



**2012** *Sustainability Report*

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## LETTER FROM THE GENERAL DIRECTOR



*Our 2012 Sustainability Report is a special document. Through it, we celebrate the publication of our tenth Report and provide information on the year that will always be remembered in Itaipu's history. In 2012, we broke our own electricity production record for the third time, as Itaipu turned out 98,287,128 megawatts-hour (MWh).*

*That was only possible owing to three factors: Brazil's and Paraguay's economic growth; the power plant's privileged location paired with the hydrological conditions that supplied the Paraná River watershed at the end of the year; and finally, a factor that depends solely on us: our company's machines were available and capable of producing upon demand.*

*More important than setting records, our achievement represents secure energy supply for Brazil and Paraguay. Such achievement also reaffirms our commitment towards boosting sustainable development by generating clean renewable electricity.*

*From now on, our challenge will be to uphold our operating excellence and seek to reach the 100 million MWh production mark. To do that, we have optimized our maintenance process and invested in modernizing our plant and making the most of each drop of water that flows through our turbines.*

*Over our 39-year history, we have stood as boosters of regional development. We have aligned our actions to cooperate with public policies and established partnerships with the federal, state, and city governments, the third sector, schools, and companies for us to jointly tackle the social and environmental problems in the three-nation area.*

*After ten years at the helm of the power plant, I am certain that over this time we have taken important steps to consolidate the Paraná Watershed 3 (BP3) area as a major tourist, academic, scientific, and economic development hub. We have expanded our company's mission, set bold goals to achieve by 2020, and designed a Sustainability Policy. Additionally, we have been implementing the most modern management models.*

*Brazil has improved in this past decade. So has Paraná and the BP3 as well. That is what drives us to be a responsible, contributing company and pursue the best governance practices, while working as an agent of change and showing it is possible to generate hydroelectricity in a sustainable manner.*

*Enjoy your reading! 1.1; 1.2*

A handwritten signature in black ink, appearing to read 'Jorge Miguel Samek'.

**Jorge Miguel Samek**  
Brazilian General Director







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# ABOUT THE REPORT

## Report Parameters

Itaipu Binacional's 2012 Sustainability Report describes the actions carried out from January 1st to December 31st, 2012, and highlights the most interesting topics for our stakeholders, as pointed out in the materiality matrix. Our organization has annually published the document since 2004, regarding the year 2003. This is our tenth Report and has been prepared according to the G3.1 version of the Global Reporting Initiative (GRI) Guidelines, a methodology adopted by the company since 2007.

**3.1; 3.2; 3.3**

## Report Limits

The actions described in this document are carried out on Itaipu's Brazilian side. Only the information on governance, electricity production, management, and economic-financial performance are consolidated and reported by both nations. Other data considering information from both countries will be pointed in the report. In Brazil, our power plant is located in Foz do Iguaçu and keeps offices in Brasília, Curitiba, Guaíra, Santa Helena and São Paulo. **3.6; 3.7; 3.11**

## Expanded report

This report contains information about the foundations that are directly influenced by Itaipu's activities. Besides creating them, our company helps run them and invests financial, material and human resources in the Itaipu-Brazil Foundation of Social Security and Social Work (Fundação Itaipu-Brasil de Previdência e Assistência Social - FIBRA) and the Itaipu Technological Park (Parque Tecnológico Itaipu - PTI) and Itaipu Foundations.

## Information gathering

This document's preparation process is coordinated by the Social Responsibility Advisory Office and was carried out with the aid of 84 employees representing all chief officers' offices and foundations, which we call focal sustainability points. In addition to their contribution, internal control systems, management reports, official documents, and qualitative interviews with some managers were used in the process. Estimates or recalculated indicators will be pointed out throughout the document.

**3.9; 3.10**

## External assurance

Our 2012 Sustainability Report has been assured by KPMG Risk Advisory Services Ltda. Information on the assurance procedures and methods adopted is available on page 134. This document has also been validated by the GRI and its A+ application level confirmed. **3.13**

## Reading Guide

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- Our Sustainability Report is available in three formats: printed, PDF and summarized. The full PDF version contains links and shortcuts to supplementary information and can be downloaded from Itaipu's website ([www.itaipu.gov.br](http://www.itaipu.gov.br)). The summarized version encompasses only contents related to indicators deemed relevant in the materiality matrix.
- This issue's new feature is the use of icons throughout the Report to help readers identify the topics our stakeholders considered very relevant.
- The texts also indicate to which of our company's strategic goals (SG), Global Compact (GP) and Earth Charter (EC)

Principles they are related.

- In this Report, Itaipu Binacional is also referred to as power plant, hydro power plant, institution, company and organization.
  - The word "employee" refers to those who are part of our company's own staff, while "associates" are the people who make up the total work force, including apprentices, interns, service providers, and employees themselves.
  - "Reservoir" is to be construed as the Itaipu Lake. **3.5; 3.7; 3.11**
-

## Materiality definition

The process used to define the materiality for our 2012 Sustainability Report included consulting our stakeholders, as we had done the previous year. Three panels were held: one in São Paulo, capital, in which 17 sustainability experts participated; and two in Foz do Iguaçu. The first was attended by 23 representatives from the community and cities directly impacted by Itaipu's operations. The second was attended by 53 employees.

Everyone individually answered a materiality questionnaire built based on the GRI guidelines, Global Compact Principles, Earth Charter, and other particularities of Itaipu's operations. Experts and employees also answered an assessment questionnaire on our 2011 Report and gave their opinion about some of the publication's aspects, such as clarity and frequency, expression of the strategy and sustainability management, and information balance and comparability.

3.5; 4.17

## Results

The result of our consultation with stakeholders identified the very relevant topics to be presented in the report, as contained in the materiality matrix (see below). Out of the 45 topics proposed, 12 were considered material by the stakeholders asked. Four have been included in the matrix by the company, as they are strategically important and directly related to sustainability. They are: Economic Performance – Indirect economic impacts and Risks and opportunities; Human Rights – Non-discrimination; and Energy – Research and technology development.

The process result was validated by our company's top management, and the work also led to significant changes to the document. Such changes include taking a deeper look at management aspects and improved content grouping and table and indicator presentation.

4.17

## Materiality Matrix

4.17



The arrangement of the icons in the very important quadrant does not represent the score given to the topics. The order of relevance is described below.

- |   |  |
|---|--|
|  01 Types of Management - Environmental  |  09 Human Rights - Fight against forced or compulsory labor |
|  02 The environment - Biodiversity   |  10 Types of Management - Governance                        |
|  03 Types of Management - Social   |  11 Society - Anti-corruption practices                     |
|  04 Energy - Availability and reliability of electricity supply/ operating performance |  12 Energy - Research and technology development            |
|  05 Society - Relationship with the community/ social programs                         |  13 Energy - Installed capacity/net electricity production  |
|  06 Labor practices - Training and education   |  14 Human Rights - Non-discrimination                       |
|  07 Economic Performance - Risks and opportunities                                     |  15 Types of Management - Human Resources                   |
|  08 Economic Performance - Indirect economic impacts                                   |  16 Energy - Lower price impacts                            |

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**AWARDS AND ACKNOWLEDGEMENTS**



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# COMPANY PROFILE

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## Mission

*“To generate quality electricity via socially and environmentally responsible practices, and to foster sustainable economic, tourist, and technological development in Brazil and Paraguay.”*

## Vision

*“Until 2020, Binational Itaipu will consolidate as the best performance generator of clean and renewable power, with the best operative performance and the best practices of sustainability in the world, impelling the sustainable development and regional integration.” 4.8*

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**196 meters**

is the height of the main concrete dam

**7,744 meters**

is the length of the Itaipu dam without the Hernand-rias dike

**1,350 km<sup>2</sup>**

is the area of the Itaipu reservoir at its regular level



**483 meters**

is the length of the spillway

**390 meters**

is the width of the power plant spillway

**98,287,128 MWh**

was Itaipu's total power output in 2012.

**USD 3.7 billion**

was the revenue from the electricity services provided in the period.

**17.3%**

of the Brazilian market was supplied by Itaipu in 2012.

**72.5%**

of the Paraguayan market was supplied by electricity turned out by Itaipu.

## Timeline

### 2012

For the third time, Itaipu breaks its own electricity production world record by turning out 98,287,128 MWh.

### 2011

The group meant to put together the Sustainability Management System (SGS) is created.

### 2010

The Social Responsibility Advisory Office is created.

### 2008

Itaipu breaks its own electricity production world record by turning out 94,684,781 MWh.

### 2007

The last two generators included in the power plant project go online.

### 2005

Reversal Notes set forth that the company's initiatives in the field of social and environmental responsibility are to be permanent components of its power generating activities.

### 2003

Social-environmental responsibility and sustainable economic, tourist and technology development are included in the company's mission.

### 2000

For the first time, Itaipu breaks the electricity production world record by reaching the mark of 93,427,598 MWh.

### 1991

The 18th generator goes online, and Brazilian cities and states are included in the distribution of royalties.

### 1984

The powerplant's first generator goes online, turning out electricity.

### 1975

Power plant construction begins.

### 1974

The Itaipu Binacional as an institution is established.

### 1973

The Itaipu Treaty is signed.

### 1966

The Iguazu Minutes are signed: Brazil and Paraguay kick-start negotiations.

## Policies and basic guidelines

- Respect for human beings
- Binational integration
- Proactivity and innovation
- Accountability and account rendering
- Acknowledgement of people's work results
- Corporate sustainability
- Regional sustainable development
- Ethical values

Itaipu Binacional is the largest hydro power plant in terms of electricity production on the planet.

14,000 MW is the power plant's installed power, obtained from 20 generators. **EU1**

The current world record for hydro power production, set in 2012, belongs to Itaipu. **2.8**

Our plant is located on the Paraná River, on the border between Brazil (Foz do Iguaçu) and Paraguay (Ciudad del Este).

Itaipu is headquartered in Brasília and Asunción, and keeps offices in the São Paulo capital and in the cities of Curitiba, Foz do Iguaçu, Guaíra and Santa Helena, Paraná. **2.4**

## Participation in Eletrobras companies

Centrais Elétricas do Brasil (Eletrobras) and Administración Nacional de Electricidad (ANDE) each hold 50% of Itaipu's capital on behalf of the Brazilian and Paraguayan governments, respectively.

Legally, we are an international company created and regulated by the Treaty signed by Brazil and Paraguay on March 26, 1973. **2.6**

1,447 employees, including seven Directors and five chief officers, made up the power plant's Brazilian staff in 2012.

In 2012, hydro power accounted for 69.73% of the electricity produced in the country.




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# GOVERNANCE

## **Diplomatic agreement gives rise to Itaipu Binacional**

*Itaipu Binacional was created through a diplomatic agreement between Brazil and Paraguay, and is governed by the Itaipu Treaty, a Public International Law document drafted to regulate the use of Paraná River waters to generate electricity. Signed on April 26th, 1973, the document is a pioneering regulation as it governs the operations of a company that belongs to two countries with different characteristics and realities.*

*The document establishes that the company's ownership and management are equally shared by the Brazilian and Paraguayan governments, respectively represented by companies Centrais Elétricas Brasileiras (Eletrobras) and Administración Nacional de Eletricidad (ANDE).*

*Because it is a binational institution, Itaipu operates under a unique management system based on the Treaty and its annexes. The document defines that the right to purchase electricity for consumption is equally shared by Brazil and Paraguay. However, when one of the partners puts out electricity that exceeds its own consumption, that electricity is fully assigned to the other. **2.1; 2.2; 2.3; 2.5; 2.6; 2.7; 2.8** *

*You can find the Itaipu Treaty and other documents at [www.itaipu.gov.br](http://www.itaipu.gov.br), in the Perfil Institucional (Company Profile) link.*

## **Treaty Annexes**

*Three complementary documents are part of the Treaty: Annex A, which contains the company's Articles of Organization; Annex B, which generally describes the facilities and ancillary constructions meant to turn out electricity; and Annex C, which defines the financial basis and supply of electricity services and is regarded as a groundbreaking document drawn up in a way for the company's debt to have been repaid after the Treaty had been in effect for 50 years - which is going to take place in 2023. Regarding some of their aspects, all of those documents may be reviewed and updated by means of Reversal Notes exchanged between the two countries, upon mutual consent.*

## **Shared decision-making process**

*The company is run by the two countries. All company management decisions are the product of understandings and consensus between representatives from Brazil, Paraguay, and the organizations that own Itaipu, Eletrobras and ANDE. These companies also take part in the Itaipu Electricity Purchase and Sale Contract Operation and Administration Committee (CADOP) and the Mixed Operating Committee (CMO). Issues on which consensus is not reached are settled by the two governments. **EU19***

## Supervisory Board

Itaipu's top governance body is the Supervisory Board, staffed by an equal number of Brazilian and Paraguayan members. There are six directors and one representative from the Ministry of Foreign Affairs.

Without exception, all members are appointed by the national governments, do not hold executive positions and are considered independent members, as they are not Itaipu employees. They remain in office for four years and can be reappointed. There are no specifications as to the appointees' professional background.

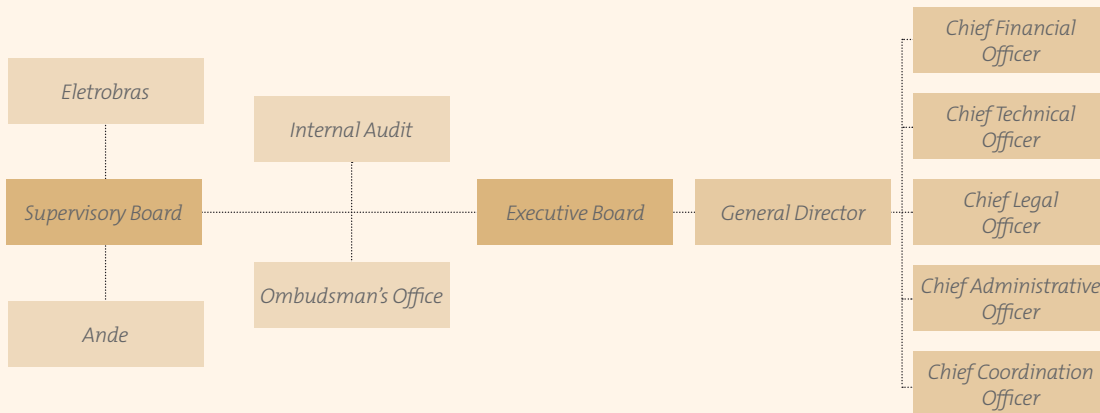
Ordinary meetings are held every two months and directors share company decisions holding equal voting powers. Although the general directors attend the meetings, they are not entitled to vote.

A chairman is elected at every meeting, alternating between a Brazilian and a Paraguayan. Decisions require the presence of the majority of each country's directors. In the event the number of voting members is uneven, the directors who will be left out of the vote are chosen by lot until the number of representatives is the same for both partners.

4.1; 4.2; 4.3; 4.6; 4.7; 4.9 

## Governance Framework

4.1



## Board duties

The Board of Directors' duties are listed in article 9<sup>o</sup> Annex A of the Treaty. Such duties include abiding by and enforcing the Itaipu Treaty, its annexes and complementary acts, approving the budget and business plan, set the basic guidelines and company bylaws, examining the Annual Report, the Balance Sheet, and the Income Statement.

## Executive Board

Itaipu is run by the Executive Board, whose duties are listed in article 13, Annex A of the Treaty. The Executive Board meets every fifteen days and is also staffed by an equal number of Brazilian and Paraguayan members, 12 in total, each one elected for a 5-year term.

## Make-up of the Board of Directors and Executive Board on December 31st, 2012 <sup>4.1</sup>

### Brazil

Supervisory Board members	Alceu de Deus Collares
	Celso Luiz Nunes Amorim***
	João Vaccari Neto
	José Antonio Muniz Lopes
	Luiz Pinguelli Rosa
	Roberto Átila Amaral Vieira
Representative from the Ministry of Foreign Affairs	Antonio José Ferreira Simões
General Director	Jorge Miguel Samek
Acting Chief Technical Officer	Jorge Miguel Samek*
Chief Legal Officer	Cezar Eduardo Ziliotto
Chief Administrative Officer	Edésio Franco Passos
Chief Financial Officer	Margaret Mussoi Luchetta Groff
Chief Coordination Officer	Nelton Miguel Friedrich

### Paraguay

Supervisory Board members	Carlos Alberto González Garabelli
	Carlos Dionisio Heisele Sosa**
	Mirtha Vergara de Franco**
	Oswaldo Román Romei
	Paulo Bernardo Reichardt**
	Roger Balbi Balbuena Sanchez**
Representative from the Ministry of Foreign Affairs	Jose Maria Cardozo Saguier**
General Director	Franklin Rafael Boccia Romañach**
Chief Technical Officer	José Maria Sánchez Tillería
Chief Legal Officer	Eusebio Ramón Ayala Giménez**
Chief Administrative Officer	Alberto Magno Ricardo González**
Chief Financial Officer	Uvaldino Javier Galeano Benítez**
Chief Coordination Officer	Sady María Aranda de González**

\* He still holds the position of acting Chief Technical Officer.


\*\* Members taking office in the course of 2012.

\*\*\* Replaced by Orlando Pessuti (former Paraná governor) on April 2nd, 2013.

## Type of management

The management model used by Itaipu, under the bylaws, is the Business Planning and Control System (SPCE, in Portuguese), which is meant to ensure the resources are managed in a coordinated manner for the company to achieve the goals set. Under this model, plans and budgets are drafted to make the company's vision come true and encompass the mission and vision, policies and basic guidelines, strategic goals (see on the side), indicators, and goals set.

The current business plan is based on situational scenarios built with the aid of several stakeholders so as to meet the expectations of the main ones. The Balanced Scorecard methodology is being used to support the consolidation of indicators and their respective goals.

To make sure strategies turn into actions, the model encompasses unfolding the corporate strategic map into departmental strategic maps down to the superintendence level (one hierarchy level below the Executive Board). Plans are put into operation via programs and actions. **4.8** 

**Approved in 2011, the business plan has a five-year horizon and is annually submitted to a formal review. The purpose is to monitor the results achieved against the plans for the period, and to adjust the business strategy to political, economic, social, technological, environmental, and legal changes.**

## Transparent management practices SO2

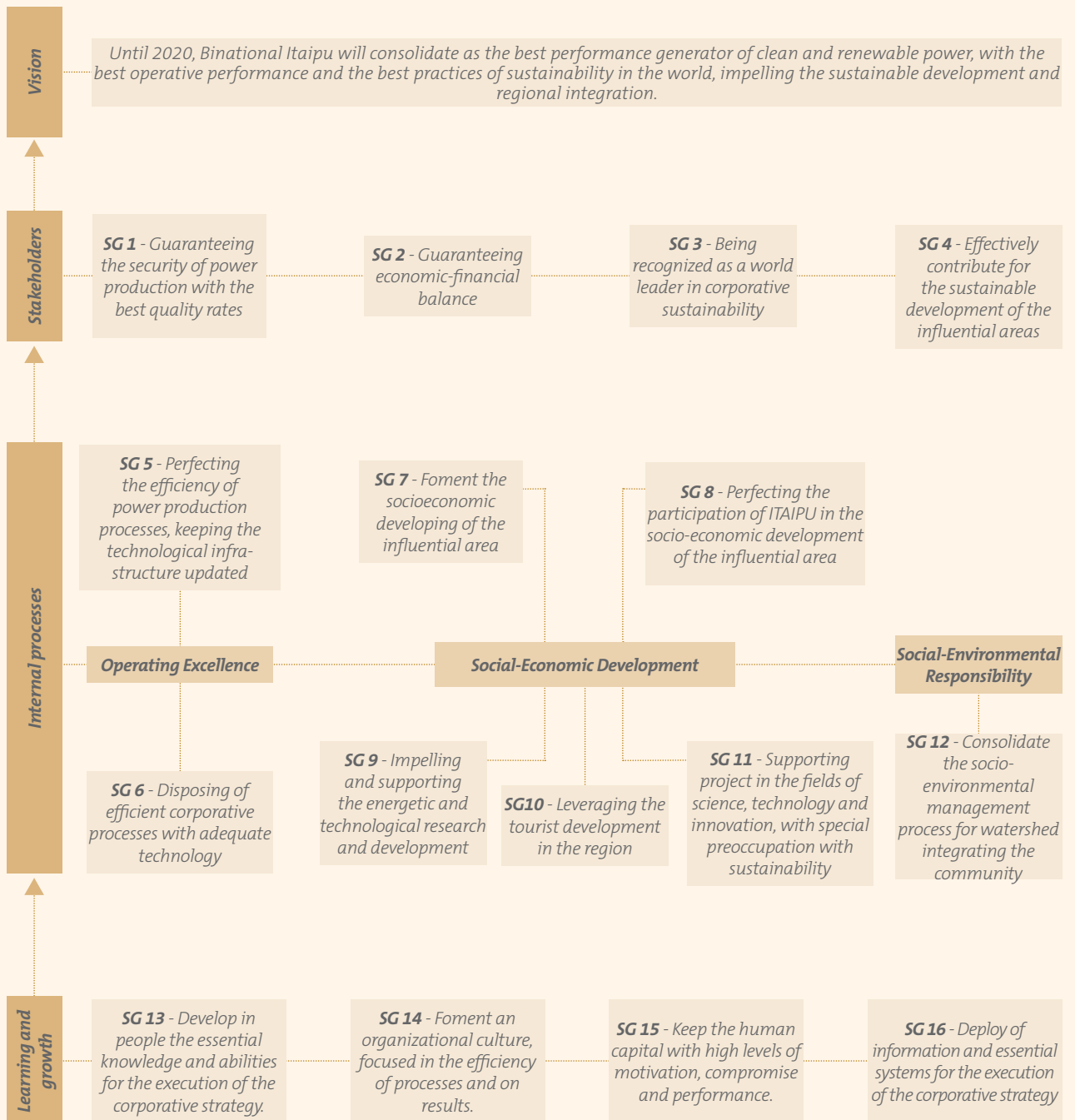
- Itaipu does not specifically assess corruption-related risks, but the company is subject to the external control mechanisms provided by the Treaty and its annexes.
- Adopting the fiscal responsibility Sarbanes-Oxley Act (SOX) to establish internal controls attesting the authenticity of information included in accounting reports.
- Carrying out internal audits to assess internal controls, business processes, and corporate governance. They are handled by teams from both countries and their work plan is approved by the Board of Directors.
- The Code of Ethics has guided the conduct of leaders, employees and third parties since 2002. A binational Ethics Committee analyzes Code violation cases and forwards them to the general directors.
- Adopting a financial procedure integrated management system (SAP), which has improved information management and reduced costs.
- Implementing binational online reverse auctions, which are won by the supplier bidding the lowest price. The system is in Portuguese and Spanish, uses three currencies (real, guarani and US dollar) and reconciles the two countries' time zones and holidays.
- Making communication channels available, such as Contact Us and the Ombudsman's Office, which receive and provide information to the outside audience. The corporate website provides access to special information, according to the binational control, audit and transparency rules to which the company is subject under the Treaty. **SO3**

## Ombudsman's office

In 2012, the Ombudsman's Office received 95 contacts, including compliments, reports on issues, questions, complaints and others, not one of them related to human rights. In all, 68 were timely solved. Participation is kept confidential and the main means

of communication used is email (ouvidoria@itaipu.gov.br). The office can also be contacted via the Itaipu website, by phone, mail, or in person by previously scheduling an appointment. **HR11**

## Map containing Itaipu's Strategic Goals (SGs)






## The largest generator of electricity in the world

The power plant construction started in 1975, but electricity started being produced only in May 1985. Since operations started until December 2012, 2,037,050,625 MWh were generated, enough power to supply Brazil for four years and six months.

With 20 generators and 14,000 MW installed power, Itaipu's operating excellence is the product of a sustainable management model focused on keeping workers and the environment safe, ensuring equipment is reliable and the plant's operations are safe, and optimizing production.

Through management focused on making the best use of water, paired with meteorological conditions and synergic work between the two countries' teams, the company was able to set a new electricity production world record in 2012. Included in that strategy, scheduled maintenance activities and improvements to generators, transformers and conveyance lines were coordinated considering the water resources to be harnessed. EU6 

### On-demand production

Electricity production at Itaipu does not depend exclusively on the plant's installed capacity. It is the product of four factors: available water resources, availability of generators and conveyance systems required by the process, and also the Brazilian and Paraguayan power demand, which is coordinated and defined on a daily bases by the National System Operator (Operador Nacional do Sistema - ONS) and Administración Nacional de Electricidade (ANDE).

**Itaipu's operative challenge is to further pursue performance rate excellence to efficiently and safely ensure the Brazilian and Paraguayan electricity systems are supplied, in an effort to reach an annual output in excess of 95 million MWh.**

### Future

While the Brazilian electricity consumption grew 3.3% in 2012, Itaipu's production increased 6.5%. Despite low rainfall rates in the year, the company supplied 17.3% of the entire power used in Brazil and 72.5% in Paraguay. According to the Ministry of Mines and Energy (MME), Brazil will need to double its generation capabilities given the income distribution increase, which will lead the current annual electricity consumption per capita of 2,400 kW/h to reach 4,800 kW/h in the next few years.

### World record holder

Since the plant started operating, Itaipu has achieved the highest electricity production numbers in the world for three times. In 2000, when the plant turned out a total of 93,427,598 megawatts-hour (MWh); in 2008, by hitting 94,684,781 MWh, and in 2012, by setting a new record after yielding 98,287,128 MWh.

## Development-generating energy

Breaking an electricity production record is important in many ways. Hydro power is clean, may help decrease the activation of coal-, diesel oil-, and gas-fired plants, besides allowing the country's energy grid to be obtained mostly from a renewable source.

However, reaching such production mark means Brazil and Paraguay are enjoying full economic growth. It also means Itaipu's power can be used by the Contracting Parties to boost the electricity industry by enabling the manufacturing production to grow and the rates charged from consumers to drop, thereby

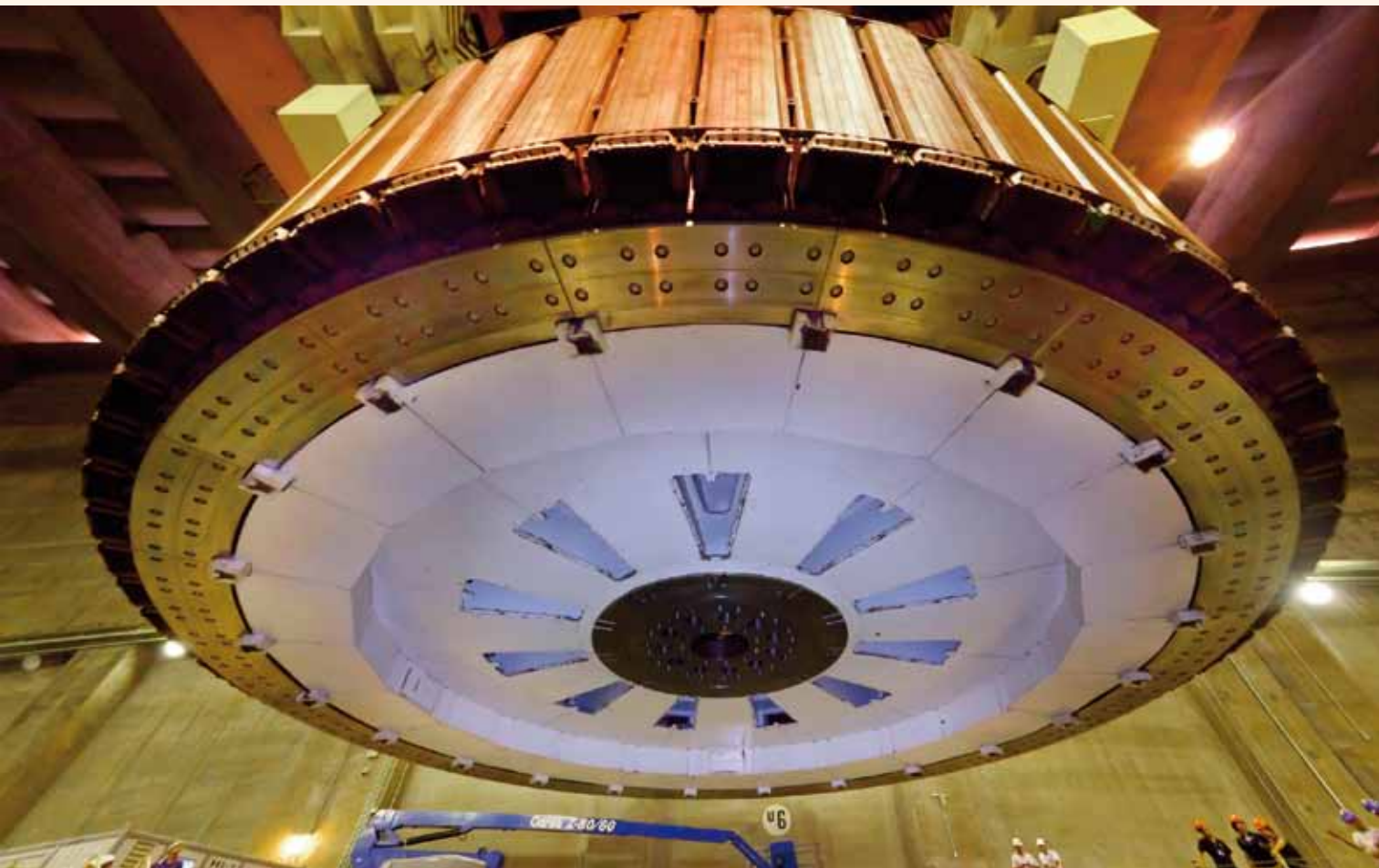
leading to the creation of jobs and greater quality of life for people in both countries.

Additionally, such achievement asserts Itaipu's strategic role in medium-term energy security, considering the impacts from the global climate change. That is so because when rainfall is irregular as it was in 2012, power plants with reservoirs have guaranteed resources to manage their production.

## Net electricity generated, divided by primary energy source and regulatory system (GWh)

EU2 

Source	2012		2011		2010	
Water-based	97,533		91,523		85,303	
Regulatory System	Brazil	Paraguay	Brazil	Paraguay	Brazil	Paraguay
	88,783	8,750	83,487	8,036	78,031	7,272




## Guaranteed generation

The power plant's main and ancillary operating equipment is controlled and supervised via the Power Oversight and Management and Data Acquisition Digital System (SCADA). The Operation and Maintenance System (SOM) makes it possible to plan, schedule, carry out, control, analyze, and standardize the power plant's operation and maintenance activities.

The Maintenance Plan ensures the power supply is reliable by setting timeframes and scopes for

maintenance work on generators, ancillary systems, and transformation and conveyance equipment. After studies in 2012, preventative maintenance downtime periods and lengths were changed.

By doing so, it was possible to shorten each generator's maintenance period by nearly ten days, thus increasing their availability time. Additionally, to ensure medium- and long-term operating excellence, a succession plan allows employees to share knowledge. **EU6** 

## 500Kv line

Specifically for Paraguay, the completion of the 500 Kv conveyance system scheduled for 2013 is going to improve the supply of Itaipu's power to the country, which will allow it to draw in investments and boost its economic development. The system includes a 347 kilometer-long conveyance line equipped with 759 towers and a substation, and will connect the Itaipu power plant to the city of Vila Hayes close to Asunción, the country's capital.

## Hydro-meteorological stations

The data used to guide the processes that estimate, oversee and control Itaipu's hydro power operations are collected at 57 hydrological stations that gauge river and rainfall levels, and at meteorological stations. The information is obtained automatically and relayed via satellite and the internet. Itaipu also uses data from the Paraná Meteorological System (SIMEPAR) and the National System Operator (ONS).

## Power plant's average availability rate


**EU30** 

	<b>2012</b>	2011	2010
Number of planned downtime hours (h)	<b>7,800</b>	7,046	8,417
Number of unplanned downtime hours (h)	<b>2,787</b>	9,059	1,770
Total operating hours	175,680*	175,200	175,200
Generator availability rate (%)	93.86%**	90.81%	94.19%

\* The power plant's total hours in operation were higher in 2012 given it was a leap year.

\*\* The percentage was substantially reduced as a result of generator U6 remaining shut down between September 2010 and April 2012.

## The Precautionary Principle

Considering the Precautionary Principle with respect to Itaipu, which is a now-stabilized power plant that uses and turns out clean energy, the occasional and single major irreversible environmental risk would be an unlikely damage to the dam's physical structure. However, the institution dedicates special attention and procedures to the safety of the dam, such as using a seismological network to monitor it, visually inspecting and auscultating it, fitting it with instruments, and holding a board of civil consultants every four years. **4.11; SO9** 

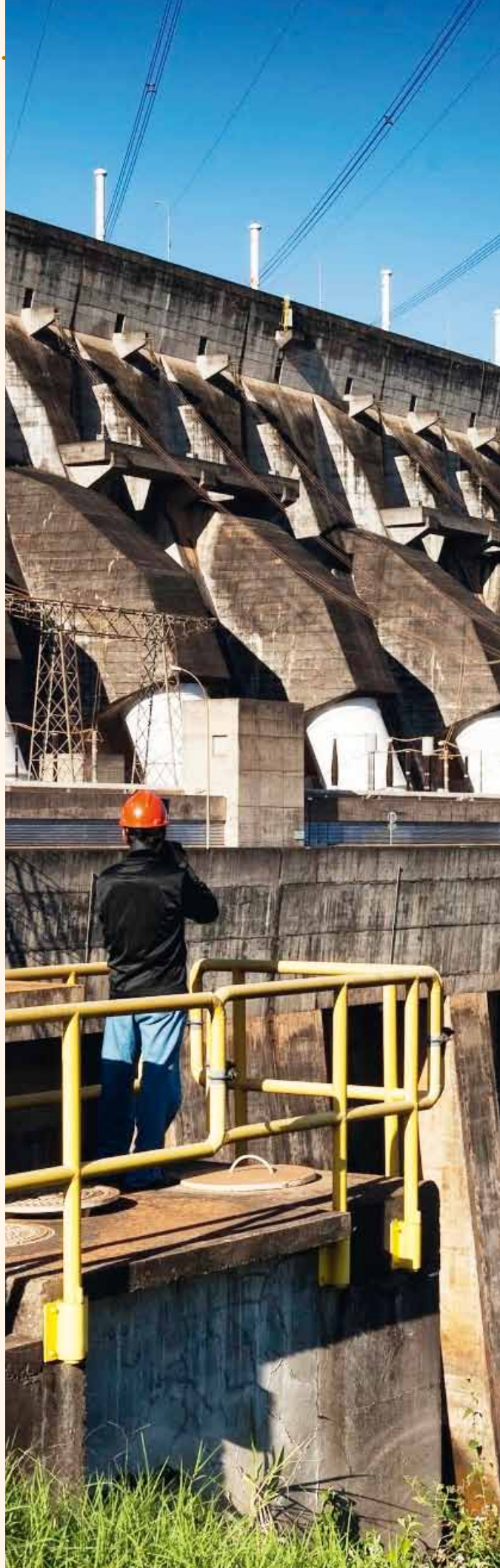
**USD 446,000** were invested in Dam Safety studies in 2012.

## Risk Management

In 2012, Itaipu hired a consulting firm to help the company diagnose, implement internal control procedures, monitor and keep track of corporate risks. Such process is meant to comply with a demand from Eletrobras and, whenever applicable, will be in line with the holding company's strategic goals set to improve its governance system, which includes implementing an integrated risk management system featuring a risk matrix and dictionary. **EC2**

## Contingency plans

Itaipu has a group to manage Emergency Action Plans (PAE) that is in charge of preparing the plans and keeping them up to date, besides coordinating drills and training. The plant also has procedures according to the Operation in Hydrological Emergency Situations (SOCEM) to provide Brazilian and Paraguayan Civil Defense agencies with information in case of floods downstream the Paraná River. Except for two plans currently being drafted, the others are posted on the intranet. Governmental agencies, the community and the organized civil society help prepare such plans. **EU21**



## Other contingencies identified

Safety issues also encompass activities that support the generation of power. There are guidelines for situations when the reservoir level should be drawn down, with instructions on water harnessing, animal care and rescue, fishing spots, and leisure, crossing, and irrigation areas. Those plans are being updated, and their definitive standards are estimated to be set in 2013.

To uphold the security of our digital information environment, since 2010 the company has had a committee in place to prepare and update instructions on a wide variety of threats, such as frauds, leaks

or misappropriation, thus ensuring the continuity of activities or mitigating financial losses. In the event of communication crises or an event that may compromise the company's image and service supply, the actions are guided by the Crisis Prevention Handbook.

In 2012, the company continued working on the project to install fire doors at all generators and fire-fighting systems, level the floor, and retrofit the power house drainage systems. The work is estimated to be completed in 2013.

## Emergency Action Plan

EU21


Main risks found and assumptions	Contingency / Emergency Plans	Contingency/ Emergency Plan tests			Stakeholder engagement	Publication site
		Drill carried out	Being prepared	completed		Intranet
Fire	Right River Bank Substation Transformers (SEMD)	•	Review in 2013			•
	Production Building	•				•
	Plant's primary DPC		•			
	Parigot de Souza building	•				•
Fire and/or Explosion	Itaipu's headquarters in Asunción	•				•
	Generators		•			
	Main Transformers	•	Review in 2013			•
Flooding	Paraná River flood			•	Itaipu notifies Civil Defense agencies from both river banks	•
	Power House			•		•
Foreign object adrift	Foreign object or vessel drifting towards the dam	•			Itaipu notifies the Federal Police (DEPOM)	•
Felled conveyance line towers	Felled conveyance line towers			•		•
Need to evacuate	Rescue of victims in elevator E5	•				•
Communicable diseases	H1N1 flu			•		•

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## Technology upgrade and knowledge production

At Itaipu, Research, Development and Innovation activities are steered by Itaipu Corporate University (UCI) and carried out via agreements. The main partner institution is Itaipu Technology Park.

Equipment tests and performance assessments are carried out at the Electric System Automation and Simulation Lab (LASSE). The Center for Advanced Dam Safety Studies (CEASB) conducts research on dam safety, such as 3D modeling, simulations, robotics, geotechnics, limnology, instrumentation, and computer database.

Regarding the fields of electrical mobility and renewable energy, there are sodium battery and hydrogen production projects. The use of biogas and the fabrication of electric vehicle prototypes are also encouraged by our company in collaboration with other institutions (learn more on page 112). **EUB** 



## Investments

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**USD 1.3 million** : was invested to develop renewable energy technologies.

**USD 141,000** : were allocated to distributed energy research.

**USD 778,000** : subsidized the production of conveyance and distribution technologies.

**USD 34,000** : were invested innovative sustainability-related services.

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## Energy of development

To build the power plant, 101,092.5 hectares and 8,519 properties were expropriated, of which 6,913 were rural and 1,606 urban. Compensation cost USD 208 million. Out of the expropriations, 8,503 were carried out amicably.

Many of those expropriated were assisted by Itaipu in their purchase of new properties. The National Institute of Colonization and Agrarian Reform (INCRA) developed and oversaw the resettlement projects. The process, which started in 1974 and was completed eight years later, was deemed a success.

At the height of construction, our company employed approximately 40,000 workers at the job site and in supporting offices in Brazil and Paraguay. Nine thousand houses, schools and two hospitals were built

to serve the workers. The Foz do Iguaçu population soared from 20,000 to 101,000 people in ten years.

After the last generators were installed in 2007, Itaipu became a fully installed enterprise that has further driven sustainable development in the two countries by supplying their electricity demands and also via a set of social-environmental programs and voluntary actions. **SO9; SO10** 

## Sustainability in practice

To actually achieve our business vision, we needed to insert sustainability actions, practices and clear indicators into our management process. Therefore, we designed our Sustainability Management System (SGS) and Sustainability Policy.

The SGS proposes the creation of a participatory discussion environment that enables us to find synergies between our initiatives, as well as disseminate and incorporate the sustainability culture among our employees.

The SGS was launched in May and was implemented after the sustainability actions then being carried out at the company had been mapped. In that process, the employees taking part in the project identified improvements and proposed the adjustment of programs, actions and projects. For 2013, the idea is to execute and monitor those points they identified.

**SGS initiatives include holding “Sustainable Talks”, which are meetings in which the chief officers present and discuss sustainability with managers from the standpoint of their management.**

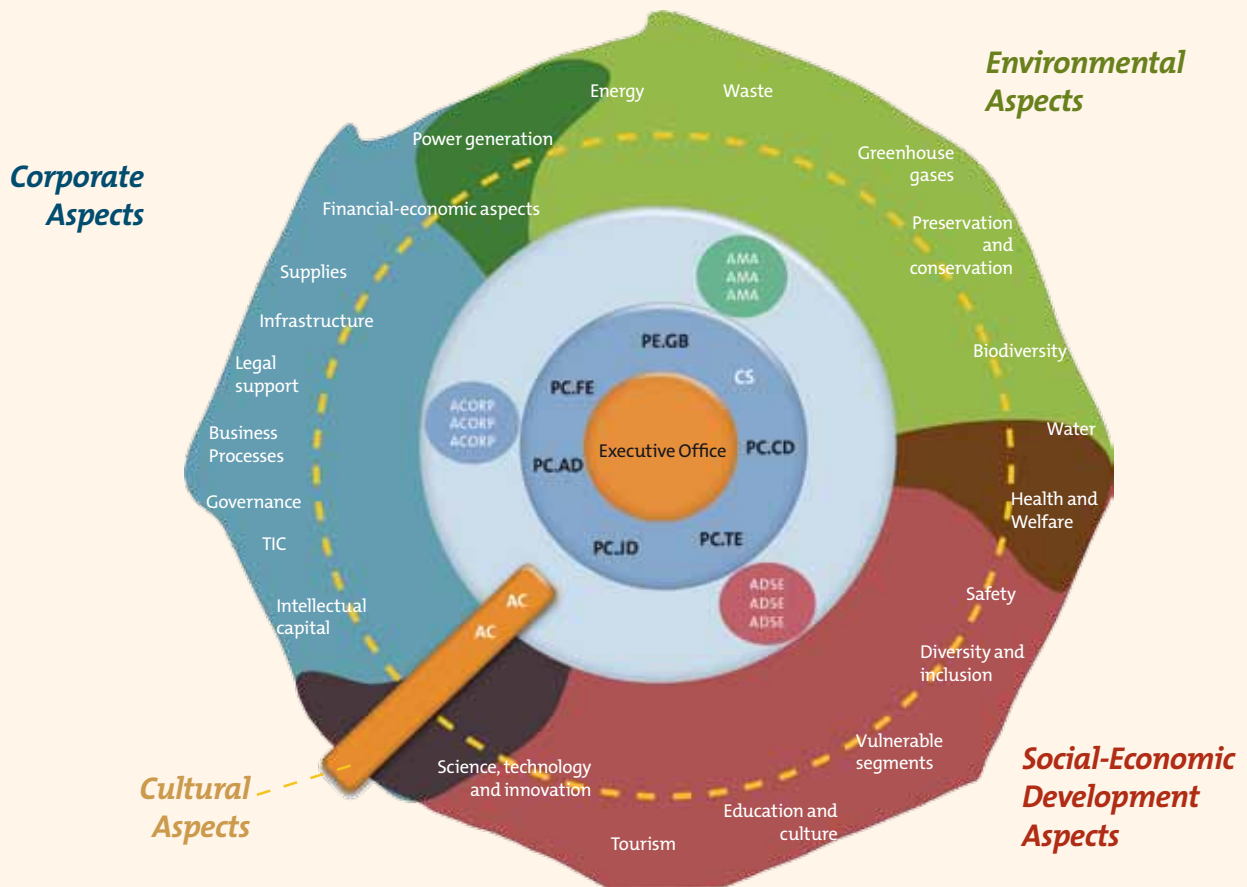
## Sustainability Policy

The sustainability principles and values which must be considered when performing daily activities and actions meant to foster sustainable development in the area of influence are explained in the Sustainability Policy with respect to four aspects: pursuing operating excellence; turning out clean, renewable energy; developing our community; sustainability, principle and value, from inside out. **4.8**

## Inspiring initiatives

In order to accomplish our mission and achieve the vision set for 2020, Itaipu joins, supports and draws inspiration from several world documents and sustainable initiatives. Among them, the Global Compact, Earth Charter, Kyoto Protocol, and Agenda 21. **4.12**

## Itaipu Sustainability Management System



CS – Sustainability Coordinator.  
 PE.GB – Business Planning Advisor.  
 PC.TE; PC.FE; PC.AD; PC.CD and PC.JD – Chief Officers' Planning and Coordination Advisors.  
 AC – Cultural Liaisons.

ACORP – Corporate Liaisons.  
 ADSE – Social-economic Development Liaisons.  
 AMA – Environmental Liaisons.

## Charters, principles or other initiatives our organization subscribes to or endorses

4.12

- The Earth Charter
- Eletrobras Environmental Education Committee
- Istanbul Water Consensus – “Water Pact”
- Child-Friendly Company
- Foz do Iguaçu Agenda 21 Forum
- Paraná Agenda 21 Forum
- Journey of the Treaty on Environmental Education for Sustainable Societies
- National Pact for the Eradication of Forced Labor in Brazil
- Principles for Responsible Business Education (PRME)
- Fresh Start Program – National Justice Council
- Memorandum of Understanding: Integrated Water Resources Management - UNESCO MoU
- Memorandum of Understanding: Use of Renewable Energy and Energy-Efficient Technologies - UNIDO - Eletrobras MOU
- United Nations Global Compact
- Women's Empowerment Principles (WEPs) - Global Compact and UN Women
- Statement of Corporate Commitment against Child and Teenager Sexual Abuse
- Selo Vira Vida (Life-Changing Seal)
- Business Pact against Child and Teenager Sexual Exploitation on Brazilian Roads
- Adhesion Agreement with the Network against Child and Teenager Sexual Exploitation
- Plata Watershed Treaty



## The Earth Charter

The Earth Charter is at a prominent position among the various local, national and international regulations and documents on which the guidelines of the company's social-environmental work are based. The UN-accredited document is the product of a decade-long intercultural dialogue by civil society and has become a milestone for a new way of acting and thinking by reconciling environmental conservation, human rights and the fostering of peace.

Itaipu's efforts under the Earth Charter are permanent, and its principles are the basis for the participatory methodology that runs our Cultivating Good Water Program. In 2012, a partnership between Itaipu, the

Foz de Iguaçu City Administration, and the Adjacent Cities' Development Council launched a children's version of the document and 30,000 primers were distributed at local schools. Additionally, 90 Earth Charter games developed by Instituto Harmonia da Terra were purchased and handed out in the 29 cities on the Paraná Watershed 3.

To learn more, go to <http://www.earthcharterinaction.org/content/>



## Global Compact

Launched in 2000, the United Nations Global Compact is a call out for companies from across the world to get their strategies and operations in line with ten universal principles in the fields of human rights, labor, the environment, and fight against corruption. In the world, 5,200 organizations have signed the document, 540 of them in Brazil. A signatory since 2009, Itaipu has held the vice president's office in the Brazilian committee since 2010 and has been reelected to the 2013/2014 term.

Learn more at: <http://www.pactoglobal.org.br/>

## International Hydropower Association (IHA)

IHA is a non-governmental organization founded in 1995 with support from the United Nations Educational, Scientific and Cultural Organization (UNESCO) whose mission is to foster sustainable hydro power, a source of clean, renewable energy. Its members include generation companies, manufacturers, financial institutions, governmental agencies, and non-profits. IHA has consultative and/or observer status with all United Nations agencies

addressing water, energy and climate change. Itaipu has been a member since 2006, and in 2012 helped translate the Hydropower Sustainability Assessment Protocol into Portuguese and Spanish. In-house activities were also carried out to kick-start the application of the protocol at the company.

**Participation in associations and/or protection agencies in which our organization has a seat, is a project or committee member, provides substantial funds, and deems our work as a member strategic.**

4.13

- River Plate Watershed Knowledge and Social-Environmental Care Center
- Fundação Coge – Transportation Committee
- Paraná State Organic Farming Committee (CPOrg - PR)
- City Civil Defense Committee (COMDEC)
- Brazilian Committee of Dams (CBDB)
- Global Compact Brazilian Committee (CBPG)
- Drainage Watershed Committee
- Brazilian Council on Corporate Volunteer Work (CBVE)
- World Water Council (WWC)
- World Water Council (WWC) Brazilian Chapter
- Paraná Council on Responsible Business (CPCE)
- Global Reporting Initiative (GRI)
- Ethos Institute of Companies and Social Responsibility
- LIFE (Lasting Initiative For Earth) Institute
- Corporate Movement for Biodiversity Conservation and Sustainable Use (MEB)
- National Social Engagement Network (COEP)
- Fresh Start Program – National Justice Council
- Brazilian Association of Water Resources (ABRH)
- Brazilian Association of Electricity Companies (ABCE)
- Brazilian Association of Non-Destructive Testing and Inspection (ABENDI)
- Brazilian Association of Technical Standards (ABNT)
- Brazilian Association of Maintenance (ABRAMAN)
- Brazilian Committee of the World Energy Council (CBCME)
- Electricity Research Center (CEPEL)
- Brazilian Committee of the Regional Energy Integration Commission (CIER - BRACIER)
- Brazilian National Committee for Electricity Generation and Transmission (CIGRE - BR)
- Brazilian Institute of Concrete (IBRACON)
- International Hydropower Association (IHA)
- Light up Brazil Institute
- Southern Integration and Development Council (CODESUL)
- City Council on Child Labor Eradication
- National Food Security Council (CONSEA)
- Foz do Iguaçu City Council on Food and Nutritional Security (COMSEA)
- Foz do Iguaçu Community Council
- Office for Women's Policies (SPM) of the Republic's President
- Coge Foundation Board of Curators
- Brazilian Quality Foundation (FNQ)
- Competitive Brazil Movement (MBC)
- Competitive Paraná Movement (MPC)
- American Chamber of Commerce for Brazil (AMCHAM)
- Executive Board of the Executive Women Space
- Foz do Iguaçu Council of Executive Women
- Paraná Trade Association Council for Women (ACP – PR)
- WEPs Leadership Group - Global Compact and UN Women
- World Trade Center Business Club Curitiba (WTC)
- National Program on Public Management and Government Streamlining - Paraná State Chapter (GESPÚBLICA)
- State Board of Engineering and Agronomy (CREA)
- Brazilian Association of Large Electricity Generating Companies (ABRAGE)
- Network of Electricity Industry Labs (RELEASE)
- Eletrobrás System Energy Efficiency Integrated Committee (CIEESE)
- Intergovernmental Committee Coordinating the Plata Watershed Countries (CIC)

## Rio+20: advancing, including and preserving

In June, Brazil hosted one of the main world events on sustainability: Rio+20. Represented by a delegation of 70 employees, Itaipu took part in the official events coordinated by the UN and those organized by the Brazilian government and civil society.

Considering energy is one of the most critical topics related to sustainability, Itaipu's participation at the event was strategic for advocating hydro power's place in the energy grid. Our company's attendance also reflects the respect for and acknowledgement of our pioneering, innovative and entrepreneurial capabilities in fields directly related to sustainable development, such as digital inclusion, renewable energy, technology innovation, and environmental conservation.

Itaipu showed that sustainability is not a fad word. It is a concept incorporated into our company's

mission and everyday practices from the start. The actions carried out by our Cultivating Good Water Program, Renewable Energy Platform, Gender Equality Program, and Electric Vehicle Project were some of the company's highlights at Rio+20, and even garnered new partnerships during the event.

**Itaipu is committed to one of the greatest post-event challenges: making it possible for our projects to be replicated in places facing problems similar to the ones we fight in our surrounding area.**



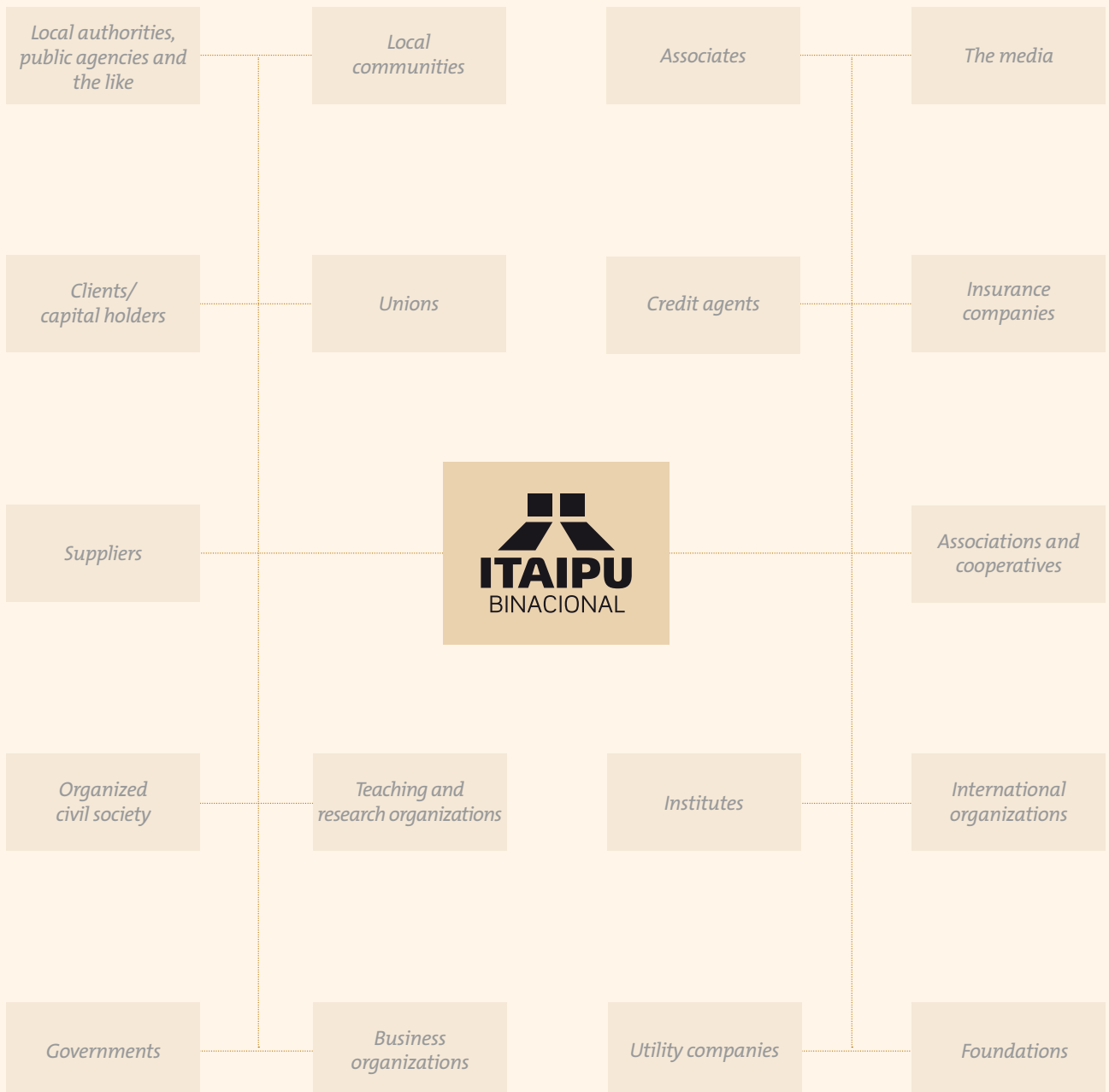
## Stakeholder engagement

Itaipu is directly and indirectly related to various stakeholders, in different manners according to the level of relationship. There is no formal process in place to engage our stakeholders, but their participation is

present in the programs, actions and projects carried out by our company. **4.15; 4.16**

### List of stakeholder groups engaged by the organization

4.14



## Relationship examples

In the Corporate Volunteer Work Program – Volunteer Force, volunteers design the annual activities plan and the social institutions, schools and day care centers benefited are invited to validate the plans. The Gender Equality Program holds regular meetings with the in-house committee and partner companies.

In Child and Teenager Protection (PPCA) and Health on the Border programs, stakeholders are selected

based on their needs and initiative convergence. They are engaged via work group monthly meetings, correspondence, phone calls, and visits. For the Cultivating Good Water Program, stakeholders are defined based on the initiative's concepts. Hence, our partners are engaged by means of management committees, training sessions, and meetings. **4.14; 4.15; 4.16**

## Stakeholders and types of relationship 4.14; 4.16

Stakeholders	Which	Relationship	Communication channels
Credit and Financial Agents	Banco do Brasil; Eletrobras; Brazilian Treasury; Caixa Econômica Federal and Fund for the Structural Convergence and Institutional Strengthening of the Southern Common Market (FOCEM)	Eletrobras and BNDES financed most of Itaipu's construction. The National Treasury is the largest creditor after having assumed credits assigned by Eletrobras in 1998. Banco do Brasil and Caixa Econômica Federal are the financial agents with which Itaipu keeps most of the company's funds. FOCEM is the financial agent in charge of financing the project to build the 500kV Conveyance Line.	Meetings, official letters, data, accounting information or reports, and other documents
Associations and Cooperatives	Associação dos Amigos do Hospital de Clínicas; Associação Brasileira de Concessionárias de Energia; Comitê Nacional de Produção e Transmissão de Energia; Instituto Ethos de Empresas e Responsabilidade Social; Conselho Paranaense de Cidadania Empresarial; Fundação Abrinq; Associação em Defesa do Rio Paraná; Afluentes e Mata Ciliar; Cooperativa Lar; Associação dos Catadores de Materiais Recicláveis; Diocese de Foz do Iguaçu; Associação de Educação Familiar e Social do Paraná; Associação Paranaense da Justiça Federal (Apajufe); Associação dos Diabéticos de Foz do Iguaçu; Associação de Proteção à Maternidade e à Infância (APMI); Associação Madre Terra; Associação Fraternidade Aliança (AFA); Associação de Proteção à Vida (Aprovi); Confederação Brasileira de Canoagem; Cooperativa Agroindustrial Lar, C. Vale Cooperativa Agroindustrial; Fundação Casa do Cerrado; Cooperativa Mista de Produção, Industrialização e Comercialização de Biocombustíveis do Brasil Ltda. (Cooperbio); Comitê Brasileiro do Pacto Global; Comitê Brasileiro de Voluntariado Empresarial; Comitê Brasileiro de Grandes Barragens; Centro de Saberes e Cuidados da Bacia do Prata; Associação Brasileira de Recursos Hídricos; Associação Brasileira das Grandes Empresas de Geração de Energia Elétrica; Associação Brasileira de Transmissão de Energia Elétrica; Associação das Emissoras de Radiodifusão do Paraná (AERP); Associação Brasileira de Normas Técnicas; Associação Brasileira para o Desenvolvimento Industrial; Associação dos Municípios do Oeste do Paraná (Amop)	Helping build a more just society, improve people's quality of life and increase the creation of income, besides partnerships to carry out specific initiatives; cooperation agreement on information exchange and initiatives meant to implement specific program actions	Regular get-togethers, meetings, email, participation in committees and programs, technical cooperation agreements, institutional visits, events

## Stakeholders and types of relationship

Stakeholders	Which	Relationship	Communication channels
Local authorities, public agencies and the like	Conselho Nacional de Justiça Federal; Conselho da Mulher de Foz do Iguaçu; Conselho Estadual da Mulher do PR; Comitê Permanente para as Questões de Gênero do Ministério de Minas e Energia e Empresas Vinculadas; Juízes; Procuradoria do Trabalho; Comissão Nacional de Cartografia; Comissão de Integração Energética Regional; Conselho Nacional da Reserva da Biosfera da Mata Atlântica; Parques Nacionais do Iguaçu e de Ilha Grande; Zoológico Municipal de Foz do Iguaçu; Parque das Aves; Núcleo de Polícia Marítima do DPF; Batalhão de Polícia Ambiental DOF/MS; Departamento de Operações de Fronteira do Mato Grosso do Sul; Corpo de Bombeiros de Foz do Iguaçu; Infraero; Marinha do Brasil; Defesa Civil; 34º Batalhão de Infantaria Motorizada; Polícia Rodoviária Federal; Guarda Municipal; Força Aérea - DTCA/Foz; Gabinete de Gestão Integrada de Foz do Iguaçu; Polícia Civil; Comando da 15ª Brigada em Cascavel	Institutional relationships and support for outreach, environmental and security initiatives	Sporadic get-togethers, official letters, meetings, institutional visits, events and others
Clients/Capital holders	Ande; Eletrobras; Brazilian National Treasury; Ministry of Mines and Energy	Buyers of the available power and the electricity associated to it, they hold the USD 100 million in capital in equal, non-transferrable shares. The Brazilian National Treasury and the Ministry of Mines and Energy are in charge of paying a part of the compensation for the assignment of power	Official letters, data, accounting information or reports, regular meetings, institutional visits, Eletrobras holding company work group events, Sustainability Report, accounting information and/or reports
Associates	Employees; interns; teenage apprentices; and service providers	People in charge of keeping the company in operation	Lectures, email, JIE, JIM, intranet, team meetings, theater plays, institutional visits, events, Sustainability Report
Local communities	Adjacent cities; Paraná Watershed 3 farmers and residents	Partnership in several outreach and environmental programs	Participation in various committees and donation drives, news reports, institutional visits, events, Sustainability Report
Utility companies	Companhia de Saneamento do Paraná (SANEPAR); Rodovia das Cataratas S/A; Companhia Energética de São Paulo; Centro de Tecnologias do Gás & Energias Renováveis (CTGAS-ER)	Essential service providers	Letters, meetings, email, and technical cooperation agreements
Unions	Ordem dos Advogados do Brasil; Unions, Associação dos Empregados da Itaipu Binacional – Brasil (ASSEMIB); Conselho dos Municípios Lindeiros e Associação dos Municípios do Oeste do Paraná; Sindicato e Organização das Cooperativas do Paraná (OCEPAR); Movimentos dos Pequenos Agricultores (MPA); C.Vale Cooperativa Agroindustrial; Conselho Regional de Engenharia e Agronomia	Labor relations and technical cooperation for the exchange of renewable energy-related information and initiatives. Specifically with ASSEMIB, partnership/support for projects carried out jointly with or exclusively by the institutions	Unions and ASSEMIB – contracts. Official letters, institutional visits, events, other documents and meetings

## Stakeholders and types of relationship

Stakeholders	Which	Relationship	Communication channels
Teaching and research institutions	Schools, colleges and universities; Instituto Federal do Paraná (IFPR); Universidade Estadual do Oeste do Paraná (Unioeste); Unila; Núcleo de Estudos e Defesa dos Direitos da Infância e Juventude (NEDDIJ); Centro de Pesquisas de Energia Elétrica (CEPEL); Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA); Federação da Agricultura do Estado do Paraná (FAEP); Federação das Indústrias do Estado do Paraná (FIEP); Federação das Indústrias do Estado de São Paulo (FIESP); Instituto de Tecnologia do Paraná (TECPAR); Universidade Livre do Meio Ambiente (UNILIVRE); Universidade Federal de Santa Catarina (UFSC); Universidade Federal de Santa Maria (UFSM); Universidade de Pernambuco (UPE); Universidade Estadual de Ponta Grossa (UEPG)	Partnership and support for projects and technical cooperation; internships	Meetings, email, accounting data or information, institutional visits, events, and other documents
Suppliers	Small, mid-sized and large companies; service providers	Business opportunities and fostering sustainable practices	Notices of procurement, official letters, financial statements, certificates of good standing, and other documents
Foundations	Fundação para o Desenvolvimento Científico e Tecnológico; Fundação Oswaldo Cruz; Fundação Cultural de Foz do Iguaçu; Fundação Universidade Estadual de Maringá; Fundação Nacional do Índio; Fundação da Universidade Federal do Paraná; Fundação Parque Zoológico de São Paulo; Fundação de Apoio à Pesquisa e ao Desenvolvimento do Agronegócio; Fundação Universidade de Brasília; Fundação Universidade Federal do Paraná para o Desenvolvimento da Ciência da Tecnologia e da Cultura; Fundação Parque Tecnológico de Itaipu; Fundação Itaipu de Previdência e Assistência Social; Fundação Itaipuapy; Fundação Nosso Lar; Fundação de Apoio à Pesquisa e ao Desenvolvimento do Agronegócio Brasileiro (FAPEAGRO); Fundação Centros de Referência em Tecnologias Inovadoras (CERTI)	Services, training, culture and partnerships in social-environmental programs	Letters, reports, courses, email, institutional visits, meetings, agreements, and others
City Governments	Secretaria Municipal da Juventude, Trabalho, Emprego e Antidrogas; Secretaria Municipal de Assistência Social (SMAS); Departamento da Guarda Municipal (DPGM); Conselho Municipal Antidrogas (COMAD); Conselho dos Direitos da Criança e do Adolescente (CMDCA); Conselho Tutelar; Centro de Referência de Assistência Social de Foz do Iguaçu (CRAS); Creche Nossa Senhora da Conceição; Foz do Iguaçu City Administration; City of Entre Rios do Oeste; Guarda Municipal de Foz do Iguaçu	Partnership in projects; coordination of legal and regulatory issues to the benefit of local communities; information exchange	Meetings, inspections, financial statements, certificates of good standing, official letters and other documents, tax certificates and returns, institutional visits, and events
State Governments	Secretaria de Estado da Saúde - 9ª Regional de Saúde; Secretaria de Estado da Criança e da Juventude; Núcleo de Proteção à Criança e ao Adolescente Vítima de Exploração Sexual e Maus-tratos (NUCRIA); Vara de Infância e Juventude; Conselho Regional de Psicologia; Centro de Sócio - Educação de Foz do Iguaçu (SEDS); Centro Sócio - Educativo de Foz do Iguaçu (CENSE); Companhia Paranaense de Gás (COMPAGÁS); Secretaria de Agricultura e do Abastecimento (SEAB); Secretaria de Estado da Ciência, Tecnologia e Ensino Superior (SETI) e Fundo Paraná	Partnership in projects; coordination of legal and regulatory issues to the benefit of local communities; information exchange	Meetings, inspections, financial statements, certificates of good standing, official letters and other documents, tax certificates and returns, institutional visits, and events

## Stakeholders and types of relationship

Stakeholders	Which	Relationship	Communication channels
Federal Government	Itamaraty; President's Office; Office of the Chief of Staff; Ministries; Federal Police Department (DPF); Pair - Mercosul; Federal Revenue Service; Federal Highway Police.	Partnership in projects; coordination of legal and regulatory issues to the benefit of local communities; information exchange	Meetings, inspections, financial statements, certificates of good standing, official letters and other documents, tax certificates and returns, institutional visits, and events
Institutes	Instituto Brasileiro de Geografia e Estatística; Instituto Brasileiro do Concreto; Instituto de Pesquisa em Ecologia; Instituto de Tecnologia Agropecuária de Maringá; Instituto Tecnológico Simepar; Instituto Paranaense de Assistência Técnica e Extensão Rural; Instituto Ambiental do Paraná; Instituto de Tecnologia para o Desenvolvimento; Instituto Brasileiro da Qualidade e Produtividade; Instituto Lixo e Cidadania; Instituto GRPCom; Instituto Polo Internacional Iguaçu; Instituto Elos - Promoção e Desenvolvimento Familiar; Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA); Instituto de Tecnologia Aplicada e Inovação (ITA); Instituto Agrônomico do Paraná (IAPAR); Instituto de Tecnologia para o Desenvolvimento (LACTEC)	Data and information collection and exchange, studies, partnerships, and services	Data and information collection and exchange, studies, partnerships, and services.
The media	Newspapers; magazines; websites; Brazilian and international radio and TV stations; social media	Campaigns, various news reports, clipping and research	Press releases provided via email, phone calls, meetings with journalists, and accounting information and/or reports
NGOs and public interest NGOs	Pastoral da Criança; Rede Nacional de Mobilização Social (COEP); Guarda Mirim de Foz do Iguaçu; Instituto Humanista de Desenvolvimento Social (HUMSOL); Casa do Teatro; Centro de Atenção Integral ao Adolescente (CAIA); Comunidade Terapêutica Sagrada Família; Núcleo Criança de Valor; Lar de Apoio à Criança e ao Adolescente (LACA); Comunidade Terapêutica Sagrada Família; Núcleo Criança de Valor; Embaixada da Família; Advogados pela Infância; Casa de Apoio Esperança em Cristo; Comunidade dos Pequenos Trabalhadores (CDPT); Núcleo de Ação Solidária à AIDS (NASA); Nosso Canto - Centro de Adaptação Neurológica; Casa Família Maria Porta do Céu; Provopar Ação Solidária Foz; Comunidade Sagrada Família; Sociedade Civil Nossa Senhora Aparecida	Project development partnerships and support for different initiatives	Meetings, events, email, agreements, and other documents
Business organizations	Federação das Indústrias do Estado do Paraná; Espaço Mulheres Executivas; Serviço de Apoio às Micro e Pequenas Empresas e Serviço Nacional de Aprendizagem Industrial; Serviço Social da Indústria; Sistema Fiep, Sesi, Senai, IEL - Foz do Iguaçu; Coordenação de Promoção Social Sest/Senat; Fundo de Desenvolvimento e Promoção Turística do Iguaçu (Fundo Iguaçu); Iguassu Convention & Visitors Bureau (ICVB); Associação Brasileira da Indústria de Hotéis (ABIH); Sindicato de Hotéis, Restaurantes, Bares e Similares de Foz do Iguaçu (Sindihotéis); World Trade Center Business Club Curitiba; Rede de Laboratórios do Setor Elétrico; Comitê Integrado de Eficiência Energética do Sistema Eletrobras; Empresa de Gestão Ambiental (PGA)	Partnership in various specific initiatives, participation in ISE, including economic and tourist development initiatives	Meetings, official letters, agreements, email, institutional visits, events, Sustainability Report and other documents



## Stakeholders and types of relationship

Stakeholders	Which	Relationship	Communication channels
International organizations	<p>Global Reporting Initiative; European Commission; United Nations Educational, Scientific and Cultural Organization; Food and Agriculture Organization of the United Nations (FAO); United Nations; University of Pisa; Intergovernmental Committee Coordinating the Plata Watershed Countries; Global Environment Fund; International Fund for Agricultural Development; Inter-American Institute for Cooperation on Agriculture; University of Albany; Fundación Vida Silvestre/AR; Fundación Moises Bertoni/PY; Dirección Nacional de Aeronautica Civil; International Council of Museums; International Labour Organization (ILO); UN Women – Brazil and Southern Cone; United Nations Industrial Development Organization (UNIDO); Centrotherm Photovoltaics AG; Lapaza Empreendimentos Ltda; Zero Emissions do Brasil Ltda; International Hydroinformatics Center (CIH); UNESCO's International Hydrological Program (IHP); World Water Council; Itaipu Technology Park Foundation – Paraguay (FPTI-PY); Cooperativa Agrária Delta San José (Uruguay); Gobierno Departamental de San José (Intendencia) – Uruguay; Global Sustainable Electricity Partnership – Canada (GSEP); Programa de las Naciones Unidas para el Desarrollo en Uruguay (PNUD); La Asociación de Productores de la Intendencia de San Jose – Uruguay; Ministerio de Industria y Energía del Uruguay (MIEN); Administración Nacional de Usinas Y Trasmisiones Eléctricas del Uruguay (UTE); Dirección Nacional de Medio Ambiente del Uruguay (Dinama); Instituto Nacional de Investigación Agropecuaria, Intendencia de San José (Uruguay); Organizacion Latinoamericana de Energia (OLADE)</p>	Partnerships in social-environmental programs, technical and scientific cooperation, and social-environmental commitments	Letters, email, meetings, events and Sustainability Report, agreements, technical cooperation and confidentiality agreements, institutional visits
Insurance companies	<p>ACE Seguradora S.A.; Bradesco Seguros S.A.; Centauro Seguradora S.A.; Itaú Seguros; ASEPASA; HDI Seguradora S.A.; Mapfre Seguros; Nobre Seguradora do Brasil S.A.; Porto Seguros Cia. de Seguros; Sul América Cia. Nacional de Seguros</p>	Different coverage according to possible damage to facilities and equipment and personal injuries	Official letters and other documents
State-run companies and free enterprises	<p>Eletrobras; Petrobras; Companhia Energética de Minas Gerais (CEMIG), Companhia Paulista de Força e Luz (CPFL), Companhia Hidro Elétrica do São Francisco (CHESF); Light S.A.; Companhia Estadual de Energia Elétrica – Rio Grande do Sul (CEEE), Furnas Centrais Elétricas; Companhia Paranaense de Energia (Copel); WEG; Correios; Mascarello; Agrale; Acumuladores Moura; Euroar; Iveco Latino América; Fiat; Kraftwerke Oberhasli AG (KWO); Fiamm</p>	Partners in social-environmental programs, technical and scientific cooperation, campaigns, and other events	Letters, email, reports, meetings, agreements, campaigns, and others
Others	<p>Fazenda Santa Maria; Centro Nacional de Pesquisa Florestal; Empresa Brasileira de Pesquisa Agropecuária e Centro de Recuperação de Aves Ameaçadas; Petrobrás; Mineraltec; Hospital Erasto Gaertner – Rede Feminina de Combate ao Câncer; Agência de Desenvolvimento do Extremo Oeste do Paraná (ADEOP); Volkswagen; sports and car racing associations; sports delegations</p>	Partners in social-environmental programs, campaigns, and other events	Letters, email, reports, meetings, agreements, campaigns, institutional visits, vehicle convoys, events, product rollouts, and others

## Stakeholders and types of relationship

Stakeholders	Which	Relationship	Communication channels
Brazilian Military	Navy; Army; Air Force and Military Police	Partners in the organization of events, technical cooperation, information exchange	Official letters, email, meetings, lectures, institutional visits, and events
Brazilian and foreign government delegations; elected representatives; Ministries; multinational company representatives	Ministers; Ambassadors; Consuls; Directors; Presidents; and others.	Technical cooperation, information exchange, diplomatic receptions	Official letters, email, meetings, lectures, institutional visits, special programs including trees planted by authorities


### Communication channels

Many are the means Itaipu uses to communicate with our stakeholders. The main tools are the company's website, Contact Us, social media (Twitter, Facebook) and the Office of the Ombudsman, in addition to our news management department and internal communication instruments. **4.16; PR6**

### Advertising regulations

Itaipu's entire advertising abides by the applicable regulations, such as the Code of Ethics, Advertising Self-Regulation, and Standard Advertising Regulations issued by the Standard Advertising Regulations Executive Council (CENP). **PR6**

### Number of contacts

- 15,000+** likes on Facebook. 
- 327,000** unique visitors tallied on Itaipu's online newspaper page (IIE).
- 7,101** mentions in the media, including TV shows, websites, magazines and newspapers.
- 582,000** visitors to our company website.
- 95** complaints received by the office of the Ombudsman ([ouvidoria@itaipu.gov.br](mailto:ouvidoria@itaipu.gov.br)).
- 200+** article suggestions sent to journalists.
- 10,000+** followers on Twitter (@usina\_itaipu). 
- 5,414** contacts tallied by Contact Us ([itaipu@itaipu.gov.br](mailto:itaipu@itaipu.gov.br)), including questions, compliments, support requests, technical inquiries, and help for academic papers, which were replied to by our company's specific departments.



# ECONOMIC ASPECTS

Because Itaipu is a binational company, the Itaipu Treaty ensures both countries share equal rights and duties, as well as have their sovereignty respected. The financial and electricity service supply bases are defined in Annex C, an integral part of the Treaty, and the organization follows the accounting rules adopted in Brazil and Paraguay – the exceptions are listed in the Financial Statement Notes (available at [www.itaipu.gov.br](http://www.itaipu.gov.br)).

Because Itaipu is a non-profit-making organization, the plant's annual income from the supply of electricity services must be equal to the costs (read more on the next page). Hence, the management's challenge is to ensure the company's economic-financial balance in a way that the electricity produced and provided to the High Contracting Parties is offered to end-consumers at affordable rates.

Two indicators help track our business performance: the Financial Balance Index, whose maximum variation rate is 2% above or below 100%; and the Index of Total Liabilities on EBITDA, which is an estimate of the time Itaipu needs to repay the company's debts while keeping

EBITDA the same. The main steps taken to ensure better higher control and transparency in the management of income and expenses include adopting tools such as project management and process mapping, implementing an integrated management system (SAP), and adhering to the Sarbanes-Oxley Act (SOX).

In 2012, credit rating agency Standard & Poor's reaffirmed Itaipu's corporate credit rating as "brAAA" on the domestic scale, which attests to our company's health with respect to our ability to honor the debts presented even in an occasional EBITDA drop.

**Our 2012 surplus was USD 521 million – an amount that added to our bottom line since we started operating results in a positive accumulated balance in excess of USD 942 million.**

## Reference currency

Annex A prescribes the use of US dollars as the reference currency to record transactions and present the Financial Statements, as well as for electricity service supply agreements. Routine operations such as purchases and employee and agreement payments are carried out in the local currency and converted into US dollars based on the dollar exchange rate on the day of the operation.



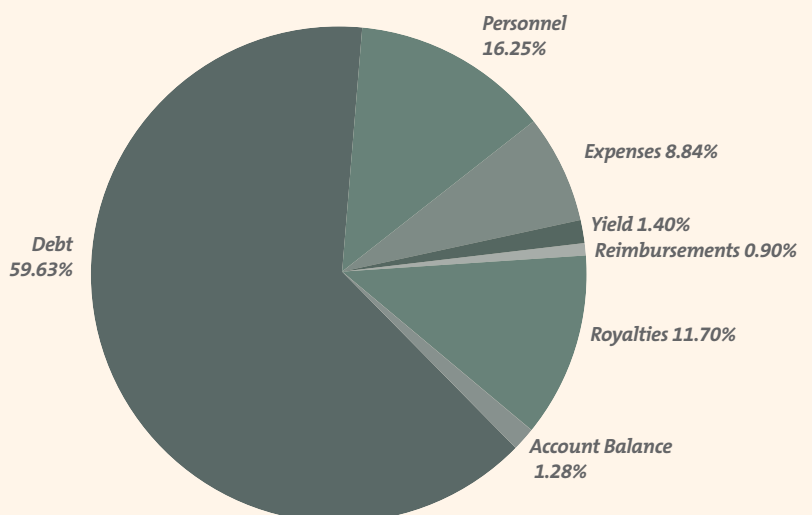
## Electricity service supply

The Itaipu Treaty prescribes that ANDE and Eletrobras must purchase the total installed power supplied by Itaipu and are therefore entitled to a minimum amount of electricity, called bound energy. The rate used to pay for the power purchased is calculated so that the annual income obtained by Itaipu is equal to the cost of the electricity service provided, thus making sure the company earns enough to cover its expenses.

However, the electricity production varies according to hydrological and operating conditions, in addition to both countries' demand. When the power supplied to each of the markets exceeds that which had been estimated at the time of purchase (bound energy), the difference (called unbound energy) is billed considering only the royalties and reimbursements of the power plant's management and oversight charges. That is because the other operating expenses had been included in the bound energy-related electricity service cost.

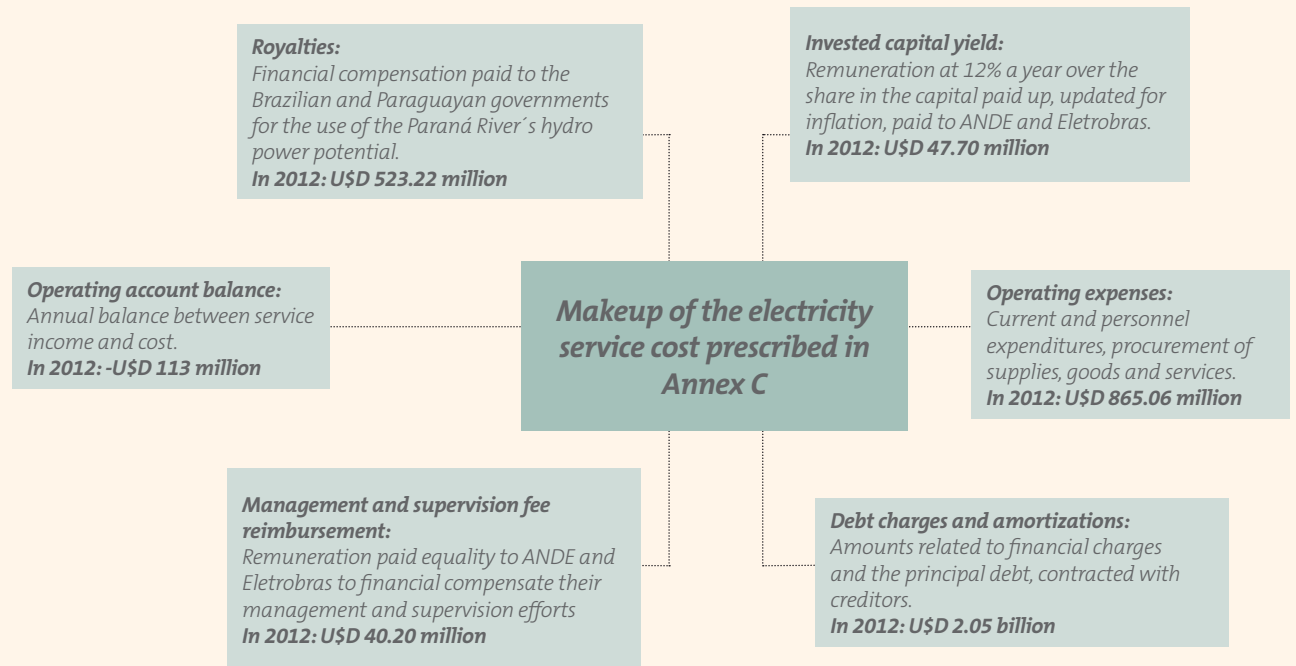
Therefore, Itaipu does not make a profit from power generated in excess of the bound energy, not even in 2012 after turning out a record production. Nevertheless, the additional production benefits the Brazilian and Paraguayan electricity systems: given Eletrobras and ANDE purchase power from Itaipu, the more electricity they manage to get from the power purchased, the lower the electricity cost perceived by each market.

## Cost makeup in 2012



Source: Financial Statements – Operating Account Statement.

## Electricity Service Cost



## Company capital, debt and MP 579

The power plant was built at the cost of USD 27 billion raised from Brazilian and international financial agents, including the financial rollovers. Itaipu's own capital, which was equally invested by Brazil and Paraguay, was USD 100 million.

The current debt stands at USD 15 billion, and that amount is repaid in annual installments of USD 2.3 billion. Therefore, the debt is expected to have been fully repaid by 2023, abiding by the review of Annex C bases which included, among other things, the debt amortization degree. Under Provisional Presidential Decree 579 issued by the Brazilian government in

2012 (converted into Law 12783/2013), the debt amount repaid monthly to the Federal Government and Eletrobras is allocated to the Energy Development Account (CDE). Hence, the resources are used to help lower electricity prices for end-consumers.

Debt repayment and interest represented 59.63% of Itaipu's budget in 2012. Today, the equivalent electricity rate is USD 22.60 kW a month. In ten years, after the debt has been paid off, the company will be able to offer even cheaper electricity to Brazil and Paraguay.

## Debt renegotiation

In order to better manage the debt, two important historic events helped keep the liabilities in check and regular: in 1997, Itaipu renegotiated its debt to Eletrobras and made adjustments to mitigate the risk of exchange rate fluctuations. Then in 2007, debt contracts were stripped of the adjustment factor obtained based on US inflation rates, which factor was thereon assumed by Eletrobras and the Federal Government.

## Added Value Statement (DVA) and Balance Sheet (iBase)

DVA shows the wealth created by a company and how it was distributed among those who had directly or indirectly contributed to such results. In turn, iBase is a statement about the outreach and environmental actions reported by the two nations. **EC1**

## Added Value Statement (in USD thou)

EC1

	2012	2011	2010
<b>CREATION OF ADDED VALUE</b>			
<b>Income</b>			
Power supply	3,291,012,000	3,291,012,000	3,291,012,000
Energy transfer compensation	378,718,002	267,761,087	104,496,786
Cost reimbursements – unbound energy	128,136,896	93,378,828	55,038,968
Miscellaneous income (expenses)	(10,484,940)	(8,376,733)	(10,780,120)
	<b>3,787,381,958</b>	<b>3,643,775,182</b>	<b>3,439,767,634</b>
<b>(-) Inputs purchased from third parties</b>			
Materials	16,152,007	16,169,216	12,023,546
Third-party services	104,645,775	106,963,208	102,745,459
Other operating expenses	122,372,673	189,716,646	167,731,834
	<b>243,170,455</b>	<b>312,849,070</b>	<b>282,500,839</b>
<b>GROSS ADDED VALUE</b>	<b>3,544,211,503</b>	<b>3,330,926,112</b>	<b>3,157,266,795</b>
<b>(+) Added value received in transfers</b>			
Financial revenues	51,544,219	114,483,476	68,146,460
<b>ADDED VALUE TO SHARE</b>	<b>3,595,755,722</b>	<b>3,445,409,588</b>	<b>3,225,413,255</b>
<b>ADDED VALUE SHARING</b>			
<b>Work Compensation</b>			
Direct compensation	298,282,562	297,180,181	248,009,177
Benefits	152,676,209	137,883,923	118,485,497
Post-employment benefits	424,962,959	206,010,554	428,607,040
Severance pay	74,640,560	59,857,085	168,535,361
FGTS (Government Severance Indemnity Fund for Employees)	7,260,064	7,769,518	6,991,799
	<b>957,822,354</b>	<b>708,701,261</b>	<b>970,628,874</b>
<b>Government compensation</b>			
INSS and IPS (Brazilian Social Security Institute)	41,155,156	42,641,572	38,320,111
Royalties	523,229,326	484,678,258	428,138,648
Energy transfer compensation	378,718,002	267,761,087	104,496,786
	<b>943,102,484</b>	<b>795,080,917</b>	<b>570,955,545</b>
<b>Third-party capital remuneration</b>			
Debt charges	1,030,007,341	1,093,687,934	1,154,444,716
Adjustments for inflation	(56,155,222)	(20,745,178)	(14,830,963)
Other financial expenses	67,569	28,129	45
	<b>1,086,230,132</b>	<b>1,072,970,885</b>	<b>1,139,613,798</b>
<b>Company capital remuneration</b>			
Capital returns	47,789,688	47,149,750	44,733,476
Management and supervision fee reimbursement	40,248,410	37,282,944	32,933,742
	<b>88,038,098</b>	<b>84,432,694</b>	<b>77,667,218</b>
Income	520,562,654	784,223,831	466,547,820
<b>ADDED VALUE SHARED</b>	<b>3,595,755,722</b>	<b>3,445,409,588</b>	<b>3,225,413,255</b>

For the business years ending on December 31st, 2012, 2011 and 2010.

## 2012 Annual Performance Appraisal - iBase

EC1

1 – Calculation Basis	2012 amount (USD thou)			2011 amount (USD thou)		
Net revenue (NR)	3,797,867			3,652,152		
Operating result (OR)	520,563			784,224		
Gross payroll (GPR)	396,073			395,196		
2 – Internal Social Indicators	Amount (thou)	% over GPR	% over NR	Amount (thou)	% over GPR	% over NR
Meals	23,853	6.02%	0.63%	14,880	3.77%	0.41%
Compulsory labor charges	48,415	12.22%	1.27%	50,411	12.76%	1.38%
Private pension plans	50,818	12.83%	1.34%	48,579	12.29%	1.33%
Health	63,872	16.13%	1.68%	58,680	14.85%	1.61%
Occupational health and safety	1,039	0.26%	0.03%	1,063	0.27%	0.03%
Education	6,901	1.74%	0.18%	6,850	1.73%	0.19%
Culture	0	0%	0%	0	0%	0%
Training and career development	2,156	0.54%	0.06%	2,385	0.60%	0.07%
Daycare centers or daycare vouchers	1,457	0.37%	0.04%	1,429	0.36%	0.04%
Profit sharing	33,642	8.49%	0.89%	35,160	8.90%	0.96%
Others	50,995	12.88%	1.34%	41,273	10.44%	1.13%
Total – Internal Social Indicators	283,148	71.49%	7.46%	260,710	65.97%	7.14%
3 – External Social Indicators	Amount (thou)	% over OR	% over NR	Amount (thou)	% over OR	% over NR
Education	25,738	4.94%	0.68%	43,526	5.55%	1.19%
Culture	1,668	0.32%	0.04%	1,723	0.22%	0.05%
Health and sanitation	13,473	2.59%	0.35%	13,510	1.72%	0.37%
Sports	0	0%	0%	0	0%	0%
Fight against hunger and for food safety	2,837	0.54%	0.07%	1,207	0.15%	0.03%
Others	36,341	6.98%	0.96%	41,998	5.36%	1.15%
Total contributions to society	80,057	15.38%	2.11%	101,964	13%	2.79%
Taxes (excluding labor charges)	0	0%	0%	0	0%	0%
Total – External Social Indicators	80,057	15.38%	2.11%	101,964	13%	2.79%
4 – Environmental Indicators	Amount (thou)	% over OR	% over NR	Amount (thou)	% over OR	% over NR
Investments related to the production/operation of the company	1,809	0.35%	0.05%	1,062	0.14%	0.03%
Investments in third-party programs and/or projects	8,085	1.55%	0.21%	8,789	1.12%	0.24%
Total environmental investments	9,894	1.90%	0.26%	9,851	1.26%	0.27%
As to establishing “annual goals” to minimize residues, the overall consumption in production/operation and to increase the efficiency in the use of resources, the company	<input type="checkbox"/> has no goals <input type="checkbox"/> meets 51 to 75% <input type="checkbox"/> meets 0 to 50% <input checked="" type="checkbox"/> meets 76 to 100%			<input type="checkbox"/> has no goals <input type="checkbox"/> meets 51 to 75% <input type="checkbox"/> meets 0 to 50% <input checked="" type="checkbox"/> meets 76 to 100%		



## 2012 Annual Performance Appraisal - iBase

EC1

5 – Staff Indicators*	2012			2011		
N.º of employees at the end of the year	3,458			3,395		
N.º of admissions in the period	323			268		
N.º of outsourced employees**	1,012			892		
N.º of interns	416			351		
N.º of employees over 45 years of age	1,701			1,714		
N.º of women working for the company	635			595		
% of management positions held by women	6.93%			8.40%		
N.º of blacks working for the company	257			259		
% of management positions held by blacks	3.50%			1.54%		
N.º of people with disabilities or special needs	54			49		
6 – Relevant information on the practice of corporate citizenship	2012			2013 Goals		
Ratio between the highest and lowest pay at the company***	NAV			NAV		
Total number of occupational accidents	17			0		
The social and environmental projects developed by the company were defined by:	<input type="checkbox"/> executives	<input checked="" type="checkbox"/> executives and managers	<input type="checkbox"/> all employees	<input type="checkbox"/> executives	<input checked="" type="checkbox"/> executives and managers	<input type="checkbox"/> all employees
Safety and health standards at the workplace were defined by:	<input type="checkbox"/> executives and managers	<input type="checkbox"/> all employees	<input checked="" type="checkbox"/> all + In-House Accident Prevention Commission	<input type="checkbox"/> executives and managers	<input type="checkbox"/> all employees	<input checked="" type="checkbox"/> all + In-House Accident Prevention Commission
As to union freedom, the right to collective bargaining and internal representation of the workers, our company:	<input type="checkbox"/> does not get involved	<input type="checkbox"/> will follow ILO rules	<input checked="" type="checkbox"/> all employees	<input type="checkbox"/> will not get involved	<input type="checkbox"/> will follow ILO rules	<input checked="" type="checkbox"/> will encourage and follow ILO
Private pension plans include:	<input type="checkbox"/> executives	<input type="checkbox"/> executives and managers	<input checked="" type="checkbox"/> all employees	<input type="checkbox"/> executives	<input type="checkbox"/> executives and managers	<input checked="" type="checkbox"/> all employees
Profits are shared with:	<input type="checkbox"/> executives	<input type="checkbox"/> executives and managers	<input checked="" type="checkbox"/> all employees	<input type="checkbox"/> executives	<input type="checkbox"/> executives and managers	<input checked="" type="checkbox"/> all employees
When selecting suppliers, the same ethical and social-environmental responsibility standards adopted by our company:	<input type="checkbox"/> are not considered	<input checked="" type="checkbox"/> will be suggested	<input type="checkbox"/> are enforced	<input type="checkbox"/> will not be considered	<input checked="" type="checkbox"/> will be suggested	<input type="checkbox"/> will be enforced
As to company employees' participation in volunteer work programs, our company:	<input type="checkbox"/> does not get involved	<input type="checkbox"/> will support	<input checked="" type="checkbox"/> organizes and encourages	<input type="checkbox"/> will not get involved	<input type="checkbox"/> will support	<input checked="" type="checkbox"/> will organize and encourage
Total number of customer complaints and criticism:****	at the company __NAP__	at the Better Business Bureau __NAP__	in court __NAP__	at the company __NAP__	at the Better Business Bureau __NAP__	in court __NAP__
% of complaints and criticism fulfilled or solved:	at the company ____%	at the Better Business Bureau ____%	in court ____%	at the company ____%	at the Better Business Bureau ____%	in court ____%
Total added value to share (in thou):	In 2012: USD 3,595,756			In 2011: USD 3,445,410		
Added Value Sharing (AVS):	<b>26.23% government</b> <b>26.64% employees</b> <b>2.45% stockholders</b> <b>30.20% third parties</b> <b>14.48% withheld</b>			23.08% government 20,57% employees 2.45% stockholders 31.14 % third parties 22.76% withheld		
7 - Other Information						

\* Staff indicators, including Paraguayan HR data, were not included in the assurance scope.

\*\* Itaipu does not have outsourced employees, that is, people working in areas directly related to the business or management departments. Regarding this item, we report employees from companies hired to provide non-core services with no ties to such activities (read more on page 70).

\*\*\* NAV - Information not available from both countries.

\*\*\*\*NAP - Not Applicable because Itaipu has no direct end-customers.


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## Development royalties

Itaipu was the first power plant to pay Brazil financial compensation for using the river water electricity-generating potential, and provided inspiration for the law mandating the other hydro power plants to pay such compensation. However, it should be noted that the rules regulating the royalties paid by Itaipu are not the same enforced on the other Brazilian power plants, given we follow rules consensually set forth by our two member-countries.

In Brazil, payments are made monthly to the National Treasury, and amounts are transferred to cities, states and the Federal Government by the National Electricity Agency (ANEEL), as prescribed by law. In Paraguay, the resources are provided to the Ministry of Finance.

The royalties have been paid since March 1985, when the power plant began operating commercially. The amount paid varies according to the electricity turned out by Itaipu, and is distributed in Brazil in a manner prorated to the extent of the area flooded to fill up the lake, at percentages defined by ANEEL.

States and cities upstream of the power plant and which have been indirectly affected by the reservoir also get a portion of the compensation. The resources may be invested in health, education and safety programs, but cannot be used to pay staff or repay debts, unless the Federal Government is the creditor. **EC9** 

**USD 4.3 billion** have been paid by Itaipu as royalties in Brazil since 1991.

## Brazilian distribution prescribed by the Royalties Law .....

**10%** for the Federal Government, divided between the Ministry of the Environment, the Ministry of Mines and Energy, and the National Science and Technology Development Fund.

**45%** for states.

**85%** of the amount transferred to states and cities is allotted to places directly affected by the reservoir.

**45%** for cities.

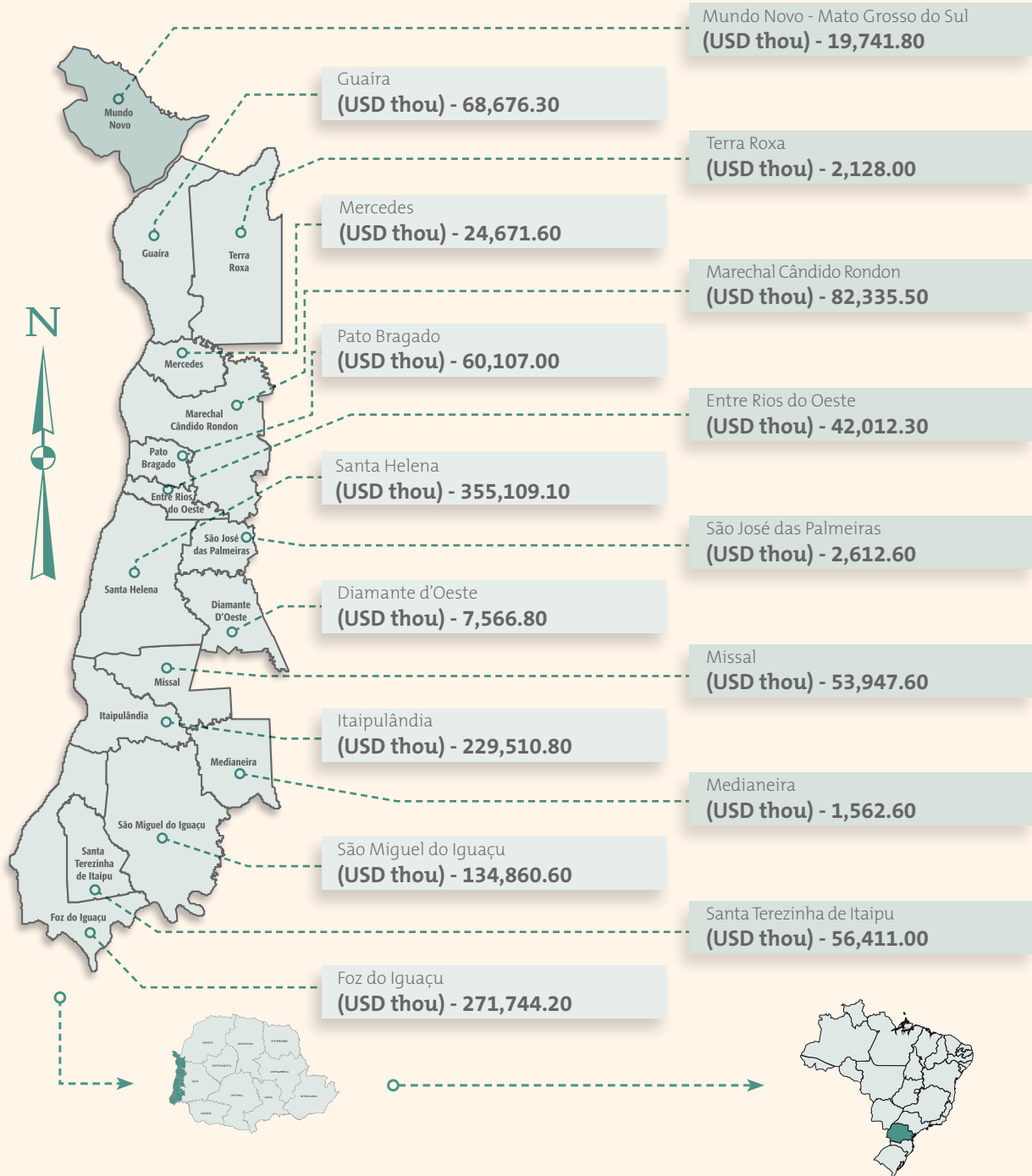
**15%** of the amount paid to states and cities is allotted to places upstream of the power plant which have been indirectly affected by the reservoir.

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## Distribution of 1991 - 2012 accumulated royalties to adjacent cities in Brazil\*

EC9



Source: Itaipu Financial Dept.

\* Adjacent cities are those directly affected by the reservoir filling up.

## Distribution of royalties paid by Itaipu to the Brazilian Treasury in the past three years (in USD thou)

EC9

	2012	2011	2010	1991-2012 Accumulated
Ministry of the Environment*	7,401.20	6,685.30	6,357.40	56,842.90
Ministry of Mines and Energy*	7,401.20	6,685.30	6,357.40	56,842.90
National Science and Technology Development Fund*	9,868.40	8,913.70	8,476.60	75,790.40
Paraná State Government	93,673.80	84,613.50	80,463.50	1,404,248.80
Mato Grosso do Sul State Government	2,209.40	1,995.70	1,897.80	30,901.80
Foz do Iguaçu	18,147.30	16,392.00	15,588.10	271,744.20
Santa Terezinha de Itaipu	3,767.20	3,402.80	3,235.90	56,411.00
São Miguel do Iguaçu	8,173.60	7,383.10	7,020.90	134,860.60
Itaipulândia	16,159.40	14,596.40	13,880.50	229,510.80
Medianeira	104.40	94.30	89.60	1,562.60
Missal	3,602.70	3,254.20	3,094.60	53,947.60
Santa Helena	23,714.50	21,420.70	20,370.10	355,109.10
Diamante d'Oeste	505.30	456.40	434.10	7,566.80
São José das Palmeiras	174.50	157.60	149.90	2,612.60
Marechal Cândido Rondon	5,038.50	4,551.20	4,328.00	82,335.50
Mercedes	1,737.10	1,569.10	1,492.10	24,671.60
Pato Bragado	4,232.00	3,822.70	3,635.20	60,107.00
Entre Rios do Oeste	2,958.00	2,671.90	2,540.80	42,012.30
Terra Roxa	142.20	128.40	122.10	2,128.00
Guaira	4,586.30	4,142.60	3,939.50	68,676.30
Mundo Novo	1,322.50	1,194.60	1,136.00	19,741.80
<b>Total</b>	<b>246,706.80</b>	222,844.20	211,914.60	<b>4,308,834.40</b>

Source: Itaipu Financial Dept.

\*Accumulated 2004 - 2012.

Electricity produced: 2012 – 98.2 MWh; 2011 – 92.2MWh and 2010 – 85.9MWh.

## General Bidding Process Regulation (NGL)

Because Itaipu is a binational company and the NGL is provided in the Treaty, the NGL is the company's own rules for the purchase of supplies and services in both countries. Upon its review in 2012, the NGL has been updated to keep up with and match the changes in Paraguayan and Brazilian law.

Some of the main changes include the formalization of sustainable criteria, considering the NGL requires the approved bids to those most advantageous for the company in terms of prices, timeframes, and promotion of sustainable development. To the extent possible, the NGL also started encouraging the participation of small, mid-sized and micro companies in bidding processes.

## Sustainable purchases

In 2010, Itaipu signed the Furnas Pact which contains a provision on responsible purchases and partnerships. Based on that, and in line with company's Sustainability Management System, our Purchase Superintendence prepared a binational project to encourage the acquisition of socially and environmentally correct products by the entire the company.

The practice has been formalized via the adjustment made to the NGL. It is the case of the replacement of water gallons with water coolers and the supply of sugar packets, both carried out in 2012 (read more on page 99).

## Supplier development (DESFOR)

DESFOR is meant to allow suppliers to adopt the best management and production practices in line with Itaipu's corporate principles. After making its Relationship Portal available on the internet, through which suppliers are able to register online and fill out a self-assessment form, in 2012 Itaipu implemented the Supplier Evaluation System (SAF), a mandatory tool to be used by all contract managers starting in March 2013.

Based on the scores given by the manager and the self-assessment, the company's team is going to study the incidence and relevance of the problems found. Then, supplier companies are going to be invited

The actions required to ensure compliance with the revised regulation are going to be carried out by the Sustainable Purchase project and the Supplier Development program. Additionally, local suppliers have the opportunity to take part in the process as the company holds some on-site reverse auctions.

In December, the amount limiting purchases which do not require a bidding process was raised from USD 3,000 to USD 7,000. By so doing, in 2013 our company plans to inject approximately USD 2.6 million in the market, especially benefitting small, mid-sized and micro companies. **EC6**

Brazilian and Paraguayan employees from several company departments involved in procurement processes attended workshops, and with the aid of an outside consulting firm, have been creating a risk matrix to guide and offer alternatives in terms of sustainable supplies and services. They plan to test two pilot products and two pilot services so that the project may be fully in place by the end of 2013.

to take part in initiatives such as seminars, courses, lectures, workshops, and business rounds offered in collaboration with business development-oriented institutions.

Companies that simply register may also take part in the activities. Additionally, suppliers that meet most of the evaluation criteria are going to be rewarded. Our goal is to get 80% of the companies nominated to take part in the program to join it voluntarily. **EC6; HR2**




## Respect for human rights

Itaipu does not directly look into whether our suppliers violate human rights, such as using child or compulsory labor. However, the companies are required to sign the Statement of Awareness and Compliance with Social Commitments before they are allowed to take part in bidding processes.


By signing it, the companies assert they are aware of and will comply with the social commitments taken on by Itaipu. The commitments include not employing minors, except as apprentices; not using operations that may pose a significant risk of employing forced or

compulsory labor or sexual exploitation-related; and respect for gender equality.

To eliminate the risk of forced or compulsory labor, the companies hired must prove they pay salaries, overtime, 13th salary, notice period, occupational accident insurance, and other charges. In the event of violation, the contract may be terminated. **HR6; HR7** 

## Termination

In 2012, there were no cases of violation related to child labor. However, forced labor cases were identified in two service supplying companies that had failed to pay salaries and grocery vouchers to their employees while forcing them to work their shifts. By means of an administrative proceeding, their contracts

were terminated and the companies had the right to contract with Itaipu suspended for 12 months, in addition to the applicable sanctions by Labor Courts and the Labor Public Attorneys' Office. 

## Proportion of spending on locally-based suppliers \* (%)

EC6

	2012**	2011**	2010**
Materials purchased from local suppliers	37.99%	58.72%	64.80%
Local suppliers hired to provide services	52.67%	47.01%	59.59%
Total purchases from local suppliers	49.97%	48.54%	60.37%

\*Local suppliers are considered those based in the state of Paraná.

\*\*Since 2011, Itaipu has calculated the percentage for the suppliers in each category, that is, locally-based suppliers over the total suppliers of materials, and the same is done for the service category.

2010 data were recalculated according to the methodology adopted in 2011.





# SOCIAL ASPECTS - PEOPLE MANAGEMENT

*At Itaipu, human resources management is addressed by three specific goals in its Strategic Plan. The Skills Management model is used, which focuses on helping people develop knowledge and the basic skills to pursue the corporate strategy, as well as on setting up a culture of process and result efficiency.*

*It is connected to the Performance Management System whose new format was implemented in 2012 to assess employee performance according to consistent, fair, transparent criteria while encouraging the practice of feedback.*

*The training and development process also plays a vital role as it prepares and encourages individual capabilities by allowing employees to be proactive when performing their duties and building their careers. Soon, a corporate education program is going to be implemented to get all training initiatives in line.*

*Some of the department's challenges include remodeling the treatment given to health and safety in an internationally-certified integrated management system, and the succession plan. Although Itaipu's turnover process is predictable and stable, the succession plan is necessary to relay knowledge and ensure the current excellence standards and operating quality. **SG13; SG14; SG15; RH***

*To coordinate work with company's long-term vision, in 2012 the management department created a strategic superintendence map containing goals and targets that must be achieved by 2020.*



## Admissions

Itaipu makes no distinctions when hiring. Since 2005, employees have been employed by means of a public selection process, and there are no policies on hiring them from the local community. Doing so allows us to renew our workforce and provide society with

opportunities. Management positions are preferably filled by employees promoted from within. Executive officers and board members are appointed by the Brazilian Federal Government. **EC7; GP6; EC2; EC3; EC4; EC9; EC10; EC15**

## Main benefits offered

The benefits offered by Itaipu to our employees do not vary according to position and employment contract – determined or undetermined length of time. The main benefits are healthcare plans encompassing dependants, education incentives, group life insurance,

a private pension plan that extends the healthcare plan into retirement, and quality of life programs. **LA3; GP1; GP2; EC1; EC2; EC3; EC4; EC9; EC10; EC13; EC15; SG15**

## Total workforce for an undetermined length of time

LA1; EC1; EC2; EC3; EC4; EC9; EC10; EC11; EC13; EC15

	Men		Women		Men and Women
	2012	2011	2012	2011	2010*
Foz, Santa Helena and Guaira	1054	1078	196	200	1292
Curitiba	97	96	67	66	175
Brasília	1	2	2	2	4
São Paulo		1	1	1	2
Total	1152	1177	266	269	1473

\*Data from 2010 are not available per gender, as the indicator only started being monitored in 2011.

## Total workforce for a determined length of time

	Men		Women		Men and Women
	2012	2011	2012	2011	2010**
Foz, Santa Helena and Guaira	6	4	5	5	11
Curitiba	14	14	4	4	18
Total	20	18	9	9	29

\*There were no employees for a determined length of time in Brasília and São Paulo in 2010, 2011 and 2012.

\*\*Data from 2010 are not available per gender, as the indicator only started being monitored in 2011.

## Composition of governance bodies (%)

LA13; EC1; EC2; EC3; EC4; EC8; EC9; EC10; EC11; EC13; EC14; EC15

		Male					Female					Total	
		White	Yellow	Black	Mixed race	Native	White	Yellow	Black	Mixed race	Native	Total	%
Supervisory/ Executive Boards	Up to 30 years of age												
	Aged 30 to 50	1										1	8%
	Over 50 years of age	9		1			1					11	92%
	<b>Total</b>	10	0	1	0	0	1	0	0	0	0	12	100%
Middle management	Up to 30 years of age	1										1	1%
	Aged 30 to 50	37			5		21		1			64	51%
	Over 50 years of age	52			2	1	4			1		60	48%
	<b>Total</b>	90	0	0	7	1	25	0	1	1	0	125	100%
College degree	Up to 30 years of age	42	1	1	2		21			4		71	13%
	Aged 30 to 50	213	14	4	25		74			12		342	62%
	Over 50 years of age	89	4	1	10		26	2		5		137	25%
	<b>Total</b>	344	19	6	37	0	121	2	0	21	0	550	100%
No college degree	Up to 30 years of age	56		2	15		13			2		88	12%
	Aged 30 to 50	284	3	10	83		43		1	10		434	57%
	Over 50 years of age	147	1	10	45	1	28		1	5		238	31%
	<b>Total</b>	487	4	22	143	1	84	0	2	17	0	760	100%
Total	Up to 30 years of age	99	1	3	17		34			6		160	11%
	Aged 30 to 50	535	17	14	113		138		2	22		841	58%
	Over 50 years of age	297	5	12	57	2	59	2	1	11		446	31%
	<b>Total</b>	931	23	29	187	2	231	2	3	39	0	1.447	100%

## Total number and rate of new employee hires and employee turnover by age group, gender, and region\*

LA2; GP6; EC1; EC2; EC3; EC4; EC9; EC10; EC11; EC13; EC15

		2012					2011***				2010**				
		Employees	Hired	Fired	Hired and fired in the same year	Turnover rate	Employees	Hired	Fired	Turnover rate	Employees	Hired	Fired	Hired and fired in the same year	Turnover rate
Male															
Brasilia/DF	Up to 30 years of age														
	Aged 30 to 50	1					1			1					
	Over 50 years of age			1			1			1					
	Total	1	0	1	0	1,000	2	0	0	0,000	2	ND	0	ND	0,00
Curitiba/PR	Up to 30 years of age	4	2				5			13		1		0,08	
	Aged 30 to 50	56	4				55	3		70		1		0,01	
	Over 50 years of age	37		5		0,135	36	1	9	0,250	20		3		0,15
	Total	97	6	5	0	0,052	96	4	9	0,094	103	ND	5	ND	0,05
Foz do Iguaçu, Santa Helena and Guaíra/PR	Up to 30 years of age	116	19	1	1	0,009	136	22	2	0,015	258		4		0,02
	Aged 30 to 50	617	16	3		0,005	616	26	6	0,010	654		9		0,01
	Over 50 years of age	321	1	56		0,174	326	2	59	0,181	181		64		0,35
	Total	1.054	36	60	1	0,057	1.078	50	67	0,062	1.093	ND	77	ND	0,07
São Paulo/SP	Up to 30 years of age														
	Aged 30 to 50														
	Over 50 years of age			1			1			1					
	Total	0	0	1	0	0,000	1	0	0	0,000	1	ND	0	ND	0,00
Total by age bracket	Up to 30 years of age	120	21	1	1	0,008	141	22	2	0,014	271		5		0,02
	Aged 30 to 50	674	20	3		0,004	672	29	6	0,009	725		10		0,01
	Over 50 years of age	358	1	63		0,176	364	3	68	0,187	203		67		0,33
	Overall total	1.152	42	67	1	0,058	1.177	54	76	0,065	1.199	ND	82	ND	0,07

\* Supervisory board, executive board and Requisitioned staff not tallied.

\*\* 2010 data related to admissions and terminations in the same year were not reported.

\*\*\* No employees hired in 2011 were dismissed that same year

		2012					2011***				2010**				
		Employees	Hired	Fired	Hired and fired in the same year	Turnover rate	Employees	Hired	Fired	Turnover rate	Employees	Hired	Fired	Hired and fired in the same year	Turnover rate
Female															
Brasília/DF	Up to 30 years of age														
	Aged 30 to 50	2					2				2				
	Over 50 years of age														
	Total	2	0	0	0	0,000	2	0	0	0,000	2	ND	0	ND	0,00
Curitiba/PR	Up to 30 years of age	2					4				8				
	Aged 30 to 50	46	1	1		0,022	46	1			53		1		0,02
	Over 50 years of age	19		1		0,053	16		7	0,438	11		4		0,36
	Total	67	1	2	0	0,030	66	1	7	0,106	72	ND	5	ND	0,07
Foz do Iguaçu, Santa Helena and Guairá/PR	Up to 30 years of age	38	5	2		0,053	43	5	1	0,023	58		1		0,02
	Aged 30 to 50	112	4				108	10			117		4		0,03
	Over 50 years of age	46		9		0,196	49		13	0,265	24		7		0,29
	Total	196	9	11	0	0,056	200	15	14	0,070	199	ND	12	ND	0,06
São Paulo/SP	Up to 30 years of age														
	Aged 30 to 50										1				
	Over 50 years of age	1					1								
	Total	1	0	0	0	0,000	1	0	0	0,000	1	ND		ND	0,00
Total by age bracket	Up to 30 years of age	40	5	2		0,050	47	5	1	0,021	66		1		0,02
	Aged 30 to 50	160	5	1		0,006	156	11			173		5		0,03
	Over 50 years of age	66		10		0,152	66		20	0,303	35		11		0,31
	Overall total	266	10	13	0	0,049	269	16	21	0,078	274	ND	17	ND	0,06

## Total number and rate of new employee hires and employee turnover by age group, gender, and region\*

LA2; GP6; EC1; EC2; EC3; EC4; EC9; EC10; EC11; EC13; EC15

Total		2012					2011***				2010**				
		Employees	Hired	Fired	Hired and fired in the same year	Turnover rate	Employees	Hired*	Fired	Turnover rate	Employees	Hired	Fired	Hired and fired in the same year	Turnover rate
Brasília/DF	Up to 30 years of age														
	Aged 30 to 50	3				3				3					
	Over 50 years of age			1		1				1					
	<b>Total</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0,333</b>	4	0	0	0,000	4	0	0	ND	0,00
Curitiba/PR	Up to 30 years of age	6	2			9				21		1		0,05	
	Aged 30 to 50	102	5	1		101	4			123		2		0,02	
	Over 50 years of age	56		6		52	1	16	0,308	31		7		0,23	
	<b>Total</b>	<b>164</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>0,043</b>	162	5	16	0,099	175	0	10	ND	0,06
Foz do Iguaçu, Santa Helena and Guaíba/PR	Up to 30 years of age	154	24	3	1	179	27	3	0,017	316		5		0,02	
	Aged 30 to 50	729	20	3		724	36	6	0,008	771		13		0,02	
	Over 50 years of age	367	1	65		375	2	72	0,192	205		71		0,35	
	<b>Total</b>	<b>1250</b>	<b>45</b>	<b>71</b>	<b>1</b>	<b>0,057</b>	1278	65	81	0,063	1292	0	89	ND	0,07
São Paulo/SP	Up to 30 years of age														
	Aged 30 to 50									1					
	Over 50 years of age	1		1		2				1					
	<b>Total</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1,000</b>	2	0	0	0,000	2	0	0	ND	0,00
Total by age bracket	Up to 30 years of age	160	26	3	1	188	27	3	0,016	337		6		0,02	
	Aged 30 to 50	834	25	4		828	40	6	0,007	898		15		0,02	
	Over 50 years of age	424	1	73		430	3	88	0,205	238		78		0,33	
	<b>Overall total</b>	<b>1418</b>	<b>52</b>	<b>80</b>	<b>1</b>	<b>0,056</b>	1446	70	97	0,067	1473	0	99	ND	0,07

\* Supervisory board, executive board and, Requisitioned staff not tallied.


\*\* 2010 data related to admissions and terminations in the same year were not reported.

\*\*\* No employees hired in 2011 were dismissed that same year

## Collective Bargaining Agreements

Except for directors and executive officers, all employees are covered by the Collective Bargaining Agreement signed between Itaipu and the unions representing the categories. The Agreement follows the ILO's general guidelines and ensures workers the right to health, safety, and protection against discrimination and psychological and sexual harassment.

Significant changes or important decisions are communicated at least four weeks in advance. Although there is no minimum deadline for decisions to be implemented, depending on their type and impact, deadlines are one of the mandatory items to

be included in the list of arrangements to be made. LA4; LA5; HR10; GP1; GP2; GP3; GP4; GP6; EC1; EC2; EC3; EC4; EC9; EC10; EC13; EC15 


Just like in previous years, the right to union freedom, association and/or collective bargaining was respected by the company in 2012. HR5



## Internal communications

Starting in 2013, the General Office of the Ombudsman, previously dedicated to outside stakeholders only, will be serving the in-house audience as well. To handle work relation conflicts or human rights violation, Itaipu has the In-house Complaint Committee (CIR) and the Ethics Committee. Another three tools for communicating with employees are the intranet, bulletin board (Jornal Itaipu Mural - JIM) and an online newsletter (Jornal Itaipu Eletrônico - JIE). HR5; HR11; GP1; GP2; GP3; GP6; EC1; EC2; EC3; EC4; EC8; EC9; EC10; CT11; CT12; CT13; CT15; SG16

## Legal issues

In 2012, Itaipu was sued by five employees claiming emotional distress owing to discrimination; however, none of the suits was ruled on in the year. A sexual harassment suit filed in 2011 was dismissed by the court. HR4; GP1; GP2; GP6; EC11; EC12; EC13 

## Occupational safety

All employees are represented in committees and commissions that convene to analyze, monitor indicators, and suggest steps to prevent and decrease risks and impacts. To ensure employee safety, our company holds training sessions, lectures and drills in an effort to handle the complexity, particularity, and risks inherent to the employees' activity. One example is the In-House Accident Prevention Committee (CIPA), which in 2012 rolled out the first risk map for Itaipu's industrial area.

According to the map, noise is the greatest hazard for Itaipu workers' health, so a hearing conservation campaign was created as a preventative measure. Ergonomics is the second greatest risk, especially in

the maintenance department, followed by working at significant heights and on electricity, which is addressed by several regulations.

In 2012, Itaipu joined the Safe Work Program fostered by Labor Courts and the Superior Labor Court. Our company was the first in the country to sign such commitment, whose purpose is to foster projects and actions dedicated to preventing accidents and bolstering the National Policy on Workplace Safety and Health. **LA6; EU16; PR1; GP1; GP2; EC1; EC2; EC3; EC4; EC5; EC7; EC8; EC9; EC10; EC12; EC13; EC15**

## Provisions that ensure safety

The current Collective Bargaining Agreement contains at least eight specific sections that ensure worker safety. Such provisions ensure an efficient complaint system, the supply of uniforms and personal protective equipment, training, the right to refuse unsafe work, and ergonomic and environmental surveys, in addition to regular inspections carried out along with committee representatives. **LA9; GP1; EC1; EC2; EC3; EC4; EC8; EC9; EC10; EC12; EC15**

## Inclusion-fostering committee

Itaipu has had the Permanent Committee for People with a Disability since December 2012. Staffed by five people, four of which must have some type of disability, the group intends to raise awareness in all company departments for employees to practice and promote inclusion. Previously, inclusion initiatives and architectural adjustment surveys used to be carried out by a Work Group.


## Health and Safety Committees.....

- **In-House Workplace Accident Prevention Committee (CIPA):** staffed by Brazilians and Paraguayans divided into work groups, the committee aims to prevent occupational diseases and accidents.
- **Permanent Work Group for Electricity Safety:** the group was created to implement the Regulatory Standard for Safe Electricity Facilities and Services (ABNT NR-10) at Itaipu.
- **Binational Commission on Electrical Risk Hazards:** the commission works to ensure employees working on hazardous activities or in hazardous areas have their rights guaranteed
- **Hearing Conservation Program Committee:** the committee monitors approximately 400 employees working in noisier areas, and sets policies and coordinated actions to prevent hearing loss.
- **Emergency Action Plan Committee:** the commission identifies problems, suggests improvements, sets procedures in contingency cases, and holds drill and training for the emergency brigade crew. **LA6**



## Safety training

Itaipu employees are regularly offered safety training about electrical installations, confined spaces, work at significant heights, equipment operation, and others. Regarding service providers, such instructions fall under the responsibility of the company that hired them, but before they start providing services they attend a

seminar addressing corporate safety, workplace safety, the environment and health. In 2012, 375 service providers were trained. [EU18](#); [GP2](#); [GP4](#); [EC1](#); [EC2](#); [EC3](#); [EC8](#); [EC14](#) 

## Accidents

Adopting safety procedures and constantly training workers made sure there were no electric shock-related occupational accidents in 2012. In the year, 3 commute accidents were recorded as well as 17 typical workplace accidents. Of those, 15 led to leave of absence. However, compared to previous years, there was a significant

drop in the number of missed days, from 276 in 2011 to 79 in 2012. That means the company had the lowest severity rate deriving from workplace accidents in its entire history. [LA6](#)

## Rates of injury, occupational diseases, missed days, absenteeism, and number of work-related fatalities

[LA7](#); [EC1](#); [EC2](#); [EC3](#); [EC4](#); [EC8](#); [EC9](#); [EC10](#); [EC11](#); [EC13](#); [EC15](#)

	2012*		2011*		2010*
	Men	Women	Men	Women	
Injury rate**	1.11	0.34	5.96	2.01	6.38
Missed days rate	11.61	1.69	124.67	8.03	71.47
Absenteeism rate***	2.49		2.52		2.58
Fatalities	0	0	0	0	0
Occupational disease rate	0.07	0	0.46	0.00	0.32

\* According to our adherence to G3.1, such information has been monitored since 2011. Itaipu records its accident statistics in compliance with ABNT NBR14280. Missed days are represented as calendar days and counted starting on the day following an accident.

\*\*Includes minor injuries, representing all missed-time accidents.

\*\*\*The calculation, which we were unable to report by gender, is based on the total hours worked (scheduled) and does not include maternity and paternity leaves and election duty offsetting.



## Reviver program

Reviver (Relive) program helps employees and their families have healthy, balanced personal and professional lives. Created in 1994, it is essentially preventative and curative, and that is why it carries out initiatives that foster creativity, family quality time, sports, and living as contributing members of society, in addition to encouraging people to adopt healthy habits.

The program is coordinated by a multidisciplinary team and is focused on catering to biological, psychological, social and spiritual needs. Its actions include counseling, prevention, treatment, education and training. Participation is open to family members, interns, young apprentices, and service providers. Only the treatments are exclusive for employees.

Reviver's major challenge is to raise people's awareness of how important it is to take care of themselves, besides keeping employees engaged in it, and drumming up new employees' interest, who currently account for about 46% of company's workforce. **LAB; GP1; EC1; EC2; EC3; EC4; EC8; EC9; EC10; EC11; EC13; EC14; EC15**

**USD 251,000** was the amount invested by Itaipu in the Reviver Program in 2012.



## Jelly drive

In 2012, our “Taking Care of Living” campaign, which for 14 years has been collecting jelly to donate to patients undergoing cancer treatment, set a new record: 3 tons of jelly were provided to four charities in Foz do Iguaçu: Associação de Amparo aos Idosos de Foz do Iguaçu (an elderly home), União Oeste Paranaense de Estudos e Combate ao Câncer (cancer research and fight center), Centro de Oncologia do Hospital Costa Cavalcante (oncology center) and Casa de Apoio Espaço Esperança (a non-profit organization). In Curitiba, the Women’s Network against Cancer at Hospital Erasto Gaertner was benefited.

## Well-being retreat

To celebrate the program’s 18th anniversary, the company set up a well-being retreat in Foz do Iguaçu to show how important it is for people to adopt healthy habits. The retreat offered recreational activities, physical evaluations, blood sugar and pressure tests, health tips and relaxation techniques, and movie screenings.

## Participation in Reviver activities\*

		2012		2011
		Regular activities	Events **	Participants
Foz do Iguaçu	Anti-Smoking Program	14	-	23
	Substance Abuse Program	3	-	4
	Financial Education Program	23	292	15
	Diabetes Affinity Group	69	25	32
	Cancer Outreach Group	43	-	0
	Workplace Exercise Program	766	1,138	974
	Fitness Program	694	859	602
	Ergoaction Program	123	55	115
	SESI Games	152	-	
	Other action	-	654	192
Curitiba	Anti-Smoking Program	-	-	1
	Substance Abuse Program	2	-	0
	Financial Education Program	4	23	4
	Diabetes Affinity Group	-	-	1
	Cancer Outreach Group	15	-	5
	Workplace Exercise Program	621	572	628
	Fitness Program	97	-	69

\*Includes employees, PIITs, interns and service providers (non-cumulative numbers).

\*\* Attendance to special events, such as celebratory or commemorative dates. Information not available for 2011.

## Serious illness assistance programs

LAB


Stakeholders	Education / Training	Counseling	Hazard prevention / control	Medical treatment
Employees	•	•	•	•
Family members	•	•	•	•
Community			•	

## Diversity

The democratic public selection process implemented at Itaipu in 2005 has helped us make headway regarding the issue of equal opportunities, both in terms of gender equality and people with a disability.

In December 2012, the Brazilian workforce included 27 people with a disability. The goal is to hire at least another 48 people in that condition in order to comply with the Quotas Law (Law n° 8213/91). Since the company started setting aside specific job openings in admission tests, the number of people with a disability increased 42%.

In the past three years, the number of Itaipu's employees dropped 4%. That was the same decrease percentage relative to male employees, while the number of women decreased 2.5%. Compared to 2011, in 2012 there was a nearly 4% increase in the number

of women in management positions – now standing at a total 27. **LA13; GP1; GP2; GP6; EC1; EC2; EC3; EC4; EC8; EC9; EC10; EC11; EC13; EC14; EC15; SG13** 

## Maternity or paternity leave

The right to maternity or paternity leave, without prejudice of job and salary, is guaranteed in the Collective Bargaining Agreement. Men are given five calendar days. Women take four months off, which can be extended for another two at the female employee's request. In 2012, 38 men and 11 women took advantage of that right, and all of them returned to their jobs after their leave ended and remain employed. **LA15; GP6; EC1; EC2; EC3; EC4; EC8; EC9; EC10; EC11; EC13; EC15**

## Composition of management bodies, per gender

	2012		2011		2010	
	Men	Women	Men	Women	Men	Women
Total	1172	275	1195	278	1220	282
Managers	98	27	96	26	98	25

## Variation of minimum salaries per gender compared to the national minimum salary

**EC5; GP1; GP6; EC2; EC3; EC9; EC10; EC15**

	2012			
	Men	Women	Lowest hourly entry-level salary (BRL) Men	Lowest hourly entry-level salary (BRL) Women
Brasília/DF	675.23%	417.86%	26.24	16.21
Curitiba/PR	324.69%	439.64%	12.62	17.09
Foz do Iguaçu, Santa Helena and Guaira/PR	320.30%	333.63%	12.45	12.97
São Paulo/SP	0%	900.86%	0	35.02

Amount of the national minimum hourly salary in effect on Dec, 31, 2012: BRL 3.88

## Ratio of basic salary between men and women by employee category (%)

LA14; GP1; GP6; EC1; EC2; EC3; EC4; EC9; EC10; EC12; EC15

	2012		2011	2010
	Average basic salary/2012 (in BRL)		Ratio of the basic salary	Ratio of the basic salary
	Men	Women	Women/Men	Women/Men
Supervisory board members**	*	*	-	-
Executive board members***	*	*	100	100
Management****	13,654.60	11,559.31	84.7	79.3
College degree	7,566.03	6,613.21	87.4	83.5
No college degree	4,152.98	4,228.49	101.8	107.0
Total	6,370	6,355	99.8	94.5

\* The amounts related to supervisory and executive boards members salaries will not be disclosed for security reasons.

\*\* Given there are no women on the Brazilian Supervisory board, the ratio is zero.

\*\*\* Executive board members are paid the same salary, except for the Brazilian General Director, who is paid a different amount.

\*\*\*\* For employees in management positions, the basic salary amount was added the Complementary Job Bonus deriving from the creation of the Reference Salary Level for management positions in effect since January 1, 2011.

### Fostering Gender Equality Program

Itaipu has been carrying out affirmative actions in favor of gender equality since 2003. In the Brazilian electricity sector, Itaipu was the first to implement a Gender Equality Policy in the company, a fact that has bolstered the work being done by the Gender Equality Incentive Committee and which has started yielding results for employees and the community.

At the end of 2012, the Brazilian workforce at Itaipu had 1,172 men (81%) and 275 women (19%). Through its Gender Equality Incentive Program, Itaipu implements actions in people management department and corporate culture so as to foster the equitable inclusion of men and women in participation and decision processes.

The Program has its own budget and is structured on three axes: the corporate axis, which among other things has helped increase the number of women in management positions from 10% to 21% in the past decade. The Corporate Affairs axis is meant to keep the company actively dialoguing with local, national and international agencies and bodies, such as UN Women and the Global Compact.

Finally, the community partner axis focused on contributing to the Federal Government's National Plan for Women's Policies that works primarily to fight violence against women through trainings, employment promotion and income generation. LA13; GP1; GP6; SG7

## Gender equality actions are awarded

At the 5th Annual Women's Empowerment Principles (WEPs) Event, Itaipu was recognized by UN Women and the UN Global Compact as a benchmark company in the matter. Our company won the 7 Principles Award for taking coordinated action towards gender equality and implementing policies that deliver powerful results. In 2010, when the WEPs were launched, Itaipu was not only one of the first organizations in the world to join them but also promoted the initiative's rollout in Brazil and Paraguay.



Itaipu left the company's mark at the 2013 Oslo Business for Peace Award, which recognizes individual business leaders for fostering peace by creating shared value between business and society. For its work on gender actions that have helped develop female leaders, Chief Financial Officer Margaret Groff was the first Brazilian woman to receive the honor. The award has been in existence since 1919 and is held by the United Nations Development Program (UNDP), the International Chamber of Commerce, and the Business for Peace Foundation, based in Oslo - Norway.

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## Career development

Our Performance Management System (SGD, in Portuguese), which was revised in 2011, has made significant progress. Its new features include a new computerized system and the adoption of company's own competencies. The previous cycle used factors adapted from the Eletrobras System in the assessment. Those competencies are going to be tied to the existing positions and adapted as soon as the new Career and Compensation Plan is approved.

The tool is meant to foster the feedback culture, enable the design of individual development plans, identify improvement needs regarding work conditions, and help ensure management decisions are based on consistent, fair, transparent criteria.

Along with departmental and corporate strategic plans, the SGD is to guide training needs. Training is divided into two categories: Corporate Training

Programs, which develop skills required from all employees; and Specific Training Programs.

In October, the Corporate Education Implementation project was formalized at Itaipu. The idea is to enable the development of skills to comply with business strategies. The model is estimated to start operating in April 2014. [LA12](#); [EU14](#); [EC1](#); [EC2](#); [EC3](#); [EC4](#); [EC8](#); [EC9](#); [EC10](#); [EC11](#); [EC13](#); [EC14](#); [EC15](#); [SG13](#) 

**USD 1.4 million** was the amount invested by Itaipu in training in 2012.



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## Main actions in 2012

- Itaipu provided all employees with a host of training sessions about the new SGD cycle, including awareness-raising seminars on feedback to advance a better dialogue between employee and manager.
- 255 managers, supervisors, superintendents and executive officers attended the Leader Program, the first distance training dedicated to Eletrobras System leaders, ministered by the University of the Electricity Sector (UNISE), and lasting for one year.
- The PTI Foundation and PUC-PR signed an agreement to carry out the Corporate Education Program on Project Management according to the Project Management Body of Knowledge (PMBOK) methodology adapted to Itaipu's circumstances.
- 218 employees working for less than two years at our company were evaluated by the New Employee Evaluation Program (ANE, in Portuguese). [LA12](#); [EU14](#)

## Anti-corruption and human rights training

No formal actions were carried out to address the topic of corruption, although the issue was included in training provided in 2012.

Regarding human rights, 100% of our company-employed guards holding a gun permit, 101 overall, received training on the use of defensive techniques, progressive use of force, and use of firearms as a last resort. **SO3; HR3; HR8; GP1; GP2;**

**GP10; EC4; EC11; EC13;**  

## Financial Education Program

The program educates employees and their families on how to plan their budget and alternatives to make the most of their salary and improve their financial life. The program offers individual sessions for those who need assistance by means of advice, intervention and monitoring. In all, 342 people took part in the 2012 activities. **LA8**

## Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations **HR8**

	2012	2011	2010
Security employees	154	114	162
Security employees receiving human rights training	101	114	162
Security service providers	149	162	163
Security service providers receiving human rights training	149	162	163
TOTAL	399	438	488

## Average hours of training per year per employee by gender, and by employee category

**LA10; EC1; EC2; EC3; EC4; EC8; EC9; EC10; EC11; EC13; EC14; EC15**

	2012					2011					2010*
	Total training hours		Training average			Total training hours		Training average			Average per employee
	M	F	M	F	Average per employee	M	F	M	F	Average per employee	
Supervisory and executive boards members	0	0	0.00	0.00	0.00	0	0	0.00	0.00	0.00	1.85
Middle management	8,114	2,090	82.80	77.41	81.63	4,701	1,881	48.97	72.35	53.95	63.62
College degree	28,818	9,045	70.98	62.81	68.84	27,583	7,230	67.44	49.18	62.61	45.46
No college degree	35,521	8,471	54.07	82.24	57.88	40,833	2,142	60.14	20.60	54.88	76.85

\* According to our adherence to G3.1, such information has been monitored by gender since 2011.



## Volunteer work: acting as contributing members of society and personal development

Itaipu's Corporate Volunteer Program – Volunteer Force, operates in line with the Millennium Development Goals and other global Human Rights-related documents. In 2012, the activities were carried out by 500 employees who totaled 765 voluntary participations directly benefiting approximately 4,000 people.

The program's actions are: Volunteer Work Incentive (via the Integration Scavenger Hunt, supply donation

drives, and awareness raising); Projects Bank, which selected and funded eight projects designed, carried out and monitored by volunteering employees from Itaipu; and Third Sector Support. **EC9; GP1; EC2; EC3; EC4; EC5; EC9; EC10; SG7**

**USD 102,000** were invested in the Volunteer Force Program.

## Numbers that boost our Volunteer Force

**1,650** : children were served by our Adopt a Little Star this Christmas campaign.

**46** : people working in the third sector participated in the Life-Changing Volunteer Cycle offered by Itaipu in collaboration with the Curitiba Volunteer Action Center (Centro de Ação Voluntária - CAV).

**2,189** : pieces were donated to our Winter Clothes Drive.

**27** : institutions benefited from Volunteer Force actions, 7 of which were city schools; 3 city-run day care centers, and 17 charities.



## 500 kids tour the power plant

The theme “I Want a Better World” brought for the first time to Itaipu 500 children taking part in the Integration Scavenger Hunt, an activity carried out every year by the volunteers at schools and which addresses social-environmental issues by means of playful activities. The initiative was held for the 5th time in 2012, and engaged 124 employees, interns, apprentices, and respective families and friends.

## Force Volunteer at CBVE

Itaipu has been elected to hold the vice president's office at the Brazilian Council on Corporate Volunteer Work (Conselho Brasileiro de Voluntariado Empresarial - CBVE), after having participated in it as a member company for two years. A world benchmark in

## Retirement

Out of the employees that join our company, 95% remain with us until they retire. Thinking about Retirement Program (PRA) helps employees get ready for when it becomes time to end their careers. Participation is voluntary and we recommend spouses to also take part in the activities. In 2012, we held

## Voluntary Resignation Permanent Program

Provided in the Collective Bargaining Agreement, Voluntary Resignation Permanent Program (PPDV, in Portuguese) accounted for 67 of the 80 terminations taking place in 2012. Upon completing 100% of the grace period in company's private pension plan, employees are let go and receive, in addition to the


## PRA participations


	2012	2011	2010
Employees	41	37	32
Family members	24	23	16
Total	65	60	48

## Expansion to spread benefits

For the first time in six years, the Projects Bank took the application of proposals to be carried out outside the cities of Foz do Iguaçu and Curitiba. The change benefited the city of Medianeira, located 55 kilometers from Foz, and home to the employees whose project was chosen.

corporate volunteer work, the organization conducts research and keeps a databank to help companies planning on setting up programs to encourage their employees to do volunteer work.

lectures on topics related to financial planning, entrepreneurship, health and quality of life in retirement, life projects, and others. **LA11; EC1; EC2; EC3; EC4; EC8; EC9; EC10; EC11; EC13; EC14; EC15** 

PPDV-specific severance pay, all the termination monies workers are entitled to in case they are fired without cause, including the 40% of the balance from their Government Severance Indemnity Fund for Employees (Fundo de Garantia de Tempo de Serviço - FGTS). **LA11** 

## Percentage of employees eligible to retire in the next 5 or 10 years

EU15; GP6; EC1; EC12

Position	Region	Reference year 2012		Reference year 2011		Reference year 2010	
		2013-2017	2013-2022	2012-2016	2012-2021	2011-2015	2011-2020
Executive board	Brasília - DF						
	Curitiba - PR	16.7%	16.7%	17%	17%	23%	23%
	Foz do Iguaçu, Santa Helena and Guaíra - PR						
	São Paulo - SP						
	Total	16.7%	16.7%	17%	17%	17%	17%
Middle management	Brasília - DF			100%	100%	100%	100%
	Curitiba - PR	29%	71%	34%	78%	33%	67%
	Foz do Iguaçu, Santa Helena and Guaíra - PR	29.8%	73.4%	29%	67%	28%	66%
	São Paulo - SP						
	Total	29.6%	72.8%	31%	71%	30%	67%
College degree	Brasília - DF						
	Curitiba - PR	24.5%	51%	19%	49%	20%	52%
	Foz do Iguaçu, Santa Helena and Guaíra - PR	16.4%	31.9%	16%	34%	14%	35%
	São Paulo - SP						
	Total	17.8%	35.3%	17%	37%	15%	38%
No college degree	Brasília - DF		33.3%				
	Curitiba - PR	31.7%	48.8%	31%	51%	27%	51%
	Foz do Iguaçu, Santa Helena and Guaíra - PR	25.2%	44.1%	24%	45%	25%	47%
	São Paulo - SP	100%	100%	100%	100%	100%	100%
	Total	25.5%	44.3%	25%	45%	25%	47%
Total overall	Brasília - DF		33.3%	25%	25%	25%	25%
	Curitiba - PR	26.4%	51.6%	24%	52%	24%	52%
	Foz do Iguaçu, Santa Helena and Guaíra - PR	22.4%	41.9%	22%	43%	21%	44%
	São Paulo - SP	100%	100%	100%	100%	100%	100%
	Total	22.9%	43.1%	22%	44%	22%	45%

## Private pension plans

Itaipu employees are covered by a private pension plan run by the Itaipu-Brazil Foundation of Social Security and Social Work (Fundação Itaipu-BR de Previdência e Assistência Social - FIBRA). The plan is funded by monthly dues, as active participants contribute according to their salary bracket and recipients contribute 10% over the amount of their pension.

As formal contribution, Itaipu grants it 15% over payroll and another 2.32% related to the initial funds that set the plan up. The benefits offered by this private

pension plan are retirement per contribution time, disability retirement, special retirement, retirement age, survivor's benefit, special temporary benefit for death, and imprisonment and funeral allowance.

FIBRA runs a strategic management process that is a benchmark for the industry and ensures the plan's sustainability over time. **EC3**

Learn more at [www.fundacaoitaipu.com.br](http://www.fundacaoitaipu.com.br)


## FIBRA in numbers

	2012	2011	2010
People benefited directly	<b>6,819</b>	6,834	6,608
Active participants in the Foundation	<b>1,473</b>	1,498	1,523
Retirees assisted by the pension plan	<b>1,266</b>	1,204	1,128
Beneficiaries assisted by the pension plan	<b>191</b>	180	164
<b>Amounts in BRL million</b>			
Benefits paid in continued income	<b>126.5</b>	109.9	95.2
Benefits paid since its establishment	<b>1.307</b>	1.160	976
Social security contributions	<b>60.3</b>	56.2	51.8
Taxes paid to the government	<b>18.5</b>	17.5	13.8
Technical Reserves (net assets)	<b>2.39 thou</b>	2.09 thou	1.96 thou
Technical Reserves (actuarial liabilities)	<b>2.33 thou</b>	2.02 thou	1.81 thou

## First job

Created in 1988, the Work Initiation and Incentive Program (Programa de Iniciação e Incentivo ao Trabalho - PIIT) has contributed to the trade education of over 5,000 teenagers between 16 and 18 years of age. The program is based on the Teenage Apprentice Law and offers opportunities for students from low-income families to perform administrative activities in their off-school hours.

The participants get an allowance, medical and dental plans, bus vouchers, and meal tickets. In addition, they attend courses, workshops and training that foster family ties, responsibility at school, career growth, and becoming contributing members of society. In 2012, Itaipu held 317 PIITs, 269 of them in Foz and 48 in Curitiba.

Another youth-oriented initiative is called Young Gardener Project. This educational program has benefited 249 people since it was created in 2003. The young people complete 612 hours of workshop activities focused on three aspects: fostering sustainability in the community, environmental conservation/responsible consumption, and life and career plan. **EC1; SO1; GP1; GP2; GP4; GP5; EC4; EC13; SG7** 

**USD 1.5 million** was the amount invested by Itaipu in PIIT in 2012.

## Youth leadership

In Foz do Iguaçu and Curitiba, 67 PIIT teenagers took part in the “I am a Contributing Member of Society”, a project carried out in collaboration with the Volunteer Action Center (CAV, in Portuguese). In three modules – Law and Contributing to Society, Social Relations, and

Volunteer Work – the program’s lectures, hands-on experiences, dialogues and games help foster social inclusion and raises Itaipu’s youngsters’ awareness of political issues and their contribution to society.

## Internships

In 2012, 284 college and trade education students interned at Itaipu. School-required internships last one year. Extracurricular internships take place during

school vacation time, last 20 days, and usually draw in interns from various places in Brazil and even abroad.

## Internships in Foz and Curitiba

	2012	2011	2010
Mandatory	216	344	239
Extracurricular	68	62	42




## Service providers

Service providers work under the responsibility of companies hired via bidding processes. Contracts are managed directly by the contracting departments. That is why there is no centralized information about the profile of workers doing building maintenance, cleaning, landscaping, catering, and as security guards and drivers.

Some skills are required from the services outsourced, and the hired companies must produce evidentiary

## Training incentives

Since 2010, service providers in the areas of cleaning, conservation and catering have attended free training sessions on weekends. The initiative is carried out in collaboration with the Paraná State Cleanliness and Conservation Foundation (Fundação do Asseio e Conservação do Estado do Paraná - FACOP) and benefits providers working at Itaipu and in other businesses

operating in our facilities, such as banks and restaurants. Itaipu provides the training space and snacks, and issues attendance certificates. The course on service quality and personal marketing, which addressed aspects such as the importance of good service, consumer rights, and professional stance, was attended by 70 service providers. **EU16; EU17; EU18; HR8; GP1; GP2; GP4; EC1; EC2; EC3; EC8; EC11; EC12; EC14; SG7** 

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*Percentage of contractor and subcontractor employees that have undergone relevant health and safety training*  
EU18

Activity	Number of third parties trained	Total number of third parties	Percentage of employees trained
Client/consumer and user service	10	93	11%
Sales, promotion and marketing		44	0%
Maintenance, cleaning, security and conservation	303	663	46%
Other administrative activities (“non-core activities”)	62	80	78%
<b>TOTAL</b>	<b>375</b>	<b>880</b>	<b>43%</b>








## SOCIAL ASPECTS - SOCIETY

Believing that it is paramount to carry out initiatives to benefit the area where it operates, in 2003 Itaipu expanded the company's role as a sustainable development-fostering agent. We then created the first projects dedicated to the fields of health, which were later on extended to education, tourism, infrastructure, and job training to serve at-risk Brazilians, Paraguayans and Argentines.

Our company has coordinated actions to cooperate with Federal Government's public policies. We also help fight the local social problems by not only investing financial resources but especially by encouraging inclusion and the civil society's engagement via partnerships with city and state governments, the third sector, and free enterprises.

We have achieved several victories throughout all these years of joint efforts. They include helping set up public health policies via the Health on the Border program, fighting illiteracy among youngsters and adults, and cementing Foz do Iguaçu as an educational and technological hub and one of the country's main tourist destinations, which draws in thousands of students and tourists every year.

We have made great progress, but social challenges are ongoing and require constant efforts to foster the community's participation and cooperation. In 2013, Itaipu plans to expand work among the elderly, an issue that needs to be more aggressively addressed in the area and which is seen as a priority by the Federal Government. **EC8; S05; GP1; GP2; EC2; EC3; EC4; EC5; EC9; EC10; EC15** 

**Commitment to the development of our area of influence, found in our corporate mission and reinforced in the Sustainability Policy approved in 2012, is guided by 6 strategic goals in our business plans.**



## Taking care of the border

The Three-Nation Border was the first to integrate federal, state and city security agencies. The operation and intelligence exchange programs between the three countries' Military and police bodies are a positive role model for Brazil's other border areas.

In 2012, by developing a project to create a safe environment on the Paraná and Iguaçu river banks – Beira Foz (Foz Riverfront), Itaipu assumed the coordination of the Border Center, which is focused on fighting the action of smugglers and drug dealers. The project stemmed from the realization that merely

increasing patrols is not enough to tackle the area's main problem.

The initiative is paired with the pilot project for the Integrated Land Border Monitoring System (SISFRON, in Portuguese) developed by the Ministry of Defense to monitor and offer greater security to the country's entire stretch of border. Additionally, since 2002 Itaipu has had a partnership with the Federal Police to patrol the areas close to the reservoir. At the lake, the company also houses the agency's main control base.

**EC1; EC8; EC2; EC3; EC4; EC5; EC9; EC10; EC15;**


**SG7** 

## Beira Foz for the Three-Nation Border

Beira Foz is the product of a partnership between Itaipu Binacional, Fundação PTI, Universidade Dinâmica das Cataratas, three governmental spheres, and businesses. It operates on four levels: security, urbanization, the environment, and tourism.

The project is going to cover the 21 kilometers along the Paraná River banks and another 17 surrounding the Iguaçu River, from the outskirts of our power plant up to the Iguaçu National Park. The proposal includes the construction of nautical bases for the Navy, Federal Police, and Environmental Police, building a second


bridge connecting Brazil to Paraguay, and reallocating 2,500 families who live in illegal homes. Parks, restaurants, avenues, hotels, gated communities and buildings, and sports activities are going to bring new life to the area.

Through this partnership, the federal government alone has invested approximately 4 million to design the project, which will also be aided by the Ministries of Justice, the Environment, Defense, Tourism, National Integration, and Social Development and Fight against Hunger. **EC8; EC2; EC3; EC4; EC5; EC9; EC10; EC15** 

## Foz do Iguaçu at the top of tourism

In 2012, Itaipu not only broke its electricity production record but also logged a historic number of visitors to the Itaipu Tourist Complex (CTI, in Portuguese). Overall, 529,734 people toured Itaipu's Brazilian side alone, including company visits guided by employees from our company's Public Relations department.

The CTI is operated by Itaipu Technology Park Foundation (PTI) and welcomed 473,072 people – a 21.12% growth over the previous year. Out of all visitors, 82% were Brazilian. In 2012, the CTI was granted the ISO 9001:2008 international quality seal acknowledging its good management and operation.

In addition to the election of the Waterfalls as one of the New 7 Wonders of Nature, the factors helping increase the number of visitors are the addition of new attractions, such as the inclusion of electric vehicle rides and hiring people who had worked in the power plant construction to guide the visits and talk about their experiences. Itaipu also made improvements, including reopening the Eco-museum and the new lighting of the dam. **EC1; EC8; SG7; SG10** 

**USD 2.4 million** was the amount invested by Itaipu in tourism in 2012.

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## Investing in tourism

The amount raised by the CTI from ticket sales enables the initiative's management to be economically sustainable and also helps fund actions of local tourist trade industry. Some of the annual profits also revert to the PTI's Technology Fund to be used in sustainable development projects.

One example is the Iguazu Young Trail project, which after a two-year hiatus resumed its trade education activities for teenagers in the field of tourism. The 90 youngsters selected are going to be trained over five months. From 2006 to 2009, the project benefited 600

teenagers and became a nationwide benchmark for tourist service provider training.

Another initiative is the free tour of the CTI for people working in the tourist industry. The goal is to integrate the category and allow them to learn more about attractions so they can share the information with tourists. It is expected to reach 7,500 people working in hotels and restaurants in the area.



## Company tours

Itaipu welcomed 56,662 visitors from other organizations, whose tours are coordinated by the Public Relations department. Those tours are free of charge and meant for schools, representatives from state-run companies and free enterprises, and Brazilian

and foreign governmental authorities, among others. Academic tours stood out in 2012. Such tours may include specific lectures and visits to company's labs or projects.

## Another successful year

In 2012, the city airport and the Iguaçu Falls also logged record numbers of passengers and tourists. According to data from the City Office of Tourism, 1,739,915 people visited Foz. Such numbers show that tourism is vital for the city's economy, and that the industry now accounts for one out of every four jobs created in the formal and informal markets.

The 1st World Conference on Tourism was held with support from Itaipu, and was an unparalleled opportunity in whose process the community actively

participated to decide how tourism may contribute even more to improve the residents' quality of life. The final document was drafted by representatives from the population, universities, and the tourist industry. It contains 50 main proposals and is going to be used by the city administration to set up a city tourism policy.



## Rural tourism

Via our Sustainable Rural Development program (learn more about it on page 110), Itaipu fosters tourism on farms surrounding the Paraná Watershed 3 (BP3) as an income increase and environmental conservation strategy. In 2012, the company supported the Walking amidst Nature events in the cities of Diamante do Oeste, Medianeira, Foz, and Santa Terezinha. 850 people participated and visited family farms where they could buy and consume homemade and environmentally-correct products. **EC1; SO1**

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## Events and sponsorships

Itaipu's participation in events as an organizer, sponsor or supporter bolsters the company's image and also boosts local tourism. In 2012, we were present at 118 events, including conferences, exhibits, symposiums, trade fairs, and sports and cultural events, 49 of which took place in Foz do Iguaçu and helped make the city the most visited in the Brazilian countryside.

The organization has procedures provided in a policy to sponsor events and other initiatives. The policy was updated in 2012 and is available at the company's website. Requests can be placed by governmental

and non-profit organizations, or unions carrying out initiatives related to energy, local sustainability, technology, social-environmental responsibility, sports, culture, and tourism. Out of the 788 requests received in the year, 344 were fulfilled. **PR6**

**USD 5.3 million** million was the amount of sponsorships granted by Itaipu in 2012.



## PTI Foundation

Operating in the power plant's premises, Itaipu Technology Park (PTI) was created nine years ago to coordinate and foster sustainable development along the three-nation border through a series of strategic initiatives encompassing education, training, and scientific and technological development.

Entrepreneurship is boosted via support to the incubated companies and business condominium. The PTI is also in charge of meeting Itaipu's needs in the field of Research, Development and Innovation (R&D+I).

Every day, the park welcomes approximately 3,500 undergraduate and graduate students from the Open University of Brazil (UAB), Western Paraná State University (UNIOESTE), and the Federal University of

Latin American Integration (UNILA). Since PTI was founded, 944 projects have been carried out and 723 scholarships granted for specialization, Master's and doctoral programs.

The site is also home to the Science Station and Astronomy Center projects, which in 2012 served 16,751 and 9,929 students, respectively. The Social Technologies Center is going to be set up at the park in collaboration with Itaipu. The Center is going to create a databank based on the company's experience running social responsibility programs and will allow the initiatives to be replicated in other cities. **EC1; EC8; GP7; GP8; GP9; SG9; SG11**

## Partnership with AMOP

PTI also houses an office of the Association of Western Paraná Cities (AMOP). The purpose is to strengthen public policies ranging from social and digital inclusion all the way to training civil servants to design projects for bringing in federal resources. Another goal is to eradicate environmental liabilities in the area within ten years, and the first initiative is to set up a basic sanitation plan for the 52 cities in the area, in collaboration with Itaipu and the Brazilian Health Foundation (FUNASA), with financial support from the National Bank for Economic and Social Development (BNDES).

## First doctoral program

In 2012, the first doctoral program in western Paraná was launched. Offered jointly by several institutions, the program is in the field of engineering and focuses on Numeric Methods. The project is the result of a partnership between Federal University of Paraná (UFPR), Itaipu, Itaipu Corporate University (UCI), Fundação PTI, and UNIOESTE. The 28-student group attends classes at the PTI.



## UNILA and multinational education

When the Federal Government announced the creation of the Federal University of Latin American Integration (UNILA), Itaipu engaged in bringing the project to Foz do Iguaçu. To that end, our company donated the land for the school, covering 45.7 hectares, and funded the architectural project designed by architect Oscar Niemayer.

The Federal Government is investing BRL 242 million in the first phase of the campus construction, which comprises 78,000 m<sup>2</sup> in indoor area. This phase is estimated to be completed in the first half of 2014. In the

meantime, students are attending classes at the PTI.

Even undergoing construction, the project has brought benefits for the city. The city administration has seen a BRL 600,000 income increase deriving from service tax (ISS) payments. Priority is given to hiring local labor, and along with free training, the construction benefits Foz residents, who account for 85% of the workers. That number is expected to go up, considering the consortium is estimated to hire about 1,000 workers at the peak of construction.

EC8; EC9; EC2; EC3 ; EC4; EC5; EC9; EC10; EC15; SG7 

## UNILA highlights in 2012

- UNILA currently boasts approximately 1,200 students from at least 11 different countries.
- The university offers 16 programs, the most recent of which are Film and Audiovisual, Architecture and Urban Planning, Music, and Collective Health.
- In addition to the areas being temporarily used at PTI, two buildings have been leased downtown

to house the office of the president and the administration, as well as the Human Science programs.

- In one year, the staff increased from 72 to 157 people, and the faculty also grew from 65 to 123 members.

## Outreach network: eradicating illiteracy and including the elderly

Itaipu took active part in the efforts to eradicate illiteracy among youngsters and adults in nine cities in the area. Since 2004, with the collaboration between Itaipu's Outreach Network project and the Literate Paraná state program, 16,000 people have learned to read and write. According to data from the Brazilian Institute of Geography and Statistics (IBGE), 5.6% of Foz residents are still illiterate, while 10 years ago that rate stood at 45%.

The Outreach Network also worked to implement the programs offered by the Senior Citizen University (UNATI), attended by 40 elderly people in 2012. UNATI operates like a university: for two years, the students take part in

activities related to physical therapy, dancing, nutrition, psychology, nursing, and economics, in addition to going on field trips and movie screenings. The university focuses on re-including senior citizens in society and having them be appreciated by it.


**Itaipulândia, one of the cities benefited by the royalties paid by Itaipu, has been declared by UNESCO an area free of illiteracy, and another seven cities are expected to be certified in 2013.**

## Health on the Border

Health is an issue Itaipu has treasured from the time of its construction. Our main groundwork in this field is our Health on the Border program, which focuses on quality medical-hospital services and collaboration with public policies meant to protect and foster the population's health and prevent diseases.

Through our Work Group for Healthcare Action Integration (GT Itaipu-Saúde), every month Itaipu brings together approximately 100 representatives from 51 governmental agencies, healthcare providers, the community, and scholars to discuss and find

converging points between the actions in Brazil, Paraguay and Argentina. Given its relevance, the group plans to become a consulting organization for the Southern Common Market.

The group's work is divided into nine main themes: Senior Citizen Health, Workers' Health, First Nations' Health, Mother-Child Health, Men's Health, Mental Health, Endemic Diseases, Accidents and Violence, and Permanent Healthcare Education. **EC8; GP1; GP2; SG7** 

## Main actions carried out by GT in 2012

- 11** : regular meetings, attended by a total of 1,100 people from Brazil, Paraguay and Argentina.
- 21** : actions implemented, reaching 918 healthcare professionals.
- 6** : community actions in which about 8,000 people participated.
- 30** : senior citizen caregivers without professional training in the area were educated free of charge.
- 16** : hours of training at the Mental Healthcare Strategic Plan Workshop, attended by 30 people.
- 1,540** : city school and daycare center teachers provided with a primer on violence against children, written by our Accidents and Violence team.

## Agreement with a hospital

Besides taking part in GT Saúde and supporting the actions implemented, Itaipu also allocates financial resources to Hospital Ministro Costa Cavalcanti (HMCC), built by our company in 1979 to ensure employees had medical services available. Since 1994, by means of agreements, the company has invested financial resources to expand these services to the community, besides helping run the Foundation.

In 2012, Itaipu made it possible to purchase equipment, renovate the emergency room, and build the new clinical analyses lab and intensive care unit.

**USD 4.3 million** was the amount invested by Itaipu in HMCC in 2012.



## HMCC gets accreditation seal

In September, HMCC was declared a Fully Accredited Hospital – level two, by the National Accreditation Organization (ONA, in Portuguese), the second hospital in Paraná to hold the certification. The seal is given to institutions that offer humanized services and uphold quality management. The first accreditation took place in 2007, and the goal is to reach level 3, the excellence level, by 2016. **EC8; GP1; GP2; SG7**

## HMCC numbers in 2012

**430,000** residents from nine local cities are benefited.

**982** staff members and 250 physicians make up the hospital's team.

**200** beds available, of which 120 are set aside for the public healthcare system (SUS) patients.

**40,470** outpatients seen via SUS in 2012.

**8,217** patients admitted through SUS.

**1,883** surgeries performed via SUS in 2012.

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## Medicinal plants stand out in 2012

One of the Health on the Border actions encourages the use of medicinal plants and herbal medicines to treat diseases, in line with the National Policy on Medicinal Plants. Given the results achieved, in 2012 Itaipu was included in the committee in charge of proposing the Guidelines for the Paraná State Program of Medicinal Plants and Herbal Medicines. The project supplies 25 health clinics run by the public healthcare

system in seven cities in the area, and also served as reference for the Federal Government to implement herbal medicine programs in other areas of the country. **EC1; EC8; GP1; GP2; SG7**

**USD 217,000** were invested in the Medicinal Plant program in 2012.

## Outreach programs in the power plant's area

Itaipu invests in training and the protection of human rights to improve Vila C residents' quality of life and foster their social-economic development. Founded by our company to house the workers who built the dam, in the 1990s Vila C was incorporated into urban area of the city of Foz do Iguaçu.

Itaipu dedicates special attention to this community via our Outreach Power program, which supports the local Community Council in order to hold tutoring classes off school hours, judo, computer lessons, music, dancing, beauty, baking, and crafts, which activities benefit 1,084 people a month, on average. Before

2012, the Council relied solely on Itaipu's financial support. However, in 2012 it also received BRL 22,000 transferred via Funcrância and BRL 14,000 granted by the Ministry of Labor.

In collaboration with the Western Paraná State University, a law office was set up in to advise on petition drafting, filing lawsuits, and keeping track of suits filed by people under Law 1060/50. Approximately 100 consultations a month took place in 2012. **EC8; SG7**  

## Digital inclusion in Vila C

To foster digital inclusion in Foz do Iguaçu city schools, Itaipu, Fundação PTI and the city administration launched the Integrating Project. Foz was the first city in western Paraná to join the initiative, which is part of the Federal Government's One Computer per Student Program (PROUCA). School Padre Luigi Salvucci –

located in Vila C and serving 691 students – was chosen to dry run the initiative and received 300 netbooks equipped with educational software. The equipment is going to be used by 2nd to 5th graders.






## Child and teenager protection

By means of agreements and financial grants, Itaipu funds the Child and Teenager Protection Program (PPCA), which since 2003 has worked to promote and strengthen policies that take care of and protect children and teenagers, considering child labor is a reality in the three-nation area. The activities are carried out by means of job training, sports, culture and education.

To bolster those efforts, in 2012 the City Commission on Violence against Children and Teenagers was created in Foz do Iguaçu. Itaipu is a member, along with other agencies operating in the network that defends children's rights and which are also part of the city's Rede Proteger (Protection Network). The

group's role is to coordinate actions to raise the population's awareness and engagement; set up and strengthen committees against violence operating in all government levels; and make sure the indicators of violence against children and teenagers and the experiences in fighting the problem are included as public policies are designed. **EC8; SO1; GP1; GP2; GP4; GP5; EC4; EC13; SG7** 

**USD 509,000** were invested by Itaipu in PPCA.

## Plugado! project gets reinforcements from UNILA

Helping disseminate culture and encouraging young people to take action since 2009, the Plugado! Canais Ligados na Cultura (Plugged in! Channels Tuned into Culture) project was reinforced by 30 UNILA students in 2012. After four months of theater and dance training, the students became multipliers of artistic and cultural contents to hold video and filmmaking workshops in Foz do Iguaçu state-run schools, along with another 40 young adults already operating in the city. The project is carried out by Casa do Teatro (House of Theater) and funded by Itaipu.

## PPCA accomplishments

- With Itaipu's support, authorities from Brazil, Paraguay and Argentina convened in October to draw up the Three-Nation Plan against Violence to be implemented in the area.
- The Velejar é Preciso (To Sail We Must) project encourages people to go boating on Itaipu Lake and benefited 120 teenagers a month. The team spawned the Mercosul Cup champion and the young sail boater nominated for the finals of the Paraná Pride Awards.
- By means of an agreement with the Foz Track and Field Institute, Itaipu is going to purchase training equipment, uniforms, transportation, and food supplements, besides

granting a Cost of Living Allowance to the 100 participants in the Young Athletes – Champions of the Future project.

- The Boys from the Lake project is carried out on the power plant's spawning channel and provides 100 at-risk youngsters from neighborhoods Vila C and Morumbi with kayaking training.
- In 2012, our kayaking athletes competed in an international high-level championship for the first time. Three of the project's kids were drafted for the Brazilian national team and a female athlete became Pan American champion and competed in the Olympic Games.

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## Financial Education Program

Winner of a national award (read more on page 116), the Program has been in place since 2009 and benefited approximately 3,000 people by educating them on how to save money and improve their financial conditions. The initiatives are dedicated to company employees and outside audience.

In the community, five schools were served in 2012. One of them was city school Escola Municipal Arnaldo Isidoro de Lima, whose teachers received training and, with support from expert consultants provided by Itaipu, carried out the program with 2nd to 5th

graders. Thanks to a strict financial plan designed for the students, the initiative's outcome was a trip to an amusement park for fifty 5th graders.

The program also holds lectures on education and financial health, retirement, entrepreneurship, income tax, savings accounts, and other topics, in city and state schools, colleges, third sector organizations, and unions.




## Outreach Trash Sorting

Our Outreaching Trash Sorting program carries out a host of initiatives for urban foragers to organize themselves in a politically- and administratively-independent manner so they can become formal workers under the City Public Management of Solid Residues. Project initiatives focus on BP3 cities but have a nationwide impact on discussions about national policies for the inclusion of garbage scavengers.

Members include 44 associations, 5 cooperatives, and 3 groups in Paraná, encompassing about 1,400 organized garbage scavengers. The collaboration with Instituto Lixo e Cidadania, Movimento Nacional dos Catadores de Materiais Recicláveis (MNCMR) and Associação Nacional de Carroceiros e Catadores de

Materiais Recicláveis (ANCAT) [TN: urban foragers' associations] helped design and implement dedicated public policies.

In 2012, a cooperation agreement was set up with Foz do Iguaçu Cooperative of Environmental Agents (COAAFI), under which Itaipu provided 767 uniform kits and purchased ten vertical hydraulic presses and two cargo elevators to help increase worker safety and productivity. 

**USD 119,000** was the amount invested by Itaipu in the Outreach Trash Sorting Project in 2012.

## Sustainable native people villages

Itaipu's Native Community Sustainability program benefits villages Tekoha Ocoy (São Miguel do Iguacu), Tekoha Itamarã and Tekoha Añetete (Diamante D'Oeste). Our company and other program partners support it by encouraging fish farming in netted tanks, providing infrastructure (building houses and road improvements), improving farming practices by purchasing planting equipment, supplies, animals, and seeds, soil preparation, supporting dairy farming, beekeeping, and supplying technical assistance via native and non-native technicians.

The increase in the number of families living in the communities in the past three years has been the major challenge faced by program managers. Tekoha

Itamarã was the fastest growing one: previously home to 22 families, it now houses 47.

Such fact required an internal reorganization and strategy review, which led Itaipu to create a work group staffed by representatives from all executive offices. We also had to renegotiate partnerships to meet the demands of the 276 families living in the villages, approximately 1,381 people. **EC1; HR9; SO5; GP1; GP2; GP4; GP5; GP8; EC4; EC8; EC11; EC12; EC13** 🌻

**USD 211,000** were invested by Itaipu in the Native Community Sustainability program.



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## **Actions and outcomes**

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- To strengthen and promote the Guarani culture, Itaipu sponsored trips to events like Rio+20, and held jointly-attended events for the reservations, such as the Native Culture Week.
  - Native State School Araju (Itamarã) received ten computers.
  - With support from native community associations, 147,967 kg of manioc and 13,626 kg of corn grown by the communities were sold.
  - Additionally, 4,243 pieces of arts and crafts were sold after a clay pottery course was ministered at Añetete village.
- 

## **Food security for Black community**

In 2012, Itaipu and the Apepu Rural Black Community Association signed a protocol of intentions to foster the diversification of the production of foods consumed by São Miguel do Iguaçu Black Community families. The purpose is to ensure their food and nutritional security

and preserve and honor the culture. The actions are going to be carried out in a manner similar to the work being done among the local native communities.







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# ENVIRONMENTAL ASPECTS


*Today, Itaipu is a worldwide benchmark not only for its astonishing capability to produce electricity. Its environmental projects are also recognized in Brazil and abroad.*

*Our company has been dedicated to protecting the environment since the time the power plant was built. In 1975, Itaipu designed the Basic Environmental Conservation Plan. Since then, initiatives have been carried out based on studies, and the plan is managed focusing on conserving the ecosystems, with priority given to water, the raw material for company's business.*

*The actions include the reforestation of local riparian woodlands – which had been significantly degraded before the construction-, monitoring water quality and the level of silting in the reservoir, keeping track and conserving flora and fauna species, including aquatic ones, and preserving the local history and cultures through the Eco-museum.*

*After the issue was included in company's mission in 2003, Itaipu's environmental managers decided to go beyond and adopt a systemic outlook. Our company then took on the role of boosting sustainable development in the region we operate, called the Paraná Watershed 3 (BP3), which comprises 29 cities in an area spanning 8,000 km<sup>2</sup> and home to approximately one million people. Actions are centralized in the Cultivating Good Water (CAB, in Portuguese) program, which adopts the concept of Watershed-Based Management.*

*On BP3, the work is carried out with support from legally formed management committees which, by means of participatory management, include several sectors of society, especially minority or vulnerable groups such as native populations, small farmers, and riparian communities. The idea is to get the entire region to take part in the movement meant to change the way everyone deals with the environment.*

*The efforts and investments in addition to work in compliance with the applicable regulations made sure no fines or non-monetary sanctions were applied to Itaipu in 2012. Overall, our company assigned USD 13 million to environmental conservation in the year. **EN26; EN28; GP7; GP8; GP9; EC5; EC7; SG4; SG8; SG12** *

***Itaipu's social-environmental actions draw inspiration from and are based on documents like Agenda 21, Earth Charter, Millennium Goals, Water Pact, Global Compact, Kyoto Protocol, and the Treaty on Environmental Education for Sustainable Societies and Global Responsibility.***

## Total environmental protection investments, by type (USD)

EN30; GP7; GP8; GP9

Type of disbursement	2012		2011**		2010	
	Operations (internal expenditures)	Investments (in external projects)	Operations (internal expenditures)	Investments (in external projects)	Operations (internal expenditures)*	Investments (in external projects)
Waste collection, treatment and disposal	235,489.42	170,965.30		307,542.24	221,050.26	1,165,663.94
Rehabilitation of degraded areas and protection of areas		2,675,052.25		3,963,943.84		4,409,603.45
Biodiversity conservation	474,102.33		457,161.05	43,605.80	368,483.39	154,427.50
Environmental management (company personnel, environmental department costs)	8,446,853.75	26,616.60	8,436,318.96	276,899.48	7,886,032.04	
Research and development	9,492.18	1,774,626.59		856,007.14		499,949.17
Reservoir silt monitoring	14,077.72		18,545.02		14,491.91	
Underground water diagnoses	7,672.34		4,677.07		92,209.02	
Reservoir water quality monitoring	86,850.60	21,712.65	144,440.50	36,110.12	254,988.51	55,425.26
Others	13,435.21	23,698.81	79,283.18		18,052.03	
<b>Total</b>	<b>9,287,973.55</b>	<b>4,692,672.20</b>	9,140,425.78	5,484,108.62	8,855,307.16	6,285,069.32

\*The amount reported for investments in operations (internal expenditures) in 2010 was reclassified, as it had mistakenly included the amount from the Paraguayan side.

\*\*Amounts made available as reported in the 2011 Sustainability Report.



## Cultivating Good Water

The Cultivating Good Water (CAB) program carried out by Itaipu in collaboration with several partners comprises a set of social-environmental programs and actions to improve the quality of water, the environment, and people's lives in the BP3 area. The program is run and implemented in a participatory manner, and its actions are put in practice by means of partnerships with governmental agencies, public and private institutions, social and environmental institutions, and schools.

The work begins by selecting the micro watershed. Next, meetings are held with the communities and their leaders to raise their awareness and inform them about CAB. From then on, management committees

are created to plan, execute, monitor and propose actions. The main approaches adopted by Itaipu to intervene in the communities are engaging the population, environmental education, and operating in a network.

CAB's greater challenge is to keep the society engaged, finding vulnerable spots, cementing its methodology, and disseminating it to other companies and governments. For 2013, the goal is to expand the participation of young people and include the issue of gender equality in the initiatives carried out. **EN26; SO1;**

**EC4; EC5; EC7; EC13**  

Learn more at: [www.cultivandoaguaboa.com.br](http://www.cultivandoaguaboa.com.br)

## Main results

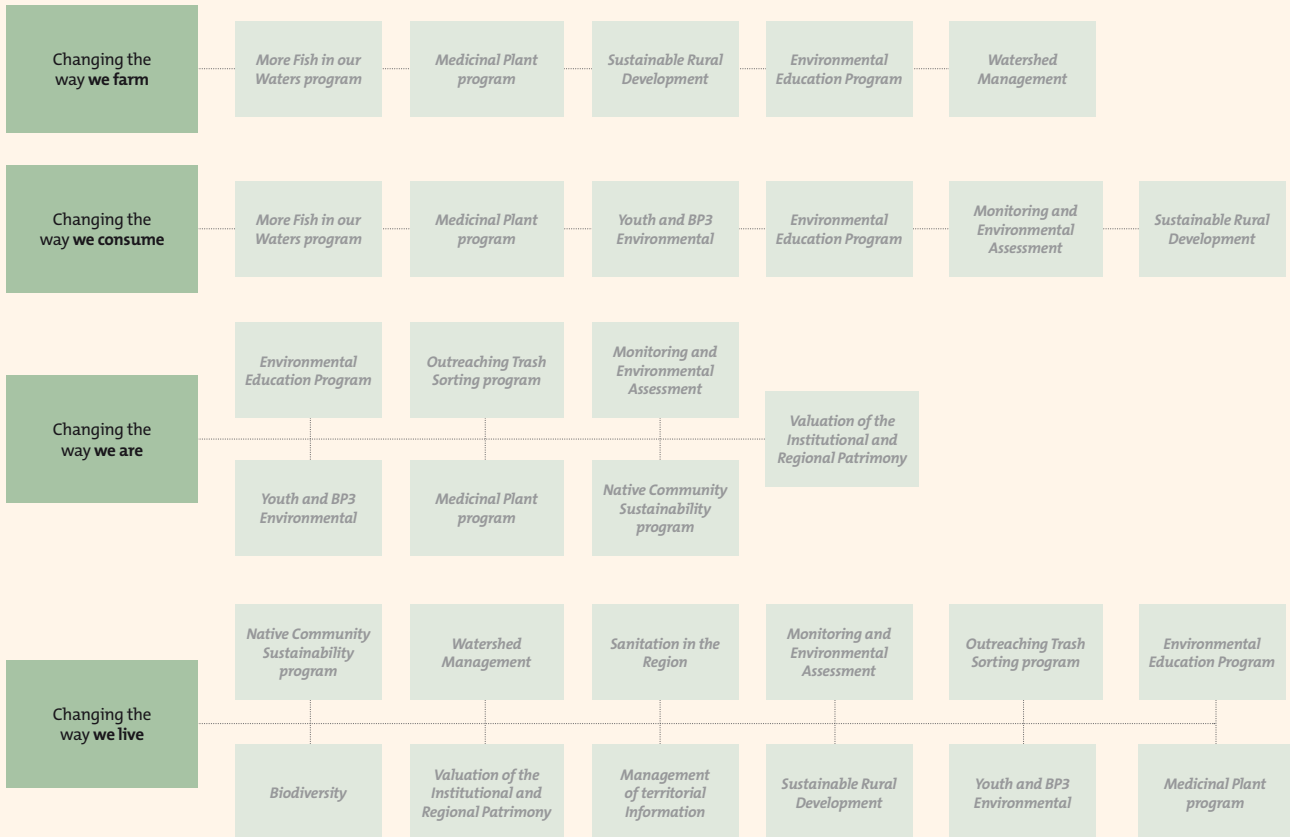
Some of the main results achieved are the greater diversity of organic foods farmed and produced by 800 small farmers, which products have been included in the preparation of school meals in the area. Growing medicinal plants that create income and are also used to treat illnesses in 25 local health clinics; and the smart use of animal waste that turns it from a water pollutant into a source of energy.

## CAB lines of work .....

- **Changing the way we are:** CAB works to trigger changes to concepts and values, feelings and beliefs, based on the ethics of taking care of the environment.
- **Changing the way we farm:** CAB seeks to establish the culture and provide the technology necessary for environmentally-friendly, sustainable farming.
- **Changing the way we live:** CAB seeks to steer the way people deal with their environment, nature and natural resources towards managing them sustainably.
- **Changing the way we consume:** CAB encourages people to change their consumer habits for the sake of sustainability, both in quantitative and qualitative aspects. **EC5; EC7**



## Changing movements



## Environmental Education Program

The program is one of CAB's main pillars and is structured in three basic actions: Environmental Education Training at Itaipu's Area of Influence, Environmental Education at Itaipu's Educational Structures, and Corporate Environmental Education Training, the latter connected to our Sustainability Management System (read more on page 24).

With Itaipu's support, the BP3 area is in line with the National Environmental Education Policy and the Environmental Educator Training Program. Today, approximately 7,000 environmental educators work among various sections of society and on CAB actions. With help from the Local Educational Group, the 29 cities on the BP3 plan, carry out, and assess their environmental education actions.

Via the Educational Structures action, 500 people from the community surrounding the Bela Vista

Biological Sanctuary and Itaipu's Eco-museum, including children and adults, took part in continued educational activities meant to enhance that population's commitment to the social-environmental management of their area. City schools and institutions also had the chance to tour the venues, and the initiative reached over 6,000 people.

In the company, 600 employees were educated on the concept of "Environmental Footprint" in an educational intervention. Additionally, 300+ service providers received information about responsible consumption and waste management in Integration Seminars. A work group was also set up to design educational actions to get employees' to adhere, commit to and engage in Itaipu's Sustainability Policy concepts and principles. **EN26; SO1; EC4; EC13; SG12** 

## Multiple uses of water

The 29 billion cubic meters of water in Itaipu's reservoir lend themselves to more than just turning the turbines. The lake supplies approximately 70% of the Foz do Iguaçu population after the water is treated by the Paraná Sanitation Company (SANEPAR).

The reservoir is also used for the reproduction of species, fishing activities, navigation, tourism, and leisure on the beaches along the Paraná River waters. Given how important the multiple uses are, it is essential to monitor silting and water quality. In collaboration with

the Paraná Environmental Institute (IAP, in Portuguese), samples are collected at 48 stations.

No fish species have gone extinct owing to the construction of the dam. Before the lake filled up, 113 species had been identified. In 2012, our diversity and migration monitoring found 189 species. **EN12; EN14; EN21; GP7; EC2; EC3; EC4; EC5; EC6; EC12; EC15; SG12**

## Non-consumptive use of water

In 2012, the amount of water used in our production process (water used to cool or turn the turbines and discharged by the spillway) decreased 45,324,230,400 m<sup>3</sup> compared to the previous year, despite the company's world electricity generation record. Such reduction is owed basically to making the most of water, considering rainfall rates were low in the year.

In 2012, the volume of water consumed increased 97,246 m<sup>3</sup>, that is, consumption 15.5% higher than in 2011. That is mainly because of the higher number of people attending or visiting the institutions set up in Itaipu's premises, such as Federal University of Latin American Integration (UNILA) and the PTI. That fact also impacts the volume of recirculated water. **EN8; GP7; GP8; EC5**

## Total water withdrawal by source (m<sup>3</sup>)

EN8; GP7; GP8; EC5

Source	Type of source	Company that harvested it	2012	2011	2010	
Rio Paraná / Itaipu Reservoir	Surface	Itaipu Binacional non-consumptive use	Turbines	<b>344,470,233,600</b>	325,706,832,000	302,097,254,400
			Spilled	<b>11,901,427,200</b>	75,989,059,200	108,524,448,000
			Cooling*	<b>365,868,058</b>	365,868,058	365,868,058
		Itaipu Binacional consumptive use	WTP 2 (UHI-ME)	<b>124,582</b>	123,971	114,846
			Technical WTPs	<b>231,621</b>	210,677	223,034
			Raw Water (Portinho)***	<b>210,000</b>	146,000	146,000
Rio Paraná / Itaipu Reservoir	Surface	Foz do Iguaçu - PR	<b>57,909</b>	43,862	38,370	
Serra Geral Aquifer	Underground	Sanepar	Santa Helena - PR	<b>158</b>	145	125
	Underground		Guaira - PR	**	**	**
Cayguava, Piraquara and Irai Rivers	Surface	-	Curitiba - PR	<b>4,409</b>	6,778	4,413
-	-	Sabesp	São Paulo - SP	**	**	**
Torto and Santa Maria reservoirs	Surface	Caesb	Brasília - DF	**	**	**
<b>TOTAL ****</b>			<b>356,738,157,337</b>	402,062,290,691	410,988,097,246	

\*Calculation estimated based on the operation of 18 machines, which is Itaipu's standard.

\*\* Brasília, Guaira and São Paulo offices are not equipped with individual piped water gauges, thus preventing Itaipu from reporting on such use.

\*\*\* The consumption of the Raw Water (Portinho) source increased because the equipment used to pump water was replaced, and the amount was estimated based on the characteristics of the equipment installed.

\*\*\*\* The total water includes the consumption on the Brazilian side, in the industrial area, and at the Itaipu Technology Park (FPTI)/UNILA, which is supplied by Itaipu.

## Water recirculation

Some of the water consumed by Itaipu is recirculated in the animal enclosures at the Roberto Ribas Lange Zoo, which is run by Itaipu. The rates changed owing to improvements made to the enclosure infrastructure, such as the replacement of pumps and the installation

of water meters featuring different calculation parameters and operating intervals from the previous ones. **EN10; GP7; GP8; GP9; EC5**

## Percentage and volume of water recycled\*

EN10; GP7; GP8; GP9; EC5

	2012	2011	2010
Volume of water recirculated**	590,282	298,080	298,080
Volume of water reused***	7,043	0	0
Total volume of water withdrawn	628,479	531,433****	526,788
Recycling percentage	95.0%	56.1%	56.6%

\*The data are estimated and refer to those used on the Brazilian side. The volume is not the same one in the discharge table because the water is recirculated more than once.

\*\*Data changed as a result of more accurate estimates enabled by equipment replacement.

\*\*\*After the WWTP UHI-ME started operating, the waste water treated is being reused to irrigate green areas.

\*\*\*\*Data updated because of the reclassification resulting from the exclusion of the water consumed by our São Paulo and Brasília offices.

## Water discharge

Water discharge is estimated based solely on the consumptive water volume, that is, it does not consider the water withdrawn to turn the turbines. As expected, the new waste water treatment plant for the power

plant's offices started operating in 2012, and technical adjustments are still underway to improve system performance. **EN21; GP7; GP8; EC2; EC3; EC4; EC5; EC6; EC12; EC15**

## Total water discharge by destination (m<sup>3</sup>)\*

Type of destination	2012	2011	2010
Surface waters	147,994	148,479	142,283
Soil infiltration	120,602	113,694	110,729
Recirculation	158,793	86,865	82,083
Evaporation**	147,644	130,135	116,891
Total	575,033	479,173	451,986

Treatment method	2012	2011	2010
WWTPs/septic tanks	297,768	217,475	204,184
Soil infiltration	54,813	53,146	52,387
No treatment	74,808	78,417	78,524
Evaporation**	147,644	130,135	116,891
Total	575,033	479,173	451,986

\*The data are estimated based on the water consumed on the Brazilian side and in the industrial area. The amounts were recalculated to be closer to the system's reality and for improved reporting quality.

\*\*Part of the water produced by the industrial area's Water Treatment Plants (WWTPs) is used as replacement at Evaporation Centers. Until 2010, its destination used to be reported along with the waste water from the Executive Technical Office's waste water treatment plant (WWTP); however, given its particularity and volume, from 2011 on it has been reported separately.

## Quality

The properties of the water used to turn the turbines do not change in the process. Additionally, the water that is treated and discharged does not compromise the quality of the water in the reservoir or the Paraná River downstream of the power plant, and is within the limits set by the Brazilian Environmental Council (CONAMA), according to monitoring by the Paraná Environmental Institute (IAP).

## International Hydroinformatics Center

The International Hydroinformatics Center is the product of a partnership with UNESCO's International Hydrological Program. The center addresses the issue of water from a comprehensive standpoint that includes fostering progress, innovation, and the development of information technology tools on free open-source software to sustainably manage

water resources, besides research and training about water management. The goal is to replicate Itaipu's experience on the 70 watersheds monitored by UNESCO in five continents. **EC2; EC5; SG11**

Learn more at [www.hidroinformatica.org](http://www.hidroinformatica.org)

## Electricity consumption

Nearly all the energy used by Itaipu is generated by the company itself. Only the offices outside the power plant are supplied with power purchased from local distributors. The total electricity saved by Itaipu in 2012 was 17.9 gigajoules, owing to the replacement of water

pumps in the Biological Sanctuary with equipment estimated to reduce consumption by 18.18%. **EN3; EN4; EN5; GP8; GP9; EC4; EC5; SG3; SG6**

## Electricity generated and consumed by Itaipu (MWh)

	2012	2011	2010
Hydro power	102,487	100,160	103,779

\*To convert into joules, use the following formula: A megawatt-hour (MWh) is equivalent to 1,000,000 wh or  $3.6 \times 10^9$  joules.



## Electricity-saving initiatives

Actions to make company's indoor areas more energy efficient are proposed by our In-House Energy Conservation Committee (CICE), which is staffed by representatives from various Itaipu departments. In 2012, several initiatives were implemented by its General Services department to cut down the use of power.

Nighttime cleaning, which is done by a company hired to provide the service, was reorganized into blocks so that rooms have their lights off while the team is working elsewhere. Janitors have also been instructed

to turn off lights and air conditioners that may have been left on.

Replacing air conditioners, lamps and light fixtures, switchboards, and wiring in several places in the building has helped save electricity at our Curitiba office. In Foz do Iguaçu, air conditioning accounts for the highest use of electricity, and its consumption drop was due especially to the insulating sheets laid beneath the roof of some offices. **EN5; EC4; EC5; EC7**

## Indirect energy consumption broken down by primary source (kWh)

EN4; EC4; EC5

Renewable source	2012	2011	2010
Water-based	2,230,969	2,421,314	2,686,004
Wind	16,143	10,357	9,074
Total	2,247,112	2,431,671	2,695,078

Non-renewable source	2012	2011	2010
Thermal	270,059	139,681	238,958
Nuclear	81,104	84,180	90,743
Total	351,163	223,861	329,701

Total (renewable and non-renewable sources)	2012	2011	2010
Total	2,598,275	2,655,532	3,024,779

\* There may be a difference between the total electricity purchased and the one actually used because of technical issues, such as losses in the mains.

\*\* The variation in the makeup of primary sources of the electricity purchased by Itaipu may not be accurate because the Brazilian distribution system is interconnected and controlled by the National System Operator (ONS).

\*\*\* To convert into joules, use the following formula: A kilowatt-hour (KWh) is equivalent to 1,000 wh or  $3.6 \times 10^6$  joules.

## Electricity generated in Brazil (%)

Brazilian energy grid	2012	2011	2010
Water-based	69.73	91.18	88.80
Thermal	27.09	5.26	7.90
Nuclear	1.66	3.17	3.00
Wind	1.51	0.39	0.30
Solar	0.10		

Source: ANEEL's Management Information Report.



## Fuel consumption

In the past three years, Itaipu recorded a drop in consumption of fuels from non-renewable sources, such as diesel and gasoline. To the extent possible, they have been replaced with ethanol and electricity as we renovate our vehicle fleet in line with company's Sustainability Policy.

Larger, more polluting vehicles traded in for smaller models equipped with hybrid technology. By so doing, we start reaping benefits as we save money on vehicle purchases. Then, those vehicles bring down

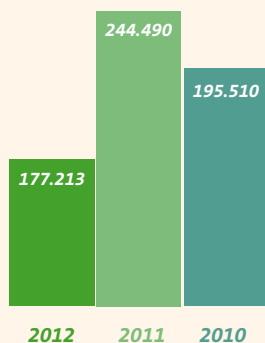
maintenance costs and fuel costs (approximately 30%), not to mention they pollute less.

In 2012, Itaipu's Brazilian side had a fleet of 227 vehicles, considering passenger cars, large and mid-sized pick-ups, trucks and electric vehicles. Chartered buses included, that number rises to 257. The average age of the fleet is five years, but the management department's goal is to lower that to three years, thereby making it more efficient and less pollutant. **EN3**

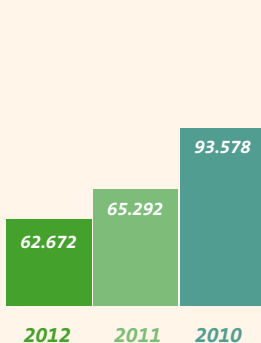
## Direct energy consumption by primary energy source

EN3; CT4; CT5

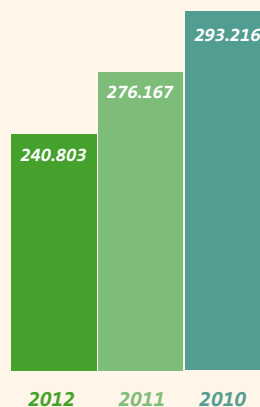
**Diesel (l)**  
Non-renewable



**Gas (l)**  
Non-renewable



**Ethanol (l)**  
Renewable



**Electricity (MWh)**  
Renewable



\*To convert into joules, use the following formulas: a liter (l) of gasoline is equivalent to approximately  $34.8 \times 10^6$  joules of energy; a liter (l) of diesel is equivalent to approximately  $34.87 \times 10^6$  joules of energy, a liter (l) of ethanol (hydrated alcohol) is equivalent to approximately  $26.33 \times 10^6$  joules of energy, and a megawatt-hour is equivalent to 3.6 gigajoules.

\*\* In 2012, Itaipu started monitoring the use of electricity used as fuel in the company's fleet of electric vehicles.

## Greater efficiency, lower consumption

In addition to the 32 electric vehicles in its fleet, our company holds meeting via videoconference to cut back on air and land travel. However, we are unable to report the amount of fuel saved, because Itaipu does not have a control system capable of collecting such information. Regarding employee transportation, bus

routes were optimized and from June on the vehicles started being filled up with the less polluting S-50 diesel. **EN7; EN29**

## Gas emissions

In production and administrative processes, Itaipu does not cast significant amounts of air pollutants or other ozone layer-depleting substances, when compared to similar companies. Nevertheless, Itaipu seeks to decrease emissions by adopting videoconference technologies and using electric vehicles and less pollutant fuels.

The only harmful gas for the ozone layer found at Itaipu is the HCFC-22 refrigerant used in a building's central air conditioning system and some pieces of refrigerating equipment. In 2012, Itaipu started recovering those refrigeration gases. **EN18; EN19; GP7; GP8; GP9; EC2; EC3; EC4; EC5; EC6; EC12; EC15; SG3; SG6**

## Emissions prevented and sequestered

In 2012, the replacement of gasoline with alcohol prevented the emission of 312.63 t CO<sub>2</sub> eq, and the use of electric vehicles at the company also helped to not emit 43.99 CO<sub>2</sub> eq. The area reforested in 2012 added to tree growth in the year sequestered 2,384,610 t CO<sub>2</sub>. A voluntary initiative related to refrigerant gases accounted for not casting 68.82 t CO<sub>2</sub> eq. into the air. **EN18**

## NO<sub>x</sub>, SO<sub>x</sub> and other significant air emissions by type and weight (t)

EN20; EC2; EC3; EC4; EC5; EC6; EC12; EC15

Substance	2012	2011	2010
Nitrogen Oxides (NO <sub>x</sub> )	18.047	20.175	20.371
Sulfur Oxides (SO <sub>x</sub> )	7.044	7.873	7.942
Carbon Monoxide (CO)	23.854	26.743	27.213
Hydrocarbons (HC)	4.609	5.16	5.233
Aldehydes (CHO)	0.025	0.029	0.032
Particulate Matter (PM)	0.732	0.825	0.854
<b>Total</b>	<b>54.311</b>	60.805	61.645

\*Calculations include the third-party fleet used for employee commute.

\*\* EN20 data are calculated based on estimated vehicle fuel consumption rate values (km/l) and default emission factors.

## Total direct and indirect greenhouse gas emissions, by weight (t CO<sub>2</sub> eq.) and other relevant indirect emissions of greenhouse gases, by weight\*

EN16; EN17; EC2; EC3; EC4; EC5; EC6; EC12; EC15

		2012	2011	2010
Direct emissions	SF6 from the substation***	7,170.00	6,840.00	7,410.00
	Company fleet	522.98	548.56	612.13
	Two-stroke engine lubricating oil	0	0	0.02
	LPG cooking gas	0.49	0.42	13.10
	Piped natural gas	4.97	8.15	10.31
	HCFC-22 refrigeration gas (air-conditioning)	0	952.78	52.40
	HFC-134a refrigeration gas (refrigeration)****	536	286	--
	CO2 fire extinguisher refill (offices)	4.03	0.83	2.10
	Various pieces of equipment	46.05	41.97	73.71
<b>Total</b>		<b>8,284.52</b>	8,678.71	8,173.77
Indirect emissions	Chartered fleet	1,070.87	1,159.21	1,152.3
	Air travel (passengers)	925.91	1,111.56	1,314.89
	Air travel (cargo)	0.07	0.91	5.54
	Power purchased from SIN	148.58**	67.90	150.72
<b>Total</b>		<b>2,145.43</b>	2,339.58	2,623.45
<b>Total</b>		<b>10,429.95</b>	11,018.29	10,797.22

\*To keep to the standards adopted by the entire Brazilian electricity sector, in 2012 Itaipu adopted only the GHG Protocol Brazil as our methodology. That is why there were slight changes to the data reported in previous years.

\*\*The increase in emissions due to our electricity consumption in 2012 is owed to the fact that thermal power plants had greater participation in the Brazilian power grid, as rainfall was low in the year.

\*\*\* SF6 is used as an insulating gas at the substation.

\*\*\*\* Reporting on this emission source starts this year.

## Waste management

Itaipu sustainably and efficiently manages the waste it generates. Besides properly disposing of the materials, the company raises the in-house audience's awareness of trash sorting via the Vai-e-Vem (Back and Forth) project. The recyclable materials are donated to the Cooperative of Foz do Iguaçu Environmental Agents (COAAFI) and to Cooperativa Catamari, from Curitiba.

Keeping environmentally-correct disposal in mind, in 2012 we auctioned over 60 tons of scrap, including air conditioners, refrigerators, copper and aluminum

cables, reactors, and 107 steel and wooden doors. We also routed 1,734 tires used by Itaipu's fleet to a company in charge of shredding the rubber to be used to make shoes, as coal substitute, or added to asphalt. EN2; EN22; EC9; SO5; GP7; GP8; EC2; EC3; EC4; EC5; EC6; EC8; EC9; EC10; EC12; EC13; EC15; SG7



## First bidding process for e-scrap disposal

After nearly 30 years stored in the supply room, 63 tons of electronic devices were disposed according to the principles of reverse logistics. The materials were recycled or discarded according to the applicable laws and regulations. A portion is going to be recycled in

Brazil, and some pieces are going to be shipped to Japan by the company hired for the service. Japan holds the technology to separate and repurpose heavy metals found in electronic scrap.

## Total weight of waste by type and disposal method (t)

EN22; EC2; EC3; EC4; EC5; EC6; EC9; EC10; EC12; EC15

Hazardous waste	2012	2011	2010	Disposal
Fluorescent bulbs	12.54	1.71	7.86	Decontamination
Miscellaneous industrial resins	4.50	2.00	12.86	Incineration
Chlorine cylinders (*)	o	0	90.00*	Decontamination
Used lubricating oil	39.60	34.85	12.77	Regeneration
	o	23.76	NA	Re-refinement
Used naphthenic-type insulating mineral oil	o	31.07	79.20	Re-refinement
Miscellaneous metal scrap	157.10	542.92	240.21	Recycling
Various electrical material scrap	3.82	26.00	NA	Recycling
Tires	17.27	3.37	NA	Recycling
Hospital waste	2.73	0.79	1.59	Incineration
Air filters	4.76	NA	NA	Recycling
Oil filters	5.60	NA	NA	Recycling
Oil sludge	10.46	NA	NA	Composting
Fiberglass insulation	2.80	NA	NA	Recycling
<b>Total</b>	<b>261.18</b>	666.47	444.49	
<b>Non-hazardous waste</b>				
Recyclables (paper, cardboard, plastic)	88.95	90.41	103.33	Recycling
Styrofoam	0.44	0.75	NA	Recycling
Aluminum	0.58	0.66	0.49	Recycling
Organic waste	456.98	405.81	326.72	Landfill
<b>Total</b>	<b>546.95</b>	497.63	430.54	

\*Chlorine cylinders were reported by the unit.  
NA – Not Available

## Supplies management

Most materials used at Itaipu had a drop in consumption in 2012, such as resins, disposable cups, sulfite paper, ink cartridges and toner. On the other hand, since 2010 there has been an increase in the amount of chemical materials used to treat water, which may be credited to the growing number of people circulating at the institutions housed by Itaipu, such as UNILA and PTI.

In line with our sustainability principles as set forth by company's Sustainability Management System (SGS), initiatives have been implemented to reduce the environmental impacts from Itaipu's everyday

operations. Five-gallon water bottles were replaced with drinking fountains, which is also going to cut annual BRL 130,000 cost down to BRL 40,000.

Simply offering sugar and sweetener packets instead of serving sweetened coffee and tea is expected to reduce annual sugar consumption by 18 tons – currently, 28 tons are used. The practice is going to be fully implemented at the company in 2013, and will also lead to LPG gas savings and employee health improvements. **EN1; GP7; GP8; EC5; SG6**

## Spare tires and digitization

Another transportation-related initiative entails rotating the tires of our fleet's vehicles by using the spares. Doing that is going to generate immediate savings in the amount of BRL 50,000. Another major step included digitizing company's technical document collection (approximately 420,000 pages of drawings and another three million pages of historic text documents in A4 format). Besides protecting the documents and making them more easily accessible, their digitization is going to reduce the number of copies made and the amount of paper used.

One year after its implementation, our Supplier Relationship Portal started showing results: the number of applications analyzed rose from 1,586 to 2,277. In addition to expanding the universe of eligible suppliers, the initiative expedited the team's work and also significantly cut down the use of paper. In 2012, 1,058 pages were used against 89,371 in 2011 – a 98.8% decrease.

## Supplies used by weight or volume\*

EN1; EC5

Supplies used	2012**	2011**	2010**
Chemical materials (kg)	164,730	153,675	142,036
Oils/Lubricants (l)	56,291	55,961	32,271
Resins (l)	1,177	1,378	1,700
Solvents / varnish (l)	34,751	34,058	26,263
Batteries (un.)	15,231	17,205	14,121
Tires (un.)	973	983	1,037
Light bulbs (units)	46,590	49,274	33,327
Sulfite paper - packages (un.)	27,607	28,797	29,145
Disposable cups (un.)	6,236,500	6,546,750	6,714,250
Cartridges and toner (un.)	5,715	6,341	6,695
Wood (m <sup>3</sup> )***	166	124	139

\* Table data refer to both country's consumption.

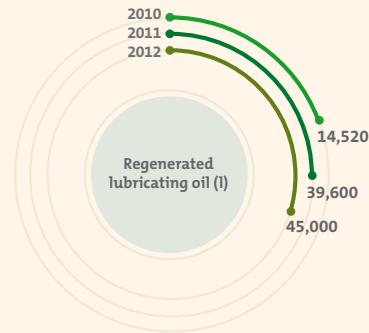
\*\* Database recalculated according to the methodology used since 2011 for the comparison parameter equivalency.

\*\*\* Calculation methodology refined to be closer to the actual circumstances of the information.

## Lubricating oils

Since 2001, Itaipu has been re-refining (regenerating) the lubricating and insulating oils used in its equipment by means of a procedure that restores their physical and chemical properties through filters and additives. The amounts recycled vary annually as they depend on the amount of oil used by the equipment and the physical-chemical properties of samples, which are regularly monitored. **EN2; GP7; GP8; PG9; EC5**

## Amount of materials used that are recycled input materials (l)




## Commitment to biodiversity

After Cultivating Good Water program was implemented, Itaipu's biodiversity conservation actions have been carried out by the Biodiversity, Our Heritage program. The program comprises protected areas, monitoring of biological diversity, migration and fish stocks in the reservoir, research on the reproduction and breeding of local endangered wild animals. Regarding plants, the program conducts research to improve the genetic variability of local species and keeps a germplasm bank available for conservation and rehabilitation.

However, our conservation initiatives date back to the time the reservoir was filled and Itaipu carried out an operation called Mymba Kuera ("animal-catching", in Guarani). Teams positioned between the Guaira Falls and Itaipu used boats to pick up all the animals that were unable to leave the area on their own – 36,000,

according to official data. They were then sent to sanctuaries and research institutions.

Additionally, 23 million seedlings were planted to reforest over 100,000 hectares around the reservoir in the two countries. Under the applicable regulations and given the size of the lake, Itaipu would be required to keep a 100 meter-wide protection stretch of land. However, that area today is 217 meters wide, on average. The company also supplied 3 million seedlings to recover riparian woodlands around the BP3. **EN11; EN12; EN13; EN14; GP7; GP8; EC1; EC5; EC12; EC15; SG12** 

**USD 1.5 million** was invested by Itaipu in biodiversity in 2012.

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## Golden mussel monitoring

Since golden mussels (*Limnoperna fortunei*) were first spotted in the reservoir early in 2001, Itaipu has monitored the species capable of obstructing pipes and damaging the environment, as it is an invading exotic species. In the past two years, an increase in the number of larvae (an indicator of reproductive activity) has been detected, albeit without significant changes to adult population density. **EN14; GP7; EC1; EC5; EC12; EC15**

**Out of the total area expropriated for the implementation of the hydro power plant complex, 57% are underwater and comprise aquatic ecosystems, and 43% are areas set aside to protect the reservoir.**

## The Spawning Channel


The largest fish transposition system in the world, the channel opened in 2002 to allow fish to migrate for reproduction purposes, help conserve genetic stocks, and prevent the isolation of water populations living upstream and downstream of the dam. In 2012, 98 species were recorded at the place, 12 of which long-distance migrating species, and two which were recorded for the first time (*Hypostomus derbyi* and *Charax aff. Leticiae*). Additionally, 244 fish from 11 different species were tagged so their migration routes can be tracked. **EU13; GP7; GP8; GP9**

## Rescues

While reservoir levels were lower in November, Itaipu rescued 18,000 fish from the Spawning Channel and monitored 57 ponds nearby, successfully intervening in 15 of them. The adoption of more efficient procedures during scheduled generator maintenance downtime resulted in a 334% drop in the number of fish rescued in the past three years. Overall, 837 fish were retrieved in 2012, over 2,803 in 2010. **EN14; SO1; GP8; EC1; EC4; EC5; EC12; EC13; SG12**

## Bela Vista Biological Sanctuary

The Bela Vista Biological Sanctuary (RBV) is one of the protection areas created by Itaipu. It houses a zoo that is open to the public and contains solely specimens of local animals, the Wild Animal Nursery (CASIB), a veterinary hospital, and a germplasm bank. The Sanctuary's main purpose is to protect endangered species from being hunted, which it does by means of

managing their enclosures and carrying out specific projects. Overall, there are over 400 animals of 32 different species of mammals, birds and reptiles at CASIB. Since it was implemented, more than 860 animals have been born there. **EN11** 

## Main births or growths at RBV .....

- **Animals:** Tapirs (*Tapirus terrestres*), marsh deer (*Blastocerus dichotomus*), tiger cats (*Leopardus tigrinus*), margays (*Leopardus wiedii*), white-lipped peccary (*Tayassu pecari*) and harpy eagles (*Harpia harpyja*).

- **Plants:** Brazilwood (*Caesalpinia echinata*), *Peroba-rosa* (*Aspidosperma polyneuron*), Pau-marfim (*Balfouriodendron riedelianum*), cedar (*Cedrela fissilis*), *Puína* (*Myrcianthes punges*) and Amendoim-bravo (*Pterogyne nitens*).

## Eco-museum

Having welcomed over one million visitors in its 25 years in operation, the Eco-museum tells the history of the area and Itaipu power plant in an interactive manner. The museum also carries out environmental education activities dedicated to the entire community, in order to raise environmental awareness. To celebrate its anniversary, a giant 76 square foot scale model was set up to take visitors on an informative tour of the Three-Nation Border.

## Endangered species

Itaipu carries out important research and activities dedicated to breeding and ensuring the survival of rare species, especially local ones such as harpy eagles (*Harpia harpyja*), pygmy brockets (*Mazama nana*) and margays (*Leopardus wiedii*). By the end of the year, more than 800 births in captivity had been recorded.

Regarding harpy eagles, the Bela Vista Biological Sanctuary is one of the main agents responsible for the species to still be found in the area. That is why the center has cemented itself as the most successful

## Germplasm bank

Essential for the conservation of local environmental biodiversity, the forest germplasm bank contains genetic material of 100+ native species. The animal germplasm bank keeps material from four species of fish and mammals, in addition to that of the over 70 species in captivity at the zoo and CASIB. **EN14; GP8; SG12**



captive breeding program for this which is one of the largest birds of prey in the world. The idea to breed the species came up in 2000, when a captured male was handed over to the Sanctuary.

The first chick only hatched nine years later, and 11 births had been recorded by the end of 2012. For now, the birds are meant to preserve the species in captivity and for genetic maintenance. **EN15; EC1; EC5; EC12; EC15**



## Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk

EN15; EU13; GP8; EC1; EC5; EC12; EC14; EC15 

MAMMALS		IUCN	BR	PR	CASIB								Zoo				Germplasm bank	1977-1979 Animal Inventory	1982 Animal Rescue				
					Stock			Births in				Stock			Births in								
					2012	2011	2010	2012	2011	2010	até 2009	2012	2011	2010	2012	2011				2010	up to 2009		
Golden lion tamarin	<i>Leontopithecus chrysomelas</i>	EN	EN								1												
Tapir	<i>Tapirus terrestris</i>	VU		EN	6	6	5		2	1	5	2	2	1					yes				
Marsh deer	<i>Blastocercus dichotomus</i>		VU	CR								5	4	4	6		1	3	6	yes			
Tiger cat	<i>Leopardus tigrinus</i>		VU	VU		20	21	20		1		29								yes	yes	yes	
Giant anteater	<i>Myrmecophaga tridactyla</i>		VU	CR									2	2	2								
Margay	<i>Leopardus wiedii</i>	NT	VU	VU	16	13	15	1	1	3	25									yes			
Jaguar	<i>Panthera onca</i>		VU	CR	1	1	1						2	2	2					yes	yes		
White-lipped peccary	<i>Tayassu pecari</i>										64									yes			
Black howler	<i>Alouatta caraya</i>			EN	3	4	4				16									yes	yes		
Brown howler	<i>Alouatta guariba</i>		CR	VU			1																
Crab-eating fox	<i>Cerdocyon thous</i>											2	2								yes		
Capybara	<i>Hydrochaeris hydrochaeris</i>				2	2	2				35	1	1	2							yes		
Collared peccary	<i>Pecari tajacu</i>			VU							48	6	6	6							yes	yes	
Brown-eared woolly opossum	<i>Caluromys lanatus</i>												1	1							yes		
Lesser grison	<i>Galictis cuja</i>				3	3	3				48	1	1	2							yes		
Eyra cat	<i>Herpailurus yagouaroundi</i>				1	1	2				6										yes		
Tayra	<i>Eira barbara</i>										5										yes		
Ocelot	<i>Leopardus pardalis</i>	LC	VU	VU	15	15	15				21										yes	yes	
Tufted capuchin monkey	<i>Cebus apella</i>					1	1	1				14	10	10	10							yes	
Crab-eating raccoon	<i>Procyon cancrivorus</i>											21	3	3	4							yes	
Orange-spined hairy dwarf porcupine	<i>Sphiggurus villosus</i>												1	2	2							yes	
Paca	<i>Cuniculus paca</i>				EN																	yes	yes
Coati	<i>Nasua nasua</i>											14	2	3	3							yes	
Hoary fox	<i>Pseudalopex vetulus</i>					1	1	1															
Nutria	<i>Myocastor coypus</i>											4	3	3	24			5	40			yes	
Lesser anteater	<i>Tamandua tetradactyla</i>											4										yes	
Gray brocket	<i>Mazama gouazoubira</i>											11										yes	
Pygmy brocket	<i>Mazama nana</i>	DD	VU	VU	27	25	25	8	5	7	73	2	2	2							yes	yes	
Red brocket	<i>Mazama americana</i>					1	2	4			1	7										yes	yes
Azara's agouti	<i>Dasyprocta azarae</i>										62	1	1	2									

## Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk

BIRDS		IUCN	BR	PR	CASIB								Zoológico				Germplasm bank	1977-1979 Animal Inventory	1982 Animal Rescue		
					Stock			Births in				Stock			Births in						
					2012	2011	2010	2012	2011	2010	até 209	2012	2011	2010	2012	2011				2010	up to 2009
Common name	Scientific name																				
Vinaceous-breasted Amazon	<i>Amazona vinacea</i>	EN	VU	NT	4	6	6											yes			
Harpy eagle	<i>Harpia harpyja</i>	NT		CR	12	9	7	1	3	2	10							yes			
Blue-winged macaw	<i>Primolius maracana</i>			EN	18	8	8					4	4								
Blue-and-Yellow Macaw	<i>Ara ararauna</i>			CR	2	16	16	1	2		17										
Red-and-green Macaw	<i>Ara chloropterus</i>			CR	13	6	6											yes			
Southern Crested Caracara	<i>Polyborus plancus</i>											4	3	4				yes			
Chimango Caracara	<i>Milvago chimango</i>				1	1	1														
Burrowing owl	<i>Speotyto cunicularia</i>											1	2	3				yes			
Striped owl	<i>Rhinoptynx clamator</i>											2	2	2				yes			
Common moorhen	<i>Gallinula chloropus</i>											6	1	1	4	4		yes			
Great egret	<i>Casmerodius albus</i>											2	1	1				yes			
Roadside hawk	<i>Rupornis magnirostris</i>				3	2	2											yes			
White-tailed hawk	<i>Buteo albicaudatus</i>											2	2	1							
White-faced Whistling Duck	<i>Dendrocygna viduata</i>				14	17	17					57	28	28	32	2		28			
Scaly-headed parrot	<i>Pionus maximiliani</i>											1	8	3	3			yes			
Brazilian Teal	<i>Amazonetta brasiliensis</i>											21	21	18		5	5	19			
Bare-faced Curassow	<i>Crax fasciolata</i>			CR								2	8	4	1	1	2	yes			
Muscovy Duck	<i>Cairina moschata</i>											48						yes			
Red-ruffed fruitcrow	<i>Pyroderus scutatus</i>	LC		NT									1	1				yes			
White-eyed Parakeet	<i>Aratinga leucophthalmus</i>				1	1	1					8	1	1				yes			
Black Hooded Parakeet	<i>Nendayus nenday</i>											6	1		1			yes			
Eared Dove	<i>Zenaida auriculata</i>											1	1	3				yes			
Southern Lapwing	<i>Vanellus chilensis</i>											3	3	3				yes			
American Kestrel	<i>Falco sparverius</i>				5	2	3											yes			
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>											11	2	2				yes			
Red-legged Seriema	<i>Cariama cristata</i>				2	2	4					26									
Plumbeous Kite	<i>Ictinia plumbea</i>				3	2	2											yes			
Barn Owl	<i>Tyto alba</i>				6	6	7					17	1	1	2			yes			
Southern Screamer	<i>Chauna torquata</i>				1	2															
Green-billed Toucan	<i>Ramphastos dicolorus</i>											1	1	1				yes			
Black Vulture	<i>Coragyps atratus</i>											1	2	2	2			yes			
Buzzard	<i>Cathartes aura</i>											1	1	1				yes			
King Vulture	<i>Sarcoramphus papa</i>					1	1											yes			

**Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk**

REPTILES		IUCN	BR	PR	CASIB							Zoo				Germplasm bank 1977-1979 Animal Inventory	1982 Animal Rescue			
Common name	Scientific name				Stock			Births in				Stock			Births in					
					2012	2011	2010	2012	2011	2010	up to 2009	2012	2011	2010	2012			2011	2010	up to 2009
Chaco tortoise	<i>Chelonoidis chilensis</i>	VU								1	1	2					yes			
Yellow-footed tortoise	<i>Chelonoidis denticulata</i>										3	3	3							
South American rattlesnake	<i>Crotalus durissus</i>									1	1	1								
Broad-snouted caiman	<i>Caiman latirostris</i>	LC			3	4	4			78	11	9	11				yes			
Gold tegu	<i>Tupinambis teguixin</i>									10							yes			

AMPHIBIANS		IUCN	BR	PR	CASIB							Zoo				Germplasm bank 1977-1979 Animal Inventory	1982 Animal Rescue			
Common name	Scientific name				Stock			Births in				Stock			Births in					
					2012	2011	2010	2012	2011	2010	up to 2009	2012	2011	2010	2012			2011	2010	up to 2009
Rococo Toad	<i>Rhinella schneideri</i>	LC									1	1	1				yes			



## Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk

FISH		IUCN	BR	PR	Found in									1981 Inventory	
					Fishing			Turbine rescues			The Spawning Channel				Germplasm bank
					2012	2011	2010	2012	2011	2010	2012	2011	2010		
Common name	Scientific name														
Striped leporinus	<i>Leporinus striatus</i>	LC									yes	yes	yes	yes	
Pike cichlid	<i>Crenicichla lepidota</i>			yes							yes	yes			
Ocellate River Stingray	<i>Potamotrygon motoro</i>	DD		yes	yes						yes	yes			
Vermiculate River Stingray	<i>Potamotrygon cf. falkneri</i>										yes		yes		
Piracanjuba, piracanjuba (no common name in English)	<i>Brycon orbignyanus</i>		EN	EN		yes					yes		yes	yes	
Catfish	<i>Steindachneridion scriptum</i>		EN	VU										yes	
Cará (no common name in English)	<i>Gymnogeophagus setequedas</i>		VU	VU											
Bagre-sapo (no common name in English)	<i>Pseudopimelodus mangurus</i>			VU			yes	yes	yes						
Golden dorado	<i>Salminus brasiliensis</i>			VU		yes			yes	yes	yes	yes		yes	
Gilded catfish	<i>Zungaro zungaro</i>			VU		yes		yes						yes	
Tiger catfish	<i>Pseudoplatystoma corruscans</i>			NT		yes			yes	yes		yes		yes	
Barred Shovelnose	<i>Pseudoplatystoma fasciatum</i>				yes					yes	yes	yes	yes	yes	
Pacu	<i>Piaractus mesopotamicus</i>				yes	yes		yes	yes		yes	yes	yes	yes	
Threespot leporinus	<i>Leporinus friderici</i>				yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	
Driftwood Catfish	<i>Parauchenipterus galeatus</i>				yes	yes	yes	yes	yes	yes	yes	yes		yes	
Piapara (no common name in English)	<i>Leporinus elongatus</i>				yes	yes	yes	yes	yes	yes	yes	yes			
Characin	<i>Leporinus obtusidens</i>									yes	yes	yes		yes	

## Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk

PLANTS		IUCN	BR	PR	Forest Nursery Production			Seeds in stock			Seed holder		1976 Forest Inventory	Medicinal plant nursery production*		
Common name	Scientific name				2012	2011	2010	2012	2011	2010	Local	RBV		2012	2011	2010
Brazilwood	<i>Caesalpinia echinata</i>		yes						No			No				
Peroba-rosa (no common name in English)	<i>Aspidosperma polyneuron</i>			rara					No	yes		yes				
Pau-marfim (no common name in English)	<i>Balfourodendron riedelianum</i>	EN		rara	yes	yes	yes	yes	yes	yes	yes	yes				
Cedar	<i>Cedrela fissilis</i>				yes		yes	yes	yes	yes		yes				
Piúna (no common name in English)	<i>Myrcianthes pungens</i>									yes		yes				
Amendoim-bravo (no common name in English)	<i>Pterogyne nitens</i>	NT				yes	yes		yes	yes	yes	yes				
Pink Lapacho	<i>Tabebuia impetiginosa</i>				yes	yes		yes	yes	yes	yes	yes				
Sweetwood	<i>Ocotea puberula</i>	LC								yes		yes				
Rose Cactus	<i>Pereskia grandifolia</i>												yes	yes	yes	
Pomegranate	<i>Punica granatum</i>													yes	yes	
Cabriuva	<i>Myrcarpus frondosus</i>	DD		rara		yes			yes	yes		yes				
Heart of Palm	<i>Euterpe edulis</i>		yes				yes	yes	yes	yes						
Spiny miracle-plant	<i>Maytenus ilicifolia</i>			rara	yes	yes	yes		yes					yes	yes	
Black cabbage	<i>Lonchocarpus muehlbergianus</i>			rara		yes	yes	yes	yes	yes		yes				

\*The medicinal plant nursery production is certified as organic.

IUCN - International Union for Conservation of Nature

CASIB - Itaipu Binacional's Wild Animal Nursery

Zoo - Zoológico Roberto Ribas Lange

CR - Critically Endangered

EN - Endangered

VU - Vulnerable

NT - Near Threatened

LC - Least Concern


DD - Data Deficient

BR - baseada na lista de espécies ameaçadas do Ministério do Meio Ambiente (MMA) - lista federal

PR - baseada na lista de espécies ameaçadas do Instituto Ambiental do Paraná (IAP) - lista estadual

## Offsetting habitats

Because the power plant was built before the current applicable regulations were issued, Itaipu does not have 'offsetting habitats' to make up for the area that has been flooded. However, the company keeps biological sanctuaries and a protection strip that total 1,007 km<sup>2</sup> and provide a land connection between the Iguçu and the Ilha Grande National Parks via the 37 kilometer-long Santa Maria

Biodiversity Corridor. **EN13; EU13; GP8; EC1; EC5; EC12; EC14; EC15** 

**Out of the 34,000 hectares in protected areas on the Brazilian side, 18,000 were devastated. Today, less than 2% of the protection strip and 10% of the Biodiversity Corridor remain to be reforested.**

## Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas **EN11; SG12**

Protected areas				
Area	Size km <sup>2</sup>	Biome	Location	Type of power plant operation
Dry area	1,006.62*	Atlantic Forest	<b>Paraná:</b> Foz do Iguçu, Santa Terezinha de Itaipu, São Miguel do Iguçu, Medianeira, Missal, Santa Helena, Entre Rios do Oeste, Pato Bragado, Marechal Cândido Rondon, São José das Palmeiras, Mercedes, Guaíra, Itaipulândia, Diamante D'Oeste e Terra Roxa.	Reservoir/Power Plant
Reservoir	1,350**			
Federal University of Latin American Integration (UNILA)	0.38		<b>Paraná:</b> Foz do Iguçu.	Not applicable, meant to house UNILA
Protected areas adjacent to Itaipu				
Iguçu National Park	1,852.60	Atlantic Forest	<b>Paraná:</b> Foz do Iguçu, Santa Terezinha de Itaipu, São Miguel do Iguçu, Medianeira, Serranópolis do Iguçu, Matelândia, Ramilândia, Céu Azul, Vera Cruz do Oeste, Santa Tereza do Oeste, Lindoeste, Capitão Leônidas Marques, Santa Lúcia e Capanema. <b>Mato Grosso do Sul:</b> Mundo Novo, Eldorado, Naviraí e Itaquiraí.	Reservoir/Power Plant
Ilha Grande National Park	1,081			
High biodiversity rate areas				
Cabeça do Cachorro State Park	0.61	Atlantic Forest	<b>Paraná:</b> São Pedro do Iguçu.	Reservoir/Power Plant
Natural Heritage Private Reserve - Santa Maria	2.42		<b>Paraná:</b> Santa Terezinha de Itaipu.	
Natural Heritage Private Reserve - others	30		<b>Paraná:</b> Diamante D'Oeste, Guaíra, Medianeira, Santa Terezinha de Itaipu, Terra Roxa, Toledo e Vera Cruz do Oeste.	

\* Where 327.96 km<sup>2</sup> Brazil, 665.10 km<sup>2</sup> Paraguay and 13.56 km<sup>2</sup> binational.

\*\* Where 770 km<sup>2</sup> Brazil and 580 km<sup>2</sup> Paraguay.



## More Fish in Our Waters Program

Created according to public policies implemented by the Federal Government, the program encourages fish farming in netted-tanks, fish intake, and the development of business strategies. In collaboration with the Western Paraná State University (UNIOESTE), fishermen have been trained to adopt the best farming, handling and fishing practices, seek new ways of selling their product, and add value to fish by providing mechanically separated meat.

Fish farming in netted tanks has also been helping improve the living conditions of native communities (learn more on page 84). In the Ocoy community, the 40 netted-tanks yield an annual eight tons of fish.

In all, 850 fishermen are assisted by the program, and organized into eight colonies and two associations that have had their income increase and working conditions improve.

One of the program's main results was the introduction of fish in the school meal menu in six western cities after Itaipu purchased a machine that separates the bones from the meat.

Itaipu has invested in the initiative since 2003, which has allowed for the implementation of 550 netted-tanks in the area, and licensing by the Brazilian Institute for the Environment and Renewable Natural Resources (IBAMA) for the first three aquaculture parks in Brazil to be set up in the power plant reservoir. **EC1;**

**EN14; SO1; GP8; SG12;** 

## Fish farming in numbers

**50** :: tons of fish produced 2012.

**45** :: fishing spots adapted and 57 licensed.

**3** :: aquaculture parks licensed.


**30,000** :: fingerling supplied by Itaipu in 2012 to the tanks in fishermen's colonies and native villages.

## Sustainable Rural Development

Itaipu has nurtured a close relationship with farmers since the power plant was built. To foster social-economic development and the sustainability of farming and livestock systems in the area, the company and its partners provide training and technical assistance, encourage farmers to set up associations, and support family farming, organic farming, and crop diversification, as well as country tourism. Such efforts join those put in by riparian forest, protection strip, and water quality conservation programs.

The community is engaged via the Local Sustainable Farming Management Committee, which celebrated 10 years in operation in 2012. Universities, research institutes, farmers' and technicians' cooperatives, NGOs, and technical assistance companies participate in the activities. In 2012, the program went on 4,220 visits to

farms and benefited 137 settler families, 209 native families, and 854 family farmers, countryside villages, and maroon communities.

Since the program started, approximately 1,000 local farmers have adhered to organic farming practices. Another 1,000 have been adopting sustainable farming and livestock practices by integrating crops and animal husbandry, grass-based dairy production, and crop diversity, especially by growing fruit and vegetables. **EC1; EC8; SO1; EC4; EC13; SG7** 

**USD 653,000** was the amount invested by Itaipu in the Sustainable Rural Development program in 2012.

## Sales

In 2012, three family farmer organizations (Cooperativa Agroecológica e da Agroindústria Familiar, Associação dos Produtores de Agricultura e Pecuária Orgânica de São Miguel do Iguaçú, and Cooperativa da Agricultura Familiar e Solidária) together sold nearly BRL 1.5 million in family farming-derived food and a portion of their organic produce, which supplied local schools. They expect to reach BRL 4 million next year.

## Low carbon farming

In western Paraná and via its Renewable Energy Platform, Itaipu is the leading promoter of the Federal Government's National Low Carbon Farming Program (Programa ABC), which is meant to reduce greenhouse gas (GHG) emissions. Farmers sow directly through straw and treat livestock waste to make biogas.







## Medicinal plants

Via its Medicinal Plants project, Itaipu helps disseminate the use of herbal medicines and knowledge about the use of medicinal plants to improve people's quality of life. The project also offers organic farmers an income alternative.

Seedlings are produced at the medicinal plant nursery set up at the Biological Sanctuary, where there is a bank containing 144 species of medicinal, aromatic and seasoning plants, 30 of which have been selected to be mass-produced in the area. The seedlings are donated to farmers, black communities, agrarian reform settlers, and communities at large, who are provided with technical assistance on preparing the beds, fertilizing, growing, and planting.

In 2012, the herb nursery's production reached 1 ton and was supplied to the health clinics participating in the project. Public healthcare system (SUS) professionals prescribe the use of plants like guaco, spiny miracle-plant, artichoke, lemon balm, and carqueja to treat diseases. **EC1; EC8; SO1; SO5; GP7; GP8; EC4; EC8; EC13; SG7**  

**USD 217,000** was the amount invested by Itaipu in the Medicinal Plants Project in 2012.

## National reference



In 2012, the Federal Government used our project as role model to implement herbal medicine programs in other areas of the country. Additionally, three cities on the BP3 (Foz do Iguaçu, Pato Bragado and Toledo) will

be receiving BRL 2 million from the Ministry of Health to develop the medicinal plant and herbal medicine chain of production. It is the first time federal resources are invested in the sector.

## Climate change and Itaipu's efforts

Climate change directly impacts the water cycle. Any significant changes in the Paraná Watershed 3 area upstream of Itaipu may significantly impact company's operating and economic framework.

In an effort to mitigate the effects of global climate change caused by greenhouse gas emissions, the creation and use of clean, renewable energy have cemented themselves as the main solutions. Considering that scenario and following the recommendations by the UN Intergovernmental Panel on Climate Change (IPCC), Itaipu not only uses sustainable operating procedures but also disseminates the expertise of our employees and partners about renewable energy, energy efficiency, sustainable mobility, and other low environmental impact practices.

By means of our Hydrogen Production, Electric Vehicle, and Itaipu Renewable Energy Platform programs, our organization has been a role model for hydro power plants. **EC2; EC8; GP7; GP8; GP9; SG11**  


**USD 1.9 million** was the amount invested by Itaipu in renewable energy initiatives.

## Lower use of fossil fuels and electricity

Itaipu's goal is to reduce by 3% its total use of gasoline and diesel, and by 5% the use of electricity at its Foz do Iguaçu and Curitiba offices between 2013 and 2015. The initiatives already carried out by the company, such as renovating the fleet with hybrid vehicles and replacing air conditioners, have helped decrease the

use of fossil fuels and electricity by 23% and 18%, respectively, in the past few years. **EC2**

## Hydrogen Production

Since 2011, Itaipu and PTI have been jointly conducting technical-economic viability studies on producing hydrogen from water and storing it as a gas. Construction of the building where the plant is to be set up started in December 2012, and is estimated to be completed by August 2013. The project is going to help introduce that energy source into the Brazilian grid, besides providing another alternative fuel to be used in hybrid electric vehicles, for instance. **SG11** 

## Solar energy

Under a technical cooperation agreement signed with Paraná Government and Paraná Federation of Industries (FIEP), a study is going to be carried out to look into the economic viability of the Green Silicon project meant to implement the entire chain of production and installation of photovoltaic solar panels in Paraná and Paraguay. The study is expected to be completed by May 2013.



## Biogas

Since 2008, the Renewable Energy Platform's mission is to prove the technical, economic, and environmental viability of using renewable sources, with emphasis on Distributed Biogas Production. That energy source can be converted into electric, thermal, and vehicular energy, and even produce hydrogen.

In November 2011, Itaipu signed an agreement with the Federal Government to reduce the impacts of farming on the greenhouse effect, given the activity is a major consumer of water and energy. The knowledge acquired by our company through the biogas experience on the BP3 should help the research efforts currently conducted in collaboration with the Brazilian

Agricultural Research Company (EMBRAPA) expand the use of biogas and the no-till farming system in Brazil.

Owing to a partnership with Itaipu Technology Park (PTI), biogas is being produced on farms and by agro-industrial facilities that make up the demonstration units (read more on the next page). Based on our successful experience in western Paraná, the initiative has led to other actions, such as the creation of the Biogas Lab (Labiogás) at PTI, in collaboration with Austrian university of Boku. **EC2; GP7; EC5; SG11** 💰

## International benchmark

At Rio+20, the International Center for Renewable Energies – Biogas (Cibiogás) was created with support from the United Nations Industrial Development Organization (UNIDO) and collaboration by another 21 institutions. Housed at PTI, the center is the first of its kind in Latin America, and the first dedicated to biogas in the world. In the first three years, the center is going to advocate the use of biogas, conduct in-depth studies, invest in logistics and lab infrastructure, and provide training.

## Entre Rios do Oeste

Biogas is expected to turn the city of Entre Rios do Oeste into the first energetically sustainable city. Treating and using the waste generated by the city's 110,000 pigs and 2,700 head of cattle is enough to supply the 4,000 residents' demand. It is estimated that seven million cubic meters of biogas will be generated every year by means of 201 biodigestors and 81 kilometers of underground pipelines.



## Biogas use demonstration units

Demonstration Units	Place	Scale	Characteristics	Energy produced in 2012 (kWh)	Emission Reduction
Family farming biogas consortium /Ajuricaba	Sanga do Ajuricaba, Marechal Cândido Rondon - PR	33 family farms interconnected by a pipeline running to a micro biogas thermal plant	Biogas: 1,014.16 m <sup>3</sup> /day	112	2,647 ton CO <sub>2</sub> eq/year (estimate)
			Installed power: 100 kVA		
			Sale of surplus		
Colombari farm	São Miguel do Iguçu - PR	Farm fattening 4,200 pigs	Biogas: 600 m <sup>3</sup> /day	204,122	4,067 ton CO <sub>2</sub> eq/year (estimate)
			Installed power: 100 kVA		
			Sale of surplus		
Piglet Farming Unit (PFU) – LAR Cooperative	Itaipulândia - PR	PFU w/ 5,000 breeding pigs	Biogas: 2,016 m <sup>3</sup> /day	197,891	9,100 ton CO <sub>2</sub> eq/year
			Installed power: 200 kVA		
Poultry Industrial Unit – LAR Cooperative	Matelândia - PR	Slaughterhouse handling 280,000 birds/day	Biogas: 2,000 m <sup>3</sup> /day	247,578	24,000 ton CO <sub>2</sub> eq/year
			Installed power: 200 kVA		
Star Milk farm	Vera Cruz do Oeste - PR	Farm with 600 dairy cows	Biogas: 1,000 m <sup>3</sup> /day	34,081	1,223 ton CO <sub>2</sub> eq/year (estimate)
			Installed power: 140 kVA		
Ouro Verde Waste Water Treatment Plant (WWTP) - SANEPAR	Foz do Iguçu - PR	Waste Water Treatment Plant	People served: 40,000	Data not available	-
			Installed power: 25 kVA		
Waste Water Treatment Plant - PTI	Foz do Iguçu - PR	Itaipu Technology Park Waste Water Treatment Plant	People served: 1,500,000/day	Data not available	-
			Installed power: 50 kVA		
<b>Total</b>				<b>1,045.312</b>	<b>41,037 ton CO<sub>2</sub> eq/year</b>





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## Electric Vehicle

Since 2006, Itaipu has had partnerships with national and international state-run companies and free enterprises to develop the Electric Vehicle (EV) project. The initiative began with a cooperation agreement with the controlling company of nine Swiss hydro power plants Kraftwerke Oberhasli AG (KWO), which uses electric vehicles mostly for employee transportation in the winter along the 100+ kilometers of tunnels that interconnect the plants.

From then on, Itaipu has invested in the development of electric mobility solutions and built prototypes of cars, trucks, mini buses, ethanol- and electricity-powered hybrid buses, 4WD utility vehicles, a light rail vehicle (LRV), and even a plane — the latter two projects are underway. The project has been planned to deliver an efficient, comfortable, affordable car

in the medium run, besides fostering a favorable environment for electric vehicles in the country.

Considering an electric car battery accounts for 40% of its cost, research is being conducted at PTI under Itaipu's technical coordination aimed at manufacturing sodium batteries — which are recyclable, cheaper, and better suited for tropical countries. Sodium batteries also have several applications in the electricity sector, especially in Smart Grids, and to supply renewable energy sources to isolated communities. By 2016, the technology is supposed to be provided to a Brazilian company to make it in an industrial scale. **EC2; EU8; GP7; GP9; EC2; EC3; EC4; EC5; EC6; EC12; EC15; SG5; SG11**  

## 2012 actions

The EV set up a technical-scientific partnership with ACS Aviation to develop the first Latin American electric plane (a two-seater sports model). The project helped Foz city administration study the possibility of implementing a LRV in the city and set up a partnership with company Bom Sinal, from Ceará, to jointly develop an electric traction system for sodium battery-powered LRVs.

The project also began studies to develop the first quick recharging system to simultaneously charge several vehicles within 20 minutes without overloading the power mains, besides continuing to research prototype improvement and smart grid applications.



# AWARDS AND ACKNOWLEDGEMENTS<sup>2.10</sup>

## **Top of Marketing Award**

**Presented by:** Association of Brazilian Sale and Marketing Leaders - Paraná chapter (ADVB-PR)

**Category:** Hospitality, tourism and culture

**Award-winning project/action:** “Waterfalls – Natural Wonder of the World” case

## **Cleaning Time Award**

**Presented by:** Grupo Estado

**Category:** Responsible company

**Award-winning project/action:** Cultivating Good Water Program (CAB)

## **Paraná Human Being – Luiz Hamilton Award**

**Presented by:** Associação Brasileira de Recursos Humanos no Paraná (ABRH-PR)

**Category:** Sustainable Development

**Award-winning project/action:** Consumer Education Project

## **Legitimate Sustainability Agents Benchmark Ranking**

**Presented by:** Mais Projetos Corporativos and Instituto Mais

**Category:** The best of the decade

**Award-winning project/action:** Cultivating Good Water Program (CAB)

## **Agrinho’s Friend Award**

**Presented by:** Serviço Nacional de Aprendizagem Rural do Paraná (SENAR)

**Category:** Agrinho’s Friend, an outreach program carried out by SENAR of which Itaipu has been a partner since 2003.



## **SESI Workplace Quality Award**

**Presented by:** Serviço Social da Indústria (SESI)

**Category:** Social-environmental development

**Award-winning project/action:** Volunteer Force Program

## ***2012 Fundação COGE Award***

**Presented by:** Fundação Coge (Business Management Committee)

**Category:** Social Responsibility Actions

**Award-winning project/action:** Work Initiation and Incentive Program (PIIT) – “Youngsters who learn, Lives that change” case

**Category:** Occupational health and safety management

**Award-winning project/action:** Hearing Conservation Program



## ***International Social-Environmental Award***

**Presented by:** Instituto Internacional de Pesquisa e Responsabilidade Socioambiental Chico Mendes

**Category:** Responsible social-environmental management

**Award-winning project/action:** Electric Vehicle Project

## ***Dam or Civil Works Construction or Rehabilitation Award***

**Presented by:** Hydro Vision Brasil

**Category:** Project of the Year

**Award-winning project/action:** Smart Dam Alarm System (SIAB)

## ***Friends of the Waterfalls Tourism Festival Award***

**Presented by:** Organizers of the Waterfalls Tourism Festival

**Category:** Friends of the Festival



## ***10th Benchmarking Brazil***

**Presented by:** Mais Projetos Corporativos and Instituto Mais

**Category:** 2012 Best Practices

**Award-winning project/action:** Drainage Watershed-Based Management case



# TECHNICAL INFORMATION



## Statement GRI Application Level Check

GRI hereby states that **Itaipu Binacional** has presented its report "Itaipu Sustainability Report 2012" to GRI's Report Services which have concluded that the report fulfills the requirement of Application Level A+.

GRI Application Levels communicate the extent to which the content of the G3.1 Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3.1 Guidelines. For methodology, see [www.globalreporting.org/SiteCollectionDocuments/ALC-Methodology.pdf](http://www.globalreporting.org/SiteCollectionDocuments/ALC-Methodology.pdf)

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

Amsterdam, 12 June 2013

A handwritten signature in blue ink, appearing to read "Nelmara Arbex".

Nelmara Arbex  
Deputy Chief Executive  
Global Reporting Initiative



The "+" has been added to this Application Level because Itaipu Binacional has submitted (part of) this report for external assurance. GRI accepts the reporter's own criteria for choosing the relevant assurance provider.

*The Global Reporting Initiative (GRI) is a network-based organization that has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. The GRI Guidelines set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. [www.globalreporting.org](http://www.globalreporting.org)*

**Disclaimer:** Where the relevant sustainability reporting includes external links, including to audio visual material, this statement only concerns material submitted to GRI at the time of the Check on 6 June 2013. GRI explicitly excludes the statement being applied to any later changes to such material.

## GRI INDEX

3.12

Profile Disclosures					
		Reason	Global Compact Principles	Earth Charter Principles	Pages
<b>Strategy and Analysis</b>					
1.1	Statement from the most senior decision-maker of the organization (e.g. CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy				3
1.2	Description of key impacts, risks and opportunities				3
<b>Organizational Profile</b>					
2.1	Name of the organization				13
2.2	Primary brands, products, and/or services				13
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures				13
2.4	Nature of ownership and legal form				11
2.5	Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report				13
2.6	Nature of ownership and legal form				11; 13
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries)				13
2.8	Scale of the reporting organization				11; 13
2.9	Significant changes during the reporting period regarding size, structure, or ownership	There were no changes			
2.10	Awards received in the reporting period				116; 117
<b>Report Parameters</b>					
3.1	Reporting period for information provided				6
3.2	Date of most recent previous report				6
3.3	Reporting cycle				6
3.4	Contact point for questions regarding the report or its contents				137
3.5	Process for defining report content				6; 7
3.6	Boundary of the report (e.g. countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers)				6
3.7	State any specific limitations on the scope or boundary of the report				6

Profile Disclosures					
		Reason	Global Compact Principles	Earth Charter Principles	Pages
<b>Parâmetros do relatório</b>					
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other institutions that can significantly affect comparability from period to period and/or between organizations	Itaipu does not have joint ventures, subsidiaries, leased facilities, outsourced operations, and other institutions. However, except for product, operation and financial information, only the power plant's Brazilian share of the work is reported			
3.9	Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report				6
3.10	Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g. mergers/acquisitions, change of base years/periods, nature of business, measurement methods)				6
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report				6
3.12	Table identifying the location of the Standard Disclosures in the report				120
3.13	Policy and current practice with regard to seeking external assurance for the report				6
<b>Governance, commitments and engagement</b>					
4.1	Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight				14; 15
4.2	Indicate whether the Chair of the highest governance body is also an executive officer (and, if so, their function within the organization's management and the reasons for this arrangement)				14
4.3	For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members				14
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body	The company is not publicly traded and there are no formal mechanisms to ensure employee participation in the decisions made by the highest governance body			



Profile Disclosures					
		Reason	Global Compact Principles	Earth Charter Principles	Pages
<b>Governance, commitments and engagement</b>					
4.5	Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance)	There is no varying compensation linked to the organization's performance			
4.6	Processes in place for the highest governance body to ensure conflicts of interest are avoided				14
4.7	Process for determining the qualifications and expertise of the members of the highest governance body for guiding the organization's strategy on economic, environmental, and social topics				14
4.8	Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation				6; 7; 16; 24
4.9	Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles				14
4.10	Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance	There are no formal self-evaluation mechanisms			
<b>Commitments to External Initiatives</b>					
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization				21
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4.15	Basis for identification and selection of stakeholders with whom to engage				29; 30
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group				29-35

Profile Disclosures					
		Reason	Global Compact Principles	Earth Charter Principles	Pages
<b>Stakeholder engagement</b>					
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns	The key topics and concerns raised by stakeholders are pin-pointed throughout the report using icons and highlighted in the very high relevance quadrant. Itaipu's measures to respectively address them are described in the texts associated to the indicators comprising topics deemed very relevant			7
<b>Economic Performance</b>					
<b>Economic Performance</b>					
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments			2,3,4,9,10,15	39-42; 68; 74; 76; 77; 81; 84; 109-111
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change		7	5	21; 93; 112-115
EC3	Coverage of the organization's defined benefit plan obligations				68
EC4	Significant financial assistance received from government	Itaipu resources comprise its capital, loans, third-party funding, and revenues			
<b>Market presence</b>					
EC5	Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation		1	2,3,9,10,15	60
EC6	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation			2,3,9,10,15	46; 47
EC7	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation		6	2,3,4,9,10,15	50
<b>Aspect: Indirect economic impacts</b>					
EC8	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement			2,3,4,5,9,10, 15	73-75; 77-82; 110-112
EC9	Understanding and describing significant indirect economic impacts, including the extent of impacts			2,3,4,5,9,10, 15	43-45; 65; 78; 97

Environmental Performance					
		Reason	Global Compact Principles	Earth Charter Principles	Pages
<b>Materials</b>					
EN1	Supplies used by weight or volume	The company does not have equipment containing PCB (polychlorinated biphenyl)	8	5	99
EN2	Percentage of materials used that are recycled input materials		8,9	5	97; 100
<b>Energy</b>					
EN3	Direct energy consumption by primary energy source		8	4,5	93; 95
EN4	Indirect energy consumption by primary source		8	4,5	93; 94
EN5	Energy saved due to conservation and efficiency improvements		8, 9	4,5	93; 94
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirements as a result of these initiatives	Not applicable – Itaipu is a company that generates renewable energy	8,9	4,5,7	
EN7	Initiatives to reduce indirect energy consumption and reductions achieved		8,9	4,5,7	96
<b>Water</b>					
EN8	Total water withdrawal by source		8	5	91
EN9	Water sources significantly affected by withdrawal of water	There are no water sources significantly affected by withdrawal of water associated to the company's activities; and no water is withdrawn from areas listed in the Ramsar Convention	8	5	
EN10	Percentage and total volume of water recycled and reused		8,9	5	92
<b>Biodiversity</b>					
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas		8	1,5,12,15	100; 101; 108
EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas		8	1,5,12,15	91; 100
EN13	Habitats protected or restored		8	1,5,12,15	100; 108
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity		8	1,5,12,15	91; 100-102; 109
EN15	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk		8	1,5,12,15	102-107

Environmental Performance					
		Reason	Global Compact Principles	Earth Charter Principles	Pages
<b>Emissions, effluents, and waste</b>					
EN16	Total direct and indirect greenhouse gas emissions by weight		8	2,3,4,5 6,12,15	97
EN17	Other relevant indirect greenhouse gas emissions by weight		8	2,3,4,5 6,12,15	97
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved		7, 8,9	2,3,4,5 6,12,15	96
EN19	Emissions of ozone-depleting substances by weight		8	2,3,4,5 6,12,15	96
EN20	NO, SO, and other significant air emissions by type and weight		8	2,3,4,5 6,12,15	96
EN21	Total water discharge by quality and destination		8	2,3,4,5 6,12,15	91; 92
EN22	Total weight of waste by type and disposal method		8	2,3,4,5 6,12,15	97; 98
EN23	Total number and volume of significant spills	In 2012, there were no significant spills in the industrial area	8	2,3,5 6,12,15	
EN24	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	No hazardous waste was shipped internationally	8	2,3,5 6,12,15	
EN25	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff	Itaipu did not discharge significant or even minor amounts of water capable of causing environmental damage. No water body Itaipu uses for harnessing or discharge is located in wet areas listed in the Ramsar Convention. Our company did not carry out drainage of any kind and extent either	8	2,3,5 6,12,15	
<b>Products and Services</b>					
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation		7,8,9	5,7	87; 89; 90
EN27	Percentage of products sold and their packaging materials that are reclaimed by category	Not applicable – Itaipu's product is energy, which is not packed	8,9	5,7	

Environmental Performance					
	Reason	Global Compact Principles	Earth Charter Principles	Pages	
<b>Compliance</b>					
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	8	5,7	87	
<b>Transport</b>					
EN29	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce	8	5,7	96	
<b>Overall</b>					
EN30	Total environmental protection expenditures and investments by type	7,8,9	5,7	88	
<b>Social Performance – Labor Practices</b>					
<b>Employment</b>					
LA1	Total workforce by employment type, employment contract, and region, broken down by gender		1,2,3,4,9,10,11,13,15	50	
LA2	Total number and rate of new employee hires and employee turnover by age group, gender, and region	6	1,2,3,4,9,10,11,13,15	52-54	
LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation		1,2,3,4,9,10,13,15	50	
<b>Labor/management relations</b>					
LA4	Percentage of employees covered by collective bargaining agreements	1,3	1,2,3,4,9,10,13,15	55	
LA5	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements	3	1,2,3,4,9,10,13,15	55	
<b>Occupational health and safety</b>					
LA6	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	1	1,2,3,4,8,9,10,13,15	56; 57	
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	1	1,2,3,4,8,9,10,11,13,15	57	

<b>Social Performance – Labor Practices</b>					
		Reason	Global Compact Principles	Earth Charter Principles	Pages
<b>Occupational health and safety</b>					
LA8	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases		1	1,2,3,4,8,9, 10,11,13, 14, 15	58; 59; 64
LA9	Health and safety topics covered in formal agreements with trade unions		1	1,2,3,4,8,9, 10,13,15	56
<b>Training and education</b>					
LA10	Average hours of training per year per employee by gender, and by employee category			1,2,3,4,8,9 10,11,13,14, 15	64
LA11	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings			1,2,3,4,8,9 10,11,13,14, 15	66
LA12	Percentage of employees receiving regular performance and career development reviews, by gender			1,2,3,4,8,9 10,11,13,14, 15	63
<b>Diversity and equal opportunity</b>					
LA13	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity		1,6	1,2,3,4,8,9 10,11,13,14, 15	60; 61
<b>Equal remuneration for women and men</b>					
LA14	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation		1,6	1,2,3,4,9 10,11,12,15	61
<b>Employment</b>					
LA15	Return to work and retention rates after parental leave, by gender		1,6	1,2,3,4,9 10,11,13,15	60
<b>Social Performance – Human Rights</b>					
<b>Investment and procurement practices</b>					
HR1	Percentage and total number of significant investment agreements and contracts that include human rights concerns, or that have undergone human rights screening	Itaipu does not invest in other companies or projects with other companies, like joint ventures, corporations etc	1,2,3,4,5,6	11	
HR2	Percentage of significant suppliers, contractors, and other business partners that have undergone human rights screening, and actions taken		1,2,3,4,5,6	11	46

Social Performance – Human Rights					
	Reason	Global Compact Principles	Earth Charter Principles	Pages	
<b>Práticas de investimento e de processos de compra</b>					
HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	1,2,3,4,5,6	11	64	
<b>Non-discrimination</b>					
HR4	Total number of incidents of discrimination and corrective actions taken	1,2,6	11, 12	55	
<b>Freedom of association and collective bargaining</b>					
HR5	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights	1,2,3	11, 13	55	
<b>Child labor</b>					
HR6	Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor	1,2,5	11, 13	47	
<b>Forced and compulsory labor</b>					
HR7	Operations identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor	1,2,4	11, 13	47	
<b>Security practices</b>					
HR8	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations	1,2	11	64; 70	
<b>Indigenous rights</b>					
HR9	Total number of incidents of violations involving rights of indigenous people and actions taken	1,2	11,12	84	
<b>Assessment</b>					
HR10	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments	1,2	11	55	
<b>Remediation</b>					
HR11	Number of grievances related to human rights filed, addressed and resolved through formal grievance mechanisms	1,2	11	17; 55	

Social Performance - Society					
		Reason	Global Compact Principles	Earth Charter Principles	Pages
<b>Community</b>					
SO1	Percentage of operations with implemented local community engagement, impact assessments, and sustainable development programs	Although Itaipu engages stakeholders in several of our programs and actions, as reported in the course of the report, we are still unable to measure the engagement percentage, and there are no plans to report on such information		4,13	68; 76; 82; 89; 90; 101; 109-111
<b>Corruption</b>					
SO2	Percentage and total number of business units analyzed for risks related to corruption		10	4,13	16
SO3	Percentage of employees trained in organization's anti-corruption policies and procedures		10	4,13	16; 64
SO4	Actions taken in response to incidents of corruption	There are no corruption-related lawsuits filed against Itaipu or our employees. Additionally, there have been no incidents of corruption in the past 3 years	10	4,13	
<b>Public policy</b>					
SO5	Public policy positions and participation in public policy development and lobbying		1,2,3,4,5 6,7,8,9,10	4,8,13	73; 83-85; 97; 111
SO6	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country	Our company does not make financial contributions to political parties or the like	10	4,8	
<b>Compliance</b>					
SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes	Not applicable – Under the Itaipu Treaty, our company's entire energy generating capability is purchased by Eletrobrás and ANDE; therefore, Itaipu has no competition		4	
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	There are no accounting records of significant fines or non-monetary sanctions for non-compliance with laws and regulations		4	



Social Performance - Society					
	Reason	Global Compact Principles	Earth Charter Principles	Pages	
<b>Community</b>					
SO9	Operations with significant potential or actual negative impacts on local communities	1,2	4,13	21; 24	
SO10	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities	1,2	4,13	24	
<b>Social Performance – Product Responsibility</b>					
<b>Customer health and safety</b>					
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures	1	1,4,5,7,15	56	
PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes	There were no incidents in terms of community impacts as a result of Itaipu's activities or the supply of its product to the community	1	1,4,5,7	
<b>Product and service labeling</b>					
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements	Not applicable – Itaipu's product is electricity, which does not entail labeling	8	4,5,6,7	
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes	Not applicable – Itaipu's product is electricity, which does not entail labeling	8	4,5,6,7	
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction	Not applicable – Itaipu does not conduct customer satisfaction surveys because it is a power generation company. Our relationship with Eletrobrás, our direct client in Brazil, is strategic regarding actions to improve the Brazilian Electricity System		4,5,6,7	
<b>Marketing communications</b>					
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship		4,5,7	35; 77	
PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes	There were no incidents of non-compliance		4,5,7	
<b>Customer privacy</b>					
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	Not applicable – Itaipu does not have direct end-customers; therefore, the company does not handle such type of information	1	5,7	

		Reason	Global Compact Principles	Earth Charter Principles	Pages
<b>Customer privacy</b>					
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	Itaipu follows the guidelines proposed by Eletrobras, which deems significant those fines exceeding 1% of a company's Net Operating Revenue (NOR). In 2012, Itaipu's accounting records regarding fines did not reach that percentage		5,7	
<b>Sector Disclosures*</b>					
<b>Disaster/emergency planning and response</b>					
EU1	Installed capacity (MW), broken down by primary energy source and by regulatory regime				11
EU2	Net energy output broken down by primary energy source and by regulatory regime (GWh)				19
EU3	Number of residential, industrial, institutional and commercial customer accounts	Not applicable – Itaipu does not have direct end-customers like households, factories and commercial facilities			
EU4	Length of above and underground transmission and distribution lines by regulatory regime	Not applicable – Itaipu is not a transmission and distribution company. However, we have 75.2 km long 500 kV transmission lines used to connect us to the substations taking energy to the Brazilian and Paraguayan electricity systems. Additionally, the power plant has 13.8 kV internal distribution systems that supply our offices and attached facilities inside our Priority Area, such as the PTI			
EU5	Allocation of CO <sub>2</sub> e emissions allowances or equivalent, broken down by carbon trading	Itaipu does not participate in the carbon credit market (CDM - Clean Development Mechanism projects) and does not have projects allowing us to obtain credits, given that it is not possible to get them by keeping the forest standing. Reforestation of the reservoir protection strip and the biological sanctuaries has been a part of our company's plans since we started operating, regardless of getting carbon credits	7	5,12	
EU6	Management approach to ensure short and long-term electricity availability and reliability			12	18; 20
EU7	Demand-side management programs including residential, commercial, institutional and industrial programs	Not applicable - Demand-side management programs are developed by distribution companies and Eletrobrás; because we are a generation company, Itaipu does not develop such programs			

Sector Disclosures*					
		Reason	Global Compact Principles	Earth Charter Principles	Pages
<b>Disaster/emergency planning and response</b>					
EU8	Research and development activity and expenditure aimed at providing reliable electricity and promoting sustainable development		9	8,14	23; 115
<b>Availability and reliability</b>					
EU9	Provisions for decommissioning of nuclear power sites	Not applicable – Itaipu does not have nuclear sites			
<b>Demand-side management</b>					
EU10	Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime	Not applicable – Itaipu already has the plant's maximum capacity installed			
<b>Eficiência do Sistema</b>					
EU11	Average generation efficiency of thermal plants by energy source and regulatory regime	Not applicable – Itaipu does not have thermal plants			
EU12	Transmission and distribution losses as a percentage of total energy	Not applicable – Although we have transmission equipment connecting us to the system that conveys our energy up to charging centers, Itaipu does not operate in the transmission and distribution business			
<b>Habitats de Compensação</b>					
EU13	Biodiversity of offset habitats compared to the biodiversity of the affected areas		8	5,14,15	101; 103-108
<b>Força de trabalho</b>					
EU14	Programs and processes to ensure the availability of a skilled workforce			1,2,3,10	63; 70
EU15	Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region		6	1,12	67
EU16	Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors		1,2	1,2,3,8,12	70
EU17	Days worked by contractor and subcontractor employees involved in construction, operation and maintenance activities	Because those organizations' contracts are directly managed by the hiring departments, there is no centralized information on the profile of those workers performing activities of building maintenance, cleaning, landscaping, catering, and those working as security guards and drivers. There are no plans to report on such information	4	1,2,3	
EU18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training		2,4	1,2,3,8,14	57; 70; 71
<b>Community</b>					
EU19	Stakeholder participation in the decision making process related to energy planning and infrastructure development			1,13	13
EU20	Approach to managing the impacts of displacement	Because we are a fully installed project, Itaipu no longer causes displacements	1	2,3	

Sector Disclosures*					
		Reason	Global Compact Principles	Earth Charter Principles	Pages
<b>Disaster/Emergency planning and response</b>					
EU21	Contingency planning measures, disaster/emergency management plan and training programs, and recovery/restoration plans		1,8	1,2,6,15	21; 22
<b>Community</b>					
EU22	Number of people physically or economically displaced and compensation, broken down by type of project	Because we are a fully installed project, Itaipu no longer causes displacements	1	1,2,3,15	
<b>Access</b>					
EU23	Programs, including those in partnership with government, to improve or maintain access to electricity and customer support services	Not applicable – Itaipu does not have direct end-customers because we are a power generation company	1	3,15	
EU24	Practices to address language, cultural, low literacy and disability related barriers to accessing and safely using electricity and customer support services	Not applicable – Itaipu is not a distribution company; therefore, we do not deal with end-customers directly	1	3,12,15	
EU25	Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases	Not applicable - Itaipu is a power generation company, and therefore does not have a direct relationship with electricity end-users		2,15	
EU26	Percentage of population unserved in licensed distribution or service areas	Not applicable – Itaipu does not work in energy distribution			
EU27	Number of residential disconnections for non-payment, broken down by duration of disconnection and by regulatory regime	Not applicable – Itaipu does not work in energy distribution			
EU28	Power outage frequency	Not applicable – Itaipu does not work in energy distribution			
EU29	Average power outage duration	Not applicable – Itaipu does not work in energy distribution			
EU30	Average plant availability factor by energy source and by regulatory regime				20

## **INDEPENDENT AUDITORS' LIMITED ASSURANCE REPORT**

*To the Board of Directors and other stakeholders*

*Itaipu Binacional - Curitiba - PR*

### **Introduction**

*We were hired by Itaipu Binacional (Itaipu) to apply limited assurance procedures to the information disclosed in the Sustainability Report of Itaipu Binacional (Itaipu), a binational Brazilian-Paraguayan organization, related to the year ending on December 31st, 2012, which information refers solely to the Brazilian river bank,*

*except for the information related to the power plant's production and facilities, the Added Value Statement (AVS) and the performance appraisal according to the template by iBase - Instituto Brasileiro de Análises Sociais e Econômicas (Brazilian Institute of Social and Economic Analyses), which includes the binational information.*

### **Company management's duties**

*The management of Itaipu Binacional (Itaipu) is responsible for preparing and properly presenting the information contained in the Itaipu Sustainability Report according to the Sustainability Report Guidelines issued by the Global Reporting Initiative – GRI (GRI-G3), along with the Electric Utilities Sector*

*Supplement – RG Version 3.0/EUSS Final Version, and the internal controls the company deems necessary for such information to be prepared free of relevant distortions, whether caused by fraud or error.*

### **Independent auditors' duties**

*Our responsibility is to provide a conclusion about the information contained in the Sustainability Report, based on our limited assurance work performed according to Technical Notice (Comunicado Técnico - CT) 07/2012, approved by the Brazilian Federal Accounting Board, and prepared based on NBC TO 3000 (Assurance Engagements other than Audits and Reviews), issued by the Brazilian Federal Accounting Board – CFC, which is equivalent to the international ISAE 3000 standard, issued by the International Federation of Accountants, applicable to non-historical information. Those standards demand compliance with ethical requirements, including independence requirements, and that the efforts are carried out in order to provide limited assurance that the information contained in the Sustainability Report released by Itaipu Binacional (Itaipu), taken as a whole, is free of relevant distortions.*

*contained in the Sustainability Report, as well as the use of analytical procedures to obtain evidence enabling us to reach a conclusion in the form of limited assurance about the information taken as a whole. Additionally, limited assurance engagements also require the use of additional procedures when independent auditors become aware of issues leading them to believe the information contained in the Sustainability Report may present relevant distortions when taken as a whole.*

*The procedures were chosen based on our understanding of the aspects related to the compilation and presentation of the information contained in the Sustainability Report, other work-related circumstances, and our consideration about areas where relevant distortions may be found. The procedures included:*

*Limited assurance work carried out according to NBC TO 3000 (ISAE 3000) mostly comprises asking questions to the Company's management and other staff involved in the preparation of the information*

*(a) planning the work, considering the relevance, volume of quantitative and qualitative information,*

and the operating systems and internal controls on which the preparation of the information contained in the Sustainability Report released by Itaipu Binacional (Itaipu) was based;

(b) understanding the calculation methodology and procedures to compile the indicators, through interviews with the managers responsible for preparing the information;

(c) applying analytical procedures to quantitative information and asking about qualitative information and their correlation to the indicators disclosed in the information contained in the

### **Scope and limitations**

The procedures used in a limited assurance engagement are substantially less comprehensive than those used in an assurance engagement whose purpose is to issue an opinion about the information contained in the Sustainability Report. Consequently, they do not enable us to be certain we have learned about all the topics that would have been identified in an assurance engagement meant to issue an opinion. In case we had worked with the purpose of issuing an opinion, we may have identified other topics and occasional distortions that might exist in the information contained in the Sustainability Report. Therefore, we are not issuing an opinion on such information.

### **Conclusion**

Based on the procedures used, as described in this report, we became aware of nothing that might have led us to believe the information contained in the Sustainability Report had been compiled, in all relevant aspects, in a manner other than in accordance with the Sustainability Report Guidelines issued by the Global

Sustainability Report; and

(d) comparing the financial indicators against the financial statements and/or accounting records.

We believe the evidence obtained by our efforts is sufficient and appropriate to validate our conclusion in the limited form.

Non-financial data are subject to have more inherent limitations than financial data, given the type and diversity of the methods used to obtain, calculate or estimate such data. Qualitative interpretations regarding data materiality, relevance and accuracy are subject to individual assumptions and judgments. Additionally, the scope of our work did not include reviewing the data related to greenhouse gas emissions, and we in no way worked on data reported for previous periods, or regarding future estimates and goals.

Reporting Initiative – GRI (GRI-G3), along with the Electric Utilities Sector Supplement – RG Version 3.0/ EUSS Final Version, and the records and files on which its preparation was based.

São Paulo, June 05, 2013



KPMG Risk Advisory Services Ltda.  
CRC 2SP023233/O-4

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

**FOCAL POINTS** Since 2007, when Itaipu adopted the Global Reporting Initiative (GRI) Guidelines to prepare Itaipu's sustainability reports, the disclosures have been answered by representatives from our company's various departments. They are the "focal points of sustainability" and help define the materiality, provide the data, and revise the latter before the final text is written.

**Executive Administrative Office:** Adriano Bardou; Alvino Lugo; Antônio Rizatti; Carlos Eduardo Tavares; Cândida Strey; Ednaldo Rabello; Eduardo Bastos; Eliana Acordi; Eliane Ventura; Genesio Engel; Julio Cesar Maia; Julio Rissa; Rodrigo Cardoso; Rogério Miranda; Rosana Cordeiro.

**Executive Coordination Office:** Alan Jones; Anderson Braga; Ben-Hur Stefano; Bruno Teixeira; Domingo Rodrigues; Emerson Suemitsu; Jair Kotz; João Cordoni; João Passini; José Carlos Costa; Leila Alberton; Lilian Sferra; Liziane de Moraes; Marlene Costa; Marlene Curtis; Reinaldo Santos; Robinson Matte; Rodrigo Cupelli; Rosana Turmina; Sérgio Angleben; Silvana Vitorassi; Tatiara Ribeiro; Valdecir Maria; Valéria Borges; Vinicius Ortiz.

**Executive Financial Office:** Adriano Hamerschmidt; Alexandre Mugnaini; Eduardo Guerra; Fabricio Rocha; Gilmar Cândido Alves; Grace Tomoko; Joaquim Augusto Azevedo; Luiz Henrique Nascimento; Priscylla Klein; Rafael Pasini; Simone Rogoginski.

**General Board of Officers:** Carolina Gualberto; Cleverson Batista; Daniel Reis; Fabiane Ariello; Lígia Neves; Marcio Bortolini; Marcio Massakiti; Marisa Guras; Maristela Beal; Meire Lucia Mazolla; Tania Solagna.

**Legal Counsel:** Ângela Derengoski; Gianna Loss; José Acácio Ferreira; Marcos Ribeiro.

**Executive Technical Office:** Angelo Mibieli; Auder Lisboa; Carlos Leonardi; Claudio Osako; David Krug; Fernanda Nodari; João Ricardo Leal; Renata Tufalle; Ricardo Krauskopf; Roberto Faria.

**Foundations:** Claudio Costa and Daniela Veronezi (Itaipu Technology Park Foundation – PTI); Malton Moroz and Florício Medeiros (Itaipu-Brazil Foundation of Social Security and Social Work – FIBRA); Rogério Bohm, Elielci Luiza Borba and Silvana Ferreira (Itaipu Health Foundation / Hospital Ministro Costa Cavalcanti).

## STAFF

**Social Responsibility Advisory Office**  
General Coordinator  
Heloisa Covolan

## Executive Coordinators

Bernardo Soares and Mônica Dantas Thedesco

## GRI Technical Consultants

Visão Sustentável

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