



SUSTAINABILITY REPORT

2016





LETTER FROM THE BRAZILIAN GENERAL DIRECTOR

[G4-1; G4-2]



In 2016, the Itaipu plant was the first hydroelectric plant to exceed the 100 million megawatt-hour barrier, producing exactly 103,098,366 MWh and retaking the title the world's largest electricity producer. In addition to the competence and integration of our staff and partners in Brazil (Eletrobras, Furnas, Copel and National System Operator - ONS) and Paraguay (Ande), our integrated strategic sustainability management was decisive for this historic milestone.

At Itaipu, being sustainable means seeking to take more and better advantage of our main raw material - water - and protect the environment, around our plant and its reservoir, covering its area of influence. Generating energy for socio-economic development and well-being of the population of Brazil and Paraguay, with operational efficiency, while taking care of water and preserving the environment, is vital for us.

We have been incorporating this concept to the fullest into our corporate practices and the environmental protection of our areas of responsibility. We

also believe that our sustainability actions “at home” must be interlinked with those from the “outside”. For this reason, Itaipu has contributed to encourage public authorities, private initiative and general population to use natural resources with the care that is required for these essential goods for life on our planet and can be finite, if poorly explored.

It was with this intention that we signed a technical cooperation agreement with the United Nations Development Program (UNDP) in 2016 to implement a joint agenda on the Sustainable Development Goals (SDG) in the 54 municipalities that are part of the West Development Program.

Also last year, the International Center for Hydroinformatics for Integrated Water Resources Management (CIH), a binational action initiated in 2007 in conjunction with the United Nations Educational, Scientific and Cultural Organization (UNESCO) was promoted to category 2. Thus, CIH has become one of the 28 centers of world reference under UNESCO, offering,

with collaboration of Itaipu, scientific support for the environmental management and the appropriate use of natural resources, through innovative solutions and hydroinformatics tools.

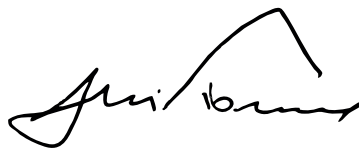
For the next year, our commitment is to maintain and expand actions that we consider fundamental to reach other sustainability goals. To do so, we feel the need to further increase engagement with our internal public, which is essential to reach our new goals through a direct communication channel.

That's why we created the "Chat with Vienna", which has already had two editions in the first 90 days of our management, in which participating employees can expose their wishes and suggestions in an informal and unfiltered conversation during a monthly breakfast.

We also have Itaipu's main challenge for the coming years: the technological update of our plant, which will bring invaluable results for Brazilian and Paraguayan companies. This is a grandiose and necessary project, to be carried out in a way reconciled with optimized production and preventive maintenance, so as not to reduce the pace of energy production.

Thus, with a view to the future, we are pleased to present, in this Report, the results of a record year in energy production and the number of visitors to our plant, and a lot of work in favor of the ever-increasing sustainability at Itaipu.

We wish you a pleasant reading!



Luiz Fernando Leone Vianna
Brazilian General Director



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ABOUT THE REPORT

Scope [G4-28; G4-29; G4-30]

This Sustainability Report presents the initiatives carried out by Itaipu Binacional in Brazil from January 1 to December 31, 2016. The company publishes the document annually for 14 years, with the most recent previous edition referring to fiscal year 2015, released in June 2016.

Coverage [G4-9; G4-17]

Although publication is limited to performance in Brazil, economic, governance and energy production information are binational.

For this document, the industrial area of the plant and the offices located in the cities of Foz do Iguaçu, Santa Helena, Guaira and Curitiba were defined as significant operational units. In 2016, the São Paulo office had only Paraguayan employees, so the information of this unit was not included in this Report.

The Report also presents some information from the three organizations constituted or in which Itaipu participates: Itaipu-Brazil Social Security and Social Assistance Foundation (Fibra), when the subject is private pension; Itaipu Technological Park Foundation (FPTI), addressing the theme of research, innovation and regional development; and Itaipuapy Foundation, in what refers to health services offered in the company's area of influence.

Draft and approval [G4-48]

Sustainability reports are drafted under the coordination of the Social Responsibility Advisory Board, with the assistance of the “Focal Points” (group of employees with representatives of all the boards of directors and of the three foundations maintained by Itaipu) and managers of various areas of the plant.

Methodology [G4-32]

This Report was drafted according to the “In accordance” - Core option of G4 version Global Reporting Initiative (GRI) Sustainability Reporting Guidelines, and submitted to the “Content Index” service, in which GRI confirms that the Content Index is in accordance with the requirements of the GRI G4 Guidelines.

On page 94 you can see the list of reported contents (which include the set of indicators of the electric utilities sector supplement) and their location in the document.

Itaipu Binacional was one of the pioneers, in Brazil and in the Brazilian electricity sector, to adopt the GRI methodology in 2007. Currently, the company participates in the Corporate Group of Leaders Report 2025 and in November 2016 joined the Council of Stakeholders, the GRI Stakeholder Council.

Assurance [G4-32; G4-33]

Itaipu Binacional submits its reports to independent verification since 2004. The company responsible for conducting the assurance is contracted annually through a bidding process. This document has been verified by KPMG and information on the assurance procedure is available on page 106.

Contact [G4-31]

For further information, suggestions, criticisms, or comments on this Report, please contact the Social Responsibility Advisory Board via email (responsabilidadesocial@itaipu.gov.br) or by telephone +55 (41) 3321-4292 and +55 (45) 3520-5922.

Definitions

- In this document, Itaipu Binacional is also called power plant, hydroelectric plant, entity, binational, company and organization.
- “Lake” means the hydroelectric plant’s reservoir.
- The definition of “employees” refers to people who comprise the company’s staff. As for the term “collaborators”, it includes employees, young apprentices, trainees and employees of companies that provide outsourced services that operate in the plant and offices.
- The area of influence of Itaipu Binacional consists of the region of Paraná Basin 3 (BP3), in which rivers, springs and streams flow into the plant’s reservoir. It is composed of 28 municipalities in the western region of Paraná and 1 in Mato Grosso do Sul, totaling 8 thousand km² and about 1 million inhabitants.

Report content definition [G4-18; G4-19; G4-20; G4-21; G4-22; G4-23; G4-27]

The process adopted to define the content of this Report consisted of an analysis of the most relevant material topics identified for the previous edition of the document, aiming to improve the processes and management of themes. In addition, the sustainability reports of the main companies in the Brazilian electric sector and the material themes identified for Eletrobras' Sustainability Report 2016 were used as reference.

The analysis and consolidation of the results considered: verification of the principle of inclusion of stakeholders and context of sustainability to the set of topics raised; assigning the degree of impact and importance of the topic to the stakeholders (materiality matrix) and prioritization; correlation of the topics with GRI G4 aspects and indicators and consideration of the completeness principle.

Six topics were identified as the most relevant to Itaipu, which are listed in the table below. The changes from the previous document are:

- Exclusion of the topics “Energy Tariff” and “Dam Safety,” which are highlighted nationally in specific moments (edition of Provisional Measure 579 in 2012 and disruption of a mining dam in 2015, respectively).
- Improvement in the nomenclature and scope of topics, such as the union of the themes “Conservation of biodi-

versity” and “Contribution to the development of areas of influence”, and “Working conditions” and “Respect for human rights”.

- Inclusion of a GRI aspect (“Occupational health and safety”) and exclusion of three others (“Local communities - decision making and impacts,” “Community health and safety” and “Planning and response to disasters and emergencies”).

The boundaries of topics and aspects within the organization (where the impacts related to the topic or material aspect occur) refer to the operation in Brazilian territory, except for topics whose contents are conceptually inseparable and must also include the Paraguayan territory.

In order to define the boundaries of topics and material aspects outside the organization, the perception of stakeholders consulted in previous cycles on the extent of impacts related to these topics was considered. It is not possible to affirm or quantify the occurrence or not of these impacts outside the organization, since the implementation of a systematic methodology for the accomplishment of formal processes of evaluation of the socio-environmental impacts was initiated in this exercise, for the integration of existing practices.

Material topics [G4-19; G4-27]	Related GRI aspects	Stakeholders who consider the material aspect [G4-21]
TRANSPARENCY AND INTERNAL AND EXTERNAL CONTROL	<ul style="list-style-type: none"> - Governance - Ethics and integrity - Anti-corruption - Public policy - Compliance 	Government and society
ENERGY PRODUCTION AND WATER MANAGEMENT	<ul style="list-style-type: none"> - Organizational profile - Availability and reliability - Management of electricity demand 	Eletrobras and society
SUSTAINABLE DEVELOPMENT OF AREAS OF INFLUENCE	<ul style="list-style-type: none"> - Local communities - Indirect economic impact - Biodiversity 	Local communities
HUMAN RIGHTS AND WORK CONDITIONS	<ul style="list-style-type: none"> - Investment - Freedom of association and collective bargaining - Supplier human rights assessment 	Suppliers
	<ul style="list-style-type: none"> - Employment - Occupational health and safety - Training and education - Human rights grievance mechanisms - Diversity and equal opportunity 	Employees
	<ul style="list-style-type: none"> - Non-discrimination 	Employees and society
	<ul style="list-style-type: none"> - Forced or compulsory labor - Child labor 	Local communities, suppliers and society
	<ul style="list-style-type: none"> - Security practices - Assessment 	Employees, local communities and society
	<ul style="list-style-type: none"> - Indigenous rights 	Indigenous communities, local communities and society
	RESEARCH AND INNOVATION	<ul style="list-style-type: none"> - Research and development
EMISSIONS OF GREENHOUSE GASES (GHG) AND CLIMATIC CHANGES	<ul style="list-style-type: none"> - Emissions 	Society and government

COMPANY PROFILE [G4-56]

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.

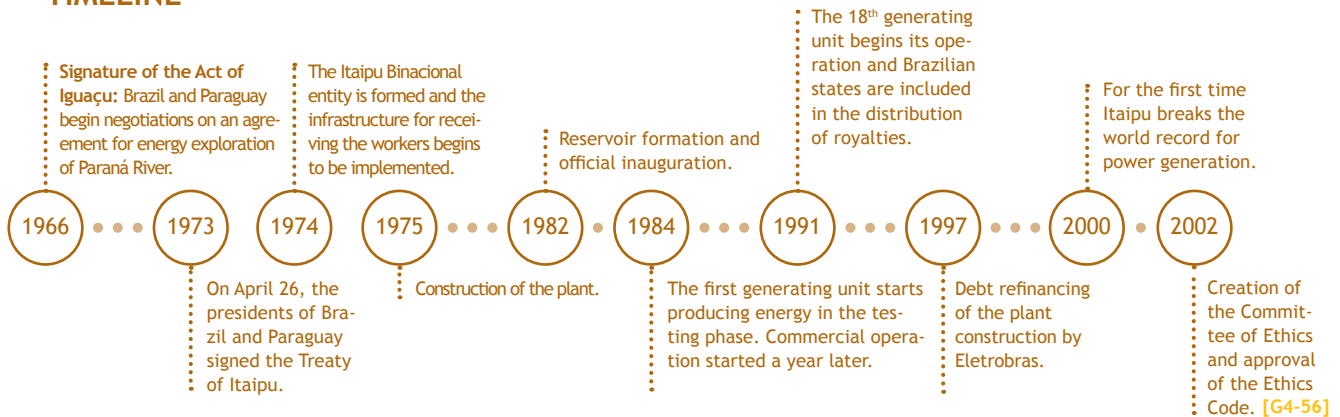
14 Strategic Objectives

<http://www.itaipu.gov.br/en/company/strategic-planning>

Basic Policies and Guidelines

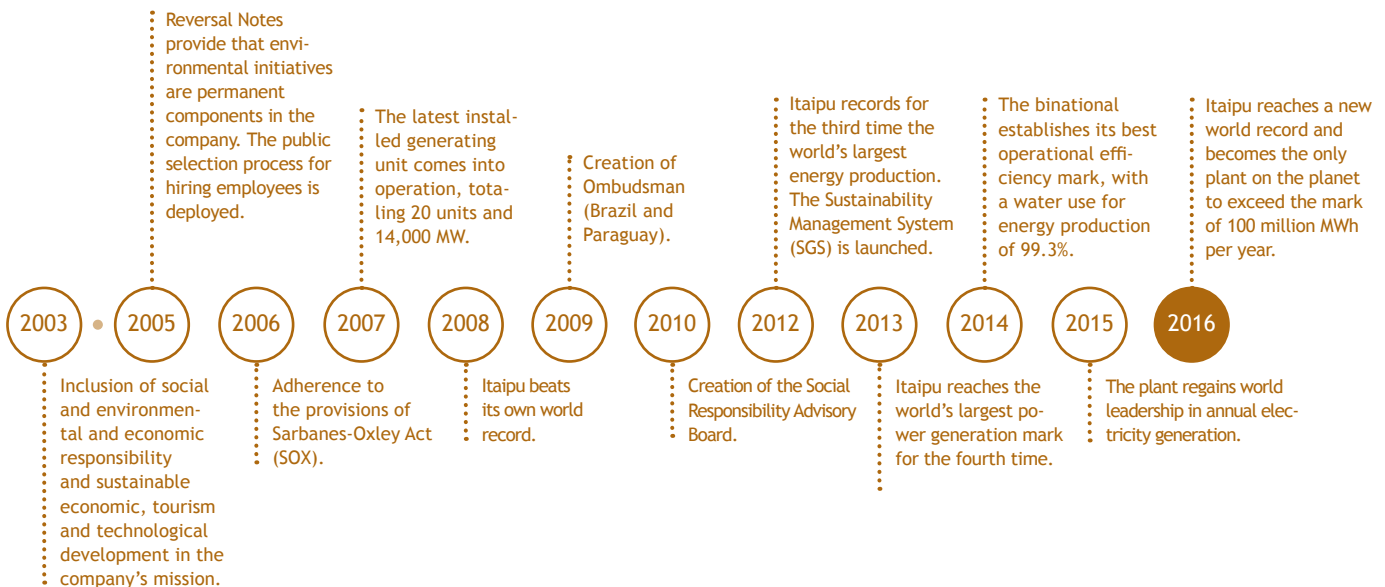
- Respect with the human being
- Binational integration
- Proactivity and innovation
- Accountability and rendering accounts
- Recognition of the people's work
- Corporate sustainability
- Regional sustainable development
- Ethical values

TIMELINE



Binational Sustainability Policy ^[G4-56]

Dimension	Principles
Corporate	<ul style="list-style-type: none"> - Rational, balanced and efficient management of people, resources and business processes. - Ethical, transparent and fair relations, respecting differences. - Comprehensive, integrated and collaborative vision and management of actions. - Commitment to continuous improvement and innovation. - Integrated business risk management. - Sustainable procurement and local supplier development.
Environment	<ul style="list-style-type: none"> - Generation, incentive and use of energy from clean and renewable sources. - Work in partnership with social actors for sustainability. - Conservation and preservation of the environment and respect for biodiversity.
Economic Development	<ul style="list-style-type: none"> - Be an active agent in sustainable human development. - Promote the sustainable development of the territory.
Culture	<ul style="list-style-type: none"> - Effective use of the skills and experiences present in the structure of Itaipu Binacional and its foundations. - Promote and consolidate a culture of sustainability as an example for the world. - Valuing sustainable attitudes.



Itaipu Binacional is a company of international public law, created and governed by the **Treaty of Itaipu**, for the hydroelectric use of the water resources of the Paraná River.

[G4-3; G4-4; G4-7]

The governments of Brazil and Paraguay, represented respectively by the Centrais Elétricas Brasileiras (Eletrobras) and Administración Nacional de Eletricidad (Ande) also share the administration and the right to purchase energy produced for own consumption. [G4-7]

The plant is located on the Paraná River, on the border between Brazil (Foz do Iguaçu) and Paraguay (Hernandarias). The headquarters are in the cities of Brasília and Asunción and there are offices in Curitiba, Foz do Iguaçu, Guaíra, Santa Helena, São Paulo and Ciudad Del Leste. [G4-5; G4-6]

Initiatives that the company voluntarily subscribes or endorses

[G4-15]

- Campaign of Commitment and Action for Maria da Penha Law - The Law is Stronger
- Earth Charter
- Milan Charter
- Consensus of Istanbul on Water - the Water Pact
- Declaration of Corporate Commitment to Confront Sexual Violence against Children and Adolescents
- Guidelines for Responsible Business Conduct for Multinational Enterprises of the Organization for Economic Cooperation and Development (OECD)
- He For She - UN Women
- Child-Friendly Company - Abrinq Foundation
- Forum of Agenda 21 of Paraná and Foz do Iguaçu
- GestãoTransparente.Org
- Day of the Treaty of Environmental Education for Sustainable Societies
- Memorandum of Understanding between the United Nations Development Program (UNDP), Itaipu Binacional and the Itaipu Technological Park Foundation (FPTI): Agenda of joint action on the Sustainable Development Goals (SDG) with the municipalities of the western region of Paraná.
- Memorandum of Understanding with UNESCO: Integrated Water Resource Management
- Memorandum of Understanding between the United Nations Industrial Development Organization (UNIDO) and Eletrobras: Use of renewable energy and energy efficient technologies
- Sustainable Development Goals (SDG)
- Business Pact against the Sexual Exploitation of Children and Adolescents in Brazilian Highways
- Principles of the United Nations Global Compact
- National Human Rights Plan
- Principles of Women's Empowerment (WEPs) of the United Nations Global Compact and UN Women
- Principles for Responsible Business Education (PRME)
- Network of Companies for the Learning and Eradication of Child Labor
- Treaty of the Prata Basin

Participation in national or international associations and organizations ^[G4-16]

			Board of Governance	Projects and Commissions	Contributes with financial resources*
Sector	Hydropower: energy reliability and efficiency	Brazilian Association of Electric Energy Companies (ABCE)			
		Brazilian Association of Electricity Generating Companies (Abrage)		GT	
		Electrical Energy Research Center (Cepel)	CB	GT	
		Brazilian Association of Electric Power Transmission Companies (Abrate)		GT	
		Brazilian National Committee for the Production and Transmission of Electric Power (Cigré-BR)	CB	GT	
		Acende Brasil Institute	CB		
		Brazilian Committee of Dams (CBDB)		CB	
		World Energy Council (CBCME)		CB	
		World Energy Council (IHA - International Hydropower Association)	CB		
		Eletrobras Integrated Energy Efficiency Committee (Cieese)		CB	
	Maintenance and conservation	Brazilian Association of Technical Standards (ABNT)		CB	
		Brazilian Institute of Concrete (Ibracon)		GT	
		Brazilian Association of Maintenance and Asset Management (Abraman)		CB	
		Regional Council of Engineering and Agronomy (CREA)		CB	
		Brazilian Association of Non-Destructive Testing and Inspection (Abendi)		CB	
		Network of Laboratories of the Electric Sector (Relase)		CB	
Water resources	World Water Council (WWC) - Brazil Section				
	Brazilian Association of Water Resources (ABRH)		CB		
	Center of Socio-Environmental Awareness and Care of the Prata Basin				
	Intergovernmental Committee Coordinating Countries of the Prata Basin (CIC)				
Human rights and women empowerment	Women's Empowerment Principles (WEPs) Advisory Council of the United Nations Global Compact and UN Women	MLG	GTA		
	Standing Committee on Gender Issues of the Ministry of Mines and Energy and Related Companies				
	Municipal Council of Women's Rights of Foz do Iguaçu				
	National Council for Food and Nutrition Security (Consea)				
	State Council for Food and Nutrition Security of Paraná (Consea-PR)				
	Foz do Iguaçu Municipal Council for Food and Nutrition Security (Comsea)				
	Joint Action Plan between Brazil and the United States for the Elimination of Ethnic Racial Discrimination and Gender in the Promotion of Equality				
	Committee of the Border between Brazil, Paraguay and Argentina to Combat Violence and Trafficking in Women				
	Executive Women's Space (MEX)	DIR			
	Safe Labor Program of the Superior Labor Court				
	National Social Mobilization Network (Coep)				
	Study Committee on Gender Violence of OAB/PR				
	Secretariat of Public Policies for Women of the Presidency of the Republic				
Committee on the Ten-Year Plan for the Rights of Children and Adolescents of Foz do Iguaçu					

Participation in national or international associations and organizations [G4-16]

			Board of Governance	Projects and Commissions	Contributes with financial resources*
Sustainability	Management	Global Reporting Initiative (GRI)		GCLR	
		Brazilian Committee of the United Nations Global Compact (CBPG)		GTMC, GTDH, GTAC	
		International Center of Renewable Energies (CIBiogas)			
		Food and Agriculture Organization of the United Nations (FAO)		PCD	
		United Nations Development Program - UNDP		PEA	
		Ethos Institute of Business and Social Responsibility			
		National Program of Public Management and Debureaucratization - Paraná State Nucleus			
		Coge Foundation: Board of Trustees			
	Citizenship and volunteering	Brazilian Business Volunteer Council (CBVE)	CG		
		International Association for Volunteer Effort - IAVE	RB		
		Paranaense Council of Corporate Citizenship (CPCE) - Nucleus of Industries and Trade Unions			
		Eletrobras Environmental Education Commission			
		Brazilian Women Leaders Network for Sustainability			
	Biodiversity	Life (Lasting Initiative For Earth) Institute	CTP		
		Business Movement for the Conservation and Sustainable Use of Biodiversity (MEB)			
Eletrobras Subcommittee on the Environment (SCMA)					
Regional development and integration	American Chamber of Commerce for Brazil (Amcham)				
	Brazilian Committee of the Regional Energy Integration Commission (BRACIER)				
	Council for Economic and Social Development of Foz do Iguaçu (Codefoz)				
	Organic Production Commission of the State of Paraná (CPORG - PR)				
	Council of the Community of Foz do Iguaçu				
	South Development and Integration Council (Codesul)				
	National Quality Foundation (FNQ)				
	Competitive Brazil Movement (MBC)				
	Competitive Paraná Movement (MPC)				
	World Trade Center Business Club Curitiba (WTC)				

* In addition to the basic rate as an associated organization.

** All associations and organizations listed above are considered strategic.

LEGENDS:

DIR - Board of Directors

CB - Brazilian Committee

GT - Thematic Working Group

MLG - Leadership Group Member

GTA - Working Group to monitor the implementation of the Women's Empowerment Principles

GTMC - Thematic Working Group for Climate Change

GTDH - Thematic Working Group on Human and Labor Rights

GTAC - Thematic Working Group on Anti-Corruption

GCLR - Related Leaders' Corporate Group 2025

CG - Managing Committee

RB - Brazilian representation

PCD - Contribution to the Development of Socio-Environmental Policies Project that allow the production of sustainable goods and services in agricultural, livestock, forestry and fishery systems.

CTP - Permanent Technical Committee

PI - Protocol of Intent for technical-scientific cooperation for the development and joint execution of actions, programs and projects of common interest that contribute to regional development in a sustainable way.

GOVERNANCE AND TRANSPARENCY

Itaipu Binacional is the result of intense diplomatic negotiations between the governments of Brazil and Paraguay, aiming to exploit the Paraná River’s hydroelectric potential by the two countries, which culminated in the signing of the **Treaty of Itaipu** on April 26, 1973. The document provided for the creation of the Itaipu binational entity, which occurred one year later, to manage the plant construction and management.

The company is governed by the Treaty and its three annexes and, whenever compatible or provided for in the Treaty, it is aligned with the legal paradigms in force in the two partner countries. The innovative management model shared by two nations has served as a reference for similar initiatives around the world.

The entity’s capital, as well as rights and duties, are divided equally between the two countries, represented by Centrais Eléctricas Brasileiras (Eletrobras), a mixed economy company linked to the Brazilian Ministry of Mines and Energy, and Administración

Nacional de Electricidad (Ande), Paraguayan autarchy.

The superior management bodies are the Supervisory Board and the Executive Board of Directors, constituted in equal number of Brazilians and Paraguayans appointed by the respective governments. The term of office is four years for advisors and five years for directors. In both cases, the members may be reappointed or replaced at any time, as decided by governments. **[G4-DMA]**

Commitments

The attributions and competencies of the Supervisory Board and the Executive Board of Directors are set forth in Annex A of the Itaipu Treaty and the entity’s Internal Regulation. The Executive Board of Directors meet twice a month and the Supervisory Board holds six regular meetings a year, but special sessions may exceptionally be called. The General Directors and representatives of the Ministries of Foreign Affairs participate in Supervisory Board meetings but do not have the right to vote.

Governance structure* [G4-34; G4-38]



*The Ombudsman and Internal Audit are organizational units linked to the Supervisory Board.

Members of the high governance as of 06/29/2017 [G4-13; G4-34; G4-38; G4-39]

Supervisory Board	
Brazil	Paraguay
Paulo Estivallet de Mesquita ¹	Aníbal Saucedo Rodas
Orlando Moisés Fischer Pessuti ²	Francisco Arcidio Oviedo Brítez ¹³
Paulo Jerônimo Bandeira de Mello Pedrosa ³	Leila Teresa Rachid Lichi
Adailton da Rocha Teixeira ⁴	Osvaldo Román Romei
⁵	Sixto Luís Duré Benitez
⁶	Victor Raúl Romero Solís
Representative of the Ministry of Foreign Affairs	
Marcos Bezerra Abbott Galvão ⁷	Atanasio Cándido Aguilera Fernández ¹⁴
Executive Board of Directors	
Brazilian Board	Paraguayan Board
General Director: Luiz Fernando Leone Vianna ⁸	General Director: James Edward Clifton Spalding Hellmers
Executive Technical Director: ⁹	Technical Director: José María Sánchez Tillería
Legal Director: César Eduardo Ziliotto	Executive Legal Director: Luis Alberto Breuer Gonzalez ¹⁵
Administrative Director: Marcos Antonio Baumgärtner ¹⁰	Executive Administrative Director: Carlos Jorge Paris Ferraro
Executive Financial Director: Marcos Vitório Stamm ¹¹	Financial Director: Miguel Ángel Gómez Acosta
Coordination Director: Hélio Gilberto Amaral ¹²	Executive Coordination Director: Francisco Pedro Domaniczky Lanik

1 - Appointed on 10/20/2016 to hold a position vacant as of 05/16/2016 with the end of Jaques Wagner's term of office.

2 - Appointed on 03/23/2017 to hold a position vacant as of 05/16/2016 with the end of Roberto Átila Amaral Vieira's term of office.

3 - Appointed on 03/23/2017 to hold a position vacant as of 05/16/2016 with the end of Alceu de Deus Collares' term of office.

4 - Appointed on 03/23/2017 to hold a position vacant as of 05/16/2016 with the end of José Antônio Muniz Lopes' term of office.

5 - Vacant as of 05/16/2016 with the end of Giles Carriconde Azevedo's term of office.

6 - Vacant as of 05/16/2016 with the end of Maurício Requião de Mello e Silva's term of office.

7 - Appointed on 10/20/2016 to replace Sérgio França Danese. The member representing the Ministry shall not have the right to vote in Supervisory Board decisions.

8 - Appointed as of 03/13/2017 to replace Jorge Miguel Samek.

9 - Appointed on 03/13/2017 to replace Airton Langaro Dipp, rendered null and void on 03/23/2017.

10 - Appointed on 03/13/2017 to hold a position vacant as of 08/09/2016 with the death of Edésio Franco Passos.

11 - Appointed on 03/13/2017 to replace Margaret Mussoi Luchetta Groff.

12 - Appointed on 06/08/2017, after the appointment made on 03/13/2017 (to replace Nelton Miguel Friedrich) was rendered null and void on 03/23/2017.

13 - Appointed on 09/20/2016 to replace Carlos Alberto González Garabelli.

14 - Appointed on 08/08/2016 to replace Carlos Maria Ocampos Arbo.

15 - Appointed on 10/29/2014 to replace Benigno María López Benitez.

Business Plan

The administration of Itaipu takes place in a fully binational way, and all decisions related to business management, energy planning and the contracting of power and tariff are the result of agreements and consensus between the representatives of Brazil and Paraguay, and when applicable, of the entities that own Itaipu: Eletrobras and Ande.

The management model, established by the Internal Regulation, is the Business Planning and Control System (SPCE). The Business Plan incorporates the concepts of management of the Balanced Scorecard (BSC) methodology to consolidate indicators and their goals, and is composed of three strategic, tactical and operational plans.

The Strategic Plan is oriented to decision making. It defines the vision, the policies, fundamental guidelines and the strategic objectives that the entity intends to reach within the five year horizon. The elaboration process involves the participation of the Brazilian and Paraguayan directors, managers and employees. The plan is submitted systematically and formally to an annual review and may undergo further revisions whenever the General Directors deem it necessary.

The Tactical Plan contains the indicators and targets that allow measuring performance in the pursuit of strategic objectives and the goals to be achieved in each one of them, besides guiding the formulation, revision or adaptation of programs, projects and actions in the Operational Plan.

Priority Projects

In 2015, a tactical and operational review of the Business Plan was carried out, with the participation of employees, in which 15 prioritized projects were defined. Throughout 2016 progress was made in the projects of sustainable mobility (further information on page 90), civil infrastructure (with implementation of improvements in buildings and traffic and sanitary treatment of effluents/waste), implementation of binational solid waste management plan and implementation of the compliance program (further details on page 27).

Business goals

Material Topic Related GRI aspect		SUSTAINABLE DEVELOPMENT GOALS (SDG)																	GLOBAL COMPACT PRINCIPLES												
																			HUMAN RIGHTS	LABOR	ENVIRONMENT	CORRUPTION									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17													
Human rights and working conditions	Training and education	78%	There was no climate survey	78%	No poverty	Zero hunger	Good health and well-being	Quality education	Gender equality	Clean water and sanitation	Affordable and clean energy	Decent work and economic growth	Industry, innovation and infrastructure	Reduced inequalities	Sustainable cities and communities	Responsible consumption and production	Climate action	Life below water	Life on land	Peace, justice and strong institutions	Partnerships for the goals	Support and respect the protection of internationally proclaimed human rights	Ensure not complicit in human rights abuses	Uphold the freedom of association and the effective recognition of the right to collective bargaining	Elimination of all forms of forced and compulsory labor	Effective abolition of child labor	Eliminate discrimination in respect of environmental challenges	Support a precautionary approach to environmental challenges	Develop initiatives to promote greater environmental responsibility	Encourage the development and diffusion of environmentally friendly technologies	Businesses should work against corruption in all its forms, including extortion and bribery
	Average of the overall result of all employee evaluations in the Performance Management System (Brazilian margin)	1.8	2.3	1.8																											



Sustainable Development Goals (SDG)

Itaipu Binacional has been working to broaden its alignment with the most advanced international guidelines, protocols and platforms adopted for the sake of sustainable development, in particular the SDGs advocated by the United Nations.

Several actions developed by the plant contemplate the main world agenda. This experience of Itaipu Binacional

is part of the unpublished study launched in April 2017: “Integration of ODS into Business Strategy - A Contribution of the Brazilian Committee of the Global Compact to Agenda 2030”. The material presents the efforts and challenges of the 21 companies that compose the Committee and seeks to promote the SDG in Brazil, with an emphasis on engagement and awareness of business leaders.

Itaipu already operates in alignment with all the Sustainable Development Goals (SDG)	1 PEOPLE	2 CLEAN WATER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR GOAL ACHIEVEMENT	
Generation of clean and renewable energy		■				■	■	■				■	■	■				
Research, innovation and development of climate-friendly technologies						■	■	■				■	■	■	■			■
Energy at cost price for the economic and social development of the two countries						■	■	■				■	■	■				■
Preservation of the environment and biodiversity		■						■	■		■	■	■	■	■			■
Protection of water sources and ciliary forest		■						■	■		■	■	■	■	■			■
Child and adolescent protection programs linked to sport and culture	■		■		■			■		■	■							■
Respect for gender equality and empowerment of women	■		■		■			■		■								■
Business Volunteer Program - Voluntary Force	■	■	■	■	■			■		■								■
Support for the dissemination and promotion of regional tourism								■		■			■					■
Distribution of royalties to the communities of the two countries	■	■	■	■		■		■		■			■					■
Encouraging family farming and organic farming		■						■				■	■	■	■			■
Sustainability of indigenous communities, settlements and quilombolas		■				■		■			■	■	■		■			■
Campaigns against child and youth violence, child labor and sexual exploitation	■		■		■			■		■								■
Environmental and financial education for children and young people	■			■	■	■		■					■	■				■
Cooperation between public and private agents for sustainable territorial development						■	■	■	■	■	■	■	■	■	■			■
Partnerships with universities encouraging undergraduate and postgraduate technical training		■	■	■		■	■	■	■	■					■			■
Investment in preventive health, hospitals and basic health actions in the triple border						■	■	■	■	■		■	■					■
Programs to encourage alternative sources of energy, such as biogas and solar energy		■	■			■	■	■	■	■		■	■					■

Anti-corruption [G4-DMA; G4-57; G4-58]

Itaipu's commitments to fully and consistently combat any type of event that may characterize fraud or corruption are described in the Basic Policies and Guidelines, in the Binational Sustainability Policy and in the Ethics Code, which applies to directors, officers, employees and the entire value chain.

The company approved the binational integrity/compliance program in July 2017, and a working group is finalizing the project to implement an integrated enterprise risk management system based on the methodology of the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Specifically for the risk of fraud and corruption, based on an Eletrobras guideline, at the beginning of 2017, the Executive Board of Directors determined the creation of another permanent working group of binational character responsible for coordinating the actions related to the subject with the other entity bodies, and that will report its actions and results directly to the company's top management.

Sarbanes-Oxley Act (SOX)

[G4-S03]

Adherence to the rules of the Sarbanes-Oxley Act (SOX) has become one of the main actions to improve Itaipu's corporate governance in recent years. One of the main aspects is the identification of risks and the establishment of internal controls that attest the authenticity, completeness and transparency of the information used in the preparation of its financial statements.

The binational has a management group, established in 2008 that coordinates the work of adapting the business processes to the SOX precepts. Verification of compliance is performed by internal and external audits, which evaluate the performance of various internal controls and any deviations of function that may occur due to situations of error, fraud or corruption. In all, there are 23 processes, mapped in 100% of the operations, considering material that has risk events analyzed.

Initiatives

- **Ethics Code.**
- **Code of Conduct for Suppliers.**
- Independent internal binational audit, which reports directly to the Supervisory Board.
- External audit contracted to verify the accounting processes and financial statements, which is changed every two years.
- Implementation of computerized financial management systems (ERP).
- Hiring of rating companies to assess the financial strength and ability to pay debts.
- Implementation of binational electronic tool for procurement of products and services.
- **Sponsorship Policy**, updated in February 2017, which has a specific computerized system to assist in the management of solicitations and sponsorship concessions, implemented in 2016.
- Requirement to render accounts of the application of resources passed through agreements, sponsorships and donations. If the information is not presented or approved by Itaipu, the beneficiary is required to fully refund the amount granted. Periodically, the donation and sponsorship actions are evaluated by the Internal Audit and External Audit.
- Signatory of the Global Compact Principles.
- Member of the thematic committee to combat corruption in the Brazilian network of the Global Compact.
- Signatory of UN “Call to Action: Anti-Corruption and the Global Development Agenda.”
- Adherence to the GestaoTransparente.org, a Portuguese anti-corruption project.
- Member of the Ethos Institute - thematic committee on anti-corruption (GT Integrity).
- Member of the Directive Compliance Committee (CDC) of Eletrobras System.

Complaints

Any procedures or actions considered inappropriate may be communicated (by the internal or external public) to the Ombudsman, who is responsible for receiving the complaints and screening, classifying them as an ethical misconduct (which is referred to the Ethics Committee), disciplinary failure (referred to the related management area) or lack of integrity (compliance).

In the latter case, the Ombudsman checks materiality/plausibility and, as there is not yet a compliance area in the company, usually refers the cases to the Internal Audit, which performs an analysis to identify if there are enough elements to accept the complaint. The next step is to send it to the legal area, which performs a more in-depth analysis, and then the Ombudsman presents the set of information for deliberation of the Brazilian General Director.

Although there is still no formal process of reporting to the Supervisory Board on the situation of unethical conduct related to corporate integrity, the Brazilian General Director has such responsibility. Since the Ombudsman's Office was created in 2009, there was no need to report any cases to senior management. All complaints received, whether applicable or not, are reported monthly to the Eletrobras Ombudsman's Office.

The Ombudsman also receives questions presented in other complaint channels, such as Eletrobras, Ministry of Mines and Energy, Office of the Controller General (CGU), Presidency of the Republic, etc. Manifestations involving critical concerns, complaints or any other type of questioning that could bring any risk to the company's image that are received through Itaipu's "Contact Us" are forwarded to the Ombudsman's Office.

Ethics Committee [G4-DMA; G4-56; G4-57; G4-58]

Created in 2002, the Committee is binational, composed of six titular members with equal representation of Brazilian and Paraguayan employees, appointed by the Supervisory Board, and at least one representative of the Legal Board of each country.

The term of office is three years and may be renewed only once, and regular meetings occur every two months. The resolutions are only valid with the presence of all the titular members and the decisions are adopted by majority of votes.

Any individual or legal entity may submit a complaint, in written or verbal form, against an employee or outsourced service provider of Itaipu. Once the complaint has been made, two members, one of each nationality, are appointed to conduct the inquiries within a period of up to 90 days. A report is sent to the General Directors with the recommendation of appropriate measures.

A committee member who has a direct or ongoing relationship with the investigated person shall not attend meetings and deliberations. The determination of infraction committed by a member of the committee is determined by a group designated by the Executive Board of Directors. As for cases of infractions committed by director or advisor, they are evaluated "ad hoc" by the Ethics Committees, with members appointed by the Supervisory Board, Ande and Eletrobras.

0 records of lawsuits

filed against Itaipu, its employees or business partners related to the subject of corruption.

[G4-S05]

21 complaints received

by the Ombudsman on ethical behavior in the year. One was considered valid, three were dismissed and seventeen were referred to the Paraguayan administration, since it was a matter of their governability. None of the events were referred to the Ethics Committee. [G4-S05]

8 complaints

about ethical behavior were received and analyzed by the Ethics Committee in 2016. [G4-S05]

1 online training

conduct on an experimental basis by all Brazilian employees, including directors. The course “Integrity and Ethics - Compliance” was developed by the Corporate University of Eletrobras Companies (Unise) and addresses the main concepts related to the fight against corruption, existing legislation and regulations. [G4-S04]

Transparency

Itaipu is subject to binational rules of supervision, auditing and special mechanisms for transparency and access to information arising from the International Treaty that governs it. And although it is not subject to the Law of Access to Information, the entity seeks to be in line with such a rule.

A binational working group is developing the company’s Binational Policy on Access to Information, which is being approved. Even before the policy was implemented, the company’s website has undergone a modernization and offers the public various topics of interest grouped in the “**Access to Information**” icon. Data not available on the website can be requested through the Contact Us (itaipu@itaipu.gov.br) or the Ombudsman.

Ombudsman [G4-DMA; G4-49; G4-50; G4-57; G4-58]

Created in 2009 to meet the external public, the Ombudsman’s Office began to receive the demands of the internal public as of 2012. The body is subordinate to the Supervisory Board, which annually receives a report with the results, critical concerns and also recommendations.

The Brazilian General Director is informed monthly about the manifestations received during the period. Critical situations that require referral are communicated in person or by correspondence.

In 2016 the Ombudsman’s Office did not receive any manifestation that was configured as “critical concern” or that

needed to be brought to the attention of the Supervisory Board. However, among the actions and recommendations indicated in the annual report, previously communicated to the Brazilian General Director, there was a need to revise the standard, aiming at a greater alignment with the rules of Eletrobras Ombudsman's Office and the Union's Ombudsman's Office (OGU), in addition to the recommendation that the topic of compliance be studied and analyzed binationally, so that Itaipu can implement its integrity program.

Two of the main suggestions presented by the community through the channel were: opening of the bathrooms of Gramadão da Vila A (an outdoor concert and event venue in a residential neighborhood near the plant) for the external public; and construction of an access ramp for wheelchair users, on Av. Tancredo Neves, in Foz do Iguaçu.

Contact forms

- Website
- Intranet
- Telephone:: +55 45 3520-6800
- Email: ouvidoria@itaipu.gov.br
- Letter
- Scheduled personal appointment (in Foz do Iguaçu)

47%

is the growth of the number of appointments recorded in the last three years.

285

is the total number of events received in 2016. The previous year it was 232 and 194 in 2014.

87%

of the demands are from the external public. The requests for information of technical and historical data lead the ranking of manifestations.

10%

of the contacts were anonymous.

20

calendar days is the average term to meet the demands. The standard provides that the maximum response time is up to 30 business days.

39%

of the manifestations were made through the electronic form of the Ombudsman System (SOU) available on the Internet and Intranet.

OPERATIONAL EFFICIENCY

Itaipu Binacional plans to achieve the best global operating performance by the year 2020. But by 2016 the company exceeded all expectations by becoming the first hydroelectric plant in the world to generate, in less than a year, 103 million megawatt-hours (MWh).

In addition to exceeding all its own records, the company was again vital to the development of Brazil and Paraguay in 2016. The increase in generation meant more electricity available to Brazilian consumers, from a clean and renewable matrix.

The plant also contributes in various ways to the country's energy reliability: with availability of power at peak summer consumption (peaks can reach values similar to the demand of the city of São Paulo); with greater installed capacity of MW (reserve of rotating power and dynamic stability of the system); and with emergency control schemes, which guarantee the elevation of generation and transmission limits of the entire National Interconnected System.

In 32 years of operation, the plant is at the peak of production, which was achieved thanks to an excellent synergy between the best use of the water that reaches the reservoir and the use and preservation of the equipment. This is only possible due to the good coordination between all areas of the Technical Board (Works, Engineering, Maintenance and Operation) with the transmission systems operated by Furnas, Copel and National System Operator in Brazil (ONS), and Administración Nacional de Electricidad (Ande) in Paraguay.

As it is not possible to expand the generation plant, the annual production target of 100 million MWh (posed as a challenge by the board by the end of 2012, the year in which production reached 98 million MWh) must last for at least 20 years. To ensure that in the next 50 years the plant continues to perform as it did in these first three decades, an ambitious technological update plan began to run in March 2017 (further information on page 34). [\[G4-DMA\]](#)

Videos available on the Itaipu Channel on YouTube:

Itaipu reaches 100 million MWh and Itaipu has a historical production in 2016

15.6%

is the percentage that the generation of 2016 was superior to the production of the previous year (89.2 million MWh).

96.2%

is the rate of utilization of water resources by Itaipu for energy production in 2016. That is, of all water that arrived at the hydroelectric plant and that, according to the technical limits of the plant's design, could have been used, 96.2% was effectively transformed into electricity.

2.4 billion MWh

were produced since Itaipu began its operation in 1984. The hydroelectric plant is the world leader in accumulated production and hardly another plant will be able to overcome this generation.

93 million

MWh is the average annual generation of Itaipu in the last ten years.

700 MW

is the nominal capacity of each generating unit, enough to supply 2.5 million households with average monthly consumption of 200 kWh.

14,000 MW

is the installed capacity of Itaipu.

Net energy output broken down by primary energy source (in GWh) [G4-EU2]

SOURCE	2016	2015	2014
<i>Hydraulic</i>	102,335	88,575	87,165

Net energy output broken down by regulatory regime (in GWh) [G4-EU2]

	2016	2015	2014
<i>Brazilian Electrical System</i>	91,108	77,939	76,522
<i>Paraguayan Electrical System</i>	11,227	10,636	10,644

Market share [G4-8]

	2016	2015	2014
<i>Brazilian Electrical System</i>	16.8%	14.6%	14.2%
<i>Paraguayan Electrical System</i>	75.6%	75.0%	79.1%

Modernization [G4-DMA]

Itaipu was built with state-of-the-art electromechanical technology available in the 1970s. Over the years, partial upgrades of equipment and systems have been carried out, always in a timely manner. In the early 2000s the process of digitalization of the plant began with the implementation of the Digital Supervision and Control System (SCADA) and the Energy Management System (EMS). The two last generating units also use digital control technology.

Now, the binational wants to go one step further with an ambitious modernization plan. The objective is the full replacement of equipment and systems for supervision, control, protection, measurement, speed regulator and excitation (especially those that are no longer manufactured and are now maintained or recovered by Itaipu's laboratories) by a new architecture of automation based on digital technology, which adds new information and functionalities.

Heavy electromechanical equipment such as turbine, generator, transformer and high voltage circuit breaker are in excellent condition and are not part of the scope of the update at this time.

The expectation of Itaipu is to update the systems of two generating units per year. Each unit will need to be stopped during the process. However, with accumulated experience, it is possible for the pace to accelerate as the project is executed.

Currently Itaipu is developing the basic project and executing the stage of elaboration of the technical specifications of equipment that will be acquired. The expectation is to launch the bidding process for the acquisition of these systems until early 2018.

US\$ 500 million

is the amount of investment planned in the project.

5 years

was the time dedicated to the elaboration of the modernization plan, which involved Brazilian and Paraguayan teams and even had the contribution of the plant's first generation of engineers.

10 years

is the deadline for completion.

2003

the year in which the preliminary plan was drawn up, which consisted previously of elaborating the guidelines for technological updating and assessing the condition of all the equipment that forms the hydroelectric assets, which was completed in 2008.

Production management, availability and reliability [G4-DMA]

Itaipu's production management relies on the good individual and relational performance of four main variables, called capacity restricting resources. They are: water, plant equipment directly related to the production (the main ones are the generating units and transformers), the transmission system of the sectors of 50 and 60Hz, and the demand of the two countries that consume the energy produced by the plant - resource whose activity of Itaipu has the least influence.

The availability of generating units is the variable that the company has greater governance. Technological updating of the project, assemblies of new equipment, preventive maintenance and real-time operation are some examples of activities that can directly affect the reliability, the programmed availability and the unavailability of a generating unit or an elevator transformer. Such data are so relevant that they are monitored by the Supervisory Board.

Based on the experience gained with the disassembly and reassembly of the U6 generator unit to repair the turbine wheel, between September 2010 and March 2012, it was possible to revise the Periodic Maintenance Plan. Until then, the machine stops occurred semianually, yearly, biannually and four-yearly. As of 2013, they will be semianually, yearly, trisemianually and triennial.

The new format has reduced the time of the stops - the annual one, for example, that was performed in nine days, happened to be completed in just one day. Another factor that contributed significantly to the increase in production

was the adjustment, within certain technical limits, of the moments of preventive or corrective programmed unavailability according to the hydrological sign of the affluence and/or customers' demand.

The binational partnership in the Technical area, especially between Operation and Maintenance, has made possible the systematic and sustainable optimization of the plant's production and productivity, in a work philosophy that has been called "Dance with the Waters" within the company. The schedule of all preventive maintenance and project improvement interventions is made at least a year earlier, but monthly, following the "Dance with the Waters" strategy, there is a fine adjustment between the Operation, Maintenance and Works areas (eventually the Project Engineering area is also involved), in order to plan the unavailability time for the next three months always considering the internal needs of the plant and its supply chain, as well as the affluence and planning of Brazilian and Paraguayan operators (ONS and Ande). In 2016, all scheduled maintenance was carried out, with 13 machines stopped (8 triennial and 5 trisemianually repairs).

The forced unavailability rate of generating units in 2016 was 0.07%, that is, this year was seven times better than the business target that establishes that it should be less than 0.5%.

Average availability factor of the plant's generating units [G4-EU30]

	2016	2015	2014
<i>Number of planned outage hours (at least two weeks in advance)</i>	6,369	6,769	6,387
<i>Number of forced outage hours (unplanned interruption)</i>	128	126	349
<i>Average availability factor</i>	96.30%	96.06%	96.16%

World electric energy production records

36

2016
103,098,366 MWh

2013 98,630,035 MWh

2012 98,287,128 MWh

2008 94,684,781 MWh

2000 93,427,598 MWh

The energy generated by Itaipu in 2016 would be enough to supply:

- Brazil for 68 days
- Paraguay for 7 years
- The world for 40 hours

If the energy generated by Itaipu in 2016 came from other sources, the equivalent carbon dioxide (CO₂eq) emission would be:

- Gas plants: 41 million tons
- Oil plants: 72 million tons
- Charcoal plants: 93 million tons

Economic performance [G4-9; G4-DMA]

The financial bases of Itaipu Binacional are defined in Annex C of the Treaty and the commitment to the economic-financial balance and cost of the electricity service is provided for in the Strategic Plan and Binational Sustainability Policy. In addition, the company follows the accounting practices adopted in Brazil and Paraguay.

The company's receipts are not tied to the amount of energy generated in the year. They are derived from the provision of electricity services to Eletrobras and Ande, which contract the available installed power. In this way, there is greater predictability of revenues and are reduced the risks arising from hydrological crises that interfere with the generation of energy.

Annex C provides that the tariff (defined in Itaipu as the unit cost of the electricity service) charged should be sufficient to cover all service costs. In other words, the company does not make a profit.

According to Annex A of the Treaty, the reference currency adopted by Itaipu is the dollar. Operating revenues and costs are calculated and accounted for in US dollars, but the amounts are received/executed in reais (BRL) or guaranis (PYG), so exchange rate variations have an impact on management. Although the dollar depreciated in Brazil throughout the year, the entity complied with the main commitments assumed for the year.

US\$ 3,811 milion

is the revenue in 2016. [G4-9]

US\$ 2,045 milion

is the amount destined for debt amortization (contracted for the construction of the plant).

US\$ 750.3 milion

is the amount of operating expenses (expenses with personnel, materials, goods, and services).

US\$ 22.60

is the amount of the applied tariff for each kilowatt of power contracted during the entire fiscal year. The value is the same practiced since 2009.

US\$ 79,153 milion

is the accumulated revenue since 1985 (year of beginning of the billed supply).

Statement of Added Value (in thousands of US\$)* [G4-EC1]

GENERATION OF VALUE ADDED	2016	2015	2014
REVENUE			
<i>Contracted power</i>	3,291,012	3,291,012	3,291,012
<i>Remuneration for assignment of energy</i>	368,455	313,420	318,375
<i>Royalties and reimbursement of additional energy to that linked to contracted power</i>	152,032	76,370	70,976
<i>Miscellaneous income (expenses)</i>	53	(13,374)	(49,703)
	3,811,552	3,667,428	3,630,660
(-) INPUTS ACQUIRED FROM THIRD PARTIES			
<i>Materials</i>	16,135	17,170	17,901
<i>Third party services</i>	94,056	99,503	101,961
<i>Other operational expenses</i>	90,648	102,112	74,913
	200,839	218,785	194,775
GROSS ADDED VALUE	3,610,713	3,448,643	3,435,885
(+) Added value received on transfer			
<i>Financial income</i>	67,270	47,640	62,651
ADDED VALUE TO DISTRIBUTE	3,677,983	3,496,283	3,498,536
DISTRIBUTION OF VALUE ADDED			
REMUNERATION:			
<i>From work</i>			
<i>Direct remuneration</i>	264,089	236,202	294,442
<i>Benefits</i>	131,184	139,241	164,906
<i>Post-employment benefits¹</i>	281,184	(206,766)	123,996
<i>Labor indemnities²</i>	65,102	(29,985)	51,201
FGTS	5,317	5,182	6,920
	746,876	143,874	641,465

GENERATION OF VALUE ADDED	2016	2015	2014
DISTRIBUTION OF VALUE ADDED			
<i>From the government</i>			
<i>INSS and IPS</i>	30,318	31,205	40,033
<i>Royalties</i>	534,732	467,300	477,205
<i>Remuneration for assignment of energy</i>	368,455	313,420	318,375
	933,505	811,925	835,613
<i>From third-party capital</i>			
<i>Debt charges</i>	719,360	804,342	885,738
<i>Monetary variations</i>	15,772	387,012	(55,735)
<i>Other financial expenses</i>	4,590	4,214	2,145
	739,722	421,544	832,148
<i>From own capital</i>			
<i>Income from capital</i>	46,716	47,120	48,785
<i>Reimbursement of administrative and supervisory charges</i>	41,134	35,946	36,708
	87,850	83,066	85,493
RESULT FOR THE YEAR¹	1,170,030	2,035,874	1,103,817
VALUE ADDED DISTRIBUTED	3,677,983	3,496,283	3,498,536

*The data is binational. The **Financial Statements** are available for consultation.

- 1 - Accounting provisions arising from actuarial obligations with future benefits to employees related to health care and retirement and pension program from both banks.
- 2 - Accounting provisions arising from severance indemnities: permanent plan for voluntary termination in Brazil, and indemnification for length of service in Paraguay.
- 3 - It comprises the accounting result obtained in each fiscal year. According to the specifics of Itaipu, it is not used as a calculation basis for remuneration of equity, profit sharing or accounting reserves. The results are accumulated in the Assets, and until 2023, the estimated year for the total amortization of the debt and revision of Annex "C" of the Treaty, the amount of the amounts accumulated in the Results item should be equivalent to the total Fixed Assets and Intangible Assets as defined in Annex C, the amortization of loans and financing is an integral part of the Cost of Electricity Service and the depreciation of Fixed Assets and the amortization of Intangible assets are not accounted for by the entity.

RESEARCH, DEVELOPMENT AND INNOVATION (R&D+I)

Itaipu Binacional seeks to foster research and innovation for energy and technology, development, with emphasis on renewable energy sources and the sustainable development of the area of influence, in line with the Global Compact Principles and the Sustainable Development Goals (SDG). And also in line with Brazil's commitment to reduce its greenhouse gas emission by 43% by 2030, during the UN Climate Conference, COP 21, held in December 2015.

Although the plant is not subject to the law that requires companies in the Brazilian electricity sector to apply a percentage of net operating revenue in the R&D program of the sector, the entity's commitment to the topic is made explicit in its Business Plan, Basic Policies and Guidelines and Binational Sustainable Policy.

Itaipu does not have a specific R&D+I area in the company. Some of the initiatives are guided by the Itaipu Corporate University (UCI) with management of the areas concerned and other are carried out in a decentralized manner through the areas, through agreements and cooperation agreements.

The main partner of the plant for projects related to the operation and technological upgrading is the Itaipu Technological Park Foundation (FPTI), an institution created

and maintained for 12 years by the binational to generate scientific knowledge. The space brings together teaching and research Institutions, government entities and companies from the private sector. This model seeks the best use of resources invested in infrastructure, optimization and complementation of skills, through network operation.

Biogas was chosen as one of Itaipu's priority projects. Research carried out in partnership with the International Center for Renewable Energies-Bigoas (CIBiogas) and the Brazilian Agricultural Research Corporation (Embrapa) are transforming the West region of Paraná into a laboratory of new technologies. In addition to serving as a reference for biogas producers throughout the country, the objective is to promote public policies that make agriculture more sustainable. **[G4-DMA]**

Areas of interest of Itaipu in R&D+I:

- Energy production
- Dam safety
- Plant modernization
- Environment
- Information Technology
- Social Technology
- Renewable energy sources
- Sustainable electric mobility

US\$ 819,446.2

is the amount invested in transmission technologies.

US\$ 907,046.29

is the amount intended for generation and advanced technologies.

US\$ 1,550,393.5

is the value added in innovative services related to sustainability.

US\$ 2,436,730.6

is the amount directed to renewable energy technologies.

Eureka! Award

The award, created in 2010, is an incentive for innovation among employees, strengthening their role as protagonists and responsible for the continuous updating of the entity. The initiative contributes to strategic objective 12, to foster an organizational culture focused on process and results efficiency, and will have a performance indicator from 2017 to evaluate the percentage of feasible proposals presented.

The 2016 edition was the first to be held binationally and had a computerized platform especially developed for the award, providing greater transparency, security, reliability and agility.

In order to prepare employees and managers, Creativity Workshops were held, as an opportunity to understand how creative process happens and to assist in developing the

proposal. A total of 85 ideas were submitted, which included technical feasibility analyzes of the areas affected by the proposals and evaluations of two committees.

Five proposals from each margin of the company were selected as finalists and the three winners were chosen by means of an open voting to all employees. The winner received a prize of R\$ 5 thousand, besides formal compliments on the professional record. The 2nd and 3rd place received R\$ 2,500 and R\$ 1 thousand, respectively.

Throughout the process, the names of the authors of the ideas were not disclosed to preserve the impersonal character of the evaluations. The objective of the award coordination is to enable the implementation of the ten finalist projects, even in a pilot format, in order to evaluate the results. For the next edition, the processes will be modified to allow the award to involve the entire company.

The winners among projects presented by Brazilian employees were:

1st PLACE: Juris digital: aims to centralize the receipt of the demands of the Department of Bids and Contracts in the Portal of the Legal Board on the intranet, in a specific channel and with software that manages and enables the follow up of the request.

2nd PLACE: Energy is for everyone: provides for the installation of high-tech bus stops in the company.

3rd PLACE: Expired medicines -renewed resources: aims at the correct destination of expired medicines.

International Hydroinformatics Center (CIH) gains a new status

Established ten years ago, in partnership with the International Hydrological Program (IHP) of the United Nations Educational, Scientific and Cultural Organization (UNESCO), in 2016 the CIH was promoted to category 2, becoming one of the 28 world reference centers. The new status will allow for an increase in international operations and partnerships, especially for project financing. The mission of the Center is to develop solutions to assist the territory management, as tools that aggregate information on producers, communities, river basins and agri-food production chains.

Commitment to clean energy sources

Pioneering project in biogas production completes seven years

In 2009, Itaipu entered into a partnership with the city hall of Marechal Cândido Rondon and the International Center for Renewable Energies-Biogas (CIBiogas) to transform poultry, pork and cattle waste into energy. Since then, 124,000 m³ of manure has been converted into biofertilizers and biogas used in electric and thermal generation and as vehicular fuel, reducing pollution of soil, rivers, lakes and streams and 90% of the carbon dioxide emission, the main cause of greenhouse effect. To learn about the use of biogas as fuel in Itaipu, see page 90.

Itaipu, FPTI and the Army inaugurate pilot project on energy security

An energy storage system with 360 photovoltaic panels connected to 12 sodium batteries was installed at the headquarters of the Brazilian Army in Brasília. The equipment will feed the offices and an electric station used to supply an electric vehicle loaned by Itaipu.

The control is done by software developed by the Spanish company Ingrid with Itaipu and FPTI, which has two functions: autonomy, that is, provide power for up to two hours, in case of power outage; and economy, which uses the solar panels to reduce the network consumption without compromising the autonomy. The automobile and the electric station will be monitored by the Itaipu Mob-I System, which monitors in real time the state of the cargo, location, speed and displacements, as well as the amount of CO₂ with emission avoided, among other indicators.

Itaipu participates in an unpublished study on solar energy in rural areas

Three rural properties in the Western region of Paraná will participate in a study, coordinated by Itaipu, to analyze the technical and economic feasibility of producing energy from photovoltaic panels. The need arose at meetings of the West Developing Program, as energy in the agribusiness chain is among the three highest costs of production. The expectation is that the results serve as the basis for the elaboration of public policies to encourage technology. The planned duration is three years.

R&D+I activities developed or supported by Itaipu

For more information on the initiatives, see the 2016 Annual Report.

Program	Dam Safety
Objective	To develop computational intelligence techniques related to the behavior and safety of dams, through the Center for Advanced Studies in Dam Safety (Ceasb), and applied research on the behavior of structures and their respective materials.
Investments	2016: US\$ 572,842.12 2015: US\$ 763,620.74 2014: US\$ 631,939.28
Partners	Itaipu Technological Park Foundation (FPTI).
Main result in 2016	Implementation of the game “Generation in Play” for simulation and training of operation of a hydroelectric plant.

Program	Transmission and distribution technologies
Objective	Conduct research, tests and verifications of the dynamic performance of equipment and systems associated with the generation, transmission and distribution of electricity in a real-time digital simulation platform in the Electrical Systems Automation and Simulation Laboratory (Lasse).
Investments	2016: US\$ 819,446.20 2015: US\$ 897,012.40 2014: US\$ 718,900.55
Partners	Itaipu Technological Park Foundation (FPTI).
Main result in 2016	Approval of the Interinstitutional Doctorate (Dinter), in partnership with the University of São Paulo (USP), in the area of Electrical Engineering.

Program	Hydrogen Research
Objective	To develop studies at the Nucleus of Hydrogen Research (NUPHI) that allow Itaipu, in the future, to extract hydrogen from surplus water and energy. Stored in large cylinders in the form of gas, hydrogen can be used in fuel cells and produce electricity to power homes, industries and even electric vehicles.
Investments	2016: US\$ 111,380.23 2015: US\$ 52,725.78 2014: US\$ 117,046.23
Partners	Itaipu Technological Park Foundation (FPTI), Eletrobras and National Center of Reference in Hydrogen Energy of the State University of Campinas (Unicamp).
Main result in 2016	Consolidation of technical-scientific partnerships with the Federal University of Paraná (UFPR), University of Latin American Integration (Unila) and the Federal University of São Carlos (UFSCar).

Program	International Hydroinformatics Center
Objective	<ul style="list-style-type: none"> - To promote hydroinformatics (branch of computer science dedicated to water management) and consolidate itself as an international reference. - Operate and monitor the technological development and implementation of technologies in an integrated way, through projects and programs related to renewable energies, with emphasis on the territorial management of water resources.
Investments	2016: US\$ 338,887.09 2015: US\$ 752,128.80 2014: US\$ 353,113.27
Partners	The Itaipu Technological Park Foundation (FPTI), the International Hydrological Program (IHP) of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Latin American Energy Organization (OLADE).
Main result in 2016	Training of 40 technicians from 11 countries in the course “Geoprocessing applied to the management of water resources with free software.”

Program	Itaipu Renewable Energy Platform [G4-S01]
Objective	To disseminate the use of renewable energy sources and efficient energy technologies, with an emphasis on biogas, through the development of projects that allow to create new business opportunities and provide energy autonomy for the agricultural and agroindustrial sectors, in parallel to an environmental sanitation process.
Investments	2016: US\$ 1,898,828.97 2015: US\$ 2,148,508.09 2014: US\$ 2,338,648.11
Partners	International Center for Renewable Energies-Biogas (CIBiogas).
Main result in 2016	In May, the CIBiogas Laboratory obtained the ISO 17025 certification granted by the National Institute of Metrology, Quality and Technology (INMETRO), becoming the first in Brazil to meet all the rigorous criteria demanded worldwide by the standard.

Program	Electric Vehicle [G4-S01]
Objective	To foster research and innovation in technology for the development of mobility solutions, and support initiatives to develop clean and renewable energy sources, seeking energy efficiency and sustainable development of the area of influence.
Investments	2016: US\$ 1,425,278.46 2015: US\$ 1,907,103.22 2014: US\$ 5,194,459.30
Partners	Teaching and research entities, public and private companies, national and international.
Main result in 2016	The projects integrated with the Intelligent Mobility System (MOB-I), the Eco-electric Curitiba and Eco-mobile Brasília, which add up to 25 monitored vehicles, covered 116.7 thousand kilometers during the year 2016, totaling a consumption of 24 thousand kilowatt hours. These figures represent a saving of R\$ 21 thousand (if they had been supplied with fuel) and almost 14.5 tons of CO2 emissions avoided - an amount that 90 Atlantic Forest trees are capable of sequestering.

PEOPLE MANAGEMENT

In order to achieve the expected results of Itaipu's mission and vision, the Human Resources area seeks to promote professional development and well-being of people. To do so, it is based on the Strategic Objectives, the Basic Policies and Guidelines and the Binational Sustainability Policy, in addition to acting in line with the main global agendas dealing with human rights and corporate sustainability.

Since 2005, hiring has taken place through an external selection process, in which broadly competitive and specific jobs are offered for people with disabilities and for black people. Although the Treaty does not establish selection methods for the admission of employees, the measure was established to universalize entry into the company and to comply with the provisions of the Career and Compensation Plan for Skills (PCR), which is binational.

The policy of Itaipu is to contract on the basis of the career, that is, in the initial positions and, from there, to develop the professional according to the business necessity. The PCR, knowledge management and the succession plan are part of the Integrated Management System for People and aim to subsidize business decisions about the evolution of managerial and non-managerial career of the employees in the entity.

In 2016, a competition was held to fill six vacancies and developing the reserve database. During the period, 111 people were admitted and all participated in the New Employee Integration Program.

The Treaty allows the assignment and requisition of employees and servants of other public agencies. The directors and advisors are appointed by the Federal Government. Most managerial positions are held by career employees.

One of the main ways of monitoring the performance of the Human Resources area is through the general favorable index of the organizational climate survey. The last edition was held in 2013 and as of the publication of this Report the date of application of a new research had not been defined.

One of the first commitments made and carried out by the current Board, during the ninety days of its management, was the creation of an innovative tool for internal public engagement: "Chat with Vianna". It is a direct channel between the Brazilian General Director and the functional body, through a monthly breakfast, where employees can express their demands, wishes and suggestions, without filters, in an informal conversation.

The initiative aims to improve internal communication, with the expectation of producing two immediate effects: one more way of integrating the various areas of the plant and the valuation of employees. The demands presented by the selected professionals to participate in the meeting are analyzed by the Director, together with the competent areas, and answered to the participants in the shortest time possible. [G4-40; G4-DMA]

Labor contracts are governed by an international protocol, signed by the governments of the two countries and alternatively follow the current national legislation and provisions negotiated with trade unions.

About the 2015 strike

Between September and October 2015, Itaipu registered a 43-day strike, triggered by a demand for a new salary scale. Since there was no agreement, the unions decided to take the case to the Labor Court.

In a trial held in June 2016, the company won both the merits and the abusive nature of the strike by the vast majority of the judges of the Regional Labor Court of the 9th Region.

Benefits granted [G4-LA2]

The list of benefits is managed by the human resources area and its possible extension is the result of negotiations with the unions, either on the base date or in regular meetings throughout the year. In this case, this increase is registered in a Collective Labor Agreement.

Benefits are made available to all employees, including directors and employees required from other federal and state agencies and companies.

They are: life insurance; health insurance; pension fund; meal ticket; education assistance; childcare assistance; infirmity assistance; dental care; funeral assistance; extension of parental leave; breastfeeding license; family wage; release for final examination and refund of school transportation for children with disabilities.

Staff profile on 12/31/2016 [G4-9; G4-10]

Total number of employees per employment contract	2016		2015		2014	
	Men	Women	Men	Women	Men	Women
Indefinite or permanent term	1,093	265	1,078	260	1,118	270
Determined or temporary term*	15	5	21	5	21	6
Total	1,108	270	1,099	265	1,139	276

* They are those whose term of their work is stipulated in the contractual document signed with Itaipu. It includes requisitioned employees, directors and advisors.

	2016		2015		2014	
Total number of employees by employment type	Men	Women	Men	Women	Men	Women
Full-time job	1,105	269	1,091	264	1,131	275
Part time*	3	1	8	1	8	1
Total	1,108	270	1,099	265	1,139	276

* Refers to two advisors and two labor physicians.

	2016		2015		2014	
Total of employees by region	Men	Women	Men	Women	Men	Women
Foz*, Santa Helena and Guaira	1,009	208	993	197	1,031	203
Curitiba	96	60	103	66	106	70
Brasília	3	2	3	2	2	2
São Paulo	0	0	0	0	0	1
Total	1,108	270	1,099	265	1,139	276

* Includes employees at the plant and at the Executive Center.

Total employees of companies that provide outsourced services* [G4-10]

2016		2015	2014
765		730	735
Men: 570	Women: 195		

* Itaipu does not have outsourced employees and for this indicator workers are counted in janitorial, dining, surveillance, grass cutting services, among others, based on the number of active badges to access the plant, so they do not represent the totality of employees of companies that provide services. Itaipu does not have information management as the type of contract and the working day of these workers. In 2015 and 2014 it was not possible to raise the information by gender.

Rates of return to work and retention after parental leave

[G4-LA3]

Itaipu grants the extension of 60 days for the maternity leave and 15 days for the paternity leave, within the context of a citizen company. Licenses are guaranteed to all employees, including in cases of adoption and/or judicial custody, without any loss of remuneration, vacation or

functional and/or salary increase. On 12/31/2016 there were nine professionals on leave with a return scheduled for 2017, two of which were on paternity leave and seven on maternity leave.

	2016		2015		2014	
	Men	Women	Men	Women	Men	Women
Number of employees who took parental leave	56	20	50	16	44	22
Number of employees who returned to work after taking parental leave	54	13	50	10	44	21
Number of employees who returned to work after parental leave and remained employed twelve months after their return	54	13	49	10	43	21
Return rate of employees who have taken parental leave	0.9643	0.6500	1.000	0.625	1.000	0.955
Retention rate of employees who have taken parental leave	0.9643	0.6500	0.980	0.625	0.977	0.955

Total number and rates of new employee hires* [G4-LA1]

	2016		2015		2014	
	Number	Rate	Number	Rate	Number	Rate
Admissions by age group						
Under 30 years old	52	0.038	11	0.008	13	0.009
From 30 to 50 years old	57	0.042	12	0.009	17	0.012
Over 50 years old	2	0.001	1	0.001	0	0.000
Admissions by gender						
Men	86	0.063	14	0.010	19	0.014
Women	25	0.018	10	0.007	11	0.008
Admissions by region						
Foz, Santa Helena and Guaira	103	0.075	20	0.015	25	0.018
Curitiba	8	0.006	3	0.002	5	0.004
Brasília	0	0.000	1	0.001	0	0.000
São Paulo	0	0.000	0	0.000	0	0.000

* Advisors and directors were not considered for the survey of the rates of new employee hires and turnover rate calculation.

Dismissals

Most of the layoffs occur through the Permanent Voluntary Dismissal Program (PPDV): of the 91 dismissals registered in 2016, only 7 were not due to the PPDV. The exits by the

program are for people over 50 years old. The average time of career in Itaipu of the employees dismissed was 25 years.

Total number and layoff rates* [G4-LA1]

	2016		2015		2014	
	Number	Rate	Number	Rate	Number	Rate
Layoffs by age group						
Under 30 years old	0	0.000	1	0.001	0	0.000
From 30 to 50 years old	6	0.004	2	0.001	2	0.001
Over 50 years old	85	0.062	70	0.052	78	0.056
Layoffs by gender						
Men	71	0.052	53	0.010	64	0.046
Women	20	0.015	20	0.007	16	0.011
Layoffs by region						
Foz, Santa Helena and Guaira	77	0.056	64	0.015	72	0.051
Curitiba	14	0.010	8	0.002	8	0.006
Brasília	0	0.000	0	0.001	0	0.000
São Paulo	0	0.000	1	0.000	0	0.000

* Advisors and directors were not considered for the survey of the layoff rates.

Turnover rates* [G4-LA1]

	2016	2015	2014
Turnover by age group			
Under 30 years old	0.019	0.004	0.005
From 30 to 50 years old	0.023	0.005	0.007
Over 50 years old	0.032	0.026	0.028
Turnover by gender			
Men	0.057	0.010	0.030
Women	0.016	0.007	0.007
Turnover by region			
Foz, Santa Helena and Guaira	0.066	0.015	0.035
Curitiba	0.008	0.002	0.005
Brasília	0.000	0.001	0.000
São Paulo	0.000	0.000	0.000

* Advisors and directors were not considered for the survey rate of the new hires and turnover rate calculation.

Retirement Reflection Program [G4-LA10]

In order to prepare employees in transition to retirement, Itaipu holds a three-day seminar annually. The first one is exclusively for the employees, at which time the bureaucratic procedures of the company's dismissal and inclusion in the group of assistants of the Foundation Itaipu-Brasil of Social Security and Welfare (Fibra) are detailed.

In the other two days, the participation of the spouses is allowed, when lectures are given on financial aspects, health, sexuality, life project, organization of time and quality of life in retirement. Although participation is spontaneous there is great adhesion.

Percentage of eligible employees retiring in the next 5 or 10 years [G4-EU15]

Itaipu does not have control of the official retirement dates. The following statistic is based on the company's deadline, which includes the date on which the professional fills 100% of the gaps for complementary retirement at Fibra (which considers age, time of contribution to the Na-

tional Institute of Social Security - INSS, time of enrollment in Fibra and time as an employee of the binational) and also the date of exit chosen by the Permanent Voluntary Dismissal Program.

Category	Region	From 2017 to 2021	From 2017 to 2026
Board of Directors	Curitiba	33.3%	33.3%
Management	Brasília	100%	100%
	Curitiba	60.7%	75%
	Foz, Santa Helena and Guairá	46.2%	62.4%
University	Curitiba	26.9%	44.1%
	Foz, Santa Helena and Guairá	12.9%	22.6%
Non-University	Brasília	0	66.7%
	Curitiba	20.7%	55.2%
	Foz, Santa Helena and Guairá	19.4%	29.7%

Safety at work [G4-DMA; G4-LA5]

The guidelines for occupational health and safety at Itaipu are guided by a policy created in 1998. The complexity of the activities carried out at the plant means that the company devotes special attention to the theme involving different areas, such as the Specialized Service in Safety and Occupational Medicine (SESMT) and the Division of Engineering of Work Safety (RHSS).

Several initiatives are carried out: technical seminars, lectures, monitoring and inspection integrated with contracted companies, preliminary risk analysis that generates instructions and technical safety standards, as well as committees and commissions representing 100% of the employees (see page 55).

There is also the Working Group for the Regulatory Standard for Safety in Facilities and Services in Electricity - NR10, responsible for carrying out periodic training and refresher courses, testing of certain personal protective equipment and medical records that allow quick and easy access to all information regarding safety in working with electricity.

Even with record production and 100% compliance with the maintenance schedule, there was a reduction in the number of work-related accidents from 31 in 2015 to 19 in 2016. According to an RHSS survey in the period 2011-2016, in Itaipu, there was a reduction in the frequency rate of accidents in relation to the average in relation to the average of the Brazilian electric sector. In 2011, the attendance rate was 7.20

at Itaipu and 3.46 in the Brazilian electricity sector. In 2016, the indexes reached 2.76 and 3.23 respectively.

Several risks have already been mapped, such as electrical, ergonomic, machine operation, chemical use and, more recently, work in height and confined space. The expectation is to adopt a binational management system to further evolve risk analysis and promote a corporate culture of security.

Itaipu carries out the largest evacuation exercise

For the first time, the company carried out a total evacuation exercise, involving the Production Building and the industrial area. The activity mobilized approximately one thousand people, among employees, trainees, apprentices, third parties and even tourists. A fire was simulated in the transformer of unit 10, which is just under the building. On the same day, in the office in Curitiba, the evacuation exercise was unheard of for including the use of a special stretcher for stairs, with an employee simulating a victim.

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was the number of accidents in January and March, in both margins (Brazilian and Paraguayan). The first time in the history of the plant in which a month had been closed without any occurrence of accident was in June 2012.

39%

was the reduction in the number of accidents in relation to the previous year. There were 5 road accidents and 14 typical accidents. Among the typical accidents, 7 resulted in work leave, totaling 132 days lost.

88

risk situations were identified between 2015 and 2016 by the Internal Commission for the Prevention of Accidents at Work and later mitigated. Among these, four could have resulted in fatal accidents. The issue of “Near Accident” became the theme of the Internal Week of Prevention of Accidents at Work - Sipat 2016.

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occupational disease registered in 2016 among Brazilian employees.

Committee/Commission [G4-LA5]	Objective	Scope	Members
Internal Commission for the Prevention of Work Accidents	Meet regulatory standard NR-5.	Binational	51 people divided into seven work groups: Accident Analysis; Accident Risk Report; Site; Sipat; Traffic; Health; and Risk Map.
Permanent Management Commission of the Emergency Action Plan	Meet regulatory standards NBR 15219-5, NPT 016 (fire brigade) and internal rules.	Binational	10 people divided into three work groups: Contingency Analysis Group; Technical Analysis Group; and Simulation Analysis Group.
Permanent Working Group on Safety in Electric Energy	Meet regulatory standard NR-10.	Binational	17 people
Auditory Conservation Committee	Meet regulatory standards: CLT, NR-7, and INSS/DAF/DSS 608.	Brazil	15 people
Committee for Analysis of Employees with Labor Restrictions	Meet Law 8.213/91.	Brazil	5 people
Committee for Persons with Disabilities at Itaipu	Meet Decree 6949/09.	Brazil	12 people

Rate of injury, occupational diseases, lost days, absenteeism and work-related fatalities* [G4-LA6]

	2016		2015		2014	
	Men	Women	Men	Women	Men	Women
Injury rate ¹	2.42	4.23	5.41	2.11	3.86	0
Occupational diseases rate	0	0	0.98	0	0.39	0.39
Lost days rate ²	13.07	221.86	115.57	94.76	171.69	0
Lost days ³	27	105	235	45	229	0
Absenteeism rate ⁴	2.56	2.46	2.41	2.23	2.29	3.01
Number of deaths	0	0	0	0	0	0

* Unable to report data by region. The data presented do not include outsourced service providers, since Itaipu has limited control with respect to gender, absences and accidents involving these workers.

¹ Calculation based on the number of accidents with work leave*1,000,000/man-hours worked.

² Calculation according to the number of days lost*1,000,000/man-hours worked.

³ Lost days are counted as calendar days and the count starts the day after the accident.

⁴ The calculation is based on the total number of man-hours worked (scheduled) and considers the standard of 167 hours in the month, holidays, absences, licenses and overtime, but does not include parental leave and electoral compensation.

Safety of service providers [G4-DMA]

Itaipu has Occupational Safety and Health Guidelines for Contracted Companies, which establishes that all companies contracted or subcontracted are subject to the health and safety rules and procedures.

It also establishes that in addition to the current legal regulations, the service providers must have a systematic registry, analysis, control and disclosure of work accidents occurred, in addition to submit a monthly summary. As a result of these records, allied to the inspection routines, in 2016 a good performance was obtained, with only nine accidents at work and no occurrence of occupational disease.

The employees of the outsourced company Labor Obras Ltda., who provide services in the areas of cleaning, pantry and general services, formed the Internal Commission for the Prevention of Accidents. The process was accompanied by the binational General Services Division. The ten members of the Commission will be responsible for identifying risks and preparing preventive actions at work, suggesting courses, improvements and adaptations in the work environment, whenever necessary.

Percentage of outsourced workers submitted to relevant health and safety training [G4-EU18]

	2016	2015	2014
Number of employees of companies that provide outsourced services that worked at Itaipu	765	730	489
Number of employees of outsourced service providers who received training	252	315	150
Percentage	33%	43%	31%

Health and well-being [G4-DMA]

The health care of Itaipu employees is promoted by the programs of Medical Control of Occupational Health, Auditory Conservation (since hearing problems are one of the main occupational risks in the company) and Reviver, a program that in 2016 completed 22 years of existence.

Reviver was born under the name of the Program of Prevention and Treatment of Chemical Dependency and was being expanded according to the new habits of the workers. Now the focus is on well-being.

The actions consist of walks in the plant, street races, 42 workout groups, physical fitness program, gyms, campaigns alluding to commemorative dates, as well as the assistance of a multidisciplinary team (social worker, psychologist, doctor and nurse) for alcohol, tobacco and other drugs treatment.

One day a year, all Reviver initiatives are put together at the “Wellness on the Move” event, which in 2016 was held in different locations and days, in order to facilitate employee participation. The event offered: evaluation of body mass index, flexibility tests, blood pressure measurement, skin analysis, quick massage, booths with natural products, makeup tips, leisure activities etc.

Another novelty for the year is the refurbishment of the oldest and largest facility’s premise, which services about 180 people a day. In addition to the 180 m² extension, the gym will have easier access and better circulation for employees with disabilities.

Challenges

One of the actions of the Auditory Conservation Program (PCA) is to evaluate the degree of knowledge of employees about hearing loss through a survey. The results will guide the next actions of the program. The PCA team is multidisciplinary, composed of Itaipu professionals in the areas of Occupational Medicine and Occupational Safety Engineering. Among them are labor doctors, otorhinolaryngologists, nurses, speech therapists, technicians, and occupational safety engineers.

The actions of the program include noise monitoring, study and implementation of collective protection measures, distribution of hearing protectors, coordination of periodic audiometric exams, training, lectures and awareness actions.

Another point of attention to employee health is the rates of obesity (22%), overweight (45%) and hypertension (11.2%) identified by periodic medical examinations, well above acceptable standards. Through the Reviver Health Project, multidisciplinary actions are carried out with medical, nursing, physical educator and nutritionist teams. In Foz do Iguaçu, 142 employees joined the project and in Curitiba, 52.

New communication platform

In 2016, an application for smartphones, Itaipu Mobile, was made available to employees. The differential is that it allows consulting the information of the Medical, Hospital and Dental Assistance Program: results of periodic exams of the last five years, accredited network, clinics, laboratories, authorized medicines, reimbursements, etc., and the channel “Contact Us” to ask questions about the plan.

The novelty of the binational was highlighted in one of the meetings of the HR Directive Group, a group of executives from the Human Resources area of 25 large companies in Curitiba and Metropolitan Region that meets monthly to exchange information and experiences. The application also displays various HR information, such as time card markups, salaries and vacations.

Diversity and equal opportunities [G4-DMA]

Itaipu hires its employees through a public selection process, as a way to universalize access to the company. Vacancies are reserved for candidates with disabilities and for black people, and there is no restriction on the admission of women to any position.

To address human rights issues, the company has two groups: the Gender Equity Incentive Program Committee and the Disability Committee.

One of the main advances in 2016 was the approval by the Executive Board of Directors of a new Gender Equity Policy, in line with the most advanced international guidelines adopted for the empowerment of women.

It is the first time the document has been revised since its launch in 2011. The changes have been set to meet the Women's Empowerment Principles (WEPs) platform, and is based on the Sustainable Development Goals (SDG) and other documents signed by Brazil and Paraguay as the "International Convention against All Forms of Discrimination against Women" and the "Action Platform".

Since politics is binational, the next step, through 2017, is for the committees of both countries to prepare their respective plans of action, respecting the specificity and culture of each country. The foundations maintained by the company are also oriented to promote actions in line with the document.

Another initiative to make environments more inclusive for the 32 employees with disabilities (visual, auditory and locomotion disabilities) was to carry out a reform in the corporate gym in Foz do Iguaçu. The works have increased accessibility, with ramps, wider doors and more space for wheelchair circulation. Guided bars and visual and sound signaling were also installed. In the last two years, equipment aimed at this public has been bought, such as the krankcycle, an exercise bicycle to work the upper limbs. The existing devices in the space received braille texts and audible alerts.

16 Days of Activism Campaign

As a way of raising employees' awareness of the magnitude of the human rights issue, Itaipu participates in the "16 Days of Activism" campaign, which takes place in 154 countries between November and December. The initiative includes six representative dates: National Black Consciousness Day (20/11); International Day of Nonviolence Against Women (25/11); World AIDS Day (1/12); International Day of Persons with Disabilities (3/12); Campaign of the White Ribbon - Men for the End of Violence against Women (6/12) and International Human Rights Day (10/12).

Training in Human Rights [G4-HR2, G4-HR7]

In 2016, workers in the security area, 31.6% of whom were employees of the company and 59.5% of the out-sourced workers, carried out mandatory retraining for the performance of the function, which includes the Human Relations at Work and Human Rights, totaling 318 hours of

training. The annual variation in participation in these trainings is due to the fact that the validity of the refresher course is two years. No specific training on this topic has been conducted for other areas of the company.

Composition of governance bodies and employees by functional category [G4-LA12]

	2016		2015		2014	
	Men	Women	Men	Women	Men	Women
Supervisory Board	100%	0%	100%	0%	100%	0%
Executive Board of Directors	80%	20%	83.3%	16.7%	83.3%	16.7%
Management	79.5%	20.5%	78.8%	21.2%	79.2%	20.8%
University	72.9%	27.1%	73.4%	26.6%	73.3%	26.7%
Non-University	86.5%	13.5%	86.4%	13.6%	86.1%	13.9%

	Under to 30 years old			From 30 to 50 years old			Over 50 years old		
	2016	2015	2014	2016	2015	2014	2016	2015	2014
Supervisory Board	0%	0%	0%	0%	0%	14.3%	100%	100%	85.7%
Executive Board of Directors	0%	0%	0%	20%	16.7%	16.7%	80%	83.3%	83.3%
Management	0%	0%	0%	41.8%	53.4%	46.4%	58.2%	46.6%	53.6%
University	9.3%	7.5%	8.8%	71%	70.3%	65.9%	19.7%	22.3%	25.3%
Non-University	9%	6.4%	8.3%	67.4%	70.7%	64.3%	23.6%	22.9%	27.4%

	White			Yellow			Black			Brown			Indigenous		
	2016	2015	2014	2016	2015	2014	2016	2015	2014	2016	2015	2014	2016	2015	2014
Supervisory Board	100%	85.7%	87.5%	0%	0%	0%	0%	14.3%	14.3%	0%	0%	0%	0%	0%	0%
Executive Board of Directors	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Management	91.8%	93.2%	94.4%	0%	0%	0%	0.8%	0.8%	0.8%	6.6%	5.1%	4%	0.8%	0.8%	0.8%
University	84.1%	83.9%	83.7%	3.6%	4%	3.75%	1.3%	1.1%	1.0%	11.1%	10.9%	11.3%	0%	0%	0.2%
Non-University	76.3%	75.3%	75.5%	0.4%	0.4%	0.6%	2.3%	2.5%	2.6%	21%	21.8%	21.3%	0%	0%	0%

[G4-LA12]

Training and education [G4-DMA]

One of the strategic objectives of Itaipu is to develop in people the knowledge and skills essential for the execution of the corporate strategy. To achieve this, the company adopts the Performance Management by Skills model, in which all professionals in the board have access to an ongoing process of development.

The evaluation cycles are annual and applied, through a computerized tool, to all employees, including managers. In 2016 the third cycle was terminated and the fourth was started. As a result of the process, the Individual Development Plan is defined, from which the training to be preformed will be defined.

Throughout the year, the Corporate Education Project was also continued, aiming to implement a new model with Learning Tracks linked to the macroprocesses of the value chain and the strategic objectives of the company.

Altogether there are fourteen macroprocesses that make up the chain, of which eight have already been designed and are undergoing educational actions. Two other trails are under development.

The training programs offered by Itaipu are organized into two categories. Corporate Training, which aims to develop skills common to employees throughout the company. And the Specific Training, which aims to meet specific skills and needs of the various areas of the company.

The company also encourages employees to undertake higher education courses, regardless of training, whether technical or administrative, as well as vocational technical courses. And it supports participation in specialization, master's, doctorate and post-doctoral courses in all areas of knowledge.

Percentage of employees receiving regular performance and career development reviews, broken down by gender and functional category [G4-LA11]

	2016*		2015		2014	
	Men	Women	Men	Women	Men	Women
Supervisory Board	0	0	0	0	0	0
Executive Board of Directors	0	0	0	0	0	0
Management	98%	96%	7.9%	2.2%	8.4%	1.8%
University	92%	96%	28.8%	10.0%	14.6%	12.0%
Non-University	94%	90%	45.1%	5.9%	55.7%	7.5%
Total	93%	93%	82%	18%	79%	21%

The increase in the number of evaluations completed since 2015 occurred because performance evaluation became a requirement for career advancement eligibility.
*The difference of the percentage of 2016 in relation to the previous years is due to the methodological change: until the sum of the percentages was made.

Management Development

Among the actions carried out in 2016, the participation of the department and division managers in the Middle Management Program (APG) and the Superintendents, Assessors and Assistants in the Senior APG, offered by specialized consultancy, is highlighted. The goal of the training is to develop the ability to think strategically and systematically, deal with unprecedented challenges and ensure radically creative solutions, lead in high uncertainty contexts, motivate and integrate large groups. There were also coaching sessions for managers and superintendents and a people management course for supervisors and managers, among other actions.

Itaipu Corporate University

Some trainings are carried out by the Itaipu Corporate University (UCI), one of the partnership instruments between the company, Itaipu Technological Park Foundation and universities, with the objective of developing specific skills within its framework, acting in a strategic way. In one of these initiatives, 58 fellows participated in the activities of the Center for Advanced Studies in Safety of Dams (Ceasb) in the modalities of scientific initiation, technological development and innovation, master's and doctoral degrees. There were 23 research, development and innovation projects in hydroelectric plants, in support of the UCI. Among the results, divided by areas, are: geotechnics, 3D modeling, simulation, virtual environments and database.

Average hours of training per year per employee, broken down by gender and functional category [G4-LA9]

	2016*		2015		2014	
	Men	Women	Men	Women	Men	Women
Supervisory Board	0	0	0	0	0	0
Executive Board of Directors	0	0	0	0	0	0
Management	105.1	70.4	53.05	37.60	72.39	50.69
University	115.1	63.8	64.65	36.61	76.59	51.53
Non-University	56.0	42.6	47.89	22.32	44.33	26.37

The increase in the average hours of training registered in 2016 is due to the inclusion of postgraduate hours and language courses in the indicator.

CONTRIBUTION TO TERRITORIAL DEVELOPMENT

Promoting the socioeconomic and sustainable development of the area of influence is a premise adopted by Itaipu Binacional in its Strategic Plan since 2003, when the company's mission was expanded. This goal was reinforced in 2011 with the establishment of the 2020 mission and with the approval of the Binational Sustainability Policy three years later.

Itaipu is also a signatory of several agreements and initiatives at building a more responsible, fair and supportive society. They are aligned to the way the company operates. One of the signs that the binational is on the right path is that in 2016 the then Secretary-General of the United Nations, Ban Ki-moon, visited the plant for the second time. The reason: to follow the signing of a technical cooperation agreement between Itaipu and the United Nations Development Program (UNDP) for the implementation of the Sustainable Development Goals (SDG) in the 54 cities that make up the Association of Municipalities of the West of Paraná (Amop).

These initiatives are in line with national public policies, which aim to contribute to the development of measures that benefit society as a whole. Itaipu also acts as an articulator in the attraction of projects and investments for the region. An example is the work of publicizing the tourist attractions in national and international events of the sector, which added to the other factors helped to consolidate the city of Foz do Iguaçu as one of the main travel destinations for leisure and business in the country.

In Brazil, Itaipu's social and environmental actions are focused on environmental conservation, improvements in infrastructure, public health, income generation, education, protection and respect for human rights. They occur mainly in the area of influence of the reservoir (16 cities directly affected by the formation of the lake), extend to other 13 municipalities of the Hydrographic Basin 3 (BP3) and a part is being taken also to other cities of the West region of Paraná.

Itaipu is a fully-installed enterprise and there are no new planned interventions (works or procedures) with potential to cause impacts, maintaining the already consolidated operational routine. Even so, the company carries out an impact assessment of its initiatives and this is demonstrated in the corporate risk map, which has been considered in the work of the Integrated Risk Management System. In addition to the impacts of risks, the vulnerability of internal control systems is also taken into account. Risk prioritization is the result of assessing these impacts and vulnerability.

The company engages the public in designing, planning, executing and evaluating programs, projects, and actions in a variety of ways. Engagement occurs primarily through the municipal management committees established with the support of the Cultivating Good Water Program.

Other ways of contributing to regional development are royalty payments (see page 69) and the hiring of local

suppliers in their bidding processes, especially micro and small enterprises (more information on page 79).

[G4-25; G4-DMA; G4-EC8; G4-S01]

Foundations

Itaipu created and maintains two foundations that are relevant to the community: Itaipu Health Foundation, responsible for administering the Ministro Costa Cavalcanti Hospital, which serves about 12 thousand patients per month by the Unified Health System. And the Itaipu Technological Park Foundation (PTI), which manages the region's main educational and innovation hub. [G4-S02]

Dam safety and floods in the Paraná River

Hydroelectricity generation involves potential negative impacts on local communities living downstream from the plant, due to the significance and irreversibility of the damages that would be caused by the rupture - even of remote possibility - of a dam. Itaipu is located in a trinational region, densely inhabited downstream, so the theme is frequently reported by the population.

The company has a history of technical procedures that guarantee the full safety of its dam: there are thousands of monitoring instruments installed, regular inspections and auscultation are regularly conducted, in addition to seismological monitoring and audit every four years by an international board of top international civil consultants.

Despite the well-known capacity of the reservoirs to cushion the natural floods, sometimes when the reservoir

is full, the hydroelectric plants need to pass these waters downstream, and from this we observe very similar consequences to those that would occur even before the construction of the dam. In these cases, it is a frequent concern on the part of the riverside communities the occurrence of floods, which are not a direct result of the hydroelectric generation.

Because it is a water-borne plant, that is, without a sensitive capacity to vary the level of the water in its reservoir, Itaipu has a reduced damping capacity of the floods, so it is necessary to open the spillway so that the waters follow their natural course along the river, which occasionally affects downstream communities - especially the San Rafael neighborhood in Paraguayan territory, which is approximately 12 kilometers from the plant.

In its binational Emergency Action Plan, Itaipu has a Flood Commission, which is activated to monitor the hydrological situation and an operational plan for these situations, prioritizing the safety of the dam and, at the same time, reporting on the hydrological situation with maximum advance for the responsible bodies in Brazil and Paraguay, especially for the Civil Defense, which evacuates some low areas, if necessary.

In 2016, three floods affected communities downstream from Itaipu. At all times, the company produced hydrological bulletins that allowed the effective work of work entities related to civil defense.

2016 highlights

Sustainable tourism

Nearly 4.5 million people have visited the attractions of Itaipu Tourist Complex (CTI) since 2007, when the sustainable tourism model was adopted at the Itaipu plant. In this model developed by the CTI and managed by the Itaipu Technological Park Foundation (FPTI), the value obtained from the sale of tickets from the seven tourist attractions pays for the entire operation of the Complex - including costs for renewing the bus fleet, fuel, 140 direct and 150 indirect jobs.

Part of the resources go to the Technological Fund that funds FPTI projects in the areas of research, development, innovation, education and entrepreneurship. In the last three years, Itaipu undertook substantial improvements in infrastructure at the CTI, such as scenic vehicle and electric vehicle tours, catamaran tours through the reservoir, and canopy practice.

90.5% of the population of Western Paraná approves Itaipu

In Foz do Iguaçu, a city directly impacted by the construction of the hydroelectric plant and headquarters of the Brazilian side of the plant, Itaipu's approval is even greater: 94,3%. The conclusions were based on two surveys conducted between October and November 2016.

In a spontaneous way, Itaipu was remembered as an important company for the development of the West region for the majority of respondents (92.5%). The hydroelectric was also named as the corporation that most contributes to the development of Paraná.

But probably because the population does not see the company exclusively as an energy generator, a quarter of the respondents (24.7%) said that Itaipu is "important", but could contribute more to the region. The results will serve as a foundation for future company initiatives.

Tourism in numbers

955.397

people visited Itaipu in 2016, a historical record. There were 568,201 people on the Brazilian border and 387,196 people on the Paraguayan border.

46,198

people visited Itaipu through an institutional visit in Brazil - an activity aimed at student groups and professionals. The growth was 38%, or nearly 13 thousand more people, compared to 2015.

82%

was the growth of visitation in the Bela Vista Biological Refuge in 2016 in relation to the previous year. One of the novelties was to encourage tourists to plant seeds of trees native to the region. The seedlings will be used in the Itaipu reforestation program.

Itaipu Technological Park (PTI)

Territorial development is supported by the Itaipu Technological Park Foundation (FPTI) through the generation of knowledge - with results that include the training of public school teachers in the scientific culture, professionalization, creation of companies, support for the implementation of graduate and postgraduate courses with masters and doctorates, thus enabling technical and scientific growth in the region. Created in 2003, in the old barracks of the workers who built the plant, the PTI brings together three public universities, 66 laboratories and research centers, as well as private companies and development agencies. Around 7 thousand people circulate around the site every day.

West Development Program [G4-25]

Agribusiness is one of the main sources of income in the West of Paraná. In order to strengthen the sector through improvements in production and outflow infrastructure, in 2014 the West Development Program was created. Itaipu is one of the 40 institutions that integrate the initiative and, as part of the consolidation strategy, in 2016 the binational made a series of visits to cooperatives and other companies and regional entities to understand their expectations regarding the partnership. The region's agricultural cooperatives account for 48% of the Gross Domestic Product of Paraná cooperativism and 50% of local jobs. The program covers 54 municipalities and an estimated population of 1.3 million people.

Training for the Third Sector [G4-25]

Through the volunteer business program, the Volunteer Force, free training activities are carried out for entities from the Third Sector of Foz do Iguaçu and the region. In

2016, the Project Management and Project Elaboration workshops were held with the participation of a consultant committee member of the PMI Educational Foundation, a non-profit organization dedicated to project management training. The actions are part of a broad entity capacity building project, which has been intensified in the last three years. During this period, several activities were carried out, such as courses, diagnoses, modules and lectures.

West Region is the winner of the Sustainable Cities Award

Four years ago, Itaipu added the Sustainable Cities Platform in initiatives stimulated and supported by Cultivating Good Water Program (CAB). The Western region of Paraná was the winner of the second edition of the Sustainable Cities Award: the municipalities of Toledo, Quatro Pontes and Ubiratã took 10 of the 72 prizes distributed to cities throughout the country.

The objective of the award is to recognize good practices and motivate municipal managers to consider sustainability in public administration, and with the platform it is possible to monitor actions in different areas of administration - such as health, education, planning, transparency and anti-corruption.

The adherence of the city of Cascavel to the Platform, in February 2017, marked the adoption of 100% of the 29 municipalities of BP3, an area under the influence of the Itaipu plant and assisted by the CAB. In addition, Sustainable Cities has already reached ten other cities in the Western region of Paraná.

Infrastructure for garbage collection and recycling

It is part of the corporate strategy to rescue citizenship and promote the sustainability of vulnerable segments, such as collectors of recyclable materials, fishermen, natives, quilombolas and land reform settlers. In 2016, infrastructure improvements were made to collect recyclable material in the region as a way to promote social inclusion and increase income.

In the municipality of Quatro Pontes, the expansion and renovation of the selective collection shed was completed. In Santa Terezinha de Itaipu, the expansion and reform of the sorting center was carried out, with a financial contribution from Itaipu and an agreement was signed to support the revision of the municipal solid waste management plan in 2017.

Support to municipal basic sanitation plans

Agreements were also signed for Itaipu to support the drafting of basic sanitation plans for the municipalities of Entre Rios do Oeste, Pato Bragado and Quatro Pontes. And to support the revision of the plan of the cities of São Pedro do Iguaçu and Santa Helena.

Indigenous communities

[G4-DMA; G4-HR8]

For the formation of the Itaipu reservoir, an area of approximately 100,029 hectares was expropriated, including the municipalities of Foz do Iguaçu, São Miguel do Iguaçu, Medianeira, Santa Helena, Matelândia, Marechal Cândido Rondon, Terra Roxa and Guairá. In this process, 19 indigenous families were located and registered by the National Indigenous Foundation (FUNAI), totaling 71 people of the Ava Guarani ethnic group, who formed the community of Jacutinga and occupied an area of approximately 30 hectares. In order to receive these families, the Ocoy Indigenous Reserve was created in 1982, in the municipality of São Miguel do Iguaçu, with an area of 250 hectares, with technical and financial support from Itaipu.

Due to the vegetative and migratory growth of the Ocoy population, the area became insufficient for the survival of the community, motivating the acquisition of another area by Itaipu. In 1997 the Tekoha Añetete village was set up in the municipality of Diamante D'Oeste, with an area of 1,744 hectares, to where 32 families were transferred.

Itaipu formalized an agreement with FUNAI to provide technical and financial support to consolidate this new village. And the Ocoy Reserve remained with 42 families, a contingent that gave it a very quiet and sustainable situation. The company also develops the Indigenous Communities Sustainability Program (see more on page 75).

During the year 2016, no complaints, allegations of violation of the rights of indigenous peoples by activities of Itaipu or its employees, nor in the communities that live in the areas of interest and influence of the company were filed with the Coordination Board, Information Office, Ombudsman and Contact Us.

Royalties [G4-EC8]

In 2016, Itaipu Binacional reported the transfer of US\$ 491 million to the governments of Brazil and Paraguay as royalties payments. The payment of the financial compensation for the use of the hydraulic potential of the Paraná River is provided for in the Treaty of Itaipu, signed in 1973.

Although the document does not lose its validity, Annex C (the financial part of the Treaty and containing the formula for calculating royalties) will be revised in 2023. Negotiation of the financial basis of the Treaty is therefore among the main strategic themes for Itaipu in the coming years.

The importance of royalties can be seen in the city of Mercedes, for example, that only in 2016 received US\$ 1.8 million in royalties. This value contributed to increase investments in health, conservation of roads (especially those used to dispose of agricultural production), education, social assistance and projects to support agriculture. As a result, the municipality ranks 13th in the ranking of the Human Development Index (HDI), among 399 municipalities in the state of Paraná.

Another municipality that receives royalties and stands out in the HDI ranking of Paraná is Marechal Cândido Rondon, in 8th position. Compensation accounted for almost 12% of municipal revenues in 2016, or just over US\$ 5.1 million, and was applied primarily in the paving of highways and other agribusiness infrastructure actions (main economic activity of the municipality).

How it works

The royalties are calculated based on the energy generated in the month. Itaipu makes two monthly transfers to the National Treasury. In Brazil, it is up to the National Electric Energy Agency (Aneel) to define the amounts to be passed on by the Union to each of the beneficiaries, according to the legislation.

Sixteen municipalities receive royalties (fifteen in Paraná and one in Mato Grosso do Sul) proportionally to the flooded area; the states of Paraná and Mato Grosso do Sul; and the states and municipalities indirectly affected, located upstream of the plant. Also entitled to a percentage of the royalties of Itaipu are the Ministry of Environment, the Ministry of Mines and Energy and the National Fund for Scientific and Technological Development.

Distribution of royalties in Brazil

45%

for states*

45%

for municipalities*

10%

for the Federal Government (3% for the Ministry of the Environment, 3% for the Ministry of Mines and Energy and 4% for the National Fund for Scientific and Technological Development).

*Of the total allocated to the municipalities and states, 15% is for those indirectly affected by the reservoir and 85% for those that were directly affected.

Royalties paid by Itaipu to the Brazilian Treasury (in US\$ thousand)

[G4-EC8]

	2016	2015	2014	Accumulated 1991-2016
Ministry of the Environment	7,515.60	7,185.70	7,593.50	86,905.10*
Ministry of Mines and Energy	7,515.60	7,185.70	7,593.50	86,905.10*
National Fund for Scientific and Technological Development	10,020.80	9,581.00	10,124.70	115,873.50*
Government of Paraná	95,122.00	90,946.70	96,108.00	1,784,734.30
Government of Mato Grosso do Sul	2,243.60	2,145.10	2,266.80	39,876.00
Other states indirectly affected	15,368.50	14,693.90	15,527.80	289,679.20
Municipalities indirectly affected	16,910.10	16,167.90	17,085.40	316,131.40
Foz do Iguaçu	18,427.80	17,618.90	18,618.70	345,454.90
Santa Terezinha de Itaipu	3,825.40	3,657.50	3,865.00	71,712.40
São Miguel do Iguaçu	8,300.00	7,935.70	8,386.00	168,060.20
Itaipulândia	16,409.20	15,688.90	16,579.30	295,147.20
Medianeira	106.00	101.30	107.10	1,986.40
Missal	3,658.40	3,497.80	3,696.30	68,581.00
Santa Helena	24,081.20	23,024.00	24,330.50	451,432.60
Diamante do Oeste	513.10	490.60	518.50	9,619.30
São José das Palmeiras	177.20	169.40	179.00	3,321.30
Marechal Cândido Rondon	5,116.40	4,891.80	5,169.50	102,800.80
Mercedes	1,763.90	1,686.50	1,782.20	31,727.30
Pato Bragado	4,297.40	4,108.80	4,342.00	77,296.70
Entre Rios do Oeste	3,003.70	2,871.90	3,034.80	54,027.10
Terra Roxa	144.30	138.00	145.80	2,705.30
Guaira	4,657.10	4,452.70	4,705.40	87,304.60
Mundo Novo	1,343.00	1,284.00	1,356.90	25,113.70
Total**	250,520.30	239,523.80	253,116.70	4,696,346.40

Source: Itaipu Financial Area.

* Accumulated from 2004 to 2016.

** In 1991, the percentage distribution of royalties was established. Before that, Itaipu paid the Brazilian Treasury US\$ 614,561.7 thousand, totaling the payment of US\$ 5.3 billion in royalties since the beginning of the company's operation.

Social programs and projects developed or supported by Itaipu [G4-EC8]

For more information on the initiatives, see the 2016 Annual Report.

Program	Incentive to Tourism [G4-EC8]
Objective	To promote the tourism development of Foz do Iguaçu and region, through articulation, publicity campaigns, training for professionals in the sector and investments in infrastructure.
Investments	2016: US\$ 584,646.73 2015: US\$ 416,145.98 2014: US\$ 938,494.36
Public Benefited	Residents of the region, Brazilian and foreign tourists, and industry trade.
Partners	Public and private institutions that integrate the tourism sector, such as Infraero, hotel chain, travel agencies and event organizers.
Main result in 2016	The Itaipu Tourist Complex (CTI) received the most important international award in the sector: the Tourism Excellence and Innovation Award, granted by the World Tourism Organization. Winner in the Research, Technology and Innovation category, CTI was nominated for the award in recognition of Itaipu's tourism actions as a promoter of the region's sustainable development.

Program	Itaipu Technological Park Foundation (FPTI) [G4-SO1, G4-EC8]
Objective	To promote projects and program aimed at social insertion, job and income generation, distribution of scientific and technological knowledge and regional development, taking advantage of the technical knowledge generated by the plant construction and operation.
Investments	2016: US\$ 11,372,441.26 2015: US\$ 12,305,726.71 2014: US\$ 16,681,632.07
Public Benefited	Graduation, postgraduate, vocational education students, students from public schools in the region and entrepreneurs.
Partners	Federal, state and municipal governments, incubated companies, higher education institutions, public schools and Third Sector organizations.
Main result in 2016	The Park received 101 national and international events, involving 29,089 participants, in which scientific and technological development was discussed and promoted, as well as the cultural integration of Latin America. Every day more than seven thousand people of 40 nationalities circulate through the area.

Program	Itaipu Health Foundation - Ministro Costa Cavalcanti Hospital (HMCC) [G4-EC8]
Objective	To provide high-level preventive and curative medical and hospital care to the community, through agreements with the public and private health network, and provide conditions for the training and improvement of medical and health personnel.
Investments	2016: US\$ 6,772,846.87 2015: US\$ 6,942,108.95 2014: US\$ 4,128,145.96
Public Benefited	Population of nine municipalities in the Western region of Paraná, totaling about 430 thousand inhabitants, in addition to approximately 250 thousand Brazilians residing in Paraguay who seek medical attention in Foz do Iguacu.
Partners	Federal, state and municipal governments, Itaipu and educational and research institutions.
Main result in 2016	Assistance to Patients of the Unified Health System: 6,273 treatments in the Emergency and Early Care, 39,293 outpatient consultations, 1,727 surgeries performed, 195 cardiovascular surgeries, 3,157 deliveries and 20,996 patients attended at the Oncology Center.

Program	Business Volunteer Program - Voluntary Force [G4-S01, G4-EC8]
Objective	To stimulate, strengthen and enhance the practice of citizenship with employees, through voluntary service, as well as provide support to the Third Sector. In addition to enhancing public policies in the region, the program acts in line with the proposed by the UN in the Sustainable Development Goals and assesses how activities are contributing to the global agenda.
Investments	2016: US\$ 80,334.22 2015: US\$ 45,397.29 2014: US\$ 45,397.29
Public Benefited	Collaborators and their families and community in the area of influence, especially civil society organizations.
Partners	Public bodies (municipal, state and federal), non-governmental organizations and private companies.
Main result in 2016	The pilot project for the application of the Results, Impacts and Opportunities (RIOS) methodology for Sustainability in projects developed by volunteer employees in partnership with civil society organizations was started. This initiative and other management processes were presented at the 24 th World Conference of the International Association for Volunteer Effort (IAVE) held in Mexico City.

Program	Border Health [G4-S01, G4-EC8]
Objective	To support health actions in the area of influence of Itaipu, region of the border between Brazil, Paraguay and Argentina, in line with the respective public policies of the sector.
Investments	2016: US\$ 455,458.41 2015: US\$ 144,784.21 2014: US\$ 35,343.09
Public Benefited	Health professionals and technicians from Brazil, Paraguay and Argentina and, indirectly, residents of the region.
Partners	Ministries of Health of Brazil, Argentina and Paraguay, health secretariats, health professionals and public and private institutions.
Main result in 2016	In cooperation with the associated institutions, the project was developed and the Tropical Medicine Center of the triple border was installed. The Center allows epidemiological surveillance and the early detection of the risk of disease transmission in the region, with tests on animals, insects and even humans, with separate flows, which is unheard of in the Brazil.

Program	Medicinal Plants [G4-S01, G4-EC8]
Objective	To educate, develop, cultivate, benefit and distribute medicinal aromatic and flavorful species, with quality, to attend to the socioeconomic and environmental projects of Itaipu and region, producing technological and scientific results.
Investments	2016: US\$ 8,866.73 2015: US\$ 5,092.16 2014: US\$ 161,909.08
Public Benefited	Farmers, health professionals, researchers, universities, indigenous communities, quilombolas, people in land reform settlements, pastoral, mothers clubs, associations and community in general.
Partners	Universities, associations, Itaipu Technological Park, research institutes, Ministry of Health, Ministry of Agrarian Development, Fiocruz and prefectures of Paraná Basin 3 (BP3).
Main result in 2016	Realization of the 1 st Course of Production of Medicinal Plants. The activity brought together about 30 people, including agricultural technicians, agronomists and nursery workers from the municipalities of Santa Terezinha de Itaipu, Medianeira, Santa Helena and Vera Cruz D'Oeste.

Program	Solidary Energy [G4-SO1, G4-EC8]
Objective	Strengthen the Community Council of Vila C as social equipment of the community and neighborhood, and provide free legal assistance.
Investments	2016: US\$ 238,107.45 2015: US\$ 158,307.63 2014: US\$ 480,057.09
Public Benefited	Communities of Foz do Iguaçu.
Partners	Municipal Council of Vila C (CCVC), Foz do Iguaçu City Hall, Sistema S (SESI, SENAC, SESC) and Sate University of the West of Paraná (Unioeste)
Main result in 2016	About 1,200 people/month attended in training courses and sports, leisure and culture activities carried out in the school shift, such as judo, informatics, ballet and guitar. The legal aid office provided 1,030 requests/orientations/consultations, 660 petitions/requests, 40 new lawsuits and 157 hearings.

Program	Solidary Collection [G4-SO1, G4-EC8]
Objective	To stimulate and support the socio-productive inclusion of collectors of recyclable materials from Paraná Hydrographic Basin 3 (BP3) in integrated municipal solid waste management.
Investments	2016: US\$ 84,056.34 2015: US\$ 41,647.58 2014: US\$ 248,052.79
Public Benefited	Recyclable material collectors.
Partners	Associations and cooperatives of collectors of recyclable materials, Public Ministry of Labor and Environment, Municipal Governments of BP3, Instituto Lixo e Cidadania, National Movement of Collectors of Recyclable Materials, National Bank for Economic and Social Development (BNDES) and Interministerial Committee for Social Inclusion of Recyclable Material Collectors (CIISC).
Main result in 2016	Carrying out technical exchange visits of the associations of collectors from seven municipalities of the region with the Association of Collectors of Santa Terezinha de Itaipu, which is a reference of the Project.

Program	Sustainability of Indigenous Communities [G4-S01, G4-EC8]
Objective	To develop actions, in cooperation with legally competent bodies and support organizations, in the areas of infrastructure, agriculture, food security and culture for two Guaraní villages in the municipality of Diamante do Oeste and one in São Miguel do Iguçu.
Investments	2016: US\$ 175,723.82 2015: US\$ 102,286.96 2014: US\$ 207,186.96
Public Benefited	Population of Tekoha Ocoy, Tekoha Añetete and Tekoha Itamarã villages, totaling about 1,460 people.
Partners	Municipal Governments, the Public Ministry, the National Indigenous Foundation (FUNAI), the Operational Support Center of the Justice Protection Offices for Indigenous Communities (CAOP), the Cooperative of Labor and Technical Assistance of Paraná (Biolabore), Small Farmer Support Center (CAPA), indigenous schools and indigenous community associations.
Main result in 2016	Creation of the Ava Guaraní group to certify the Itamarã and Añetete communities in the Ecovida Network (certifies the products as organic).

Program	West Development [G4-S01, G4-EC8]
Objective	To promote the economic development of the Western region of Paraná through a participatory process, access to new technologies and mobilization for innovation, fostering cooperation between public and private actors for the planning and implementation of an integrated development strategy.
Investments	2016: US\$ 867,300.77 2015: US\$ 41,453.10 2014: US\$ 646,224.12
Public Benefited	52 cities that integrate the Association of Municipalities of the West of Paraná and the municipalities of Altônia (Paraná) and Mundo Novo (Mato Grosso do Sul).
Partners	Paraná Micro and Small Business Support Service (Sebrae-PR), the Association of Municipalities of the West of Paraná (Amop), the Coordination of the Commercial and Industrial Associations of Paraná (Caciopar), Federation of Industries of Paraná (Fiep), agricultural cooperatives, municipal development councils, universities, associations and trade unions.
Main result in 2016	Technical and Financial Cooperation Agreement between FPTI, Sebrae-PR, Organization of Cooperatives of Paraná (Ocepar), Cooperativa Vale, Cooperativa Copacol and Pontifícia Universidade Católica (PUC-RS) was enabled for the joint development of the project called “implementation of Units of Distributed Generation of Electric Power from Photovoltaic Modules in Rural Properties”.

Program	Municipal Patronage of Foz do Iguaçu [G4-S01, G4-EC8]
Objective	To reintegrate former inmates of the penitentiary system into society through employability, vocational courses and assistance in the legal, psychological, social, pedagogical and cultural scopes.
Investments	2016: US\$ 36,004.50 2015: US\$ 33,947.12 2014: US\$ 57,435.74
Public Benefited	People on probation, on an open-ended basis (community service delivery) or former inmates and their families, as well as persons in social vulnerability.
Partners	Municipal Secretary of Social Assistance, Family and Relations with the Community, State Secretary of Justice, Citizenship and Human Rights (Seju) and State University of Western Paraná (Unioeste).
Main result in 2016	The service center performed more than 8 thousand procedures, such as: procedural follow-up/orientation, diligences, preparation of offices, hearings, analysis of pardons and hearings/defenses in administrative proceedings.

Program	Child and Adolescent Protection Program (PPCA) [G4-S01, G4-EC8]
Objective	To articulate and promote actions and campaigns with the aim of encouraging the defense of the rights of children and adolescents and contribute to strengthening the fight against child labor, sexual exploitation and other forms of violence against children in the region of the Triple Border and of interest of Itaipu.
Investments	2016: US\$ 235,891.03 2015: US\$ 318,599.76 2014: US\$ 469,015.10 Values include contributions made in the projects Lake Boys, Young Athletes and Sailing is Needed.
Public Benefited	The society in general, since it works in the promotion and protection of the rights of children and young people who live in situation of risk and social vulnerability.
Partners	Public bodies, social entities, NGOs, international organizations and private companies.
Main result in 2016	Professional training of poor families in Foz do Iguaçu and Ciudad Del Este and professional qualification of members of Rede Proteger by hiring lecturers for education and citizenship events; elaboration of a situational diagnosis of the socioeconomic conditions of children and adolescents, and courses for the training and vocational training of young people and adults.

Program	Lake Boys [G4-S01, G4-EC8]
Objective	To develop the practice of canoeing among children and adolescents in situations of social vulnerability, improve school performance, discover and encourage new talent in sport that may represent the country in international competitions.
Public Benefited	Children and adolescents (from 7 to 18 years old) students from the public school, residents of Vila C and Morumbi neighborhoods, in Foz do Iguaçu.
Partners	Brazilian Confederation of Canoeing, Lake Boys Institute (Imel) and National Bank for Economic and Social Development (BNDES).
Main result in 2016	Total of 100 students trained in the Itaipu Canal, some of them representing Brazil in national and international championships.

Program	Sailing is Needed [G4-S01, G4-EC8]
Objective	To implement the practice of sailing in Foz do Iguaçu, forming athletes able to participate in national and international competitions.
Public Benefited	Children and young people between 8 and 18 years old, who study in the public school and live in the Três Lagoas neighborhood.
Partners	Lake Itaipu Yacht Club (Icli).
Main result in 2016	A total of 120 students participate in the project monthly, with highlight in national and international championships, and in the world class Laser 4.7 one of the participants was among the top five of the tournament.

Program	Young Athletes [G4-S01, G4-EC8]
Objective	To develop sports activities to promote citizenship and start a career in athletics in various modalities.
Public Benefited	Children and young people between 10 and 23 years old, public school students and athletes with disabilities over 16 years old.
Partners	Athletics Institute of Foz do Iguaçu and Foz City Hall.
Main result in 2016	Participation of 150 students and 10 athletes with disabilities, with the parathletes conquering gold in four races at Parade Games Paraná. Among the athletes of the project, 24 were ranked among the top 20 athletes in Brazil, in four different sports categories.

Programa	Integrar [G4-S01, G4-EC8]
Objective	To improve educational performance and promote the digital and social inclusion of students, teachers and the school community by supporting the adoption of innovative educational actions and the availability of educational software and pedagogical and technological resources.
Public Benefited	Students from the 1 st to 5 th grade and Youth and Adult Education at Padre Luigi Salvucci Municipal School, located in Vila C neighborhood, near the plant, in Foz do Iguçu.
Partners	Foz do Iguçu City Hall, Itaipu Technological Park Foundation (FPTI) and Positivo Informática.
Main result in 2016	750 students and 33 teachers were attended.

Programa	Financial Education [G4-S01, G4-EC8]
Objective	To create conditions for the improvement of the quality of life of Itaipu's employees and of the less favored segments of society in the region, especially the low income population, based on knowledge about the sound management of financial resources.
Public Benefited	Itaipu employees, their dependents and other employees of the company, educational institutions, teachers, city halls and non-governmental organizations.
Partners	Public schools of the municipalities of Foz do Iguçu, Santa Helena and Guaira, Secretariat of Industry and Commerce of Santa Helena and other Itaipu programs.
Main result in 2016	Approximately 12,000 students were attended in 53 schools in the cities of Foz do Iguçu, Santa Terezinha de Itaipu, Entre Rios do Oeste, Mercedes, Santa Helena and Guaira.

Relationship with suppliers [G4-DMA]

Itaipu Binacional makes its purchases of products and services according to the criteria and modalities set forth in the **General Bidding Rules (NGL)**. The bidding process aims to select the most convenient proposal for the entity, considering aspects such as price, quality, term and impacts for sustainability.

The company's goal is to be internationally recognized as a benchmark in sustainable procurement. To this end, a binational Sustainable Procurement Policy was drafted and implemented in November 2013, which sets out the guidelines for acquisitions to consider the life cycle of products and services and the positive and negative impacts of the economic, social and environmental scopes.

The policy implementation plan was established on the basis of a flexible matrix, a concept used by the Department for Environment, Food & Rural Affairs (DEFRA) - the British environmental department, and in 2016 reached the mark of 75% of total fulfillment, having already performed 50% of the activities planned for the 2016/2017 biennium (in 2013 it was 100% and 94.6% in 2014/2015). The last level of the matrix should be reached by 2020.

In 2016, the number of acquisitions with sustainability requirements - from 33 to 44 - was also expanded, and the Policy revision was implemented, which required almost six months of work by the committee responsible for the Sustainable Procurement Program, which is also binational.

The main future challenge is to establish permanent indicators that will allow us to know, for example, how much the company is avoiding of greenhouse gas emissions from its purchases, and to advance on issues such as gender equity and supply of regional companies within the criteria settled down.

With the support of Itaipu, the municipality of Santa Helena (area of influence of the company) adopted the methodology of the Sustainable Procurement program of the binational in the month of May. The municipality started with a pilot product: office desks and chairs, with requirements such as reforested wood certification and preference to local suppliers. The municipality of Foz do Iguaçu should also adopt the methodology and the aim is for this practice to become a public policy in the region.

86%

of the acquisitions in 2016 were from local suppliers (located in the state of Paraná and Paraguay). These accounted for 67% of the total suppliers contracted with Itaipu in the period. [G4-EC9]

129

was the number of suppliers contracted in 2016 based on sustainability criteria. They correspond to 11% of the total suppliers (1,198) contracted in the year. [G4-S09]

15%

was the growth of the participation of items with sustainability criteria in relation to the total purchases of Itaipu.

US\$ 18.36 million

was the growth in accordance with the Sustainable Procurement Policy in 2016.

Supplier chain profile

[G4-12; G4-25; G4-S04]

Itaipu's chain of suppliers, in 2016, was formed by 1,645 registered suppliers, of various sizes, located mainly in the state of Paraná and Paraguay. Of these, 856 are service providers, 237 commerce and 160 industries, and two or three activities can be accumulated simultaneously. Of the total, 1,090 are micro and small businesses.

Almost 30% of the companies that supplied to Itaipu in 2016 were framed by the General Law of Micro and Small Companies in Brazil. A procedural instruction that should incorporate in Itaipu the preference criteria for micro and small companies is to be approved.

The value of purchases in 2016 was US\$ 159 million, of which US\$ 137 million were negotiated with suppliers located in Paraná and Paraguay.

The mapping of suppliers that pose risks to sustainability identified 434 companies as critical, of which 199 are small and micro enterprises. They were mapped from the risk assessment for sustainability on the 100 objects of bidding most bought by Itaipu, being 50 materials and 50 services.

Within a cut line stipulated in the value of 35 (from a total ranging from 0 to 42) as the maximum degree of risk (divided among the three dimensions of sustainability: economic, environmental and social), five critical provision of services and ten in the supply of materials were identified.

Taking into account several dimensions of the Sustainable Procurement Policy, in 2016, engaging events were held with suppliers. The pilot project yielded four workshops and three meetings focusing on business planning to include sustainability in its strategic agendas. During the activities were presented concepts of business ethics and some Itaipu standards for contracting, such as the Code of Conduct for Suppliers, which includes anti-corruption guidelines. More than 20 suppliers participated and presented their strategies for 2017.

Labor practices and human rights

[G4-DMA; G4-LA14; G4-LA15; G4-HR4; G4-HR5; G4-HR6; G4-HR10; G4-HR11; G4-SO10]

All suppliers are selected based on criteria that ensure human and labor rights. Companies that are listed in the National Register of Inefficient and Suspended Companies (CEIS) of the Union General Comptroller are prohibited from contracting with Itaipu.

In addition to accepting the Suppliers Code of Conduct, negative certificates and other documents required in the registration, clauses in the contract are included and monitored periodically by the management areas. Cases of breach of contract may be denounced to the Ombudsman's

Office and, if proven, are subject to administrative procedures for termination of contracts, suspension of the right to contract with Itaipu for 12 months, and application of appropriate measures in the Labor Court and Public Ministry of Labor.

Suppliers are evaluated through the Vendor Evaluation System, which analyzes contractors based on ISO 14000 and 26000, OHSAS 18001 and SA 8000 standards and the Women's Empowerment Principles (WEPs).

ENVIRONMENTAL DEVELOPMENT

Environmental care is a premise that guides Itaipu Binacional from the time of its construction, even before the existence of legislation of the subject. In the Strategic Plan there are objectives related to the environment and one of the four dimensions the Sustainability Policy is dedicated to the theme. The current management tool is the Environmental Management Master Plan, implemented in the year 2000.

Environmental actions are in line with the main documents that guide the global agenda, such as the principles of the Earth Charter, as well as with public policies. These include the National Water Resources Plan and the National Policy for Technical Assistance and Rural Extension (PNATER).

It is through the Cultivating Good Water (CAB) program that the plant develops the main actions in favor of water quality and the promotion of sustainability in 29 municipalities in the Western region of Paraná. The main differential of the program is the innovative management, carried out with the direct participation of the communities services, through management committees established in each locality.

In 2014, the CAB became a cooperation policy of the Brazilian government through the Brazilian Cooperation Agency (ABC), with the support of the National Water Agency (ANA). Since then, the methodology has been adopted by the governments of four Latin American countries and several Brazilian states. One example is Minas Gerais, which is using the program as a reference for the

recovery of Rio Doce Basin, a region affected by the rupture of the Samarco mining dam in November 2015.

In 13 years of execution, CAB is present in 217 hydrographic microbasins, promoting environmental recovery with the protection of springs and riparian forests, re-adaptation of rural roads, soil conservation and biodiversity, as well as the adoption of new more sustainable modes of production and consumption.

In 2016 CAB won the first place in the “Indicators” category in the Brazilian Environmental Benchmarking Program, promoted by Instituto Mais Projetos Corporativos, for the adoption of sustainability indicators both in the implementation of its socio-environmental practices and in their management. [G4-DMA]

To learn more about the program, visit www.cultivandoaguaboa.com.br

Conservation of biodiversity

[G4-DMA; G4-EN12]

Itaipu Binacional is a fully installed enterprise since 2007, when the last generation unit assembly was completed. Since then, there have been no new interventions (works or procedures) with potential to affect biodiversity in protected areas or not, maintaining the already consolidated operational routine.

Through the program Biodiversidade Nosso Patrimônio, Itaipu seeks to protect and conserve regional biodiversity, compromised by the intense interference of man as

a result of agricultural activities that occurred mainly in the 1960s and 1970s.

There are three macroactions: conservation and management of terrestrial biodiversity; monitoring of fish fauna; and conservation and recovery of protected areas in the Brazilian territory of the company. The program is implemented in accordance with the company's sustainability policies, guided by the Environmental Master Plan. In 2016, the amount invested was US\$ 1,583,035.86.

In recognition of the practical results of the initiative, the plant was awarded the case "Biodiversity: Our Heritage" in the 2016 Ranking of the Brazil Benchmarking Program, promoted by Instituto Mais Projetos Corporativos.

Itaipu has the LIFE (Lasting Initiative For Earth) certification since 2015 and the first supervision audit to maintain the certification was carried out in 2016 by the Paraná Institute of Technology - Tecpar.

Fish rescue

[G4-DMA; G4-EN12]

For the cases of oscillation of the reservoir level, Itaipu has a Contingency Plan that provides for the monitoring of the entire extension of the lake and its banks, as well as the Spawning Channel, in order to avoid possible effects caused by the reduction of the water level, such as the imprisonment of fish in small ponds.

Also rescued are the fish that are trapped inside the conduits of the generating units, when the turbines stop for maintenance. Since Itaipu started this operation, in 1987, a little over 73 thousand fish have been removed. Once collected and counted, the animals are released on the Paraná River or in the reservoir. Granulated catfish, armored catfish, streaked prochilod and long-whiskered catfish are the most common, but rare fish such as the gilded catfish have already been found. The survival rate is about 90%.

Total number of species included in the IUCN Red List* [G4-EN14; G4-EU13]

Extinguishing risk level	2016		2015		2014	
	Fauna	Flora	Fauna	Flora	Fauna	Flora
Critically endangered (CR)	0	0	0	0	0	0
Endangered (EN)	2	3	2	4	2	4
Vulnerable (VU)	6	0	9	0	8	0
Near threatened (NT)	7	1	6	1	5	1
Least concern (LC)	53	16	60	16	56	16
Total	68	20	77	21	71	21

*IUCN: International Union for the Conservation of Nature and Natural Resources.
There is no routine monitoring in nature.
The complete list is available for consultation in the electronic version of this Report.

2016 Highlights

Conservation and management of wild species

17%

is the increase in the number of captive animals in the Bela Vista Biological Refuge, the result of the birth of 30 specimens and more than 100 received from other institutions. Among the new animals there are endangered species such as the howler monkey, the purple-breasted parrot and the lowland paca. Some are also rare, such as the black hawk-eagle and two species of owl - tawny-browed owl and stygian owl.

Unprecedented reproduction of jaguars

After 14 years of attempts, Itaipu recorded its first captive reproduction of jaguars. The cub is a black female and was born in December, three months after the arrival of the mother Nena, who is also black and is the sixth jaguar sheltered by the Refuge.

Monitoring of fish fauna

50

tons of garbage and debris collected along the banks of the reservoir and around the Ilha Grande National Park. The cleaning campaigns of the lake are carried out periodically with the support of the surrounding municipalities and together with 400 professional artisanal fishermen who carry out the fishing activity in the reservoir.

Conservation and recovery of protected areas

28%

of the restored Atlantic Forest area in Paraná, in the last 30 years, correspond to the shares of Itaipu in the Brazilian margin of the reservoir. The state contributed the most to the restoration of this biome in the country, which had been degraded since the 1970s by agricultural practices. Of the 10 municipalities that stood out, 7 are from the region of influence of the plant and 4 lead the ranking: Foz do Iguaçu, Santa Helena, São Miguel do Iguaçu and Itaipulândia. The data, released in 2016, are from the SOS Mata Atlântica Foundation and the National Institute for Space Research.

Unprecedented forest inventory

Itaipu began to survey the existing trees in 21 hectares of its protected area in the Spawning Channel. The objective is to analyze the state of conservation and to do the permanent monitoring of the forest, with records every five years. The first inventory was made in 1976 and, with the current study, the first data will be obtained to evaluate the evolution of the protected area.

Record is registered in the Spawning Channel

After six years between the exit and return, a tagged fish of the streaked prochilod species was again registered in the Channel. This fact proves the effectiveness of the Itaipu fish transposition system, which serves as a model for other hydroelectric projects. The Spawning Channel is the largest and most complex ecological corridor for fish in the world, structured by natural stretches of river, lakes and artificial channels, connecting the Paraná River below the dam to the plant reservoir.

Habitats protected or restored [G4-EN13]

Area	Size	Location	Management	Partnerships with third parties for protection or restoration	Area status
Santa Maria Ecological Corridor	0.7 km ²	PARANÁ: Santa Terezinha de Itaipu and São Miguel do Iguaçu	Management Committee of the Corridor. Supervision by Itaipu (basins managers and environmental technicians) and agreement with the Military Police (Green Force). The area is covered by the contact network for the actions of the Forest Fire Brigade.	Yes	Replanted, initial stage of succession
Protected Areas - Fire	0.031 km ²	PARANÁ: Foz do Iguaçu	Itaipu. Inspection of the entity (basins managers 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.	Yes	Abandoned, natural restoration
Range of Protection (Permanent Preservation Area + Protected Area)	1,006.62 km ²	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, Guaira, Itaipulândia, Diamante D'Oeste, Terra Roxa. MATO GROSSO DO SUL: Mundo Novo.	Itaipu. Inspection of the entity (basins managers 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.	Yes	Replanted, average succession stage
Spawning Channel	Approximately 10 km	PARANÁ: Foz do Iguaçu	Itaipu. Inspection of the entity (environmental technicians and security agents) and agreements with the Military Police (Green Force) and contact with a private security company. The area is covered by the contact network for the actions of the Forest Fire Brigade.	Yes	Aquatic environment, average succession stage

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

Environmental programs and projects developed or supported by Itaipu

For more information on the initiatives, see the 2016 Annual Report.

Program	Hidrographic Basins Management [G4-S01]
Objective	To promote the management and sustainable conservation of water and soil in the Paraná River Basin 3 (BP3), consolidating management by hidrographic basin.
Investments	2016: US\$ 1,926,187.07 2015: US\$ 848,377.02 2014: US\$ 2,031,834.74
Public Benefited	Residents of the microbasins of the Paraná Basin 3 (BP3).
Partners	Environmental organizations, researchers, universities, associations, cooperatives and non-governmental organizations (NGOS).
Main result in 2016	Construction of 4,956 kilometers of agricultural terraces for conservation of approximately 2,478 hectares of agriculture and livestock.

Program	Environmental Education [G4-S01]
Objective	To promote awareness among people and social groups to act, to educate and to contribute in the education of other individuals for the construction of sustainable societies.
Investments	2016: US\$ 532,920.78 2015: US\$ 1,019,831.52 2014: US\$ 697,710.32
Public Benefited	Residents of the Paraná Basin 3 (BP3) and Itaipu collaborators.
Partners	BP3 prefectures, educational institutions, NGOs, councils and local committees.
Main result in 2016	Constitution of the Young Collective of BP3 with the participation of 89 leaders representing youth movements with the objective of forming learning communities in their respective places of action.

Program	Valorization of Institutional and Regional Heritage
Objective	To rescue, preserve, value and disseminate the historical-cultural, technical-scientific and environmental heritage of Itaipu and the region, becoming a true instrument of communication and education among present, past and future generations.
Investments	2016: US\$ 184,554.24
Public Benefited	BP3 culture secretariats, NGOs, culture councils, plant Ecomuseum neighbors.
Partners	BP3 Culture Secretariats and Culture Councils.
Main result in 2016	Training and holding meetings of Working Group with members of the Regional Network of Culture and Heritage of BP3 to elaborate proposals to strengthen Cultural Circulation and Cultural Exchange.

Program	Fish Production in Our Waters [G4-S01]
Objective	To strengthen native fish fauna in the reservoir and other water courses, as well as support fishing and aquaculture as a means of generating income and nutrition for regional communities.
Investments	2016: US\$ 124,736.73 2015: US\$ 41,565.94 2014: US\$ 226,107.03
Public Benefited	Fishermen, settlers and indigenous community of the Paraná Basin 3 (BP3).
Partners	Colonies and associations of artisanal professional fishermen, indigenous communities, city halls and technical assistance institutions.
Main result in 2016	Installation of 12 new net tanks for fish farming and 42,600 fry for fattening. In the year, 26 fishermen served by the program produced 173 tons of fish in net tanks.

Program	Sustainable Rural Development [G4-S01]
Objective	To support and strengthen family farming, encouraging sustainable agricultural production, promoting responsible consumption and local development.
Investments	2016: US\$ 892,707.48 2015: US\$ 649,803.95 2014: US\$ 603,575.04
Public Benefited	Family farmers, indigenous, quilombolas and land reform settlers.
Partners	Institutions of technical assistance and research, universities, NGOs, federal and state government, prefectures and family farmer organizations.
Main result in 2016	Increased training and use of plant and animal homeopathy. Qualification of the properties and communities involved, for technical and cultural tourism, through the Bem Receber program.

Program	Environmental Monitoring and Assessment [G4-S01]
Objective	To conduct environmental assessments so that the waters remain in good condition for the multiple uses of the reservoir: power generation, public supply, industrial, agricultural and aquatic life preservation.
Investments	2016: US\$ 277,189.26 2015: US\$ 148,362.61 2014: US\$ 196,751.90
Public Benefited	Residents of BP3, users of water resources and management bodies.
Partners	Institutions of education, research, laboratories of analysis and environmental organizations.
Main result in 2016	Water quality monitoring campaigns were carried out throughout the year in the reservoir and in BP3. The water in the central body of the reservoir was classified as good quality for multiple uses.

Water consumption and disposal [G4-DMA]

The highest consumption of water by Itaipu is for the production of energy (non-consumptive use), without generating a significant change in quantity or quality during the process. For the consumptive use, the average intake is 350 m³/day in the Water Treatment Plant and 450 m³/day in the Biological Refuge, amounts

lower than 19,000 m³/day established as a significant withdrawal by Resolution 1175/2013 of the National Water Agency (ANA). The table below shows the discharges of water for consumptive use in the plant area and in the offices with Brazilian collaborators.

Total water discharge by quality and destination (in m³) [G4-EN22]

	2016	2015	2014
Type of destination			
Superficial waters	93,531	85,797	113,466
Evaporaation ¹	108,479	128,102	128,102
Infiltration in soil	107,478	96,319	108,393
Recirculation	89,337	100,978	101,129
Treatment method			
Sewage treatment plants/cesspools	179,827	190,594	193,261
Infiltration in soil	78,111	61,660	95,734
No treatment	32,408	30,840	33,992
Evaporation ¹	108,479	128,102	128,102
Total	398,825	411,196	451,089

The quantification of the effluents produced by Itaipu considers points where there is production measurement and other points where there are no meters (mostly). In these places the values are estimated from water consumption (considering 80% return - NBR 9649) or based on methodologies defined by the entity itself.

¹ Part of the water produced by the Water Treatment Plants is used for replenishment in the Evaporative Plants (Industrial Area) and in the Animal Enclosures (Biological Refuge).

Emissions of greenhouse gases and climatic changes [G4-DMA]

As the world leader in the production of clean and renewable energy, Itaipu Binacional does not emit significant amounts of greenhouse gases (GHG) in its operational processes. Nevertheless, reinforcing its position to mitigate the effects of global climate change, in 2012 it signed a Term of Commitment with the holding Eletrobras, to reduce in three years 5% of the electricity purchased from the network in the offices of Foz do Iguaçu and Curitiba, and 3% of the consumption of fossil fuels (gasoline and diesel) in the vehicles of its own fleet.

As the results were significant, in May 2016, the company established for the 2016-2020 horizon, the absolute and relative targets plan to be met annually for the three Brazil GHG Protocol scopes. They refer to the reduction of electricity consumption, fuels of fossil origin in the entity's vehicles, and distances traveled by employees and visitors on flights contracted in airline aircraft. See the detailed goals and performance in 2016 on pages 24 and 25.

Emissions (in equivalent CO₂t) [G4-EN15; G4-EN16]

	2016	2015	2014
Scope 1: Direct emissions ¹	7,368.31	7,219.96	7,626.69
Scope 2: Indirect emissions by the acquired electricity consumption (CO ₂) ²	139.62	247.99	282.99
Scope 3: Other indirect emissions	1,801.83	1,744.81	1,896.89
CO ₂ fixation by the biomass ³	2,807,014	2,645,517	2,116,643
Avoided emissions ⁴	469.37	378.10	451.86

Coverage only of the Itaipu operation in Brazil, according to the average of the period from 2011 to 2015.

- 1 Gases considered in the calculation: CO₂, CH₄, N₂O, SF₆ and HFC-134. Methodology used: IPCC Fourth Assessment Report (2007). Variables considered: automotive fuels for own fleet, for vessels and equipment; sewer; replacement of refrigerant gases in air-conditioners in offices, vehicles and powerhouse; GLP gas (kitchen), natural gas (Curitiba office), recharge of extinguishers (offices, industrial area and generating units).
- 2 Emissions conditional on the emission factor of the National Interconnected System. The data for 2015 and 2014 are higher due to the greater participation of thermal plants in the Brazilian energy matrix. Methodology used: Brazil GHG Protocol.
- 3 Carbon fixations by the biomass of the Protection Range, biological refuges and seedlings given to municipalities (produced in the forest nurseries of Itaipu).
- 4 Emissions avoided from the consumption of fuels by the use of electric vehicles and by the preference of the use of ethanol in the own vehicle fleet.

Mobilidade sustentável [G4-DMA]

Itaipu adopts the practice of renewing the fleet by more economical and less polluting vehicles. In line with the commitment to reduce greenhouse gas emissions, in 2016, 14 diesel trucks were replaced by flex trucks and 12 cars and 4 trucks were modified for the use of biomethane gas as fuel, which, besides helping with environmental sanitation, contributes to regional economic development.

In 2016, the 73 vehicles of the Itaipu fleet powered by biomethane traveled approximately 54,800 kilometers. 8,656 m³ of biogas were consumed, an amount that avoided the emission of 7.5 tons of CO₂ in the atmosphere. The gas that supplies the fleet is produced in biodigesters from Granja Haacke, from Santa Helena (100 kilometers from Foz do Iguaçu), from laying poultry and beef cattle waste.

Another way to avoid the emission of GHG is with the use of electric vehicles, a project developed by the binational since 2006. The purely electric vehicles and prototypes in activity at Itaipu in 2016 traveled 225,714 kilometers. If this same distance were traveled by a combustion vehicle, there would be the emission of 33,40 tons of CO₂. As for the production of electric energy to supply the vehicles, it emitted 3.70 tons of CO₂.

Regarding the economic aspect, the amount spent by electric vehicles to cover this distance (according to the residential rate applied by Companhia Paranaense de Energia - Copel) is R\$ 28,874.29 in electricity. With vehi-

cles powered by ethanol, the costs would be approximately R\$ 64,000.00 and 58,000.00 for gasoline-powered vehicles, according to data from the National Institute of Metrology, Quality and Technology (INMETRO).

Sharing system

The novelty in 2016 was the launch of the Intelligent Sharing System of electric vehicles, initially for employees of the Itaipu Technological Park Foundation (FPTI). For the pilot project, ten Renault Twizy electric vehicles (up to two passengers) were made available for displacement in the Brazilian area of the plant, at four points of intelligent mobility for picking up and returning the cars. The initiative is the result of a partnership between Itaipu, FPTI and the Center of Excellence for Innovation of the Automobile Industry (Ceeia), Portugal.

The entire operation of the System is made from a smartphone application (the Mob-i), which among other data, quantifies the emissions that are no longer made with the use of the electric car. The objective is to expand the service with the incorporation of electric vehicles model Zoe (with four passengers), which will allow the displacement outside the plant (to the city of Foz do Iguaçu and region).

Fuel consumption by type (in GJ) [G4-EN3]

	2016	2015	2014
Non-renewable sources			
Diesel (own fleet)	4,719	4,423	5,350
Gasoline	958	796	864
GLP gas (cooking gas)	207	167	193
Natural gas	34	61	91
Electricity (thermal, nuclear and other) ¹	1,014	-	-
Total	6,932	5,447	6,498
Renewable sources			
Alcohol	7,856	6,128	7,220
Hydraulic power ²	364,718	366,334	367,434
Electricity (hydraulic, wind and biomass) ¹	4,917	-	-
Photovoltaic microgeneration ³	77	-	-
Biomethane ³	294	-	-
Total	377,862	372,462	374,654

The conversion factors used are available in the National Energy Balance 2016.

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

2 - The electric power generated and consumed in the plant is measured by equipment installed in the main frames that feed the auxiliary services of the plant in 50Hz and 60Hz.

3 - The measurement of these sources began in 2016.

Electric power consumption [G4-DMA]

In line with Eletrobras' guidelines for reducing energy consumption and adopting clean and renewable solutions, in the last two years, Itaipu Binacional is developing a series of actions at the Executive Center (in Foz do Iguaçu) to obtain ISO 50.001 certification. The global standard for efficient energy management aims to reduce greenhouse gas emissions and associated environmental impacts, and to reduce consumption and thus the cost of energy. In case of certification, Itaipu will be the second company of the Eletrobras System to receive recognition (the first was the Tucuruí hydroelectric plant, located in Pará) and the first binational company.

Among the actions taken jointly between the Infrastructure Division (SGII.AD) and the Internal Energy Conservation Commission (CICE) are the replacement of incandescent

and fluorescent filament lamps by LED; the production of solar energy with the installation of photovoltaic panels on part of the roof of the parking lot; the exchange of 232 former air-conditioners by the new inverter equipment technology; the placement of presence sensors in the corridors; and the installation of new consumption meters.

In the last week of November, an internal audit team, made up of employees of Itaipu and other companies of the Eletrobras System, was in the company to evaluate compliance with the guidelines and found no impediments to certification. It is a preparatory stage for the visit of an accredited external audit, which will take place in 2017 and may make certification feasible.

Energy consumption within the organization (in GJ) [G4-EN3]

	2016	2015	2014
Total electricity consumption	370,726	366,334	367,434
Total consumption from non-renewable sources ¹	6,932	5,447	6,498
Total consumption from renewable sources ²	377,862	372,462	374,654
Total energy consumption	384,794	377,909	381,152

1 - Diesel (own fleet), gasoline, cooking gas (GLP), natural gas, electricity (thermal, nuclear and others).

2 - Ethanol, photovoltaic microgeneration, biomethane, hydroelectric power (electricity generated and consumed by Itaipu itself in the plant's premises) and electricity (hydropower, wind and biomass from energy purchased by Itaipu from concessionaires of the electric system to supply offices located outside the area of the plant 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 Electric Energy Agency - Aneel.

Electric energy consumption in the offices of Foz do Iguaçu and Curitiba (in GJ)

2016	2015	2014
5,931	6,902	7,376

Solar energy

In March, a solar energy micro-generator was installed on the roof of part of the parking lot of the Itaipu Executive Center, located in Vila A. The system, with 78 photovoltaic panels, had an installed capacity of 21.5 kilowatts-peak (kWp) increased to 30.8 kWp in November. The total energy generated in 2016 was 22,181 kWh, of which about 694 kWh was returned to Copel, the energy distributor of the State of Paraná, with due deduction in invoice.

The goal is to expand the photovoltaic panels system in the Executive Center itself and take it to other Itaipu facilities, such as the Bela Vista Biological Refuge (RBV) and the regional offices of Guaira and Santa Helena. In addition to meeting the guidelines of ISO 50.001, another goal of the initiative is to show that the system is feasible for both commercial and residential installations.

Lighting Optimization

Corridors, restrooms and other areas of Itaipu circulation have received LED lamps activated by presence sensors. The installation began in February at the Central Office, chosen for the pilot project. The idea is to take the system to the Biological Refuge and other Itaipu offices, primarily to Curitiba, Guaira and Santa Helena that are supplied by distributor energy.

The replacement of 2,398 tubular fluorescent lamps per LED reduced installed power by 33,572 watts. Added to the exchange of composite lamps by magnetic induction lamps, about 9,154 kWh/month were saved. In May, the optimization of lighting for access to the plant was completed, with the replacement of metallic vapor luminaires by LED luminaires, which provided a reduction in energy consumption of 35 MWh/month.

The plant supplies the Refuge

As of October, all the electric energy consumed within the Bela Vista Biological Refuge has been supplied by Itaipu itself. Before, the supply was made by the state's energy utility. The change will bring savings of approximately R\$ 420 thousand per year to Itaipu.

With this new connection, only the Executive Center was outside the plant's network, but several initiatives are being carried out in the area to increase efficiency and reduce the value of the electricity bill.

TECHNICAL INFORMATION

GRI CONTENT INDEX [G4-32]



GENERAL STANDARD DISCLOSURES			
	PAGE	OMISSIONS	EXTERNAL ASSURANCE
Aspect: Strategy and analysis			
G4-1	4		No
G4-2	4 The organization's main impacts on sustainability and its effects on stakeholders and the impact of sustainability trends, risks and opportunities on the organization's long-term prospects and financial performance are addressed in part throughout the report.		No
Aspect: Organizational profile			
G4-3	14		Yes, page 106
G4-4	14		Yes, page 106
G4-5	14		Yes, page 106
G4-6	14		Yes, page 106
G4-7	14		Yes, page 106
G4-8	33		Yes, page 106
G4-9	8, 37, 47		Yes, page 106
G4-10	47-48		Yes, page 106
G4-11	100% of the employees (except directors and advisers) are covered by the Collective Labor Agreement signed between Itaipu and four unions.		No
G4-12	80		Yes, page 106
G4-13	19 There were no significant changes in 2016 in the size, structure, shareholding or chain of suppliers. The changes in the Brazilian Supervisory Board and Board of Directors occurred in the first half of 2017 have already been reported in this document.		No
G4-14	In the development of its activities, Itaipu takes into account the precautionary principle that is applicable to a single irreversible environmental risk: compromising the physical safety of the plant dam, which is unlikely due to the monitoring and maintenance service performed, which make it the world reference company in the theme.		No
G4-15	14		Yes, page 106
G4-16	15-16		Yes, page 106

GENERAL STANDARD DISCLOSURES			
	PAGE	OMISSIONS	EXTERNAL ASSURANCE
Aspect: Identified material aspects and boundaries			
G4-17	Itaipu does not have a consolidated statement or equivalent document, since it does not have investments for profit purposes in other entities.		Yes, page 106
G4-18	10		Yes, page 106
G4-19	10-11		Yes, page 106
G4-20	Itaipu does not list the relevance of the aspects by groups of entities according to the justification presented in item G4-17.		Yes, page 106
G4-21	10-11		Yes, page 106
G4-22	For the 2016 cycle, Itaipu chose not to report in its sustainability report the economic-financial data in the Social Balance - Ibase model, with the objective of prioritizing the requirements of the GRI guidelines and avoiding possible divergences of information between the methodologies.		No
G4-23	10		No
Aspect: Stakeholder engagement			
G4-24	Information available on page 9 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		Yes, page 106
G4-25	65, 67, 80 Stakeholder engagement at Itaipu is promoted according to the purpose of each of its programs and related public. Therefore, the actions vary according to the theme and the actors to be involved.		Yes, page 106
G4-26	The frequency of engagement varies according to the theme and factors to be involved in the proposed actions. More details are available on page 9 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		Yes, page 106
G4-27	The themes raised make up the matrix of materiality (see page 11). A company performance analysis will be performed to identify contributions for management improvement and the existence of gaps in comparison to the demands of the sustainability platforms considered as best practices.		Yes, page 106
Aspect: Report profile			
G4-28	8		No
G4-29	8		No
G4-30	8		No
G4-31	9		No
G4-32	8, 9, 94, 106		Yes, page 106
G4-33	9		Yes, page 106

GENERAL STANDARD DISCLOSURES			
	PAGE	OMISSIONS	EXTERNAL ASSURANCE
Material aspect: Governance			
G4-34	18-19 Additional information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		Yes, page 106
G4-35	Information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-36	Information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-37	Information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-38	18-19 Additional information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-39	19		No
G4-40	46		No
G4-41	Information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-42	Additional information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-43	Information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-44	Information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-45	Information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-46	Information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-47	Information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-48	8		No
G4-49	30 Additional information available on page 11 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-50	30		No

GENERAL STANDARD DISCLOSURES			
	PAGE	OMISSIONS	EXTERNAL ASSURANCE
G4-51	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 in Annex C of the Itaipu Treaty.		No
G4-52	See item G4-51		No
G4-53	See item G4-51		No
G4-54	The ratio of the total annual remuneration of the highest-paid individual to the median remuneration of all employees is 5.2434. The calculation considered active directors, advisors and employees as of 12/31/2016 and amounts received during the year 2016; base salary, annual adjustment, danger, additional regional, gratuities of function, insalubrity, pensiveness, holidays, holiday bonus, thirteenth salary, credit and profit sharing.		No
G4-55	The ratio of the percentage increase in the total annual remuneration of the highest-paid individual to the median percentage increase in the average remuneration of all employees is 0.7646, and the annual remuneration of the highest-paid individual in 2016 increased 7.33% in relation to the previous year and the rest of the professionals increased, on average, 9.59%. Calculations were made as described in item G4-54.		No
Material aspect: Ethics and integrity			
G4-56	12-13, 29		Yes, page 106
G4-57	27, 29, 30		No
G4-58	27, 30		No
SPECIFIC STANDARD DISCLOSURES			
DMA AND INDICATORS	PAGE	OMISSIONS	EXTERNAL ASSURANCE
CATEGORY: ECONOMIC			
Aspect: Economic performance			
G4-DMA	37		No
G4-EC1	38		Yes, page 106
G4-EC4	In 2013, an agreement was signed with the Financing Agency for Studies and Projects (Finep) to obtain non-reimbursable financial resources from the National Fund for Scientific and Technological Development (FNDCT) for the implementation of the "Ethanol Hybrid Electric Bus Project" in the Brazilian border. Until December 2016, Finep transferred the amount of US\$ 673,3 thousand that was fully invested in the execution of the project.		No

SPECIFIC STANDARD DISCLOSURES			
DMA AND INDICATORS	PAGE	OMISSIONS	EXTERNAL ASSURANCE
Material aspect: Indirect economic impacts			
G4-DMA	64-65		No
G4-EC8	65, 69-78		Yes, page 106
Aspect: Procurement practices			
G4-DMA	79		No
G4-EC9	79		No
CATEGORY: ENVIRONMENTAL			
Aspect: Energy			
G4-DMA	90, 92		No
G4-EN3	91-92		No
Material aspect: Biodiversity			
G4-DMA	82-83		No
G4-EN11	Information available on page 52 of the year-base 2015 Sustainability Report (https://www.itaipu.gov.br/sites/default/files/RS2015_English_VF_141216.pdf).		No
G4-EN12	82-83		No
G4-EN13	85		Yes, page 106
G4-EN14	83		Yes, page 106
Material aspect: Emissions			
G4-DMA	89-90		No
G4-EN15	89		No
G4-EN16	89		No
Aspect: Effluents and waste			
G4-DMA	88		No
G4-EN22	88		Yes, page 106
CATEGORY: SOCIAL			
SUBCATEGORY: LABOR PRACTICES AND DECENT WORK			
Material aspect: Employment			
G4-DMA	46, 81		No
G4-LA1	50-52		Yes, page 106
G4-LA2	47		No
G4-LA3	49		No

SPECIFIC STANDARD DISCLOSURES			
DMA AND INDICATORS	PAGE	OMISSIONS	EXTERNAL ASSURANCE
Aspect: Labor/management relations			
G4-LA4	Significant changes or important decisions regarding the Job and Remuneration Plan are communicated at least four weeks in advance, in accordance with clauses 57 and 73 of the current Collective Labor Agreement. Depending on the nature and impact of the changes, the deadline is one of the mandatory items included in the list of measures to be taken.		No
Material aspect: Occupational health and safety			
G4-DMA	54, 56, 57		Yes, page 106
G4-LA5	55		No
G4-LA6	56	Indicator partially reported. The data regarding the region and types of injuries of the employees are not reported since the control system has different methodology from the GRI G4 requirements. It is not possible to report health and safety data of outsourced workers because the company has no management of such information.	Yes, page 106
Material aspect: Training and education			
G4-DMA	62		No
G4-LA9	63		Yes, page 106
G4-LA10	52		Yes, page 106
G4-LA11	62		No
Material aspect: Diversity and equal opportunity			
G4-DMA	59		No
G4-LA12	60-61		No

SPECIFIC STANDARD DISCLOSURES			
DMA AND INDICATORS	PAGE	OMISSIONS	EXTERNAL ASSURANCE
Aspect: Supplier assessment for labor practices			
G4-DMA	81		Yes, page 106
G4-LA14	81		No
Aspect: Labor practices grievance mechanisms			
G4-DMA	30		No
G4-LA16	A complaint related to labor practices was registered in 2016, which was processed and resolved in the same year.		No
SUBCATEGORY: HUMAN RIGHTS			
Material aspect: Investment			
G4-DMA	81		No
G4-HR2	60		Yes, page 106
Material aspect: Non-discrimination			
G4-DMA	59		No
G4-HR3	No cases of discrimination were registered in 2016.		No
Material aspect: Freedom of association and collective bargaining			
G4-DMA	See item G4-11 and page 89		No
G4-HR4	In 2016 no operations or suppliers were identified in which the right to exercise freedom of association and collective bargaining was at risk or violated.		No
Material aspect: Child labor			
G4-DMA	46, 81		No
G4-HR5	In 2016 no operations or suppliers with a risk of child labor or young workers exposed to hazardous work were identified.		No
Material aspect: Forced or compulsory labor			
G4-DMA	46, 81		No
G4-HR6	In 2016, there were no operations or suppliers at risk of forced or compulsory labor.		No
Material aspect: Security practices			
G4-DMA	56		No
G4-HR7	60		No

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SPECIFIC STANDARD DISCLOSURES			
DMA AND INDICATORS	PAGE	OMISSIONS	EXTERNAL ASSURANCE
Material aspect: Indigenous rights			
G4-DMA	68		No
G4-HR8	68		No
Material aspect: Assessment			
G4-DMA	The form of human rights management in the company will be reviewed and structured from a comprehensive assessment on the subject. The hiring of specialized consultancy to carry out such analysis is planned for 2017.		No
G4-HR9	In 2016 no human rights analyzes or assessments of human rights impacts were carried out.		No
Material aspect: Suppliers human rights assessment			
G4-DMA	81		Yes, page 106
G4-HR10	81		No
G4-HR11	81		No
Material aspect: Human rights grievance mechanisms			
G4-DMA	29, 30		No
G4-HR12	In 2016 no complaints related to human rights impacts were registered or processed. A case recorded in 2015 was analyzed by the Ethics Committee in April 2016.		No
SUBCATEGORY: SOCIETY			
Material aspect: Local communities			
G4-DMA	65		No
G4-SO1	44, 65, 71-78, 86-87 In 100% of Itaipu's operations, programs involving local community engagement, impact assessment and support to local development are implemented.		No
G4-SO2	65		No
Material aspect: Anti-corruption			
G4-DMA	27		Yes, page 106
G4-SO3	27		No
G4-SO4	30, 80		No
G4-SO5	30		Yes, page 106

SPECIFIC STANDARD DISCLOSURES			
DMA AND INDICATORS	PAGE	OMISSIONS	EXTERNAL ASSURANCE
Material aspect: Public policy			
G4-DMA	40, 65, 82		No
G4-SO6	The company does not make financial contributions to political parties or similar.		No
Material aspect: Compliance			
G4-DMA	27, 29, 30		No
G4-SO8	Itaipu has not suffered any non-monetary sanctions or significant fines as a result of non-compliance with laws and regulations. A significant fine is considered to be one that exceeds 1% of Net Operating Revenue (ROL), that is, above US\$ 38,114,992 by 2016. Processes through arbitration mechanisms do not apply to the company.		Yes, page 106
Aspect: Supplier assessment for impacts on society			
G4-DMA	79		Yes, page 106
G4-SO9	79		No
G4-SO10	81		No
Aspect: Grievance mechanisms for impacts on society			
G4-DMA	30		No
G4-SO11	No complaint related to impacts on society was registered in 2016.		No
CONTENT - ELECTRIC UTILITY SECTOR SUPPLEMENT			
DMA AND INDICATORS	PAGE	OMISSIONS	EXTERNAL ASSURANCE
Material aspect: Organizational profile			
G4-EU2	33		Yes, page 106
CATEGORY: ECONOMIC			
Material aspect: Availability and reliability			
G4-DMA	32, 34, 35		No

CONTENT - ELECTRIC UTILITY SECTOR SUPPLEMENT			
DMA AND INDICATORS	PAGE	OMISSIONS	EXTERNAL ASSURANCE
Material aspect: Demand-side management			
G4-DMA	35	Itaipu is an energy generation company and does not develop demand management programs. These initiatives are developed by Eletrobras and distribution companies.	No
Material aspect: Research and development			
G4-DMA	40		No
CATEGORY: ENVIRONMENTAL			
Material aspect: Biodiversity			
G4-EU13	83	The data reported are partial with regard to the status of the biodiversity of the habitats around Itaipu in 2016 in relation to the beginning of the company implementation.	No
CATEGORY: SOCIAL			
SUBCATEGORY: LABOR PRACTICES AND DECENT WORK			
Aspect: Employment			
G4-EU15	53		No
G4-EU18	57		No
SUBCATEGORY: PRODUCT RESPONSIBILITY			
Aspect: Access			
G4-EU30	36		Yes, page 106

GLOBAL COMPACT PRINCIPLES

1. Support and respect the protection of internationally proclaimed human rights

- Itaipu participates in national and international organizations and/or endorses initiatives to defend human rights.
 - It maintains channels of complaint such as the Ombudsman and the Ethics Committee.
 - It offers its employees benefits such as medical care, dental care and education assistance.
 - It stimulates the work of committees that aim to ensure the health and safety of workers.
 - It adopts social clauses in contracting suppliers.
 - It develops the Reviver program.
 - It develops the Voluntary Force program.
 - It develops the Incentive to Gender Equity program.
 - It develops the Program of Initiation and Incentive to Work (PIIT).
 - It created the Hospital Ministro Costa Cavalcanti (HMCC) and participates in its management.
 - It develops the Border Health Program.
 - It carries out an action that encourages the use and production of Medicinal Plants.
 - It develops the Indigenous Communities Sustainability Program.
 - It performs improvements in a Quilombola Community.
 - It sponsors actions for the social reintegration of former inmates of the penitentiary system and encourages them to be hired by the suppliers.
 - It develops the Child and Adolescent Protection Program (PPCA).
 - It supports initiatives to combat child labor and sexual exploitation of children and youth.
-

2. Ensure not complicit in human rights abuses

- It holds an annual seminar on Human Rights for security professionals (employees and employees of companies that provide services to Itaipu).
 - In the bidding processes, Itaipu includes social clauses on youth contraction, forced or compulsory labor, and respect for gender equity.
 - It determines that companies contracted to provide services prove the payment of salaries, overtime, thirteenth salary, prior notice and other charges, and may terminate the contract in case of noncompliance.
-

3. Uphold the freedom of association and the effective recognition of the right to collective bargaining

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

4. Elimination of all forms of forced and compulsory labor

- It develops the Program of Initiation and Incentive to Work (PIIT).
- It develops the Child and Adolescent Protection Program (PPCA).
- It develops the Indigenous Communities Sustainability Program.
- It adopts social clauses in the supplier selection process.
- It determines that companies contracted to provide services prove the payment of salaries, overtime, thirteenth salary, prior notice and other charges, and may terminate the contract in case of noncompliance.
- It requires the Declaration of Awareness and Compliance of Social Commitments of its supplier companies.

5. Effective abolition of child labor

- It uses social criteria in the selection of suppliers.
- It develops the Child and Adolescent Protection Program (PPCA).
- It requires the Declaration of Awareness and Compliance of Social Commitments of its supplier companies.

6. Eliminate discrimination in respect of employment and occupation

- It adopts selective processes for the establishment of the staff since 2005.
- It adopts wage policies and education programs that are gender-neutral.
- It has a Code of Conduct.
- It has a Gender Equity Policy and Guidelines since 2011 and a Gender Equity Committee.
- It implemented in 2014 the Committee for Persons with Disabilities.

7. Support a precautionary approach to environmental challenges

- It develops the Cultivating Good Water Program, with the participation of several partners - participative management.
- It has targets for reducing the consumption of electricity and fossil fuels.
- It makes correct disposal of waste and uses recycled materials.
- It develops the Environmental Education Program.
- It rehabilitates and conserves water resources, riparian forests and areas around the reservoir and in the region of the Paraná Basin 3 (BP3).
- It rehabilitates and conserves aquatic ecosystems, including fishery monitoring in the reservoir.
- Renewable Energy Platform.
- Electric Vehicle Project.

8. Develop initiatives to promote greater environmental responsibility

- It has the Sustainability Policy and the Sustainability Management System.
- It maintains the Itaipu Technological Park Foundation (FPTI).
- In addition to programs, projects and actions carried out in the social and environmental areas, the company acts as an articulator to formalize partnerships with governments, third sector, public and private companies in actions that aim at the socioeconomic and sustainable development of the region of influence.

9. Encourage the development and diffusion of environmentally friendly technologies

- It maintains the Itaipu Technological Park Foundation (FPTI).
- Through the renewable Energy Platform, it develops research with emphasis on Distributed Biogas Generation.
- It promotes research and development of mobility solutions, especially prototypes of electric vehicles and their components.
- It adopts computer technologies that reduce the use of paper.

10. Businesses should work against corruption in all its forms, including extortion and bribery

- It has a Code of Ethics and Conduct of Suppliers and maintains complaint channels such as the Ombudsman's Office and the Ethics Committee.
- Adherence to the provisions of Sarbanes-Oxley Act (SOX).
- It submits procedures and documents to the assurance of the Internal Audit and external companies.
- It uses integrated management systems.
- It follows the General Standard of Bidding (NGL), which governs the hiring of services and procurement of products, as well as conducting binational electronic trading sessions.
- Permanent binational working group that will coordinate the actions related to fraud and corruption risks.

Independent auditors' limited assurance report

[G4-32]

To the Supervisory Board and Other Stakeholders
Itaipu Binacional
Curitiba - PR - Brazil

Introduction

We have been contracted by Itaipu Binacional (Itaipu or “Company”) with the purpose of applying limited assurance procedures on the sustainability information disclosed in the 2016 Sustainability Report of Itaipu, for the year ended on December 31, 2016.

Responsibilities of Itaipu management

The management of Itaipu is responsible for the preparation and adequate presentation of the sustainability information disclosed in the 2016 Sustainability Report in accordance with the Global Reporting Initiative’s Sustainability Reporting Guidelines - GRI (GRI G4), with the sectorial supplement “GRI Electrical Utilities Sector Supplement” and with the internal controls it has determined to be necessary to enable the preparation of such information free of material misstatement, whether caused by fraud or error.

Responsibility of independent auditors

Our responsibility is to express a conclusion on the information disclosed in the 2016 Sustainability Report, based on the limited assurance work carried out in accordance with the Technical Communication (CT) 07/2012, approved by the Federal Accounting Council and prepared based on 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. 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 2016 Sustainability Report, taken as a whole, is free from material misstatement.

A limited assurance engagement conduct 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 2016 Sustainability Report, as well as the application of procedures to obtain evidence to enable us to conclude in the form of limited assurance on the sustainability information taken as a whole. Limited assurance work also requires the execution of additional procedures when the independent auditor becomes aware of issues that lead him/her to believe that the information disclosed in the 2016 Sustainability Report, taken as a whole, may present material misstatements.

The procedures selected were based on our understanding of the aspects related to the compilation, materiality and presentation of information contained in the 2016 Sustainability Report and other work circumstances and our consideration of areas and processes associated with material sustainability information disclosed in the 2016 Sustainability Report, where relevant misstatements could exist. The procedures comprised:

- a) planning of the work: consideration of the materiality of aspects for Itaipu’s activities, 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 preparation of the 2016 Sustainability Report of Itaipu. This analysis defined the indicators to be tested in detail;
- b) understanding and analysis of the information disclosed in relation to the management of the material aspects;
- c) analysis of the processes for the preparation of the 2016 Sustainability Report and its structure and content, based on the Content and Quality Principles of the Sustainability Reporting Guidelines of the Global Reporting Initiative - GRI (GRI G4);

d) evaluation of the non-financial indicators sampled: an understanding of the methodology of calculations and of the procedures for the compilation of the indicators through interviews with the managers responsible for the elaboration of the information;

- application of analytical procedures on quantitative information and inquiries about qualitative information and its correlation with the indicators published in the 2016 Sustainability Report;
- analysis of evidence supporting the information disclosed;
- visits to Itaipu units and offices to apply these procedures, as well as items (b) and (c);
- analysis of the reasonableness of justifications for the omissions of performance indicators associated with aspects and topics identified as material in the analysis of the Company's materiality;
- comparison of the financial indicators with the 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 engagement are substantially less extensive than those applied in a reasonable assurance engagement. Consequently, we are not able to obtain assurance that we are aware of all matters that would be identified in a reasonable assurance engagement, which is intended to express an opinion. If we had performed reasonable assurance work, we could have identified other issues and possible distortions that may exist in the information contained in the 2016 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

such data. Qualitative interpretations of materiality, relevance and accuracy of data are subject to individual assumptions and judgments. In addition, we do not perform any work on data reported for prior periods to assess the adequacy of its policies, practices and performance in sustainability, or 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 2016 Sustainability Report of Itaipu has not been compiled, in all material respects, in accordance with the Reporting Guidelines for Sustainability of the Global Reporting Initiative - GRI (GRI G4), with the GRI Electric Utilities Sector Supplement, and the records and files that served as a basis for its preparation.

São Paulo, August 1, 2017



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

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FOCAL POINTS

Since Itaipu adopted the Global Reporting Initiative (GRI) Guidelines for Sustainability Reporting in 2007, the “Sustainability Focal Points” participate in the definition of materiality, provide data for indicators and revise the document before publication.

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