8%
University	10.5%	69.1%	20.4%
Non-university	10.0%	69.8%	20.2%
Total	9.3%	67.8%	22.9%

Own employees, by employee category and age and gender [405-1]	2018		
	Employee category	M	F
Council	5	1	6
Board	6	0	6
Management	104	26	130
University	422	157	579
Non-university	599	93	692
Total	1,136	277	1,413

Parental leave [401-3]	2018		2017	
	M	F	M	F
Total number of employees who took parental leave	51	10	44	8
Total number of employees who returned to work after taking a parental leave	51	9	44	7
Total number of employees who returned to work after a parental leave and remained employed twelve months after their return to work	42	8	2	1
Rate of return to work of employees who took parental leave (%)	95.5%	88.9%	100%	87.5%

Organizational Climate Survey

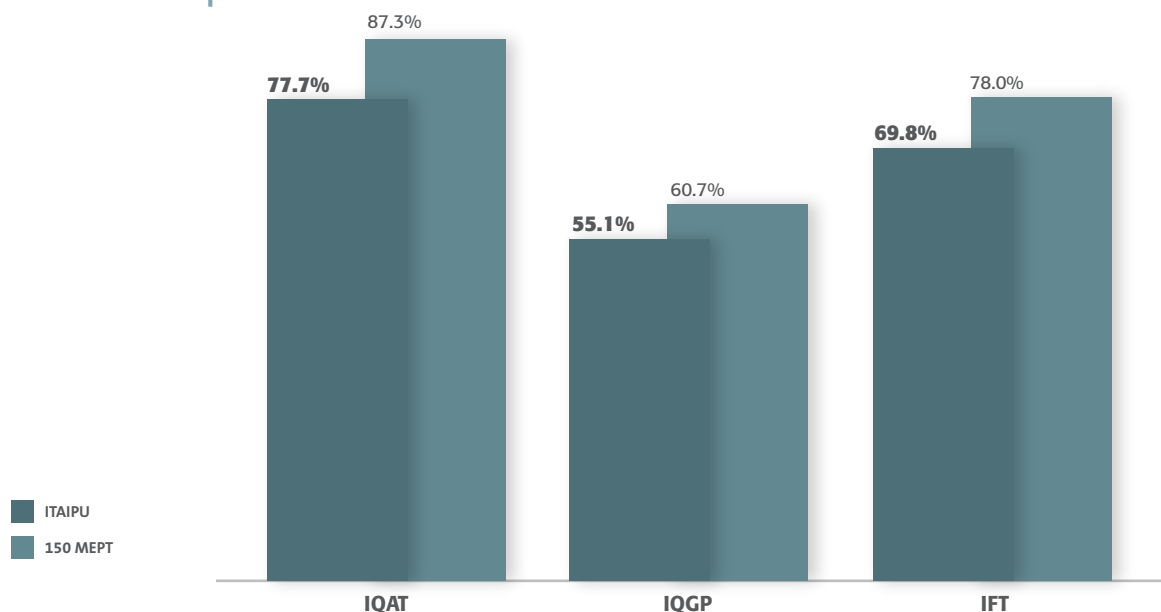
The company participated for the first time in the research “the 150 Best Companies to Work” (MEPT), organized more than 20 years ago by magazine Você S/A and the Institute of Administration Foundation of the University of São Paulo (FIA-USP), which allows comparison of market indicators and provides a diagnosis of people management practices.

The ranking is established by the Index of Happiness at Work (IFT) of the companies, consisting of the Quality index of the Work Environment (IQAT) and the Quality Index of People Management (IQGP). In this first experience, Itaipu did not qualify among

the best 150, but began to have references to achieve this goal.

The results of the research are being used by the Organizational Climate Committee, which created a working group to evaluate possible causes and solutions for the treatment of the five questions with lower scores in the evaluation. The beginning of the study will consider the topics related to promotion and career; organization of processes; work procedures and routines; communication to employees about the company's information and objectives; and cases of perceived injustices at work.

150 MEPT x Itaipu



Reflection for Retirement Program

[404-2, EU15]

The 10th annual edition of the Reflection for Retirement Program (PRA) brought together 56 professionals, maintaining the average and taking the total of participants from the first decade to 530 people. Participation is spontaneous.

The PRA is held for three days, when the employees in retirement phase and their spouses are invited to participate in lectures related to bureaucratic aspects of the shutdown, financial issues, health, sexuality, design and quality of Life, organization of time.

The data presented in the table below considers the deadline for permanence in the company, which contemplates the date on which the professional fills 100% of the deficiencies for supplementary retirement in the Itaipu Foundation – BR of Social Welfare and Welfare – Fibra (Pension plan) and the departure date chosen by the voluntary termination program. The Itaipu has no control over the official retirement dates.

Percentage of employees entitled to retirement in the next 5 and 10 years, by employee category and region [EU15]	Employee category	Region	From 2019 Up to 2023	From 2019 Up to 2028	
	Board	Foz, CHI, Stª Hel and Guaíra		0.0%	0.0%
		Curitiba		9.1%	9.1%
		Brasília		0.0%	0.0%
		Total		8.3%	8.3%
	Management	Foz, CHI, Stª Hel and Guaíra		32.7%	38.8%
		Curitiba		45.2%	67.7%
		Brasília		100.0%	100.0%
		Total		36.2%	46.2%
	University	Foz, CHI, Stª Hel and Guaíra		12.9%	19.5%
Curitiba			19.6%	35.1%	
Brasília			0.0%	0.0%	
Total			14.0%	22.1%	
Non-university	Foz, CHI, Stª Hel and Guaíra		14.9%	21.7%	
	Curitiba		26.7%	53.3%	
	Brasília		33.3%	100.0%	
	Total		15.5%	23.4%	
Overall Total	Foz, CHI, Stª Hel and Guaíra		15.5%	22.2%	
	Curitiba		24.9%	42.6%	
	Brasília		40.0%	80.0%	
	Total		16.7%	24.8%	

Total number and turnover rate of employees by age group, gender and region [401-1]

Gender	Age (years)	Guaíra, CHI, Stª Helena, Foz do Iguaçu				Curitiba				Brasília				Total per age group			
		<30	30-50	>50	total	<30	30-50	>50	total	<30	30-50	>50	total	<30	30-50	>50	total
M	Employees in December 2018	101	698	216	1,015	3	54	36	93	0	1	1	2	104	753	253	1,110
	Admitted in the year	35	36	6	77	0	3	2	5	0	0	0	0	35	39	8	82
	Dismissed in the year	2	4	47	53	0	1	9	10	0	0	0	0	2	5	56	63
	Admitted and dismissed in the year	1	2	1	4	0	0	1	1	0	0	0	0	1	2	2	5
	Turnover rate (%)	18.3	2.9	12.3	6.4	0.0	3.7	15.3	8.1	0.0	0.0	0.0	0.0	17.8	2.9	12.6	6.5
F	Employees in December 2018	24	158	29	211	2	36	17	55	0	1	1	2	26	195	47	268
	Admitted in the year	6	11	0	17	2	2	1	5	0	0	0	0	8	13	1	22
	Dismissed in the year	1	1	7	9	0	2	5	7	0	0	0	0	1	3	12	16
	Admitted and dismissed in the year	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
	Turnover rate (%)	14.6	3.8	12.1	6.2	50.0	5.6	17.6	10.9	0.0	0.0	0.0	0.0	17.3	4.1	13.8	7.1
M+F	Employees in December 2018	125	856	245	1,226	5	90	53	148	0	2	2	4	130	948	300	1,378
	Admitted in the year	41	47	6	94	2	5	3	10	0	0	0	0	43	52	9	104
	Dismissed in the year	3	5	54	62	0	3	14	17	0	0	0	0	3	8	68	79
	Admitted and dismissed in the year	1	2	1	4	0	1	1	2	0	0	0	0	1	3	2	6
	Turnover rate (%)	17.6	3.0	12.2	6.4	20.0	4.4	16.0	9.1	0.0	0.0	0.0	0.0	17.7	3.2	12.8	6.6

¹ computed indeterminate employees, including those assigned. Not computed advisors, directors and requested.

² for this cycle, the calculation methodology was altered in alignment with best practices and the turnover rate was obtained as follows: (No. of admissions + No. dismissals) / 2 / number of employees in December 2018.





7. Socio-Environmental Performance

[103-2, 103-3, 203-1, 203-2, 302-1, 304-2, 305-1, 305-2, 305-3, 305-5, 306-1, 413-1]

Itaipu adopts an environmental management model that is premised on the water-energy-territory connection, contributing to the promotion of participatory plans and actions for integrated management of basins from conservation and sustainable use of natural resources there present, aligned with the objectives of the Biodiversity Convention (CBD), the Aichi Goals for Biodiversity and the Sustainable Development Goals (SDG).

The link between the company and the municipalities occurs via municipal management committees, created by law, with paper defined in Planning and coordinating the socio-environmental programs of Itaipu, operationalized through specific agreements.

7. Our Socio-Environmental Performance

The actions are developed in the reservoir contribution basins, formed by 421 microbasins and composed of 54 municipalities in Paraná and one in Mato Grosso do Sul, whose rivers are connected to the Itaipu reservoir.

Among them: maintenance of extensive green areas around the reservoir; correction of environmental liabilities of unsustainable farming practices; incentive and technical support for no-tillage; terracing readjustment of rural roads; water reuse; installation of Community Supply Units for the decontamination of machinery; and power generation from biomass.

The protected areas, formed by native and secondary forests, and stretches of reforestation, add up to more than 100,000 hectares

Reforestation of nearly 22000 hectares of protected areas through planting of more than 26 million seedlings in Brazil and Paraguay

In the last 30 years, Itaipu has contributed to 28% of the total restoration of the Atlantic Forest of the state of Paraná

Increased reservoir lifespan, which became more than 180 years

The Water Quality Index (IQA) of the reservoir and its main tributaries (trophic state) was 40, within the limit established in the tactical guidelines 2018-2022 (according to the Business Goals table), which classifies the reservoir waters as Oligotrophic, i.e., not polluted.

The four planned water quality monitoring campaigns were carried out. They indicate that the areas of the Paraná Watershed 3 (BP3) have presented results that classify the waters as unpolluted, except for the Ocoí River and the São Vicente River, which in November were considered polluted.

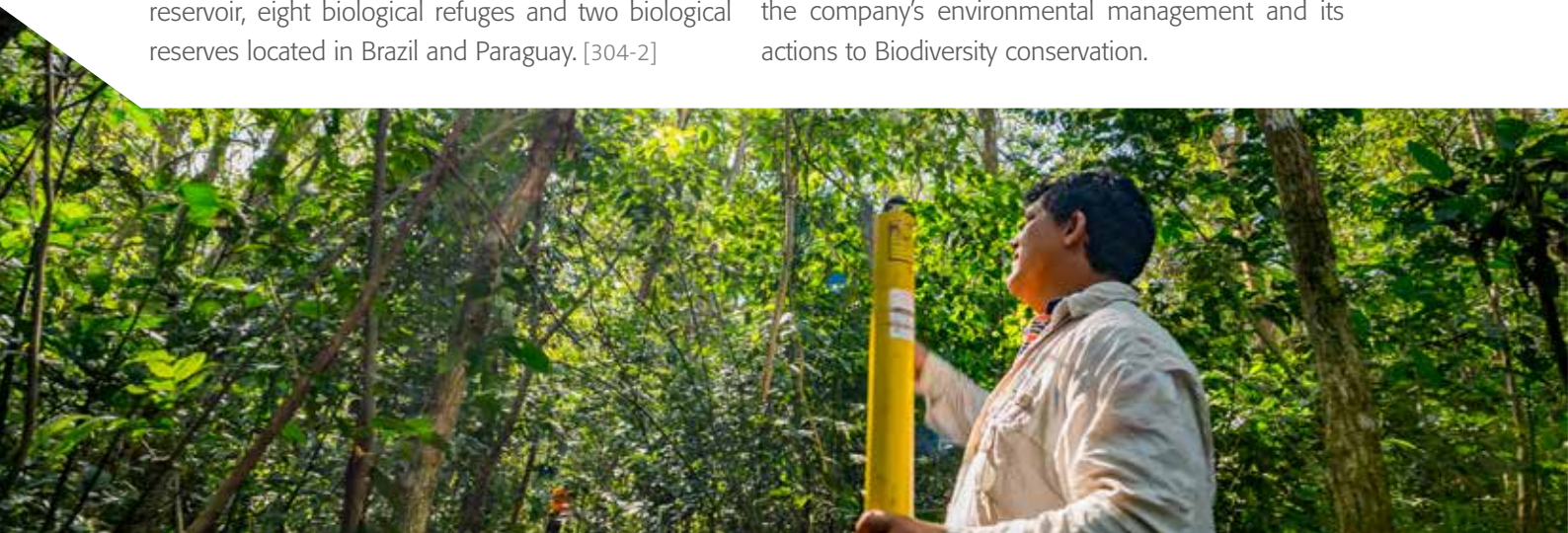
This scenario guides the intensification of conservationist practices in these locations. As the Ocoí River is a direct tributary to the reservoir, it was decided to install two water quality monitoring systems in real time.

The attention with the regional biodiversity began since the installation of the plant. Itaipu maintains, in addition to the protection range surrounding the reservoir, eight biological refuges and two biological reserves located in Brazil and Paraguay. [304-2]

In all, the protected areas, formed by native and secondary forests, and stretches of reforestation, add up to 100,000 hectares. In these areas, Itaipu conducts scientific research, monitoring and environmental supervision, aiming the preservation of animal species and regional flora.

Socio-environmental actions go beyond mitigation and compensation efforts traditionally applied to hydroelectric plants by legal recommendation. Some examples are: the establishment of refuges and biological reserves; captive breeding of endangered species of native animals; forest restoration of the protection range and the Santa Maria biodiversity corridor; and maintenance of ecosystem services essential to society and water safety.

All this work is recognized by the Lasting Initiative For Earth (LIFE) certification since 2015, rendering Itaipu a benchmark for national and international scientific communities, recognizing the efficiency of the company's environmental management and its actions to Biodiversity conservation.



A Brief Historic of Itaipu's Relationship with the Ava Guarani*

[103-2, 103-3, 411-1, 413-1]



For the formation of the Itaipu reservoir, an area of approximately 100,000 hectares was misappropriated in the municipalities of Foz do Iguaçu, São Miguel do Iguaçu, Medianeira, Santa Helena, Matelândia, Marechal Cândido Rondon, Terra Roxa and Guaíra.

At the time, the studies conducted by the National Indian Foundation (Funai) and other indigenist organs (such as the Missionary Indigenist Council) have located and identified, in 1977, a total of 27 people belonging to 11 indigenous families. They lived in approximately 30 hectares on the banks of the Paraná River, between the Ocoí and Jacutinga rivers, in the area of coverage where the reservoir was formed.

Meeting the request of Funai, in 1982, 19 indigenous families were resettled, consisting of 71 people, in the

* Explanatory note on indigenous communities-Itaipu Legal Board

area constituted as the Ocoí Indigenous reserve, in São Miguel do Iguaçu, with about 250 hectares.

Even with the resettlement in a larger area than the one originally identified by the legally responsible organ, in 1997 Itaipu acquired 1,744 hectares in the municipality of Diamante D' oeste, constituting the indigenous village Tekoha Añetete. Subsequently, in 2007, Funai acquired an area contiguous to this, with approximately 240 hectares, forming the Itamarã village.

In these three areas, Itaipu has been active, especially through its Sustainability Program of the Indigenous Communities, keeping covenants with the respective municipalities, supporting financial and human resources and contributing sensitively to the Improve the quality of life of these communities.

Irregular Occupations in the Reservoir Protection Range

Recently, areas of the reservoir protection range have been the target of irregular occupations by indigenous groups, especially in the municipalities of Santa Helena and Itaipulândia. This situation has demanded a cautious treatment on the part of the company, given the known sensitivity and complexity that permeates the indigenous question and considering that such areas are unsuitable for housing.

The Itaipu Reservoir Protection Range consists of permanent environmental preservation areas and is inserted in the Atlantic Forest biome, considered to be a high conservation priority.

These areas play an important environmental function, not only for the protection of the hydric body, but also to ensure the genetic flow of flora and fauna, since they are part of the Paraná River biodiversity corridor.

Itaipu, within its sphere of attributions and with the support of the organs legally entrusted with the treatment of the indigenous question, has been engaged in the search for a short-term solution to this problem.

Currently, in spite of the commitment of the local public prosecutor in trying to mediate the situation, the Indians have rejected the idea of transference to

the villages in the region, in São Miguel do Iguaçu and Diamante d'Oeste, although these areas legally can offer conditions that are undeniably superior to the situation of vulnerability to which indigenous people end up undergoing irregular occupations in inappropriate places.

Faced with this position of the indigenous people, Itaipu has submitted these occupations of permanent preservation areas to the evaluation of the judiciary. Judicial proceedings have been conducted with a lot of responsibility and prudence, under the sieve of the Federal Judiciary and monitoring of the Federal Public Prosecutor's Office, fully guaranteed the contradictory and the broad defense of the indigenous peoples through both of Funai and the public Defender of the Union, and the Federal Union has also been scientific in these processes.

Itaipu, as seen throughout its history, has always maintained and continues to keep open the channel of dialogue and relationship with the indigenous community Ava Guarani, especially in relation to the indigenous areas legally established in its region of operation, in which important socio-environmental actions sponsored by this entity are undertaken.

Biodiversity Conservation

[103-2, 304-1, 304-2, 304-3]

To protect and conserve the biodiversity of its area of influence, Itaipu develops the Biodiversity Program Our Patrimony, divided into three major actions: conservation and management of terrestrial diversity, monitoring of Ichthyofauna and conservation and recovery of protected areas in the Brazilian territory.

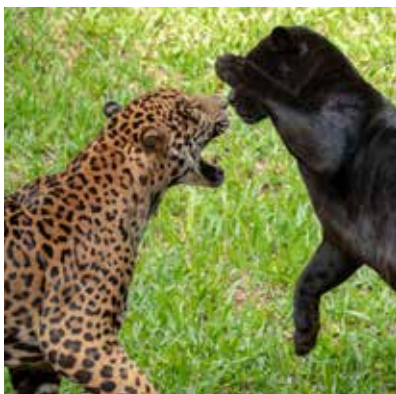
In August, the protected areas (refuges and protection range) of the company were classified as the core zone of the Atlantic Forest Biosphere Reserve (RBMA), a title granted in 2017 to the right bank and which is equivalent to the World Heritage Site. The label is from the “the Man and the Biosphere” (MaB) program of the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Other Achievements

- One of the prominent initiatives undertaken in the RBV is the breeding program of harpies (endangered species). Considered one of the most successful in Brazil, it has a roster of 32 birds, of which 22 were born on site. The number represents 30% of the population of harpies living in captivity in the country. Itaipu is the only institution in the world that reproduces the species in a continuous manner;
- Planting of 10,500 seedlings and the beginning of the forest inventory in the Maracajú Biological Refuge, in order to evaluate the reforestation done and this-of the natural regeneration of the forest;
- Collection of 233 kilograms of seeds of native forest species, with emphasis on the seeds of palm tree (*Euterpe edulis*), endangered species, in a forest fragment near the Iguaçu National Park.

Total Number of Species Included in the IUCN Red List¹

[304-4]



Two species of fauna and two species of flora were classified as “at risk of extinction”. To see the complete table, visit the Itaipu website (www.itaipu.gov.br).

Total number of species included in IUCN Red List¹ [304-4]	Functional Category	Fauna	Flora
	Critically Endangered (CE)	0	0
	Endangered (EN)	2	2
	Vulnerable (VU)	7	2
	Near Threatened (NT)	8	1
	Least concern (LC)	54	5
	Insufficient data (ID)	5	2
	Total	76	12

¹ International Union for Conservation of Nature

Fish Rescue

[103-2, 103-3, 304-2]

Machine downtime is an operational event with a potential impact on the aquatic environment. However, with the successful performance of the maneuvers, there is a significantly smaller number of fishes trapped. This reflects the low significance of this impact, since this is a factor resulting from the conjugation of several others such as severity/intensity (strong or weak), scope (whether local or regional), detection (if easy and fast action or not) and duration.

The event can be analyzed as of significantly low impact to the maintenance activity of the generating units, because the action has been taking place considering the intensity (quantity of fish captured) low, associated with the rapid detection that requires taking measures also of rapid loosening and, still, in a short duration, guaranteeing the highest survival rate of rescued and loose specimens.

The machine stop is preceded by a detailed planning and as a result a schedule of the activities to be performed, in which it is explicit the responsible for the action and its duration. During this stage all areas involved are called to participate in the meeting, including biologists and technicians of the Superintendence of Environmental Management, responsible for rescuing fish within the generating unit.

The intensity factor is controlled by the interruption of the water flow at the closest possible time of the placement activity of the downstream maintenance floodgates, which will prevent the entry of fish into the suction tube of the generating unit. The detection factor is controlled

by planning, which predicts exactly the moment the team enters to do the rescue – and never exceeds the second day of stopping the generating unit.

The intensity factor is controlled by the interruption of the water flow at the closest possible time of the placement activity of the downstream maintenance floodgates, which will prevent the entry of fish into the suction tube of the generating unit. The detection factor is controlled by planning, which predicts exactly the moment the team enters to do the rescue – and never exceeds the second day of stopping the generating unit.

A non-elaborate action could result in a significantly higher impact, which never occurred, allowing to report as of low significance according to the amount of rescued fish, a factor associated with severity/intensity.

Since 1987, 73,000 fish were rescued from the generating units by the teams of the Brazilian and Paraguayan Reservoir Division. In 2018, 475 fish of 46 species were removed from the generating units and released in their original environment, after 14 operations carried out to remove the fish trapped in the forced ducts, by-pass and the water outlet of the generating units during Maintenance stops.

Also, during the analyzed period, an agreement was signed with the Federal University of Paraná for the development of fish biodiversity monitoring tools using environmental DNA. Throughout the year, 25 tissue samples from 18 species were aggregated to the sample bank and will allow the development of the first stage of the work, which is the establishment of a reference DNA bank.



Fish Production in Closed System (Bioflocos)

[304-2, 413-1]

The program supports the sustainable development of fish farming and has presented positive results over the years, inserted in the largest fishing producer pole in Brazil – west region of Paraná.

In addition to the significant supply of production effluents in the water bodies generated during cultivation, to produce one kilo of fish in traditional systems, more than 20,000 liters of water are needed. In the case of fish production from Paraná, during the year (129,000 tons), it is estimated the use of 2.58 billion cubic meters of water – mostly from the Itaipu Reservoir basin.

With this scenario, support for the development and dissemination of sustainable models in aquaculture is one of the main focuses of the fish production in our waters program. Actions such as the cultivation of fish by the Biofloc Technology (BFT) system, translated as Bioflocos, guarantee a healthy environment for fish growth and reproduction and avoids the need for water renewal. They are highly efficient and important in the biosafety issue, mainly due to the possibility of serious pathologies of widespread dissemination, difficult control and eradication, jeopardizing the entire regional productive chain.

The biofloc is a cluster of microorganisms consisting of fungi, protozoa and bacteria. They are responsible

for cycling and removing nutrients generated from the excretion process and leftover food during cultivation. The degradation of nitrogen-based, toxic to fish, allows the production of microbial protein (biofloc) which, in a second moment, can be used by fish during feeding.

The great challenge of Itaipu is in the insertion of this model in the west of Paraná, providing greater efficiency, water safety and competitiveness in the long term. The research and development activities with the BFT began in 2014, with tests conducted to produce fingerlings and juveniles. The main results are associated with high survival rates of for-bud young (above 90%), high zootechnical performance and controlled management of the entire effluent produced.

The company is working on the implementation of a development and dissemination unit of sustainable technologies for aquaculture. Located in the biological refuge of Santa Helena, municipality near the largest producer pole in Brazil, the center will be a disseminator of new practices, applicable to the reality of the local productive arrangement, aiming longevity to the productive chain and guided by the use Rational nature of natural resources.

Protected or Restored Habitats

[304-3]

The protected areas, including the protection range, refuges and biological reserves, perform the function of ecological corridors because they are connected, to the south, with the Iguazu National Park and, to the north, with the National Park of Ilha Grande. It also covers conservation units in Paraguay (Bertoni Museum) and in the Argentine province of Misiones, in addition to the Iguazú National Park.

The implantation of biodiversity corridors is an action that seeks to interconnect the isolated natural areas with the destruction of the original forests in the border region between Brazil, Paraguay and Argentina. These corridors

allow the dispersion of the genes of flora and fauna, and neutralize the island effect, which compromises the diversity of species and the risk of extinction.

The Brazilian forest nursery is one of the conservation and recovery initiatives. There are produced seedlings of 75 species of native trees, with emphasis on the peroba (*Aspidosperma polyneuron*), the purple ipê (*Tabebuia Avellaneda*), the cedar (*Cedrela fissilis*), the ivory wood (*Balfourodendron riedelium*) and the fistula cane (*Peltophorum dubium*). They are seeds of high quality and high degree of genetic variability, resulting from a pioneering research initiated in 1991.

The Piracema Channel, an initiative of the Biodiversity Our Patrimony program, restored a pathway for genetic flow among fish populations fragmented by the plant bus, allowing the migratory species to overcome the 120 meters of the average unlevel of the dam and reach the breeding areas in the upper Paraná River Plain and Ilha Grande National Park.

Protected or restored habitats [304-3]

Area/Size	Partnership* Yes
Santa Maria Ecological Corridor 0,7 km ²	Area status Reforested, initial stage of succession
	Management Corridor Management Committee. Supervision by Itaipu (managers of basins and environmental technicians) and agreement with the Military Police (green force). The area is covered by the network of contacts for the actions of the forest fire Brigade.
	Location PARANÁ: Santa Terezinha de Itaipu and São Miguel do Iguaçu
Area/Size	Partnership* Yes
Protected Areas - Fires 0,031 km ²	Area status Abandoned, natural restoration
	Management Of Itaipu. Supervision of the entity (managers of basins and environmental technicians) and agreements with the Federal police and military police (green force in Paraná and DOF in Mato Grosso do Sul). The area is covered by the contact network for the actions of the Forest Fire Brigade.
	Location PARANÁ: Foz do Iguaçu
Area/Size	Partnership* Yes
Protection range (Permanent preservation area + protected area) 1.006,62 km ²	Area status Reforested, medium succession stage
	Management Of Itaipu. Supervision of the entity (managers of basins and environmental technicians) and agreements with the Federal police and military police (green force in Paraná and DOF in Mato Grosso do Sul). The area is covered by the contact network for the actions of the Forest Fire Brigade.
	Location PARANÁ: Foz do Iguaçu, Santa Terezinha de Itaipu, São Miguel do Iguaçu, Medianeira, Missal, Santa Helena, Entre Rios do Oeste, Pato Bragado, Marechal Cândido Rondon, São José das Palmeiras, Mercedes, Guaíra, Itaipulândia, Diamante D'Oeste, Terra Roxa MATO GROSSO DO SUL: Mundo Novo
Area/Size	Partnership* Yes
Piracema Channel ~10 km	Area status Aquatic environment, medium succession stage
	Management Of Itaipu. Supervision of the entity (managers of basins and environmental technicians) and agreements with the Federal police and military police (green force in Paraná and DOF in Mato Grosso do Sul). The area is covered by the contact network for the actions of the Forest Fire Brigade.
	Localização PARANÁ: Santa Terezinha de Itaipu and São Miguel do Iguaçu

No initiative was submitted to approval of the success of the restoration measures by independent external specialists.

* Partnerships with third parties for protection or restoration.

Environmental Programs and Projects

Environmental Education [413-1]

Goal	Sensitizing people and social groups to act, self-educate and contribute to the education of other actors to build sustainable societies.	
Public Beneficiated	Internal and external	
Partners	Public bodies, civil society and councils	
Investment	2018: US\$ 1,956,062.68	2017: US\$ 432,905.84
Results	More than 23,000 people attended in the educational tourism (RBV and Ecomuseu), distribution of 3,000 ecological bags in recycled pet fabric in the environment week with the theme "Goals of Sustainable Development-Be the Change", realization of 26 "Integrative Health" seminars for 3,918 public servants of the 29 municipalities of BP3, 1,436 farmers participated in 35 workshops for recovery of the micro-basins, five meetings of planning and training for 164 managers of environmental education.	

Fish Production in Our Waters [413-1]

Goal	Strengthen regional development by increasing the annual production of fish in the Itaipu reservoir and in closed systems.	
Public Beneficiated	External	
Partners	Colonies and associations of fishermen, indigenous communities, public bodies	
Investment	2018: US\$ 126,550.81	2017: US\$ 49,117.70
Results	Production of 202.8 tons of fish in net-tanks. The producers of pacu obtained an average profitability of up to 300% when compared to the tilapia scenario.	





Valorization of Institutional and Regional Heritage [413-1]

Goal	Rescue, preserve, value and disseminate the historical-cultural, technical-scientific and environmental heritage of Itaipu and the region, becoming an instrument of communication and education among the generations.	
Public Beneficiated	Internal and external	
Partners	Secretariats and councils of culture of the BP3	
Investment	2018: US\$ 523,702.62	2017: US\$ 388,863.41
Results	Increase of visits in the Ecomuseu in 60% reaching almost the number of 70,000 visitors, III edition of the event "Museum in Action", with public of 1,585 people, 58% higher than 2017, 5,000 visitors in the itinerant exhibitions "Cultural Corrientes: Exhibitions ", held 21 itinerant exhibitions, with an increase of about 400% of public, due to the acquisition of Geodetic Dome, which leads the exhibitions to the municipalities.	

Sustainable Rural Development Program

[203-1, 203-2, 413-1]



- The honey beneficiation unit of the Cooperativa Agrofamiliar Solidária dos Apicultores da Costa Oeste do Paraná (Coofamel), a cooperative of beekeepers of the West coast of Paraná, in Santa Helena, received certification from the Federal Inspection Service;
- Implantation of an experiment to evaluate the agronomic and chemical performance of Guaco culture in western Paraná;
- Work with seven cooperatives and 135 agroindustry of family farming in the items labeling, brand, nutritional information and standardization, aiming to expand the commercialization with higher added value to the products;
- 3,539 advising on rural properties, and 169 training group activities with the participation of 2,666 farmers;
- 110 group activities for 16 farmers associations, with 1,452 participants;
- 27,000 seedlings of medicinal plants of 115 different species donated for plantations;
- Realization of the weekly agroecological Fair, at the Gramadão da Itaipu, in Foz do Iguaçu, increasing from 15 to 25 local suppliers.



Solid Waste Management Program

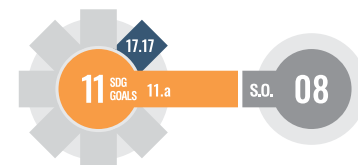
[203-1, 203-2, 413-1]



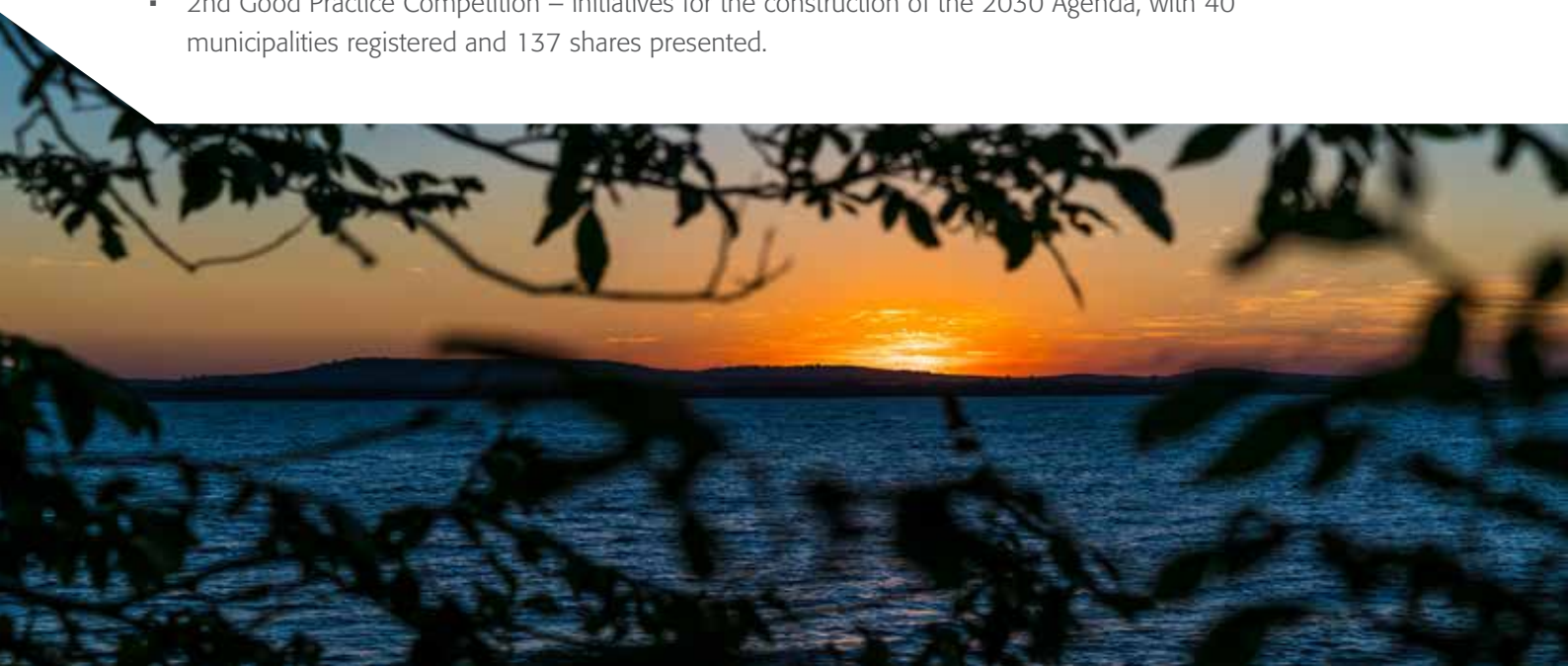
- The selective collection practices of Santa Terezinha de Itaipu, Itaipulândia, Santa Helena and Marechal Cândido Rondon received the City Pro-Catador Paraná 2018 Award, promoted by the Public Ministry of Labor of Paraná and Instituto junk and citizenship;
- Updating and implementation of the matrix of social, environmental, economic and political indicators called "Recyclometer": Number of collectors, average income, volume and types of recycled and marketed materials, among others;
- Building of a technical training center in solid waste management, in Santa Terezinha de Itaipu, to offer trainings and receive technical visits from all municipalities;
- Training of 1,200 recyclers of recyclable material, public managers, technicians and students;
- Offered the course "solid waste management for socio-environmental agents", in partnership with the Free University of the environment, 140 hours, for managers of all municipalities' partners.

Sustainable Cities Program

[413-1]



- Seven regional workshops with municipal technicians;
- 32 meetings involving public agencies and managers of Itaipu;
- Creation of the Itaipu Lake Observatory (www.lagodeitaipu.org.br), a channel used to spread good practices, forum debates, dissemination of actions and other activities of the western region of Paraná;
- Creation of the sustainable city seal;
- 2nd Good Practice Competition – initiatives for the construction of the 2030 Agenda, with 40 municipalities registered and 137 shares presented.



Responsible Consumption – Use Bem Project

[103-2, 103-3, 301-1]

The Use Bem Project aims to create an awareness of rational use of materials of the entity seeking to reduce the waste of materials.

The consumption of paper reals was 15,494, and the target is 12,000 annual packages. For this, a series of measures are being implemented, in addition to those already executed by the company, such as creating print islands with badge readers on the machines.

Materials used [301-1]	Unit of Measure	2018
Chemical materials	Kilo	124,120
Lubricating oils	Liter	17,465
Resins	Liter	3,061
Solvents, varnish, paints	Liter	37,716
Batteries	Units	11,596
Tires	Units	1,056
Lamps	Units	29,866
Sulfite paper	Packs	15,494
Disposable cup	Units	3,789,200
Cartridges and toners	Units	1,027
Wood	m ³	101

Water Disposal

[103-2, 303-2, 303-3, 306-1]

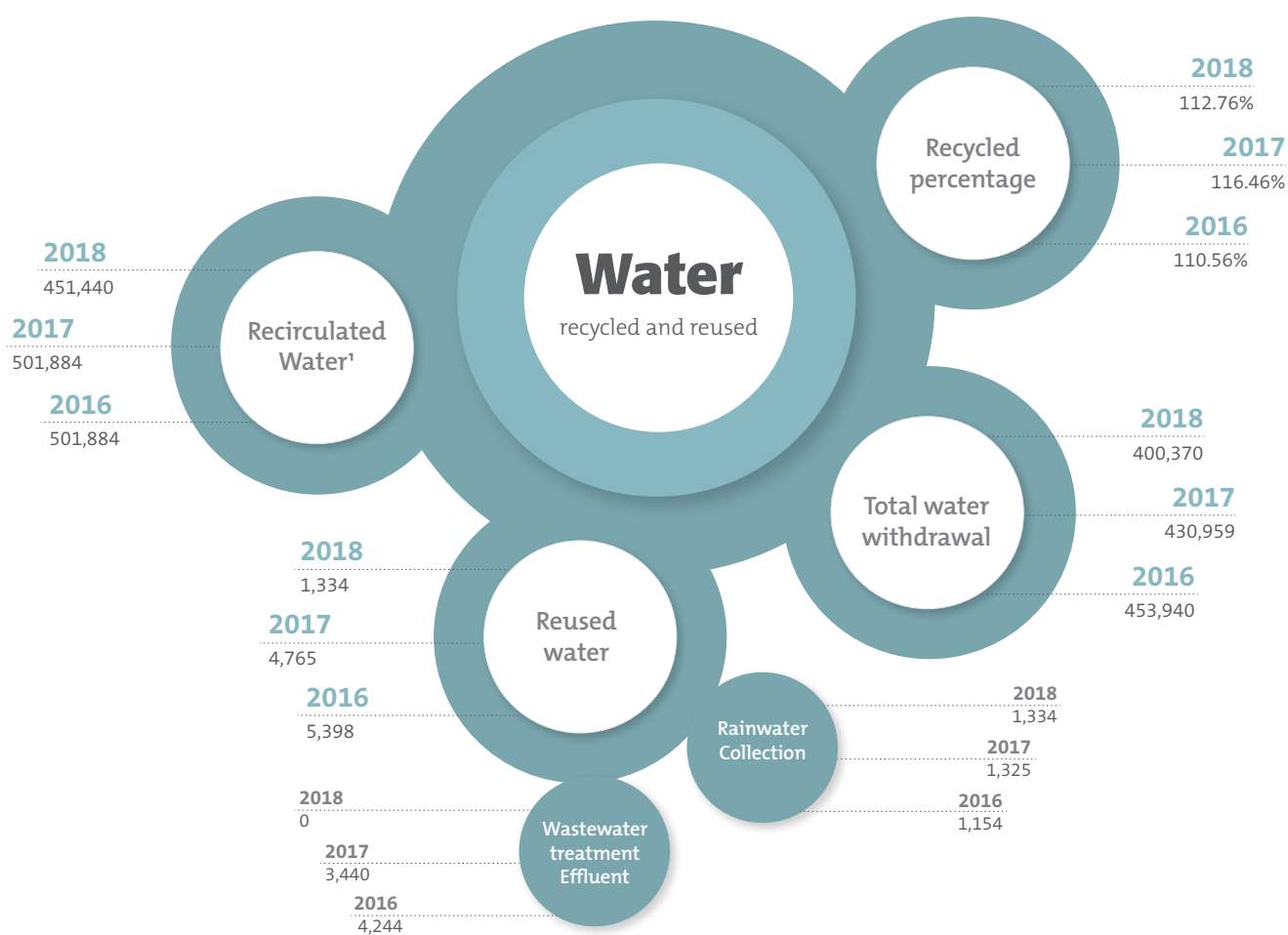
There are no sources significantly affected by the withdrawal of water by Itaipu for consumptive uses. The water used for power generation is of non-consumptive use, that is, they return fully and immediately to the original water body. [303-2]

The company invests in improvements in sanitation systems and water recirculation, besides attending the sewage treatment plants (STP) and the receiver bodies of effluent with quality standards above those required by law. The data from the table on page 64 show reduction of water disposal, indicating that the actions adopted have obtained positive results.

The small difference in the percentage of recycled water is due to the inactivation of some lakes/recirculation system of the biological refuge, according to the chart on page 64. In addition, the wastewater from the treatment station at the plant is no longer reused (in the form of irrigation) for sanitary issues.

It is foreseen the remodeling of the system of collection and efficient treatment of all effluent generated in the Brazilian bank.

Recycled and Reused Water - m³ [303-3]



¹ Estimated value by the quantity and capacity of the pumps installed in the RBV animal enclosures.

There was a 10% reduction in the total amount of effluent produced, as shown in the table below. The result is due to the decrease in water consumption, mainly in the industrial area and in places supplied by the sanitation Company of Paraná (Sanepar) in Foz do Iguaçu. [306-1]

Total disposal of water, discriminated by quality and destination-m³ [306-1]

Destination type	2018		2017		
	2018	2017	2018	2017	
Surface water	65,219	85,289	STP/septic tank	169,179	176,484
Evaporation ¹	79,373	99,399	Soil infiltration	65,441	70,290
Soil infiltration ²	112,965	98,700	No treatment	21,884	26,473
Recirculation	78,320	89,258	Evaporation	79,373	99,399
Total	335,887	372,646	Total	335,877	372,646

¹ it considers the evaporated water in the lakes of the biological refuge and the evaporative plants (Industrial Area).

² it considers the water infiltrated in the soil in irrigation systems existing in the biological refuge.

■ **Greenhouse Gas Emissions and Climate Change** [103-2, 103-3]

Energy and water are the core business of Itaipu and its management strategy considers its sustainability actions. At the Conference of the Parties to the United Nations Climate Convention (COP 24), held in December in Poland, the company was the only Latin American to exhibit in the United Nations Framework Convention on Climate Change (UNFCCC) pavilion.

One of the highlights, which has a direct relationship with the theme, was the partnership with the Department of Economic and Social Affairs of the United Nations (UNDESA), called the Sustainable Water and Energy Solutions Network. It expands the opportunities for recognizing the actions developed on the border between Brazil and Paraguay and its connections to promote the SDG.

A study conducted in 2013 by Eletrobras, together with Brazilian research institutions, in compliance to the project "Monitoring of greenhouse gas emissions in hydroelectric power plants reservoirs" of ANEEL, quantified the amount of Greenhouse gases (GHG) emitted or sequestered by the Itaipu plant reservoir. By adding the emissions recorded in the research results to the total emissions of Itaipu scope 1, 2 and 3 (table below), it was found that the carbon sequestration due to the fixation in the biomass of the protection range and the biological refuges are approximately 30 times the total emissions.

In order to reinforce the commitment to mitigating actions that contribute to the effects of global climate change, Itaipu renewed its declaration with Eletrobras for Horizon 2016-2020.

There are annual absolute and relative targets for items covered by the three scopes of the GHG Protocol Brazil. These items seek to reduce the consumption of electricity, fossil fuels in the entity's vehicles and distances traveled by employees and visitors on flights contracted on line planes. In the table below are the results of the GHG inventory.

Greenhouse gas emissions (in tons of CO ₂ equivalent) [305-1, 305-2, 305-3, 305-5]	Emission scope	2018
		Scope 1
	Scope 2	72.82
	Scope 3	1,665.65
	TOTAL	8,723.87
	Biogenic CO ₂ Emissions	668.64
	CO ₂ fixation by biomass	3,071,647.81
	Avoided emissions	793.75

To see the complete table, visit the Itaipu website (www.itaipu.gov.br).

■ Energy Consumption [103-2, 103-3, 302-1, 302-4]

The 2018 data, presented in the table on page 67, reveal a small reduction in the consumption of diesel and alcohol in relation to 2017. Gasoline consumption has been stable. The variations followed the stimulus of rationalization and preference for renewable sources and the expansion of this type of fleet.

The Biomethane-powered cars traveled about 225,000 kilometers, equivalent to five laps on planet Earth, and avoided the emission of 298.30 tons of carbon dioxide (CO₂), saving about 25,500 liters of ethanol.

To track the electricity consumption of the Office of the Executive Center (Foz do Iguaçu), the company established the Energy Performance Indicator (FDI). The result in 2018 was 382,958 kWh, within the established target (397,979 kWh).

Despite the reduction in that office, there was a slight increase in total energy consumption, considering all sources, from 390,014 GJ in 2017 to 393,485.35 GJ, but below that recorded in previous years. The analysis of these data indicates a positive result of efforts to rationalize consumption and preference for renewable sources, including expanding the fleet of vehicles that use this type of energy. [302-4]



■ Energy consumption-GJ [302-1]

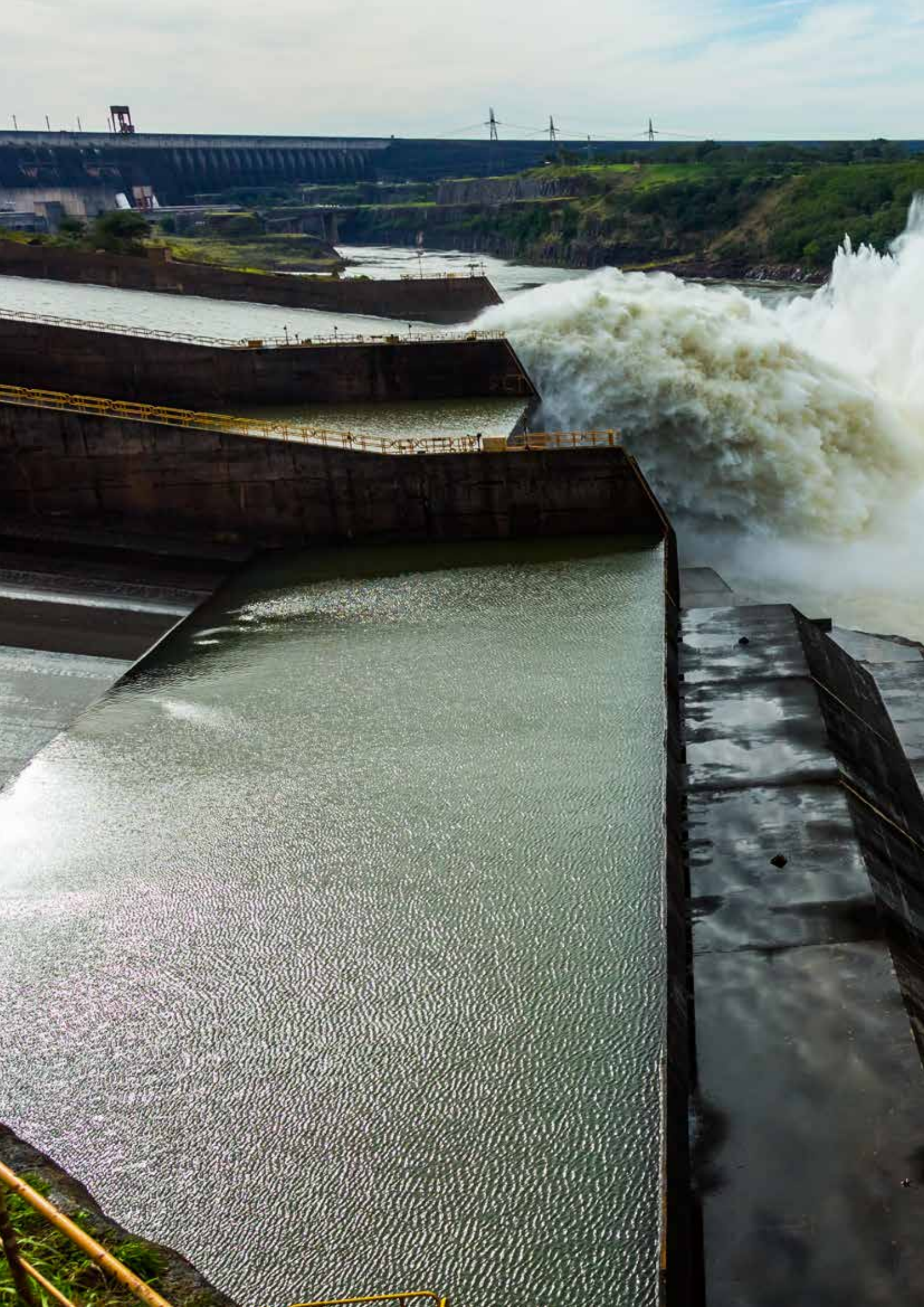
Energy consumption from non-renewable sources	2018	2017	2016
Diesel (Own Fleet)	2,589.4	2,782.1	4,719.00
Gasoline	1,106.1	1,111.9	958.00
LPG	187.77	199.13	207.00
Natural gas	25.80	34.78	34.00
Electricity (thermal, nuclear and others) ¹	616.84	703.02	1,014.00
Subtotal	4,526.56	4,831.42	6,932.00
Energy consumption from renewable sources	2018	2017	2016
Alcohol	8,081.90	8,468.56	7,856.00
Hydraulic Electric power ²	376,887.60	372,445.20	364,718.00
Electricity (hydraulics, wind and biomass) ¹	3,011.64	3,408.19	4,817.00
Photovoltaic microgeneration	141.75	153.06	77.00
Biomethane	835.91	707.49	294.00
Subtotal	388,958.79	385,182.50	377,762.00
Electricity consumption	2018	2017	2016
Total Electricity consumption	380,658.83	376,709.00	370,726.00
Total consumption originating from non-renewable sources ³	4,526.56	4,831.00	6,932.00
Total consumption from renewable sources ⁴	388,958.79	385,183.00	377,862.00
Total energy consumption	393,485.35	390,014.00	384,794.00

¹ values reported from the electricity consumption of the concessionaire of Paraná, by the electric vehicles of the fleet.

² the electricity generated and consumed in the plant is measured by equipment installed in the main tables that feed the auxiliary services of the plant at 50Hz and 60Hz.

³ Diesel (own fleet), gasoline, cooking gas (LPG), natural gas, electricity (thermal, nuclear and others).

⁴ ethanol, photovoltaic microgeneration, biomethane, electric power (electric power generated and consumed by Itaipu itself on the premises of the plant) and electricity (hydraulic, wind and biomass from energy acquired by Itaipu de Concessionaires of the electrical system to supply the offices located outside the plant area in Foz do Iguaçu and Curitiba). The amounts reported for each source consider the percentage of participation in the Brazilian energy matrix according to reports from the National Electricity Agency-Aneel.





8. Our External Relations

[102-9, 102-42, 103-2, 103-3, 201-1, 203-1, 203-2, 204-1, 205-2, 413-1, 414-1]

The relationship with the target audiences is considered a factor of high relevance for achieving business objectives and goals, which are aligned with the UN's Sustainable Development Goals (SDG).

Itaipu's socio-environmental programs benefited 55 municipalities, most of them in the Paraná 3 watershed, in the west of the state of Paraná.

The investments made comply with the guidelines of the sustainability policy, which are aligned with public policies and aim to improve the living conditions of about 1.3 million inhabitants of the region, promoting economic growth, generation of Income, infrastructure projects and expanding access to citizenship, education and health.

8. Our External Relations

At the end of 2018, Itaipu was authorized by the Brazilian and Paraguayan governments to finance the construction of two new bridges to increase commercial activities in the Trinational Region and improve the security conditions at the border. The initiative is in line with the constitutive acts of the company, which admit not only projects directly related to the organization's facilities, but also to the welfare of the local community and regional development, foreseen in its objectives and strategic guidelines. [203-1]

The total investment is estimated at about US \$270 million and the works must be completed within three years. One of the bridges will connect the municipalities of Foz do Iguaçu, in Brazil, and Presidente Franco, in Paraguay, decreasing the flow of vehicles in the Friendship Bridge and contributing to the fight against the entry of drugs, weapons and ammunition. The second bridge will pass over the Paraguay River, linking the municipalities of Porto Murtinho, in Mato Grosso do Sul, and Carmelo Peralta, in Paraguay.

In addition to the realization of these actions, the company also passes royalties to the governments of Brazil and Paraguay – and each country has its own legislation that regulates the distribution and internal use of the resource. [203-1,203-2]

In 2018, the law dealing with the distribution of royalties from Itaipu, in Brazil, was altered, raising the transfers to the municipalities from 45% to 65%, and reducing the value to be received by the States from 45% to 25%.

The new legislation maintained the 10% of the total royalties value for the Union.

How Royalties are Calculated

[103-2, 103-3, 201-1]

The royalties are paid to the National Treasury Secretariat (STN) and distributed by the National Electricity Agency (Aneel), from the application of the legal percentages. The values calculated by Itaipu depend on three variables: the monthly energy production, the dollar adjustment factor and the exchange rate.

Itaipu makes two monthly payments to the STN, the "Principal" and the "adjustment of the Dollar", subsequently passes them to Aneel, which distributes them in a single parcel to the beneficiaries. Part of the "Principal" values have already been paid in accordance with the new legislation in force, while those relating to the "dollar adjustment" followed the new rule from March 2019.

Most of the payments are made to the 16 neighboring municipalities (15 from Paraná and one from Mato Grosso do Sul). The Union, through the Ministry of the Environment, the Ministry of Mines and Energy and the National Fund for Scientific and Technological

development, also receives them. On the Brazilian side the total of 347 municipalities (16 direct and 331 indirectly) receive the financial compensation.

These resources can be applied in areas such as health, education and safety, and its application is prohibited in the payroll of the staff of the benefited municipalities. The royalties of Itaipu began to be paid with the beginning of the commercialization of energy generated by the plant in March 1985 and, in 2018, the total financial transfer to the Brazilian and Paraguayan governments was more than US \$498 million.

By completing 50 years, in 2023, Annex C of the Treaty of Itaipu will undergo a review of Itaipu's financial bases and provision of electricity services, which may also involve the rules of payment of royalties. This is a topic of great relevance for Governments and is being analyzed based on reconciling the interests of both countries through diplomatic dialogue.

Suppliers

[102-9, 102-42, 103-2, 103-3, 204-1, 205-2, 414-1]

All contracts undertaken by Itaipu comply with the criteria and modalities defined by its general bidding standard, which determines the selection of the most advantageous proposals for the entity, considering price, quality and the impacts for sustainability. The total number of suppliers registered in 2018 was 3,001, divided into 2,360 Brazilian companies and 641 Paraguayan companies.

In the year 2018, a total expenditure of US \$199.2 million was recorded, of which 71.3% correspond to the hiring of local suppliers (from Paraguay and the state of Paraná). In 2017, the data were respectively US \$131.2 million and 80.88%. The reduction in the percentage of expenditures with local suppliers is due to the increase in the value of total expenditures. For the same reason, the percentage of contracted local companies recorded a drop from 65.73% to 47%. [204-1]

In 2018, 193 were micro and small enterprises (MPEs) representing 20.36% of the companies contracted in

Brazil. In order to increase their participation in their bids, Itaipu approved in 2018 procedures that could give preference to MPEs in hiring.

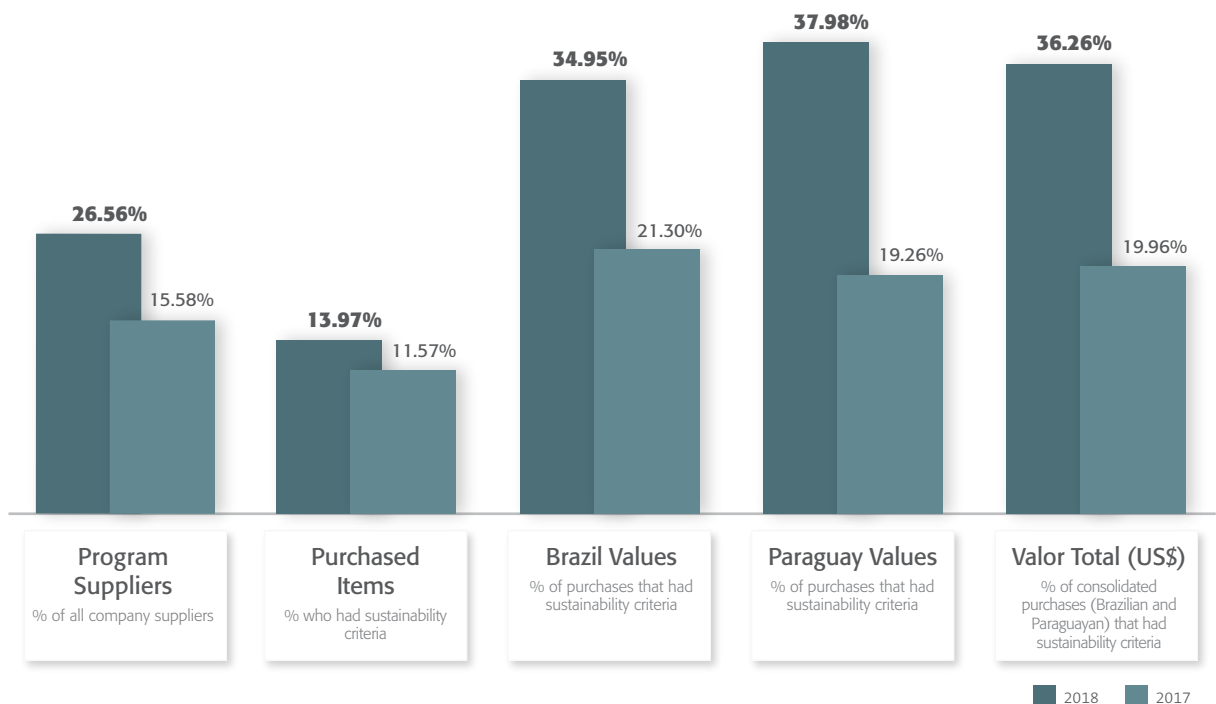
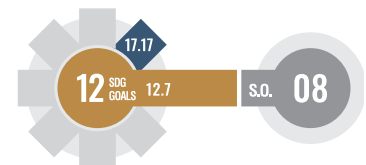
The main hires are represented, among others, by the materials and services of batteries, glue-ta of waste, fuels, computers, air conditioners, lubricating oil, lamps, tires, paper, industrial paints, surveillance, among other. In Brazil, it is estimated that 1,256 are service providers, 347 trades and 235 are industries. [102-9]

The mapping of suppliers that offer risks to sustainability has not changed and 434 companies continue to be considered critical, being 199 MPEs. Of the 100 groups evaluated, 50 were supplying goods and other services.

With the implementation of the binational program of integrity and compliance are planned steps that will deal exclusively with aspects related to suppliers (read more in the chapter our governance). [205-2]

Data from the Sustainable Procurement Program

[203-2, 204-1, 308-1, 414-1, 414-2]



Supplier Engagement

[102-42]

In 2018, after going through a process of re-structuring, the supplier evaluation system completed its first cycle of data collection, including sustainability requirements. This information will be used to define new policies and strategies for the purchasing area.

Another relevant action was the review of the Supplier Development Program (DESFOR), which resulted in the partnership with the Brazilian Support service for Micro and small Enterprises (Sebrae). 360 companies from the regions of Foz do Iguaçu, Curitiba, Pato Branco, Londrina, Maringá and Ponta Grossa will be trained in areas of competitiveness, productivity, sustainability and innovation, assisting in the implementation by the suppliers of the Excellence model Management (MEG®), a program certified by the National Quality Foundation.

Labor Practices and Human Rights in the Supply Chain

[103-2, 103-3, 407-1, 408-1, 409-1, 414-1]

All suppliers must contractually guarantee compliance with the current labor legislation and the company's code of conduct for suppliers, which condemns child labor practices and analogous to slave labor, among other aspects related human rights.

Companies that violate these requirements can be punished with the suspension of the legal instrument, as well as other appropriate measures. Itaipu does not hire suppliers that are included in the National Register of Unreputable and Suspended Companies of the Comptroller General of the Union.

Social Programs and Projects

[103-2, 103-3, 203-2, 413-1]

The responsibility of a company with its surroundings goes beyond the needs inherent in its business. Corporate sustainability combines not only the economic balance of the institution, but also its role in social and environmental issues where it operates. The company that invests in the generation of value of natural capital, especially that of which it is directly dependent, thus guarantees the continuity of its production processes.

Social responsibility is also present in the company's mission, which seeks to create value for the stakeholders and well-being for the communities with which it interacts.

In order to meet the demands and realities of the various partners, to guide the corporate management strategy and to monitor the execution of contractual instruments, the participation of stakeholders in Brazil and Paraguay is promoted. There is no specific policy of community engagement, but the company prioritizes work in partnerships and adopts practices according to objectives and audiences related to each action.

Listed below are some of our social programs aimed at protecting children and adolescents, education and regional economic development.

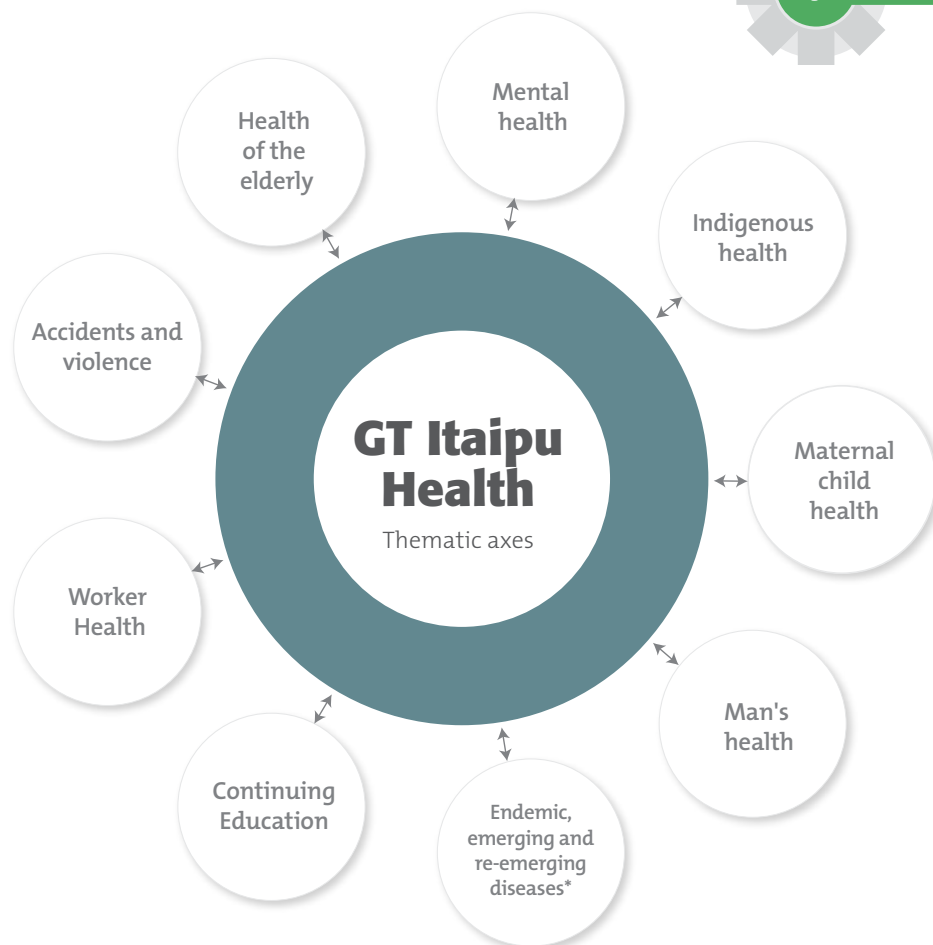


Itaipu Health Foundation-Hospital Ministro Costa Cavalcanti (HMCC) [203-2, 413-1]

Goal	Provide preventive and curative medical hospital care at a high level to the community, through covenants with the public and private health network, and provide conditions for the training and improvement of personnel in the medical and sanitary areas.	
Public Beneficiated	Internal and external, including municipalities in Paraguay and Argentina	
Partners	Public agencies and educational and research institutions	
Investment	2018: US\$ 4,321,172.02	2017: US\$ 8,072,923.11
Results	First accredited institution with excellence (level III) of the interior of Paraná. It was conducted by the Unified Health System: 3,416 deliveries, 2,046 surgeries, more than 42,000 outpatient visits, and 19,690 care for people undergoing cancer treatment. It is a reference in the areas of oncology, cardiac surgery, high-risk gestation, pediatric ICU and neonatal ICU. The Center for Tropical Medicine conducted about 1,100 exams, including: 138 analysis of leishmaniasis, and diseases related to <i>Aedes Aegypti</i> mosquito.	

Itaipu Health Working Group

[203-1, 413-1]



* ESPII, tuberculosis, dengue, viral hepatitis, STD/HIV

It has a binational management and its mission is to collaborate to strengthen public health policies in the triple border – Brazil, Paraguay and Argentina – aligned with the company's institutional policy. Strategically, the focus of the actions of the Itaipu health GT was divided into themes:

- The integrated surveillance method focuses on the prevention and control of transmission of diseases caused by dengue viruses, Zika, chikungunya and yellow fever. It has 3,476 mosquito traps distributed in Foz do Iguacu, where the pilot project is. The professionals involved have the authorization of the Brazilian Ministry of Agriculture to transition biological material through the triple frontier;
- Mental health training of 141 family health physicians, from Paraguay, to help, diagnose and monitor people with mental disorders;
- Training of 1,352 professionals to improve management (registration, coding and analysis) of the health information system of Paraguay;
- Construction of an approach strategy for mental health in indigenous communities according to the common guidelines of the three countries;
- Course for 40 home caregivers of elderly people from Puerto Iguazu, Argentina;
- International seminar on Life Promotion and suicide prevention, with 350 health, education and social assistance professionals from Foz do Iguacu and Cascavel;
- It graduated 1,502 health professionals from Paraguay in sexual and reproductive health, through the safe maternity and Neonatal health project;
- Training in diagnosis, treatment and prevention of leprosy for 140 health professionals in Paraguay;
- III International Seminar on human health Sexual and reproductive health, for 95 health professionals from Brazil, Paraguay and Argentina;
- Day of the noise of sexually transmitted infections campaign, aimed at reducing maternal and child transmission rates of HIV and congenital syphilis;
- Agreement of technical cooperation between Itaipu Binacional and the Ministry of Health of the province of Misiones, Argentina, aiming to create the GT Yacyretá Salud, in the form of GT Itaipu Health;
- Project "Prevention of unintentional pregnancy in adolescence", partnership with the UN Population Fund (UNFPA) to promote public policies aimed at adolescents and young people, especially in the prevention of unintentional pregnancy.



Itaipu Technological Park Foundation (FPTI) [203-2, 413-1]

Goal	To promote projects and programs of Itaipu in the areas of technology, environment, renewable energies, among others, in addition to solutions aimed at social insertion, generation of employment and income, distribution of scientific and technological knowledge and Regional development, taking advantage of the technical knowledge generated by the construction and operation of the plant.	
Public Beneficiated	Undergraduate students, postgraduate, public schools in the region, entrepreneurs	
Partners	Public bodies, higher education institutions and civil society	
Investment	2018: US\$ 9,957,258.24	2017: US\$ 19,080,743.58
Results	Development of ten projects in the area of automation and Yesulation of electrical systems, and initiated studies for a new version of nickel and sodium-based battery, together with the financier of studies and projects (Finep).	

Other Highlights

- Cooperation agreement signed with the Ministry of Science, Technology, innovations and Communications for the distribution of software developed at FPTI to improve the management of public accounts;
- Implementation of the live laboratory of smart cities using solutions such as sustainable urban mobility, drone monitoring and Internet of Things (IoT) concepts;
- Launch of the Continuing Education Program – Municipal Governance Project, to empower 345 professionals on management of public administration, leadership and management of people, with in-person and distance modules.

Incentive to Tourism

[413-1]

Itaipu has in its organizational structure the tourism advisory and, together with the PTI Foundation, since 2007, operates the Itaipu tourist complex. More than 22 million tourists have passed the Brazilian and Paraguayan banks since April 1976.

The program potentialize the regional tourism development promotes the routes of cyclotourism. The Beira Park route will take 220 kilometers and connect Foz do Iguacu to Cascavel, bordering the Iguacu National Park. 80 kilometers were inaugurated and the completion will be until June 2019.

We overcome our business goal and record reaching more than 1 million visitors to the plant, on both banks, consolidating Itaipu as the second largest tourist attraction in the region.

Itaipu was elected by travelers from the TripAdvisor

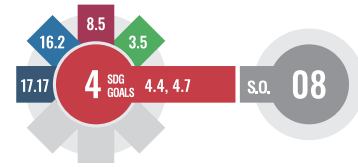
website the 3rd reference point of Brazil and the 6th monument in South America, in the Travelers' Choice award. The model of visitation at Itaipu is recognized by the World Tourism Organization.

New tours within the plant:

- Exclusive for children from 5 to 13 years, Itaipu Kids will include activities in Ecovila (minicity), science station and astronomical Polo;
- To meet the technical and scientific community, Itaipu technology in dams and Itaipu technology in biogas;
- The Itaipu VIP, which will run the plant in a vehicle 100% electric;
- Special lighting of the dam, with musical performances, pyrotechnic shows, and dinner in the Barrageiros restaurant.

Child and Adolescent Protection Program

[413-1]



The program aims to articulate and implement public policies to protect, promote and defend the rights of children and adolescents, especially by strengthening the fight against child labor, sexual exploitation and other forms of violence.

Their initiatives aim to keep children and teenagers out of the risk of approaching illicit acts, reduce school dropout and improve school performance. To do this, it has partnerships with local institutions, to: promote the practice of various sports and cultural modalities, the insertion in the labor market, and the fight against the use of narcotic drugs. Held **the first meeting of the PPCA**, with the theme "Sport" for 600 participants of the sports projects.

The works are developed with the **protect network**, consisting of approximately 40 institutions that jointly develop actions and restructure of care plans to attend to the public of interest. In 2018 he joined **the program to combat school dropout** in Foz do Iguaçu.

The program manages the shared management of the projects:

- **Youth Trail** - training and implementation in the labor market of 120 young people in situations of risk and social and economic vulnerability, between 16 and 24 years of the tourism sector;
- **Rescue** - assistance to up to 30 inmates in a situation of dependence on psychoactive substance, older than 18 years, male, referred from the socio-care network of the city, or on his own initiative;
- **Young athletes** - attends 90 sportsmen, including parathletes, who practice 27 athletics modalities, such as running, throwing and jumping. Athletes participate in important competitions in Brazilian athletics;
- **Boys of the lake** - provides access to learning canoeing. The activities take place at Itaipu's Piracema Channel. In 2019, there will be 600 participants and inclusion of the modality of Paracanoe. The other modalities are the Slalon and the kayak Polo;
- **Sailing is needed** - provides training to 120 students from public schools in the region, with the aim of encouraging the practice of sailing, with safety, respect to local biodiversity and multiple use of Itaipu reservoir;
- **Basketball Without Borders** - in partnership with the Basketball Association of Foz do Iguaçu, can benefit up to 200 athletes;
- **Kimono Amigo** - developed by the Judofoz Sports Association offers free judo lessons to the community, for children from three years of age. Initially there are 203 subscribers, expected to meet 500 athletes up to 2020.

Business Volunteer Program – Voluntary Force [203-2, 413-1]

Goal	To stimulate, strengthen and enhance the practice of citizenship with employees, through voluntary service, as well as provide support to the third sector.	
Public Beneficiated	Internal and external	
Partners	Public agencies, civil society and private companies	
Investment	2018: US\$ 200,326.30	2017: US\$ 84,084.35
Results	Beginning of the project inclusion of the disabled person in the labor market with several social actors from Foz do Iguaçu and region. The inclusion diagnosis and the I Inclusion forum were carried out, with more than 100 people. Promoted the 13th edition of the Project Bank, which directly benefited about 2,000 people through 12 selected projects. It was the largest number of institutions and the highest investment since its first edition, in 2006.	

Solidarity Energy [203-2, 413-1]

Goal	Strengthen the Community Council of Vila C as social equipment of the community and environment	
Public Beneficiated	External	
Partners	City Hall of Foz do Iguaçu, S System (SESI, SENAI, SESC), State University of West Paraná (Unioeste) and Patronato Municipal de Foz do Iguaçu	
Investment	2018: US\$ 418,062.80	2017: US\$ 191,632.92
Results	Monthly assistance of about 388 people for classes such as judo, ballet, guitar and computer science. It also provides free legal advice to the community, having carried out 2,289 consultations.	

Financial Education-The Value of Tomorrow [203-2, 413-1]

Goal	To provide knowledge on the good administration of financial resources to the stakeholders of the Itaipu programs.	
Public Beneficiated	Internal and external	
Partners	Public schools and municipalities in the western region of Paraná	
Investment	2018: US\$ 668,672.92	2017: US\$ 279,605.12
Results	It received his first official certification, the federal government's national financial education Strategy seal. It has reached more than 20,000 people, including nearly 9,000 elementary school students. Training of 344 teachers in 81 schools. Through a contest, it awarded the five best students, among 42 inscriptions of new financial management practices.	





9. Our Performance in R&D+I

[103-2, 103-3, EU8]

The company's commitment to research, development and innovation (R&D + I) is foreseen in the business plan, policies and fundamental guidelines, sustainability policy and sector policy of renewable energies, being articulated and implemented by the consultants of sustainable electric mobility and renewable energies, together with the Itaipu Technological Park Foundation (FPTI) and with the Itaipu Corporate University (UCI).

With the aim of fostering an organizational culture based on innovation, corporate entrepreneurship and sustainability, the company periodically carries out the Eureka Prize! of Innovation Incentive. In 2018, it was consolidated as a corporate channel for Brazilian and Paraguayan employees to present proposals for unique and shared solutions for process or sub-process improvements.

Investments in R&D + I are directed towards projects that present potential for energy and technological development and can be placed at the service of the company and society. They address the areas of energy efficiency, energy production, transmission technologies, dam safety, technological upgrading of the plant, renewable energy, information technology, environment, sustainable electric mobility and social technologies.

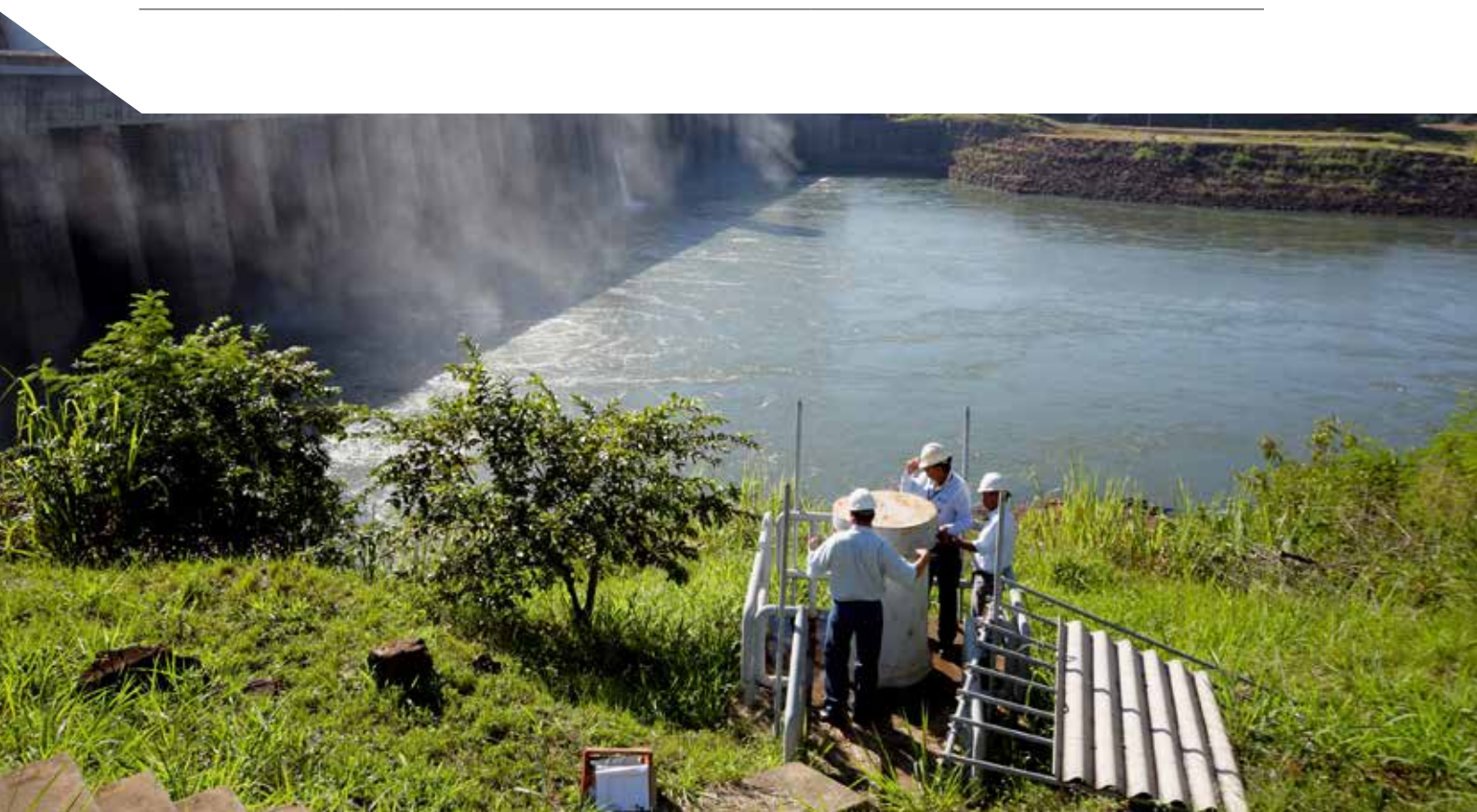
9. Our Performance in R&D + I

International Hydro Informatics Centre (CIH)

Goal	Improve the management of water resources with Hydro informatics solutions.	
Investment	2018: US\$ 491,623.42	2017: US\$ 322,109.74
Partners	UNESCO International Hydrological Program, Latin American Energy Organization, Federal Technological University of Paraná, National Water Agency and National Institute of Space Research.	
Results	Expansion of the Solar energy Atlas of the state of Paraná.	

Center for Advanced Studies in Dam Safety (Ceasb)

Goal	Develop computational intelligence techniques related to the behavior and safety of dams and applied research on the behaviors of structures and their respective materials.	
Investment	2018: US\$ 972,805.04	2017: US\$ 531,145.20
Partners	Federal University of Paraná, Electric Energy Research Center and other	
Results	<p>Delivery to the Board of Civil Consultants 2018 reports and studies with results of computational Yesulations of structure behavior, including in cases of seismic events and thermal changes.</p> <p>More than 750 students and volunteers passed CEASB in more than 100 research projects. In progress 21 studies aimed at ensuring the life of the dam, with 160 participants.</p> <p>Course of instrumentation and auscultation of dams, semi-presential, with 40 hours of duration and 19 participants.</p> <p>Publications: "Behavior of the land dam of the left bank of Itaipu in Operation period, launched at the 16th National Congress of Geotechnics, in Azores, Portugal.</p>	



Sustainable Electric Mobility

[201-2, 203-2, 302-1, 302-2, 305-5, 413-1]



Goal	Foster research and innovation in technology for mobility solutions with renewable and clean energy sources, seeking energy efficiency and sustainable development.	
Investment	2018: US\$ 3,053,449.36	2017: US\$ 2,336,070.22
Partners	Teaching and research entities, public and private companies, national and international	
Results	<p>Completion of the first phase of the planar sodium battery project.</p> <p>Inauguration of the largest electro route in Brazil in partnership with Copel with the installation of 11 electro posts along the 700 kilometers of the BR-277.</p> <p>Acquisition of essential components for the project of the hybrid bus (electric/ethanol), which studies the production on industrial scale of the sodium battery combined with ethanol and hiring the company that will make the caring of the prototype.</p> <p>Completion of the installation, in the frontier platoon of the Brazilian Army, in Tunuí/AM, of the country's first hybrid energy supply system, which integrates diesel generator, recyclable sodium batteries and photovoltaic panels.</p> <p>Signed the Protocol of intent for installation of the Renault Academy, on the premises of FPTI, the first center of the country specializing in training of professionals for maintenance of electric vehicles.</p> <p>The intelligent sharing system of the fleet, which has 11 automobiles and approximately 200 registered users. More than 7000 uses, 18000 kilometers traveled and avoided the emission of about 6.5 tons of CO₂.</p>	

Hydrogen Research Nucleus (NUPHI)

Goal	Develop studies that enable Itaipu in the future to extract hydrogen from surplus water and energy.	
Investment	2018: US\$ 130,368.99	2017: US\$ 172,624.20
Partners	Eletrobras and National Reference Center in hydrogen energy, from the State University of Campinas	
Results	<p>Delivery of the technical-scientific study of the acquired Electrolyser, aiming at the nationalization of parts and components.</p> <p>Development of Chitosan-based membranes for fuel cell. Development of bench for fuel mix performance testing.</p>	

Laboratory of Automation and Yesulation of Electrical Systems (Lasse)

Goal	Conduct research, testing and verification of the dynamic performance of equipment and systems associated with the generation, transmission and distribution of electric power in a digital Yesulation platform in real time.	
Investment	2018: US\$ 340,294.61	2017: US\$ 851,321.15
Partners	São Carlos School of Engineering, University of São Paulo	
Results	<p>Various services for the execution of Yesulations and electrical studies.</p> <p>Commissioning of the new automated data auscultation software.</p> <p>Completion of the manufacture of four panels of disturbance and phasor mediation and three panels of the transformer monitoring system.</p>	

Renewable Energy Platform

[201-2, 203-2, 302-1, 302-2, 305-5, 413-1]



Goal	Disseminate the use of renewable energy sources and efficient energy technologies, with emphasis on biogas, to create new business opportunities and provide energy autonomy for the agricultural.	
Investment	2018: US\$ 1,797,746.32	2017: US\$ 1,935,236.12
Partners	International Center for Renewable Energies-biogas (Cibiogas), International Energy Agency, Federal Technological University of Paraná, Federal University of Paraná Foundation, Brazilian Agricultural research company and other	
Results	<p>Treatment of about 100 tons of organic solid waste from the restaurants of the plant, through the biogas and Biomethane demonstration unit, with a monthly production capacity of 7,500 cubic meters. It produced more than 18,000 cubic meters of bio-methane, enough to supply its own fleet of 84 vehicles, and as a byproduct, 48,000 liters of biofertilizer, used as fertilizer in flowerbeds and lawns.</p> <p>Completion of the implantation of three photovoltaic systems in rural properties, with monitoring of the actual performance of these units.</p> <p>Projects in the western region of Paraná, such as:</p> <ul style="list-style-type: none"> ▪ Signature of the Protocol of Intent “development of integrated distributed generation projects with Microgrids in the western region of Paraná and electric mobility”; ▪ Partnership with the Ministry of Science, Technology, innovation and communication, the United Nations Organization for Industrial Development and Cibiogas for the development of the Global Environment Facility project: Biogas applications in the Brazilian agroindustry; ▪ Closure of the Energy plan agreement of the western region of Paraná; ▪ Implantation of semi-reactors in the biogas laboratory. 	





GRI Content Index

[102-55]

GRI Content Index

General Disclosures

Organizational profile

GRI Standard	Disclosure	Page/Answer	External verification
GRI 102: General Disclosures 2016	102-1 Name of the organization	12	Yes
	102-2 Activities, brands, products, and services	12	Yes
	102-3 Location of headquarters	12	Yes
	102-4 Location of operations	12	Yes
	102-5 Ownership and legal form	12, 14	Yes
	102-6 Markets served	14, 33	Yes
	102-7 Scale of the organization	7, 33, 42	Yes
	102-8 Information on employees and workers	42	Yes
	102-9 Supply chain	71	Yes
	102-10 Significant changes to the organization and its supply chain	There was no significant change in 2018 in the size, structure, shareholding or chain of suppliers.	No
	102-11 Precautionary Principle or approach	In the development of its activities, Itaipu considers the precautionary principle that is applicable to a single irreversible environmental risk: the compromise of the physical safety of the dam of the plant, which is unlikely due to the monitoring service and maintained, which make the company a worldwide benchmark in the theme.	No
	102-12 External initiatives	21	Yes
	102-13 Membership of associations	22	Yes
Energy sector supplement – Organizational profile	EU1 Installed Capacity (MW), by primary energy source and regulatory regime	33	No
	EU2 Net energy output, by primary energy source and regulatory regime	34	Yes

Strategy

GRI Standard	Disclosure	Page/Answer	External verification
GRI 102: General Disclosures 2016	102-14 Statement from senior decision-maker	4	No
	102-15 Key impacts, risks, and opportunities	4, 37	No

Ethics and integrity

GRI Standard	Disclosure	Page/Answer	External verification
GRI 102: General Disclosures 2016	102-16 Values, principles, standards, and norms of behavior	13, 19, 25, 29	Yes
	102-17 Mechanisms for advice and concerns about ethics	29, 30, 31	No

Governance

GRI Standard	Disclosure	Page/Answer	External verification
GRI 102: General Disclosures 2016	102-18 Governance structure	26, 27	Yes
	102-19 Delegating authority	26	No
	102-20 Executive-level responsibility for economic, environmental and social topics	26	No
	102-21: Consulting stakeholders on economic, environmental, and social topics	20	No
	102-22 Composition of the highest governance body and its committees	25, 26, 27	No
	102-23 Chair of the highest governance body	25, 26, 27	No
	102-24 Nominating and selecting the highest governance body	25	No
	102-25 Conflicts of Interest	31	No
	102-26 Role of the highest governance body in setting purpose, values and strategies	28	No
	102-27 Collective knowledge of the highest governance body	28	No
	102-28 Evaluating the highest governance body's performance	28	No
	102-29 Identifying and managing economic, environmental and social impacts	20, 26, 28	No
	102-30 Effectiveness of risk management processes	29	No
	102-31 Review of economic, environmental and social topics	20, 26, 28	No
	102-32 Highest governance body's role in sustainability reporting	8	No
	102-33 Communicating critical concerns	29, 30	No
	102-34 Nature and total number of critical concerns	30	No
	102-35 Remuneration Policies	The fees of the Brazilian advisors and directors are determined by the Federal Government, represented by Eletrobras, and in agreement with the Paraguayan government, as determined by Annex C of the Treaty of Itaipu.	No
102-36 Processes for determining remuneration	42	No	
102-37 Stakeholders' involvement in remuneration	42	No	
102-38 Annual total compensation ratio	The ratio of the total annual compensation of the highest paid individual to the average compensation of all employees is 5.7870. For the preparation of these indicators, the compensation data of Brazilian Officers, Directors and employees, as of 12.31.2018, were considered. For the calculation, the amounts received during 2018 from the following amounts were considered: base salary, annual salary, health hazard, regional surcharge, function bonuses, unhealthiness, hardship, vacation, vacation bonus, thirteenth salary, bonus and profit sharing.	No	

GRI 102: General Disclosures 2016

102-39 Percentage increase in annual total compensation ratio

The ratio between the percentage increase in the total annual compensation of the highest paid individual in relation to the average percentage increase in the average compensation of all employees is 0.8639, and the annual compensation of the highest paid individual in 2018 increased 9.76% compared to the previous year, while the rest of professionals increased by an average of 11.30%. The calculations were made as described in item '102-38'.

No

Stakeholder engagement

GRI Standard	Disclosure	Page/Answer	External verification
GRI 102: General Disclosures 2016	102-40 List of stakeholder groups	10	Yes
	102-41 Collective Bargaining Agreements	100% of employees (except Directors and Council members) are covered by the collective labor agreement signed between Itaipu and four unions	No
	102-42 Identifying and selecting stakeholders	9, 71	Yes
	102-43 Approach to stakeholder engagement	9, 20	Yes
	102-44 Key topics and concerns raise	10	Yes

Reporting practices

GRI Standard	Disclosure	Page/Answer	External verification
GRI 102: General Disclosures 2016	102-45 Entities included in the consolidated financial statements	Itaipu has no consolidated demonstration or equivalent document, since it does not have investments for profitable purposes in other entities.	Yes
	102-46 Defining report content and topic boundaries	11	Yes
	102-47 List of material topics	10	Yes
	102-48 Restatements of information	11	No
	102-49 Changes in reporting	11	No
	102-50 Reporting period	7	No
	102-51 Date of most recent report	7	No
	102-52 Reporting cycle	7	No
	102-53 Contact point for questions regarding the report	For information on this report, please contact the Social Responsibility Office by e-mail: responsabilidadesocial@itaipu.gov.br .	No
	102-54 Claims of reporting in accordance with the GRI Standards	7	Yes
	102-55 GRI content index	83	Yes
	102-56 External assurance	8	Yes

Material topics**Corporate governance**

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	Yes
	103-2 The management approach and its components	26	Yes
	103-3 Evaluation of the management approach	26	Yes

Economic performance

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	34, 38, 70	No
	103-3 Evaluation of the management approach	34, 38, 70	No
GRI 201: Economic performance 2016	201-1 Direct economic value generated and distributed	39, 70	Yes
	201-2 Financial implications and other risks and opportunities due to climate change	34, 35, 37, 81, 82	No
	201-4 Financial assistance received from government	Financier of studies and Projects (FINEP): For the execution of the project "hybrid electric bus to ethanol". From 2013 to December 2018 was deposited the net amount of US \$1.7 million, of which was used US \$1.1 million	No

Indirect economic impacts

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	Yes
	103-2 The management approach and its components	53, 69, 72	Yes
	103-3 Evaluation of the management approach	53, 69, 72	Yes
GRI 203: Indirect economic impacts 2016	203-1 Infrastructure investments and services supported	20, 61, 62, 70	No
	203-2 Significant indirect economic impacts	20, 61, 62, 70, 71, 72, 73, 75, 77, 81, 82	Yes

Procurement practices

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	71	No
	103-3 Evaluation of the management approach	71	No
GRI 204: 2016 Procurement Practices	204-1 Proportion of spending on local suppliers	71	No

Anti-corruption

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	Yes
	103-2 The management approach and its components	29, 30, 31	Yes
	103-3 Evaluation of the management approach	29, 30, 31	Yes
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	29	No
	205-2 Communication and training about anti-corruption policies and procedures	Executive Summary of the 2017 Sustainability Report, which highlighted anti-corruption issues. Four contract management seminars were held, covering 180 employees, which included a lecture on Compliance. Company employees participated in external courses covering compliance, totaling 176 hours of training.	Yes
	205-3 confirmed cases of corruption and action taken	30, 31	Yes

Materials

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	63	No
	103-3 Evaluation of the management approach	63	No
GRI 301: Materials 2016	301-1 Materials used by weight or volume	63	No

Energy

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	53, 66	No
	103-3 Evaluation of the management approach	53, 66	No
GRI 302: Energy 2016	302-1 Energy consumption within the organization	67, 81, 82	No
	302-2: Energy consumption outside the organization	81, 82	No
	302-4 Reduction of energy consumption	66	No

Water

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	53, 63	No
	103-3 Evaluation of the management approach	53	No
GRI 303: Water 2016	303-2 Water sources significantly affected by withdrawal of water	63	No
	303-3 Water recycled and reused	64	No

Biodiversity

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	53, 56, 57	No
	103-3 Evaluation of the management approach	53, 57	No
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	56	No
	304-2 Significant impacts of activities, products and services on biodiversity	54, 56, 57, 58	Yes
	304-3 Habitats protected or restored	56, 58, 59	No
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	56, 57	Yes

Emissions			
GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	Yes
	103-2 The management approach and its components	65	Yes
	103-3 Evaluation of the management approach	65	Yes
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	65	Yes
	305-2 Energy indirect (Scope 2) GHG emissions	65	Yes
	305-3 Other indirect (Scope 3) GHG emissions	65	Yes
	305-5 Reduction of GHG emissions	65, 81, 82	Yes
Effluents and waste			
GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	53, 63	No
	103-3 Evaluation of the management approach	53	No
GRI 306: Effluents and waste 2016	306-1 Water discharge by quality and destination	64	Yes
Environmental Compliance			
GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	29	No
	103-3 Evaluation of the management approach	29	No
GRI 307: Environmental Compliance 2016	307-1 Non-compliance with environmental laws and regulations	There were no noncompliance with environmental laws and / or regulations in 2018.	No
Employment			
GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	42, 47	No
	103-3 Evaluation of the management approach	42, 47	No
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	51	No
	401-3 Parental leave	49	No
Energy Sector Supplement – Employment	EU14 Programs and processes to ensure the availability of a skilled workforce	45	No
	EU15 Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region	50	No
	EU18 Percentage of contractor and subcontractor employees that have undergone relevant health and safety training	45	No

Occupational health and safety

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	45	No
	103-3 Evaluation of the management approach	45	No
GRI 403: Occupational health and safety 2016	403-1 Workers representation in formal joint management-worker health and safety committees	100% of the employees are represented by the Internal Commission for the Prevention of Accidents (CIPA)	No
	403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	46	No
	403-3 Workers with high incidence or high risk of diseases related to their occupation	There is no high risk or high incidence of diseases in places or work activities	No

Training and education

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	44	No
	103-3 Evaluation of the management approach	44	No
GRI 404: Training and education 2016	404-1 Average hours of training per year per employee	44	Yes
	404-2 Programs for upgrading employee skills and transition assistance programs	44, 50	No
	404-3 Percentage of employees receiving regular performance and career development reviews	44	Yes

Diversity and Equal Opportunities

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	42, 47	No
	103-3 Evaluation of the management approach	42, 47	No
GRI 405: Diversity and equal opportunities 2016	405-1 Diversity of governance bodies and employees	48	No
	405-2 Ratio of basic salary and remuneration of women to men	43	No

Non-discrimination

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	30, 31	No
	103-3 Evaluation of the management approach	30, 31	No
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	30, 31	No

Freedom of association and collective Bargaining

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	72	No
	103-3 Evaluation of the management approach	72	No
GRI 407: Freedom of association and collective bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	72	No

Child labor

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	72	No
	103-3 Evaluation of the management approach	72	No
GRI 408: Child labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	72	No

Forced or Compulsory Labor

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	72	No
	103-3 Evaluation of the management approach	72	No
GRI 409: Forced or compulsory labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	72	No

Rights of Indigenous Peoples

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	55	No
	103-3 Evaluation of the management approach	55	No
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	55	No

Local communities

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	36, 47, 53, 55, 72	No
	103-3 Evaluation of the management approach	36, 47, 53, 55, 72	No

GRI 413: Local communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	20, 47, 55, 58, 60, 61, 62, 73, 75, 76, 77, 81, 82	No
	413-2 Operations with significant actual and potential negative impacts on local communities	36	No

Supplier Social Assessment

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	71	No
	103-3 Evaluation of the management approach	71	No
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers selected based on social criteria	71, 72	No
	414-2 Negative social impacts on the supply chain and actions taken	71	No

Public policy

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	since 1997 – with the publication of Law No. 9,504, called the Election Law -, the public service concessionaires are among the prohibited sources of contribution. The decision of the Supreme Federal Court (STF) in 2015, judging the donations of companies to political parties as unconstitutional, contributed to the issue being communicated much more clearly to society.	No
	103-3 Evaluation of the management approach		No
GRI 415: Public Policy 2016	415-1 Political contributions	The company does not make financial contributions to political or Yesilar parties	No

Socioeconomic compliance

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	29	No
	103-3 Evaluation of the management approach	29	No
GRI 419: Socioeconomic Compliance 2016	419-1 Non-compliance with laws and regulations in the social and economic area	There are no records of significant fines penalties, as well as non-monetary sanctions arising from lawsuits in 2018.	Yes

Availability and reliability

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	34	No
	103-3 Evaluation of the management approach	34	No
Energy Sector Supplement - Availability and reliability	EU6 Management approach to ensure short and long-term electricity availability and reliability	34	No

Disaster/ Emergency Planning and Response

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	36	No
	103-3 Evaluation of the management approach	36	No
Energy Sector Supplement - Disaster/ Emergency Planning and Response	EU21 Contingency planning measures, disaster/ emergency management plan and training programs, and recovery/restoration plans	36	No

Research and Development

GRI Standard	Disclosure	Page/Answer	External verification
GRI103: Abordagem de gestão 2016	103-1: Explanation of the material topic and its boundary	9	No
	103-2 The management approach and its components	79	No
	103-3 Evaluation of the management approach	79	No
Energy Sector Supplement - Research and Development	EU8: Research and development activity and expenditure aimed at providing reliable electricity and promoting sustainable development	79	No

Access

GRI Standard	Disclosure	Page/Answer	External verification
GRI 103: General Disclosures 2016	103-1: Explanation of the material topic and its boundary	9	Yes
	103-2 The management approach and its components	33	Yes
	103-3 Evaluation of the management approach	33	Yes
Energy Sector Supplement – Access	EU30 Average plant availability factor by energy source and by regulatory regime	35	Yes

Non-Material Topics

Security Practices

GRI Standard	Disclosure	Page/Answer	External verification
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	44	No

Human rights assessment

GRI Standard	Disclosure	Page/Answer	External verification
GRI 412: Human rights assessment 2016	412-1 Operations that have been subject to human rights reviews or impact assessments	No analyzes or impact assessments were carried out	No
	412-2 Employee training on human rights policies or procedures	44	Yes

UN Global Compact Principles

1. Respect and support internationally recognized human rights in their area of influence

- Itaipu participates in national and international organizations and / or endorses initiatives to defend human rights.
- It adopts social clauses in contracting suppliers.
- It supports initiatives to combat child labor and child sexual exploitation.
- It created the Hospital Ministro Costa Cavalcanti (HMCC), is the founder of the foundation and participates in its management.
- Develops the Border Health Program.
- Develops the Program of Initiation and Incentive to Work (PIIT).
- Develops the volunteer business program Voluntary Force.
- Develops the Reviver quality of life program.
- Develops the Indigenous Communities Sustainability Program.

2. Ensure that the company does not participate in human rights violations

- It determines that companies contracted to provide services prove the payment of salaries and all charges provided for by law and may terminate the contract in case of noncompliance.
- It maintains channels of complaint such as the Ombudsman and the Ethics Committee.
- It stimulates the work of committees that aim to ensure the health and safety of workers.
- Holds seminars on Human Rights for security professionals working in the company.

3. Supports freedom of association and recognize the right to collective bargaining

- All employees have union representation and are covered by Collective Bargaining Agreement.

4. Eliminate all forms of forced or compulsory labor;

5. Effectively eradicate all forms of child labor in its productive chain

- It requires the Declaration of Science and Compliance of Social Commitments of its supplier companies.
- It requires that companies contracted to provide services prove the payment of salaries and other legal charges and may terminate the contract in case of noncompliance.
- Develops the Child and Adolescent Protection Program (PABP).

6. Stimulating practices that eliminate any kind of discrimination in employment

- It adopts salary policies and education programs that are independent of gender, culture, ethnicity, sexual, political or religious orientation.
- It adopts external selective processes for the establishment of staff since 2005 and internal selection process to fill job vacancies.
- Implemented in 2014 the Committee on People with Disabilities and the Gender Equity Committee with Gender Equity Policy and Guidelines since 201
- Has a Conduct Code.

7. Take a proactive and proactive approach to environmental challenges

- It has taken on a business commitment to combat global climate change.
- It develops the Cultivating Good Water Program, with the participation of several partners - participative management.
- Develops the environmental education program.
- It stimulates the use of fuels from renewable sources such as ethanol and biogas.
- It has goals for reducing electricity consumption and fossil fuels.
- It rehabilitates and conserves water resources, ciliary forests, aquatic ecosystems and areas around the reservoir and in the region of the Paraná Hydro-graphic Basin 3 (BP3).
- Performs correct waste disposal and uses recycled materials.

8. Develop initiatives and practices to promote and disseminate socio-environmental responsibility

- It has a Sustainability Policy.
- It acts as an articulator for the formalization of partnerships with Governments, third sector, public and private companies in actions aimed at the sustainable development of the region of influence.
- Promotes the sustainable development goals in its area of influence.

9. Encouraging the development and dissemination of environmentally responsible technologies

- Maintains the Itaipu Technological Park Foundation (FPTI).
- It promotes the research and development of mobility solutions, especially prototypes of electric vehicles and their components.
- Through the Renewable Energy Platform, it develops researches with emphasis on Distributed Biogas Generation.

10. Combat corruption in all its forms, including extortion and bribery

- It has an Ethics Code and maintains complaint channels such as the Ombudsman's Office and the Ethics Committee.
- Signatory and member of several anti-corruption initiatives.
- Permanent, binational working group, which will coordinate integrated risk actions, including those related to fraud and corruption.
- It has its own regulations, the General Standard for Bidding (NGL), which governs contracting of services and procurement of products, as well as conducting binational electronic trading sessions.
- Creation of the Binational Integrity and Compliance Program (Compliance), integrating internal control mechanisms to preserve the resources of corruption.
- Adherence to the Sarbanes-Oxley Act (SOX).
- It submits procedures and documents to the assurance of the Internal Audit and external companies.
- Creation of the Compliance Advisory.

Independent Auditors’ Limited Assurance Report



KPMG Assessores Ltda.
Street Arquiteto Olavo de Campos, 105, 6th floor - Tower A
04711-904 - São Paulo / SP - Brazil
Zip Code 79518 - CEP 04707-970 - São Paulo/SP - Brazil
Telephone +55 (11) 3940-1500, Fax +55 (11) 3940-1501
www.kpmg.com.br

To the Executive Board and
Other Stakeholders

Itaipu Binacional
Curitiba - PR

Introduction

We were contracted by Itaipu Binacional (“Itaipu” or “Company”) with the purpose of applying limited assurance procedures on the compilation of information related to the “Corporate Inventory of Direct and Indirect Emissions of Greenhouse Gas Emissions” of Itaipu, relating to year ended December 31, 2018.

Responsibilities of Itaipu’s management

The management of Itaipu is responsible for the preparation and adequate presentation of the information contained in the “Corporate Inventory of Direct and Indirect Emissions of Greenhouse Gases”, according to the criteria of “The Greenhouse Gas (GHG) Protocol - Corporate Accounting and Reporting Standard - Revised Edition from WRI (World Resources Institute) and WBCSD (World Business Council for Sustainable Development) “- (2004 Revised Edition),” 2006 IPCC (Intergovernmental Panel on Climate Change) Guidelines for National Greenhouse Gas Inventories “,” Specifications of the Brazilian GHG Protocol Program: Accounting, Quantification and Publication of Corporate Emissions Inventories of Greenhouse Gas - Second Edition”, and with the internal controls that it has determined as necessary to enable the preparation of such information free of material misstatement, whether caused by fraud or error.

Responsibility of the independent auditors

Our responsibility is to express a conclusion on the information contained in the “Corporate Inventory

of Direct and Indirect Emissions of Greenhouse Gases”, based on the limited assurance work carried out in accordance with Technical Communication (CT) 07/2012, approved by the Federal Council and based on the NBC TO 3000 (Assurance Assignment Other than Audit and Review) issued by the Federal Accounting Council - CFC, which is equivalent to the international standard ISAE 3000, issued by the International Federation of Accountants, applicable to historical non-financial information statements. These standards require the fulfillment of ethical requirements, including independence requirements, and that the work is performed in order to obtain that the information contained in the “Corporate Inventory of Direct and Indirect Greenhouse Gas Emissions” taken together is free of material misstatement.

A limited assurance engagement conducted in accordance with NBC TO 3000 (ISAE 3000) consists primarily of inquiries to the management of Itaipu and other company professionals involved in the preparation of the information contained in the “Corporate Inventory of Direct and Indirect Emissions of Gas Greenhouse Effect “, as well as the application of analytical procedures to obtain evidence that allows us to conclude in the form of limited assurance on the information taken together. Limited assurance work also requires the execution of additional procedures when the independent auditor becomes aware of matters that lead him / her to believe that the information contained in the “Corporate Inventory of Direct and Indirect Emissions of Greenhouse Gases” taken in may present relevant distortions.

The procedures selected were based on our understanding of the aspects relating to the compilation, materiality and presentation of the information contained in the “Corporate Inventory of Direct and Indirect Emissions of Greenhouse

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Gases "and other work circumstances and our consideration of areas and processes associated with information where relevant misstatements could exist. The procedures comprised:

(a) Planning of the work: consideration of the relevance, coherence, volume of quantitative and qualitative information and of the operating and internal control systems that served as basis for the elaboration of the "Corporate Inventory of Direct and Indirect Emissions of Greenhouse Gases" of Itaipu.

(b) Understanding the calculation methodology and information consolidation procedures through interviews with the managers responsible for data preparation.

(c) Review of calculation log of greenhouse gas emissions under Itaipu's responsibility in Brazil, considering Scope 1 (direct emissions of greenhouse gases), totaling 6,985.39 tons of CO₂e, Scope 2 (indirect emissions of greenhouse gases from energy sources and steam), totaling 72.82 tons of CO₂e, and Scope 3 (other indirect emissions of greenhouse gases), totaling 1,665.65 tons tons of CO₂e, according to the GHG Protocol.

(d) Visit the unit to verify and analyze the evidence, based on sampling, of direct and indirect energy consumption data used in calculations of greenhouse gas emissions.

We believe that the information, evidence, and results obtained in our work are sufficient and appropriate to substantiate our conclusion in a limited manner.

Scope and Limitations

The procedures applied in a limited fastening work are substantially less extensive than those applied in a reasonable assurance work. Consequently, they do not allow us to obtain security that we are aware of all matters that would be identified in a reasonable assurance work, which aims to issue an opinion. If we had performed a reasonable assurance work, we could have identified other matters and possible distortions that may exist in the information contained in the "Corporate inventory of direct and indirect emissions of Greenhouse Gases "of 2018.

Non-financial data are subject to more inherent limitations than financial data, given the nature and diversity of the methods used to determine, calculate, or estimate this data. Qualitative interpretations of materiality, relevance and accuracy of data are subject to individual assumptions and judgments. Additionally, we did not perform any work on data informed for the previous periods, to assess the adequacy of its policies, practices and performance in sustainability, nor in relation to future projections.

Conclusion

Based on the procedures performed, described in this report, nothing has come to our attention that leads us to believe that the information contained in the "Corporate inventory of direct and indirect greenhouse gas emissions" from Itaipu was not compiled, in all relevant respects, in accordance with the guidelines "The Greenhouse Gas (GHG) Protocol - Corporate Accounting and Reporting Standard - Revised Edition from WRI (World Resources Institute) e WBCSD (World Business Council for Sustainable Development)" - (2004 Revised Edition), "2006 IPCC (Intergovernmental Panel on Climate Change) Guidelines for National Greenhouse Gas Inventories" and "Brazilian GHG Protocol Program Specifications: Accounting, quantification and publication of corporate inventories of greenhouse gas emissions – second Edition ", and with the records and files that served as the basis for their preparation.

Sao Paulo, May 31, 2019

KPMG Assessores Ltda.
CRC 2SP034262/O-4 F-SP



Eduardo V. Cipullo
Accountant CRC 1SP135597 / O-6

KPMG Financial Risk & Actuarial Services Ltda.



Ricardo Algis Zibas
Managing Partner

Independent Auditors' Limited Assurance Report



KPMG Assessores Ltda.
Street Arquiteto Olavo de Campos, 105, 6th floor - Tower A
04711-904 - São Paulo / SP - Brazil
Zip Code 79518 - CEP 04707-970 - São Paulo/SP - Brazil
Telephone +55 (11) 3940-1500, Fax +55 (11) 3940-1501
www.kpmg.com.br

To the Executive Board and
Other Stakeholders
Itaipu Binacional
Curitiba - PR

Introduction

We were contracted by Itaipu Binacional (Itaipu or "Company") with the purpose of applying limited assurance procedures on the sustainability information disclosed in Itaipu's 2018 Sustainability Report, for the year ended December 31, 2018.

Responsibilities of Itaipu Binacional administration

The management of Itaipu is responsible for the proper elaboration and presentation of the sustainability information disclosed in the 2018 Sustainability Report according to the Standards for sustainability reporting of Global Reporting Initiative-GRI and with the internal controls it has determined as necessary to enable the elaboration of this information free of relevant distortion, regardless of whether caused by fraud or error.

Responsibility of the independent auditors

Our responsibility is to express a conclusion about the information disclosed in the 2018 Sustainability Report, based on the limited assurance work conducted in accordance with the technical Advisory (CT) 07/2012, approved by the Federal Council of Accounting and elaborated based on NBC TO 3000 (Assurance Assignment Other than Audit and Review), issued by the Federal Council of Accounting-CFC, which is equivalent to the international standard ISAE 3000, issued by the International Federation of Accountants, applicable to non-financial information. These standards require compliance with ethical requirements,

including independence requirements, and the work is performed for the purpose of obtaining limited security that the information disclosed in the 2018 Sustainability Report, taken as a whole, is free from material misstatement.

A limited assurance procedure conducted in accordance with NBC TO 3000 (ISAE 3000) consists primarily of inquiries to the management of Itaipu and other company professionals involved in the preparation of the information contained in the 2018 Sustainability Report, as well as the application of procedures to obtain evidence that enables us to assure on the sustainability information taken as a whole. A limited assurance work also requires the execution of additional procedures when the independent auditor becomes aware of matters that lead him to believe that the information disclosed in the 2018 Sustainability Report, taken as whole, may present relevant distortions.

The selected procedures were based on our understanding of the aspects related to the compilation, materiality and presentation of the information contained in the 2018 Sustainability Report and other circumstances of the work and our consideration of areas and processes associated with material sustainability information disclosed in the 2018 Sustainability Report, where relevant distortions could exist. The procedures comprised:

(a) planning of the work: consideration of the materiality of aspects for the activities of Itaipu, the relevance of the information disclosed, the volume of quantitative and qualitative information and the operating systems and internal controls that served as the basis for the elaboration of Itaipu's 2018 Sustainability Report. This analysis defined the disclosures to be tested in detail;

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(b) understanding and analysis of the information disclosed in relation to the management approach of material aspects;

(c) Analysis of the processes for the elaboration of the 2018 Sustainability Report and its structure and content, based on the principles of content and quality of the Standards for reporting sustainability of the Global Reporting Initiative-GRI (GRI-Standards);

(d) Evaluation of the non-financial disclosures sampled:

- understanding of the methodology of calculations and procedures for compiling the disclosures through interviews with the managers responsible for the consolidation of the information;
- application of analytical procedures on quantitative information and inquiries about qualitative information and its correlation with the disclosures in the 2018 Sustainability Report;
- analysis of evidence supporting the disclosed information;
- visits to Itaipu's plant and offices for application of these procedures, as well as items (b) and (c);

(e) analysis of the reasonableness of reasons for the omissions of performance disclosures associated with aspects and topics pointed out as materials in the materiality matrix of the company;

(f) confrontation of financial indicators with financial statements and/or accounting records;

We believe that the information, evidence, and results obtained in our work are sufficient and appropriate to substantiate our conclusion in a limited manner.

Scope and Limitations

The procedures applied in a limited assurance work are significantly less extensive than those applied in a reasonable assurance work. Consequently, they do not allow us to obtain security that we take knowledge of all matters that would be identified in a reasonable assurance work, which aims to issue an opinion. If

we had performed a reasonable assurance work, we could have identified other issues and possible distortions that may exist in the information contained in the 2018 Sustainability Report.

Non-financial data are subject to more inherent limitations than financial data, given the nature and diversity of the methods used to determine, calculate or estimate this data. Qualitative interpretations of materiality, relevance and accuracy of data are subject to individual assumptions and judgments. Additionally, we do not perform any work on data reported for previous periods, to evaluate the adequacy of its policies, practices and performance in sustainability, nor in relation to future projections.

Conclusion

Based on the procedures performed, described in this report, nothing has come to our attention that leads us to believe that the information contained in Itaipu's 2018 Sustainability Report has not been compiled, in all relevant respects, according to the Standards for sustainability reporting of the Global Reporting Initiative-GRI (GRI-Standards) and with the records and files that served as the basis for their preparation.

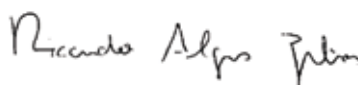
Sao Paulo, May 31, 2019

KPMG Assessores Ltda.
CRC 2SP034262/O-4 F-SP



Eduardo V. Cipullo
Accountant CRC 1SP135597 / O-6

KPMG Financial Risk & Actuarial Services Ltda.



Ricardo Algis Zibas
Managing Partner

Photo Credit

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4	Joaquim Silva e Luna - General Director of Brazil	
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8	Plant spillway with open gutters - aerial view	
11	Plant spillway with open gutters - aerial view	
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15	Biodiversity corridor of Santa Maria	
19 (left)	Employees in external activity	
19 (center)	Plant dam	
19 (right)	Worker in maintenance activity	
24 e 25	Turbine in maintenance	
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Staff

General Coordination

Social Responsibility Advisory Department

Technical Execution

Social Responsibility Management Division

Preparation

Green Domus Desenvolvimento Sustentável

Graphic Design and Layout

Estudio VACA

Photos

Social Communication Advisory

Publication

Asesoría de Responsabilidad Social

Contact

Social Responsibility Advisory Department

responsabilidadesocial@itaipu.gov.br



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