

ELETROBRAS COMPANIES 2011 SUSTAINABILITY REPORT  
**SUSTAINABILITY REPORT**  
SUSTAINABILITY REPORT OF THE ELETROBRAS COMPANIES  
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Eletrobras

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## MISSION MISSION MISSION MISSION MISSION MISSION

To operate in the energy market in an integrated, profitable and sustainable manner.

## VISION VISION VISION VISION VISION VISION

To become the largest global clean energy corporate system by 2020 with profitability in line with the major companies in the electric power industry.

## VALUES VALUES VALUES VALUES VALUES

- //// Results driven;
- //// Entrepreneurship and innovation;
- //// High valuation of and commitment to people;
- //// Ethics and transparency.





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Eletrabras aims to become, by 2020, the largest global clean energy corporate system, and 2011 was critical in that sense. The company implemented the largest investment program in its history: approximately BRL 9.9 billion, with the highest degree of realization to date, and obtained a net income of approximately BRL 3.7 billion.

In order for the company to reach the bold goals it has established for the coming years, it must focus on projects with high power generation potential, especially hydroelectric projects such as the hydroelectric development of Belo Monte, the hydroelectric power plants located in the Madeira River - Santo Antônio and Jirau - and Teles Pires and the hydroelectric power plants located in the Tapajós River Basin - São Luiz do Tapajós, Jatobá, Jamaxim, Cachoeira dos Patos, and Cachoeira do Cai. In 2011, the construction works for the Teles Pires and Belo Monte plants were initiated.

Thus, the companies in the Eletrabras group hold the concession/permit for new power generation projects (and await the granting of permits for other projects, obtained in past biddings, with a total capacity of approximately 23,700 MW, including those in which it has direct concession and those in which it holds equity interest. The vast majority of projects use power generation sources with low emission of contaminants.

In addition to having power plants authorized or pending authorization, the Eletrabras Companies develop studies of projects for hydroelectric power plants, directly or in partnership, totaling 22,543 MW of installed capacity. Many of these projects are included in the expansion of the offer of the 2020 Decennial Energy Expansion Plan (PDE 2020), prepared by the EPE/MME - Energy Research Company of the Ministry of Mines and Energy.

At the same time, the investment in alternative energy sources has become a priority for the companies in the system. There are feasibility studies and investments related to the use of solar and biomass energy. As an example of this investment, in 2011, Eletrabras Eletrosul won the bidding for the construction of the Cerro Chato Wind Farm (I, II, III), totaling 90 MW. Considering Eletrosul's percentage alone (90%), the installed capacity is 81 MW, 27 MW in each plant, contributing to the diversification of the country's energy matrix.

In 2011, the company carried out approximately 80% of the investments planned for the year, adding a total of 543 MW (including the Candiota III Plant, which entered commercial operations in 2011) to its total installed generation capacity and a total of 315 km of transmission lines. For 2012, planned investments total BRL 13.3 billion.

In the generation segment, the construction of over 22,524 MW of installed capacity is ongoing nationwide, the majority of which are in partnerships, through the incorporation of Specific Purpose Companies (SPEs), with other companies and investors. There is also a total of 1,170 MW in projects that have been approved but not yet initiated. Additionally, the Eletrabras Companies have 22,543 MW

of installed capacity in the feasibility study and basic project phases. For the period of 2012-2015, an additional contracted installed capacity of nearly 13,251 MW is planned, representing an associated investment of BRL 26.4 billion.

In the transmission segment, the projects under construction represent the addition of 6,641 km of transmission lines to Eletrobras's portfolio, and of this total, 4,206 km are being developed in partnership with other companies. The associated investment for these projects totals BRL 10.9 billion. Concerning the energy biddings held in 2011, 1,258 MW were awarded to the Eletrobras Companies and their partners, notably 808 MW in wind farms and 3,155 km of transmission lines.

In the distribution segment, the activities conducted by the Eletrobras Companies are concentrated in the north and northeast regions. In 2011, in this segment, 13.68 TWh of electricity were marketed to 3.49 million customers in 463 municipalities of whom 40% were low income consumers. Investments throughout the year reached BRL 0.8 billion which was used in the construction of 27,100 km of distribution lines. Approximately 187,581 new consumers were connected to the grid.

All of this is made possible only with soundness and reliability. To this end, Eletrobras has also been investing in internal processes that foster integration between the holding and its subsidiaries, with a more efficient organizational structure and the enhancement of corporate governance. In this aspect, the approval of the Senior Management Performance Assessment Manual and other statutory changes implemented in 2011 played a relevant role, increasing the credibility of the companies in the system. (GRI 4.10)

The Integrated Strategic Plan developed by the Eletrobras Companies, launched in 2010, unifies mission, vision and values. Subsequently, in 2011, each company in the system initiated the development of its Business Plan. Adhering to the idea of unification, based on the integrated plan, the plans shall be finalized by mid-2012.

In relation to consumers, the total energy saved by PROCEL, of 6.696 billion kWh in 2011, stands out. This total corresponds to the annual consumption of 3.6 million Brazilian homes, avoiding the emission of 196,000 tCO<sub>2</sub>, i.e., the emission equivalent to a fleet of 67,000 vehicles. In addition, the adoption of the ISO 50001-Energy Management System, with strong participation of Eletrobras, was a milestone for the energy sector's energy efficiency. This Norm drives continuous improvement of energy performance and can impact 60% of global energy consumption.

### **Eletrobras Eletrosul**

In addition to winning the bidding for the Cerro Chato Wind Farm, in August 2011, Eletrosul (49%), in partnership with Fundo Rio Bravo (41%) and Elos (10%), Eletrobras Eletrosul was the winner of Bidding 02/2011 (A-3) held by ANEEL (Brazilian Electricity Regulatory Agency). Three SPEs (Specific Purpose Companies) were constituted (Livramento, Santa Vitória do Palmar, and Chui) to be responsible for the implementation of a total of 21 wind farms in Rio Grande do Sul, totaling 480 MW of installed capacity. Considering Eletrosul's percentage alone, the installed capacity is 235.2 MW. The Livramento wind power complex comprises the Ibirapuitã I (24 MW), Cerro Chato IV (10 MW), Cerro Chato V (12 MW), Cerro Chato VI (24 MW), and Cerro dos Trindade (08 MW) wind farms, totaling 78 MW. Considering Eletrosul's percentage alone, the installed capacity is 38.2 MW.

This set of highlights demonstrates that the Eletrobras Companies act as an agent of the energy sector where sustainability is present in its performance in generation, transmission and distribution, as well as among consumers promoting consumption awareness.



## Nuclear energy in Brazil and the construction of Angra 3

The expansion of Eletrobras's nuclear energy generation facilities is in line with the strategies issued by the Federal Government's Ministry of Mines and Energy, which foresees the construction of between four and eight new nuclear power plants in the country, with the potential of adding as much as 10,000 MW to the National Electric Power System. According to ANEEL, in order to meet the increasing demand for electricity, the country must increase its production by 3,000 to 4,000 MW per year until 2015.

The construction of Angra 3 is also in line with the company's vision of becoming, in 2020, the largest global clean energy corporate system. This will be possible because nuclear power plants are the most efficient thermoelectric power plants for the Eletrobras Companies, representing 3% of the electricity consumed in Brazil and over 50% of the consumption in the state of Rio de Janeiro. With the completion of Angra 3, planned for 2015, the Brazilian nuclear energy sector will increase by 1,400 MW, reaching a production capacity of 3,400 MW, according to the Decennial Plan for the Expansion of Energy (PDE).

In addition, emission of GHG gases from nuclear power generation is very small and the construction and operation of its plants generate low socio-environmental impacts with high efficiency in reduced areas, which can thus be characterized as a "clean" source. In order to avoid possible negative impacts during the operation phase, such as radiation leakage to the environment, the company works with the most advanced technologies and has carefully prepared safety and emergency plans, which include regular drills with the participation of the population in the vicinities of the plant.

## Nuclear energy worldwide and the current situation in Brazil

Globally, there are more than 448 nuclear power plants, producing 2,517,980.41GW/h. In the global scenario, Brazil presents very favorable conditions for nuclear power production, considering it has large recoverable uranium deposits (material used for the production of nuclear energy). According to data from the International Atomic Energy Agency (IAEA), with only 30% of its territory prospected, the country currently has the sixth largest reserve in the world, estimated at 309,000 tons, enough to fuel 32 nuclear power plants like Angra 3 for their entire useful life.

In addition, the proximity between Almirante Álvaro Alberto Nuclear Center (CNAEA) to the major consumption centers in the country (Rio de Janeiro, São Paulo, and Belo Horizonte) avoided the need for the construction of extensive transmission lines, minimizing costs and energy loss.

More information on nuclear power plants around the world can be found at (<http://pris.iaea.org/Public/WorldStatistics/NuclearShareofElectricityGeneration.aspx>).

## On the construction of Angra 3

The construction of the third Brazilian nuclear power plant, whose authorization dates to 1975 resumed in 2010, after all applicable legal proceedings shall generate approximately 5,000 direct jobs over five and a half years, with peaks that could reach 9,000 positions during the busiest periods at the work site. Until its conclusion, it will require investments of approximately BRL 9 billion.

Modifications to CNAAA arising from the construction of the new plant do not impact biodiversity, given that all activities are conducted within the consolidated perimeter of 3.5 km<sup>2</sup> where the plant has been located for over 20 years, and the circulation of trucks transporting materials is done via the existing paved state highway. It is important to remember that during the operation of the plant in 2011, no contaminants that might endanger biodiversity were released to the air, water, or soil.

## Safety Plans (GRI EU21)

All processes occurring at Eletrobras Eletronuclear are tracked by permanent structured and specific environment monitoring programs, initiated in the 1970s, via Eletrobras Eletronuclear's Environment Monitoring Laboratory.

During the routine operation of the existing plants, potential environmental impacts are monitored in real time through the measuring equipment of the monitoring laboratory. The plant has equipment and sensors for alerts and procedures in case of any operational non-compliance.

The company also has local emergency and evacuation plans (PEL) and conducts drills with the local population for potential nuclear accidents, including prevention and preparation, response and reconstruction. The information concerning the Integrated Emergency Plan (PEI) and the evacuation drills is detailed in the 2011 Eletrobras Eletronuclear Socio-Environmental Sustainability Report, pages 89 to 95, and the details concerning the Local Emergency Plan (PEL) on pages 176 a 189 (<http://www.eletronuclear.gov.br/LinkClick.aspx?fileticket=-yvJ6CLHCFA%3d&tabid=289>).

PEI contains the State Center for the Management of Nuclear Emergency Situation (GESTGEN), with the goal to restore, if necessary, essential services such as electricity, telephone, water and sewer, among others in the municipality of Angra dos Reis and surroundings. These emergency work teams are supported by radiological protection technicians from the Radioprotection Group (GRAP), of the National Nuclear Energy Commission (CNEN), coordinated by Center for the Coordination and Control of Nuclear Emergencies (CCCEN).

The external emergency plan of the state of Rio de Janeiro (PEERJ), coordinated by the State's Civil Defense, including the Police and Fire Departments, operates outside the limits of the nuclear center and performs annual and biannual emergency drills simulating the evacuation of population in the area of the power plants. Among many specific actions, the Civil Defense also coordinates various agencies, including the creation of emergency maintenance groups.

Eletrobras Eletronuclear also maintains two information centers for providing clarification about the nuclear power plants located in Angra dos Reis. The Itaorna Information Center, located at km 522 of the Rio-Santos Highway, is open Monday through Friday from 8AM to 11:30PM and from 1:45 PM to 4:30PM and on Saturdays, Sundays, and holidays from 8:30AM to 3PM. The Eletronuclear Spaces are located in the downtown area of Angra dos Reis on Praça General Ozório s/n-Convento N.S. do Carmo and in the city of Paraty (in the headquarters of Instituto Silo Cultural) and are open Monday through Friday from 7:30AM to 9PM and on Saturdays from 9AM to 2PM.

## Belo Monte

The Belo Monte hydroelectric power plant, one of the most important projects of the Growth Acceleration Program (PAC), is a priority of the federal Government, and the beginning of its operations will provide more energy and safety for the National Interconnected System (SIN), with better use of the hydrological differences between rain and dry seasons in various regions of the country.

Demand for electricity has grown substantially in Brazil, thanks to the economic growth resulting from the increase in residential, commercial and industrial consumption. The construction of the Belo Monte hydroelectric power plant, in this context, is due to the need to take advantage of the valuable hydroelectric potential offered by the Xingu River, allowing to convert this natural wealth into an instrument for the sustainable development of the region and across the country, in a region that, since the 70's, has been affected by anthropization.

The development, located on the Xingu River, state of Pará, started in the 70's, and had its hydroelectric usage project, throughout its development, deeply modified seeking to restrict the impacts to the environment and to the population of the region.

To discuss the construction of the plant, 12 public consultations were held between 2007 and 2010; Ten workshops with the community that lives in the area of the development; technical forums in Belém and in Xingu; visits to over 4,000 families; four public hearings of the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA), with more than 6,000 people, and 30 meetings of the National Indian Foundation (FUNAI) in villages, with the participation of employees of Eletronorte.

The Belo Monte hydroelectric power plant will have an installed capacity of 11,233 MW, and the beginning of operations of its first unit is scheduled for 2015. The implementation of the Belo Monte hydroelectric power plant will add an average 4,571 MW of energy to the Brazilian electric system, enough power to supply 40% of residential consumption across the country.

In 2011, the installation license was granted and the works were initiated. The completion of the development is planned for 10 years.

## Timeline

# Belo Monte Hydroelectric Power Plant

### Learn about its history

|                             |  |
|-----------------------------|--|
| <b>1975</b>                 | Beginning of the studies for the hydroelectric potential of the Xingu River basin.   |
| <b>1980</b>                 | Completion of the study and inventory and beginning of the technical feasibility studies for the Kararaó hydroelectric plant (the first name given to the plant).  |
| <b>1988   08/02</b>         | DNAEE Administrative Rule No. 43 approved the study of the inventory for the Xingu River.  |
| <b>1988   08/30</b>         | MME's Administrative Rule No. 1077 authorized Centrais Elétricas do Norte do Brasil S/A (Eletronorte) to conduct feasibility studies for the Belo Monte Hydroelectric Plant.   |
| <b>1989</b>                 | Completion of the first feasibility studies for the Belo Monte Hydroelectric Plant.  |
| <b>1994</b>                 | Revision of the feasibility studies with a reduction in the flooded area and no flooding of indigenous areas.  |
| <b>1998</b>                 | Eletrobras requests authorization from the National Electric Energy Agency (ANEEL) to conduct, along with Eletronorte, new feasibility studies for the Belo Monte Hydroelectric Plant.   |
| <b>2000</b>                 | In December, Eletrobras and Eletronorte signed an agreement for the joint completion of the technical-economic and environmental feasibility studies of the Belo Monte Hydroelectric Plant.  |
| <b>2002</b>                 | The studies are presented to ANEEL, but are not completed as a result of a court ruling.   |
| <b>2005   July</b>          | Through decree number 75/2008, the Congress authorizes Eletrobras to complete the studies.   |
| <b>2005   August</b>        | Eletrobras and the construction companies Andrade Gutierrez, Camargo Correa and Norberto Odebrecht signed a technical cooperation agreement for the completion of the technical, economic and socio-environmental feasibility studies for the Belo Monte Hydroelectric Plant.                |
|                             | Eletrobras requests from IBAMA the opening of the environmental licensing process. The environmental impact study is initiated.  |
| <b>2006   March</b>         | IBAMA carries out the first technical inspection in the area of the project.   |
| <b>2006   August</b>        | IBAMA carries out the technical inspection and public hearings in the municipalities of Altamira and Vitória do Xingu to discuss the Terms of Reference for the Environmental Impact Study (EIS).  |
| <b>2006   December</b>      | IBAMA issues the Terms of Reference for the EIS.   |
| <b>2008   July</b>          | The National Energy Policy Council - CNPE defines that the only hydroelectric potential to be exploited in the Xingu River will be the Belo Monte Hydroelectric Plant. ANEEL approves the Authorization of Inventory authorizing only the Belo Monte Hydroelectric Plant on the Xingu River. |
| <b>2008   November</b>      | IBAMA carries out the technical inspection in the area of the project.   |
| <b>2009   February</b>      | Eletrobras delivers the preliminary version of the EIS/EIA.  |
| <b>2009   March</b>         | Eletrobras requests the Preliminary License.   |
| <b>2009   May</b>           | The EIS/EIA are delivered to IBAMA.  |
| <b>2009   September</b>     | CNPE publishes an Administrative Rule which indicates the Belo Monte Hydroelectric Plant project as priority for the bidding process and implementation.   |
| <b>2009   October</b>       | The MME publishes an Administrative Rule with the guidelines for the bidding for the energy from the Belo Monte Hydroelectric Plant.   |
| <b>2009   November</b>      | ANEEL communicates through public hearing the minutes of the call for bid for Belo Monte and the MME publishes an Administrative Rule communicating the form of the energy bidding for the Belo Monte Hydroelectric Plant.   |
| <b>2010   January</b>       | MME's Administrative Rule No. 14 of January 6, 2010 defines the schedule for the Statement of Requirements for the bidding for the purchase of electricity from new developments and for the hydroelectric plant called UHE Belo Monte.  |
| <b>2010   February   1</b>  | IBAMA grants the Preliminary License for the Belo Monte Hydroelectric Plant.   |
| <b>2010   February   5</b>  | ANEEL approves the feasibility study for Belo Monte.   |
| <b>2010   February   12</b> | Administrative Rule No. 2 of MME's Department of Planning and Energy Development discloses the totals for physical guarantees for Belo Monte.  |
| <b>2010   March   17</b>    | TCU approves the cost estimates for the construction of Belo Monte.  |
| <b>2010   March   18</b>    | The Ministry of Mines and Energy publishes an Administrative Rule defining the date for the bidding to be held on April 20, 2010.  |
| <b>2010   March   18</b>    | ANEEL's Board approves the call for bid No. 06/2009 for the purchase of electric energy from the Belo Monte Hydroelectric Plant.   |
| <b>2010   April   20</b>    | The bidding to decide which group of companies will be responsible for the construction of the plant; the winner of the bid was the Norte Energia Consortium.  |
| <b>2010   July   21</b>     | The company Norte Energia S.A. is founded.   |
| <b>2010   August   26</b>   | An agreement for the concession of Belo Monte was signed, which is to become the third largest hydroelectric plant in the world.   |
| <b>2011   January   26</b>  | The Installation License (LI) was granted for the initial installation of the Belo Monte Hydroelectric Plant.  |
| <b>2011   June   1</b>      | The Installation License (LI) was granted for the Belo Monte Hydroelectric Plant.  |
| <b>2011   June   23</b>     | Beginning of the construction work for the Belo Monte Hydroelectric Plant.   |

Source: Norte Energia

## The impacts

In compliance with the strong environmental constraints, the Belo Monte hydroelectric power plant was planned for run-of-river operation, which allowed a significant reduction in the size of the reservoir and consequently of the area to be flooded.

With changes in the hydroelectric potential project on the Xingu River basin, the flooded area was reduced by 60% compared to the initial project. As a comparison, while the national average of flooded area is 0.49 km<sup>2</sup> per MW installed, the Belo Monte Hydroelectric Plant will have a ratio of only 0.04 km<sup>2</sup> per MW installed. Furthermore, of 503 km<sup>2</sup> of flooded area, approximately 230 km<sup>2</sup> (45%) correspond to the original riverbed. It can be said that, with the reduction of the flooded area, the Belo Monte hydroelectric power plant will be one of the largest power plants in the world in electricity generation potential with minimal effects on the environment, maximizing efficiency and corroborating the sustainability concept as one of the main pillars of the project.

Always seeking the respect for indigenous areas, the project for the construction of the Belo Monte Hydroelectric Power Plant will not directly impact any of the indigenous lands, which will remain untouched by the flood, dam, construction sites, access roads and other engineering structures necessary for the plant's construction, without relocation of any indigenous community. It should be noted that no hydroelectric project will be built in the Xingu River upstream of Belo Monte, because these would affect indigenous lands – decision formally adopted by the National Energy Policy Council.

In addition, the environmental impact study of Belo Monte provides for the implementation of Protected Areas in two areas on the right bank of the Xingu River. According to the EIA published, area 1 covers an expected 80,000 hectares and area 2 approximately 200,000 hectares, allowing for the formation of a continuous block of forests with 1.6 million hectares.

Effective actions to mitigate impacts on the species will be adopted, as agreed upon with the environmental agencies, with the development and implementation of a Plan for the Conservation of Aquatic Ecosystems. The development will be equipped with fish ladders, as well as Itaipu and the plants being implemented in the Madeira River, Santo Antônio and Jirau. Piracema (spawning) will not be prevented by the damming of the river, preserving the balance of the aquatic fauna of the Xingu River.

There will be the relocation of hundreds of residents related to agriculture and nearly 2,000 families from Altamira (PA), currently living under precarious conditions, having their homes and/or pile dwellings, most often with water under the floor in the flood season, and with mud in the dry season, without sanitation. Farmers will be transferred to agrivillages and city residents will go to houses with urban infrastructure and sanitation, in places with public facilities such as schools and areas of recreation and leisure, also considering the necessary compensations.

## The benefits

The Belo Monte hydroelectric power plant will lead to the development of the Altamira (PA) region and neighboring municipalities and improvement of living conditions of 4,500 families residing on pile dwellings. The region will also receive an annual financial compensation of tens of millions of Brazilian



reais. Only by way of Financial Compensation for the Use of Water Resources (CFURH), the Belo Monte Hydroelectric power plant will contribute, annually, at present value with approximately BRL 140 million, of which BRL 70 million is intended for the state of Pará and an additional BRL 70 million to the three municipalities affected by the reservoir.

Additionally, as provided for in the Belo Monte Call for Bid, the entrepreneur's commitment to the socioeconomic development of Xingu is guaranteed. The concessionaire will provide BRL 500 million to the Sustainable Regional Development Plan of Xingu, coordinated by the Federal Government, intersectoral effort which aims to internalize the opportunities and maximize the positive effects of project implementation.

The construction of the development will generate almost 20,000 direct jobs and numerous indirect jobs in the region. The indirect effect on the economy will be significant, with the increase in demand for labor, services and inputs, streamlining the productive structure of communities near the power plant.

The average power produced by the Belo Monte hydroelectric power plant will have the capacity to supply 18 million households (60 million people) throughout the country, which corresponds, for example, to all residential consumption of electricity of Argentina.

## Cost-benefit

Belo Monte offers the most cost-effective alternative for the generation of electric power compared to any other energy source available in the country. The same amount of energy, an average 4,571 MW, which corresponds to 40 TWh/year, would have a cost 73% higher than if produced in small hydroelectric power plants, and even higher if it were generated using biomass, natural gas, wind and nuclear power. Considering solar energy, the cost would reach more than six times the value contracted for Belo Monte.

## Shareholding structure

The project is under the responsibility of Norte Energia, private company with the following corporate structure: Eletrobras Eletronorte 19.98% - Eletrobras 15.00% - Eletrobras Chesf 15,00% - Belo Monte Participações 10.00% - Petros 10,00% - Funcef 5.00% - Caixa Fip Cevix 5.00% - Eletrobras Amazônia Energia 9.77% - Vale 9.00% - Sinobras 1.00% - JMalucelli 0.25 %. Eletrobras is the parent company of Eletrobras Eletronorte and Eletrobras Chesf.

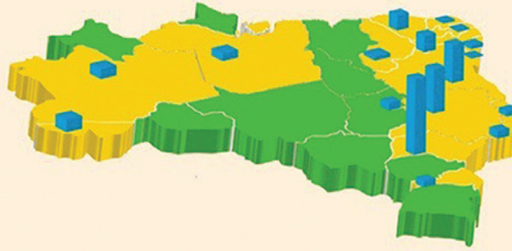
## Destination of the energy from Belo Monte

Of the electricity to be produced by the Belo Monte hydroelectric power plant, 70% was acquired by 27 electricity distributors around the country (Regulated Procurement Environment - ACR). An additional 10% was sold to self producers, partners of Norte Energia. The remaining 20% is already destined for the free market (Free Procurement Environment - ACL). All contracts will have duration of 30 years, as of 2015.

# Belo Monte - Energy sold in the country

Regulated Procurement Environment - ACR

Of the electricity to be produced by the Belo Monte hydroelectric power plant, 70% was acquired by 27 electricity distributors around the country (Regulated Procurement Environment - ACR). An additional 10% was sold to self producers, partners of Norte Energia. The remaining 20% is already destined for the free market (Free Procurement Environment - ACL). All contracts will have duration of 30 years, as of 2015.



## ACRE

36.780 GWh

Cia. Eletricidade do Acre



## ALAGOAS

20.491 GWh

Cia. Energética de Alagoas



## AMAZONAS

33.298 GWh

Amazonas Energia



## BAHIA

110.137 GWh

Cia. Eletricidade da Bahia



## CEARÁ

40.981 GWh

Cia. Energética do Ceará



## DISTRITO FEDERAL

30.224 GWh

CEB Distribuição



## ESPÍRITO SANTO

15.984 GWh

Escelsa



## MINAS GERAIS

115.772 GWh

CEMIG Distribuição  
Energisa Minas Gerais



## PARÁ

25.613 GWh

Centrais Elétricas do Pará



## PARAÍBA

10.758 GWh

Energisa Borborema  
Energisa Paraíba



## PERNAMBUCO

42.006 GWh

Cia. Energia de Pernambuco



## PIAUI

10.245 GWh

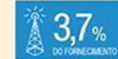
Cia. Energética do Piauí



## RIO DE JANEIRO

29.444 GWh

Light



## RIO GRANDE DO NORTE

8.708 GWh

Cia. Energética do Rio Grande do Norte



## SÃO PAULO

232.535 GWh

Bandeirante Energia  
CAUA Distribuição de Energia Elétrica  
Cia. Nacional de Energia Elétrica  
CPFL Paulista  
CPFL Piratininga  
CPFL Santa Cruz  
Elektro  
Eletropaulo  
Parapananema Distribuição



## SANTA CATARINA

23.753 GWh

Celesc Distribuição



## SERGIPE

8.196 GWh

Energisa Sergipe



**ENERGY  
SOLD TO DISTRIBUTORS**

**794,925 GWh**

**TOTAL ENERGY  
PRODUCED**

**1,135,607 GWh**

Source: Norte Energia

## Legal issues EIS/EIA

The project is part of the Growth Acceleration Plan (PAC), which is a priority of the federal Government. The work does not rely on tax exemption different from those granted to other plants or any PAC project, or those located in area of operation of the Superintendence for the Development of the Amazon Region (SUDAM).

In the case of Belo Monte, the social-environmental initiatives proposed in the EIS/EIA were consolidated into Plans (19), Programs (53), and Projects (58), covering the areas of environmental and institutional management, physical environment, biotic environment and socioeconomic environment. It should be noted that a large number of constraints reinforces or complements the set of Plans, Programs and Projects proposed in the EIS/EIA.

To explore the hydroelectric potential, the concessionaire will collect to the Federal Government, as payment for the use of public good, the annual total of BRL 16.6 million, in addition to nearly BRL 200 million which will be paid to the Federal Government, to the state of Pará and to municipalities regarding financial compensation for the utilization of water resources.

6, 2.7, 2.8, 2.9, EU1, EU2, EU3, EU4, LA1) BACKGROUND AND PROFILE (GR  
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, EU1, EU2, EU3, EU4, LA1) BACKGROUND AND PROFILE (GRI 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7



Centrais Elétricas Brasileiras S.A., Eletrobras, was created in 1962 with the mission of coordinating and planning the electric power industry in the country and operating as a holding company of the federal companies. Throughout these five decades of history, the company has undergone major changes.

In the 1990s, coordination and operations were transferred to the National Electric Power System Operator (ONS) and planning was transferred to the Ministry of Mines and Energy (MME).

In 2004, the centralized planning activities of the electric power sector were transferred to Empresa de Pesquisa de Energia (EPE), associated with the MME. In that same year, the Eletrobras Companies were removed from the list of privatizations of the National Privatization Program of the Government, which allowed the recovery of their role as market leader and their entrepreneurial vocation.

In 2008, the Eletrobras Companies began a deep transformation process based on the four major guidelines for the strengthening of the System defined by the MME.

The Transformation and Strengthening Plan for the Eletrobras System comprises 57 projects or initiatives which aim at launching a new vision of the future, aligned with the new institutional environment present in the Brazilian electric power industry, with a focus on corporate efficiency, and value creation for the various stakeholders.

## Eletrobras and the national electric power system (GRI EU10, EU19)

The national electric power system comprises the National Interconnected System (SIN) and various isolated systems distributed across an area that corresponds to 45% of the country, especially in the northern region. SIN comprises the southern, southeastern/midwestern, northern, and northeastern subsystems and accounts for 98% of the Brazilian electric energy market. Of the 262 standalone systems, 139 are serviced by the Eletrobras Companies. These figures present a reduction in relation to the previous year due to the interconnections performed.

The operation of SIN's electric power generation and transmission facilities is coordinated and controlled by the National Electric Power System Operator (ONS), which is inspected and regulated by the Brazilian Electricity Regulatory Agency (ANEEL). Thus, ONS, as the operator of the interconnected system, determines which plants shall initiate their operations and the amount of generation to be dispatched.

The Federal Government is responsible, whether directly or through concession, for the granting of authorizations or permits to third parties to explore the power services and facilities and to use the country's hydroelectric potential. The Federal Government is also responsible for defining criteria to grant, register, monitor, and inspect the concession of rights for the research and exploration of water resources, in addition to regulating subjects related to water and electricity.

The current institutional model assigns the main roles in the expansion of the electric power system to agents responsible for the timely investments for the implementation of new developments. The sectoral plan prepared by the Energy Research Company (EPE), under the Ministry of Mines and Energy (MME), aims at assessing the technical, economic, and socio-environmental feasibility and sustainability and at overseeing and supporting future biddings concerning the marketing of energy from new generation developments, among others.

These studies and research endeavors support the preparation of the Power Plant and Transmission Line Bidding Program. The plan for the expansion of the supply of electricity, according to the availability of new power plant projects under study, shall guide the new biddings for energy through the new projects required to meet the expected market demand according to the assumptions adopted by the Brazilian energy sector.

Companies interested in participating in the new developments may take part in biddings individually or as consortiums. However, although a company may take part in the studies conducted for new developments, in a bidding process it is not possible to anticipate which companies will be the winners and will be awarded the concessions for such developments. In addition, the biddings guide new developments that will enter operation within five years, and long-term planning considers a horizon of at least 15 years.

Considering the installed capacity of the plants of the Eletrobras Companies that are part of the National Interconnected System (SIN), including the power plants that hold the concession/authorization or are pending grants, directly or with partners, and comparing with the planned installed capacity, informed in the 2020 Decennial Energy Expansion Plan (PDE 2020) and prepared by the EPE/MME, we present the following result.

////// **EVOLUTION OF THE INSTALLED CAPACITY BY GENERATION SOURCE** ////  
 ELETROBRAS COMPANIES X NATIONAL INTERCONNECTED SYSTEM (PDE 2020)

| SOURCE        | 2011           |               |                   | 2016           |               |                   | 2020           |               |                   |
|---------------|----------------|---------------|-------------------|----------------|---------------|-------------------|----------------|---------------|-------------------|
|               | Capacity (MW)  |               | Participation (%) | Capacity (MW)  |               | Participation (%) | Capacity (MW)  |               | Participation (%) |
|               | SIN            | Eletrobras    |                   | SIN            | Eletrobras    |                   | SIN            | Eletrobras    |                   |
| Coal          | 2,485          | 816           | 33                | 3,205          | 816           | 25                | 3,205          | 816           | 25                |
| Oil           | 5,241          | 1,813         | 35                | 9,911          | 1,315         | 13                | 9,911          | 1,315         | 13                |
| Nuclear       | *2,007         | 1,990         | 100               | **3,412        | 3,340         | 100               | **3,412        | 3,340         | 100               |
| Natural Gas   | 9,384          | 0             | 0                 | 11,659         | 936           | 8                 | 11,659         | 936           | 8                 |
| Hydroelectric | 88,937         | 34,675        | 39                | 104,133        | 41,007        | 39                | 121,570        | 44,978        | 37                |
| Wind Power    | 1,283          | 94            | 7                 | 7,782          | 825           | 11                | 11,532         | 825           | 7                 |
| Others        | 6,130          | 0             | 0                 | 8,339          | 0             | 0                 | 9,849          | 0             | 0                 |
| <b>TOTAL</b>  | <b>115,467</b> | <b>39,388</b> | <b>34</b>         | <b>148,441</b> | <b>48,239</b> | <b>32</b>         | <b>171,138</b> | <b>52,210</b> | <b>31</b>         |

\*Considers that the power of Angra I has the former value of 657 MW, having been reduced in 2011 to 640 MW

\*\*Considers the power of Angra 3 with 1,405 MW: the plant is being built with 1,300 MW including the Brazilian half of Itaipu Binacional (7,000 MW)

For jointly owned power plants, their total installed capacity was considered.

After 2016, the only development being expanded by the Eletrobras Companies is the Belo Monte power plant, whose main powerhouse will enter operations between 2016 and 2019.

Between 2012 and 2016, the interconnection of the Standalone Systems of Manaus (AM) and Macapá (AP) to SIN will take place, so the generating plants of these Eletrobras standalone systems were incorporated to SIN, as provided in the Monthly Operation Program (PMO) of December 2011, developed by the National Electric Power System Operator (ONS).

The thermoelectric power plants of the standalone system of Manaus incorporated to SIN will begin using natural gas as per the PMO.

A part of the Santa Cruz UTE (dual fuel), currently operating with oil, will begin using natural gas as per the PMO.

Considering the installed capacity of the plants of the Eletrobras Companies that are a part of the National Interconnected System and those that are a part of Standalone Systems, the total installed power generation capacity of the Eletrobras Companies corresponds to 41,621 MW

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## Profile (GRI 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, EU1, EU2, EU3, EU4, LA1)

Eletrobras is the largest holding of the electric power sector in Latin America, operating in the generation, transmission, distribution and sale of energy, controlling six power generation and transmission companies, six distribution companies (Eletrobras Distribuição, with their corporate names abbreviated with ED), a research center and an investment company, and holds 50% of the capital stock of Itaipu Binacional. The total installed capacity for power generation of the Eletrobras Companies, 41,621 MW, corresponds to 35.5% of the country's total, of which 89.1% comes from clean source with low greenhouse gas emissions (84.1% hydroelectric, 4.8% nuclear and 0.2% wind), and 56,179 km (56% of the country's total) of transmission lines in operation, in high and extra-high voltage, i.e. 230 kV to 750 kV. (GRI EU1), serving 3,489,736 consumers with 187,256 km in distribution networks.

In 2011, the group of the Eletrobras Companies employed 28,544 people and was responsible for a net income of BRL 3,733 million presenting, therefore, an increase of 66.1% in relation to the net income of BRL 2,248 million registered in 2010.

As a publicly held company, it focuses on results and on the proper remuneration of its shareholders according to the best corporate governance practices. The results of this effort have placed it, for the fifth consecutive year, in BM&F BOVESPA's Corporate Sustainability Index (ISE) and have enabled its shares to be traded in the Sao Paulo, New York, and Madrid stock markets.

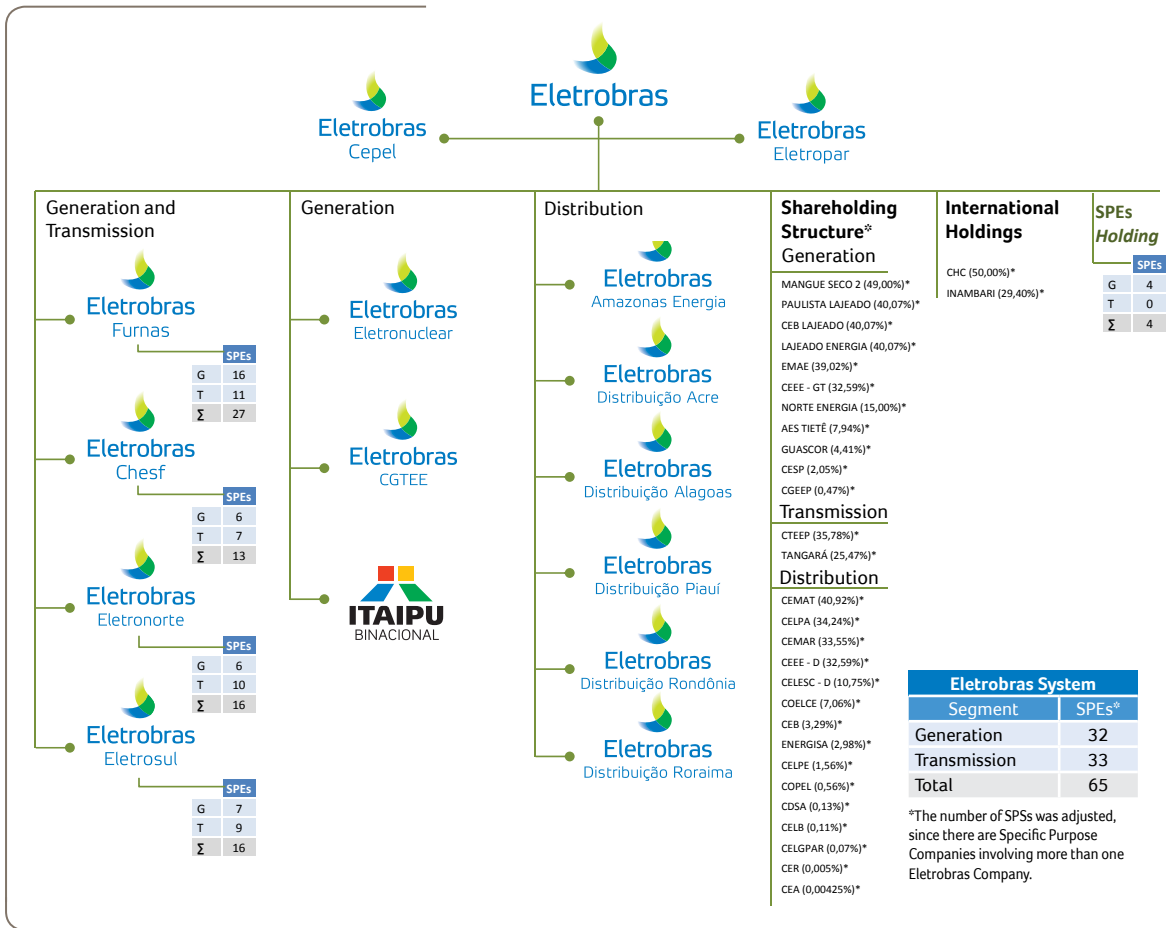
Eletrobras is headquartered in Brasília and its main office is located in Rio de Janeiro, with additional representative offices in Lima, Peru; in Montevideo, Uruguay; and in Panama City, Panama. Globally, Eletrobras ranks ninth in asset value (Sept/11) and 42nd in market capitalization (Jan/12)<sup>1</sup>.



1. The ranking lists the 192 largest publicly held companies in the electric power industry. Source: Thomson, Roland Beger Strategy Consultants; Eletrobras.



# Participations in 2011



Through indication of its major shareholder, Eletrobras also acts as an official agent for the management and application of industry-specific governmental funds such as the Global Reversion Reserve (RGR) and the Energy Development Account (CDE), in addition to managing the government's social programs such as the National Electric Energy Conservation Program (PROCEL) and the Luz para Todos (Electricity for All) Program.

Aiming at expanding the market where it operates and at taking its expertise in clean energy to other corners of the planet, Eletrobras has been conducting studies for the construction or acquisition of assets abroad. There are generation and transmission projects undergoing feasibility studies in various countries such as Nicaragua, Peru, Uruguay, Argentina, and Mozambique (GRI 2.5).

# Generation Map



## Plants in the Eletrobras system

- Thermoelectric
- SPE Thermoelectric
- ▲ Hydroelectric
- ▲ Jointly Owned Hydroelectric
- ▲ SPE Hydroelectric
- ◆ SPE Wind

## ////// ELETROBRAS COMPANIES //////////////////////////////////////

| FULLY OWNED                       | Hydroelectric |           | Thermoelectric |            | Nuclear      |          | Wind |        | Total*        |            |
|-----------------------------------|---------------|-----------|----------------|------------|--------------|----------|------|--------|---------------|------------|
|                                   | MW            | Plants    | MW             | Plants     | MW           | Plants   | MW   | Plants | MW            | Plants     |
| <i>Situation on (12/31/2011)</i>  |               |           |                |            |              |          |      |        |               |            |
| Elektrobras CGTEE                 | -             | -         | 840            | 4          | -            | -        | -    | -      | 840           | 4          |
| Elektrobras Chesf                 | 10,268        | 14        | 347            | 1          | -            | -        | -    | -      | 10,615        | 15         |
| Elektrobras Eletronorte           | 8,695         | 4         | 480            | 6          | -            | -        | -    | -      | 9,175         | 10         |
| Elektrobras Eletronuclear         | -             | -         | -              | -          | 1,990        | 2        | -    | -      | 1,990         | 2          |
| Elektrobras Furnas                | 7,175         | 8         | 962            | 2          | -            | -        | -    | -      | 8,137         | 10         |
| Elektrobras Amazonas Energia      | 278           | 1         | 1,895          | 107        | -            | -        | -    | -      | 2,173         | 108        |
| Elektrobras Distribuição Rondônia | 3             | 1         | -              | -          | -            | -        | -    | -      | 3             | 1          |
| <b>Total</b>                      | <b>26,419</b> | <b>28</b> | <b>4,524</b>   | <b>119</b> | <b>1,990</b> | <b>2</b> | -    | -      | <b>32,933</b> | <b>150</b> |

\*Não considerada a parte nacional de Itaipu Binacional (7.000 MW).

| JOINTLY OWNED                    | Hydroelectric |          | Thermoelectric |        | Nuclear |        | Wind |        | Total      |          |
|----------------------------------|---------------|----------|----------------|--------|---------|--------|------|--------|------------|----------|
|                                  | MW            | Plants   | MW             | Plants | MW      | Plants | MW   | Plants | MW         | Plants   |
| <i>Situation on (12/31/2011)</i> |               |          |                |        |         |        |      |        |            |          |
| Elektrobras Furnas               | 766           | 2        | -              | -      | -       | -      | -    | -      | 766        | 2        |
| <b>Total</b>                     | <b>766</b>    | <b>2</b> | -              | -      | -       | -      | -    | -      | <b>766</b> | <b>2</b> |

| BINACIONAL                       | Hydroelectric |          | Thermoelectric |        | Nuclear |        | Wind |        | Total        |          |
|----------------------------------|---------------|----------|----------------|--------|---------|--------|------|--------|--------------|----------|
|                                  | MW            | Plants   | MW             | Plants | MW      | Plants | MW   | Plants | MW           | Plants   |
| <i>Situation on (12/31/2011)</i> |               |          |                |        |         |        |      |        |              |          |
| Itaipu (50%)                     | 7,000         | 1        | -              | -      | -       | -      | -    | -      | 7,000        | 1        |
| <b>Total</b>                     | <b>7,000</b>  | <b>1</b> | -              | -      | -       | -      | -    | -      | <b>7,000</b> | <b>1</b> |

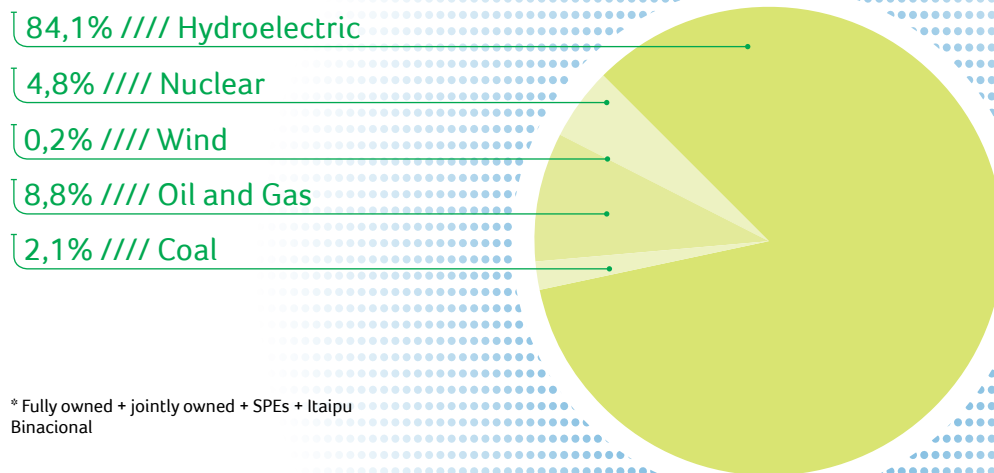
| SPECIFIC PURPOSE COMPANIES (SPE) | Hydroelectric + PCH |          | Thermoelectric |          | Nuclear |        | Wind      |          | Total      |           |
|----------------------------------|---------------------|----------|----------------|----------|---------|--------|-----------|----------|------------|-----------|
|                                  | MW                  | Usinas   | MW             | Usinas   | MW      | Usinas | MW        | Usinas   | MW         | Usinas    |
| <i>Situation on (12/31/2011)</i> |                     |          |                |          |         |        |           |          |            |           |
| Elektrobras Companies            | 817                 | 6        | 11             | 1        | -       | -      | 94        | 3        | 922        | 10        |
| <b>Total</b>                     | <b>817</b>          | <b>6</b> | <b>11</b>      | <b>1</b> | -       | -      | <b>94</b> | <b>3</b> | <b>922</b> | <b>10</b> |

## ////// CAPACIDADE INSTALADA – SITUAÇÃO EM 31/12/2011 (MW) //////////////////////////////////////

| Companies                             | UHE + PCH     | UTE           | UTN (EOL+SOL) | Total          | %            |
|---------------------------------------|---------------|---------------|---------------|----------------|--------------|
| Elektrobras Companies (fully owned)   | 26,419        | 4,524         | 1,990         | 32,933         | 28.1         |
| Elektrobras Companies (jointly owned) | 766           | 0             | 0             | 766            | 0.6          |
| Elektrobras Companies (SPE)           | 817           | 11            | 0             | 922            | 0.8          |
| Itaipu Binacional (50%)               | 7,000         | 0             | 0             | 7,000          | 6.0          |
| <b>Total Elektrobras</b>              | <b>35,002</b> | <b>4,535</b>  | <b>1,990</b>  | <b>41,621</b>  | <b>35.5</b>  |
| Others                                | 47,456        | 26,709        | 0             | 74,165         | 64.5         |
| <b>Brazil</b>                         | <b>82,458</b> | <b>31,244</b> | <b>1,990</b>  | <b>115,692</b> | <b>100.0</b> |

Data obtained from ANEEL's Generation Information Database – BIG and from the Elektrobras Companies, with power adjustments of Elektrobras Eletronuclear. Totals for SPEs and jointly held companies were included in the proportion of the Elektrobras Companies shareholding interest.

## Total installed capacity\* by energy source (GRI EU1)



\* Fully owned + jointly owned + SPEs + Itaipu Binacional

### NET POWER GENERATION (GRI EU2) FULLY OWNED, JOINTLY OWNED AND ITAIPU BINACIONAL

| Primary source of energy | Net Generation (MWh)  | Net Generation (%) |
|--------------------------|-----------------------|--------------------|
| Hydroelectric*           | 175,303,786.87        | 87.8               |
| Uranium                  | 14,350,892.57         | 7.2                |
| Oil                      | 8,134,912.77          | 4.1                |
| Coal                     | 1,620,086.13          | 0.8                |
| Natural gas              | 192,258.34            | 0.1                |
| <b>Total</b>             | <b>199,601,936.68</b> | <b>100.0</b>       |

\*Includes the generation proportionate to the Eletrobras Companies' shareholding in non-SPE plants: Itaipu Binacional (50%), Serra da Musa (48.46%) and Manso (70%).

### NET POWER GENERATION (GRI EU2) SPECIFIC PURPOSE COMPANIES (SPEs)

| Primary source of energy | Net Generation (MWh) | Net Generation (%) |
|--------------------------|----------------------|--------------------|
| Hydroelectric            | 3,806,329.49         | 97.8               |
| Wind                     | 87,519.94            | 2.2                |
| <b>Total</b>             | <b>3,893,849.43</b>  | <b>100.0</b>       |

Considering the generation of the developments in which the Eletrobras Companies participate in SPEs proportionate to their shareholding.

# Transmission map



|   |          |        |  |
|---|----------|--------|--|
| TLs IN THE ELETROBRAS SYSTEM                | EXISTING | FUTURE | ① PARANÁ RIVER COMPLEX<br>② PARANAPANEMA RIVER COMPLEX<br>③ RIO GRANDE COMPLEX<br>④ PARANAÍBA RIVER COMPLEX<br>⑤ PAULO AFONSO COMPLEX<br>□ No. OF CIRCUITS |
| TLs IN THE ELETROBRAS SYSTEM IN PARTNERSHIP |          |        |  |
| TLs OTHER COMPANIES                         |          |        |  |
|   |          |        |  |
|   |          |        |  |

////// LINES WITH VOLTAGE HIGHER THAN 230kV //////////////////////////////////////

Situation on 12/31/2011

| <b>Eletrobras Companies</b> | <b>Extension (km)*</b> |
|-----------------------------|------------------------|
| Eletrobras Chesf            | 19,155                 |
| Eletrobras Furnas           | 17,476                 |
| Eletrobras Eletronorte      | 10,110                 |
| Eletrobras Eletrosul        | 9,073                  |
| Eletrobras Amazonas Energia | 365                    |
| <b>Total</b>                | <b>56,179</b>          |

\*Extension considering transmission lines in partnerships.

# Distribution Map



////// NUMBER OF CONSUMER UNITS //////////////////////////////////////

BY CONSUMER CLASS (GRI EU3)

|  |                  |
|--|------------------|
| Residential                                  | 2,965,428        |
| Other classes (Rural, own consumption, etc.) | 256,585          |
| Commercial                                   | 254,907          |
| Industrial                                   | 12,816           |
| <b>Total</b>                                 | <b>3,489,736</b> |

////// DISTRIBUTION LINES (GRI EU4) //////////////////////////////////////

|                    |                |
|--------------------|----------------|
| <b>Total in km</b> | <b>187,256</b> |
|--------------------|----------------|

////// ENERGIA VENDIDA POR CLASSE DE CONSUMIDOR //////////////////////////////////////

|              | 2011 (MWh)        | 2010 (MWh)        |
|--------------|-------------------|-------------------|
| Industrial   | 2,978,936         | 2,813,782         |
| Residencial  | 4,907,094         | 4,574,356         |
| Commercial   | 2,871,517         | 2,662,126         |
| Other        | 2,822,629         | 2,731,269         |
| <b>Total</b> | <b>13,580,176</b> | <b>12,781,533</b> |



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## Eletrobras's operation is guided by distinctive corporate governance practices to ensure management transparency and the achievement of the best results for stakeholders.

The holding has shares traded in the stock markets of São Paulo (BM&FBOVESPA), Madrid (LATIBEX), and New York (NYSE). The company is listed in Corporate Governance Level 1 at BM&FBOVESPA, ensuring, among others, the following practices:

- //// maintenance of at least 25% of outstanding shares
- //// public annual meetings with analysts and stakeholders to communicate economic-financial information, projects, and perspectives
- //// publication of an annual calendar for corporate events
- //// submission of information to BM&FBOVESPA on the securities issued by the company, whether traded or held by the controller and administrators
- //// not having founder's shares.

In New York, Eletrobras trades Level 2 ADRs (American Depositary Receipts) and also complies with the standards required by the Sarbanes-Oxley Act (SOx). Enacted in 2002 by the United States Congress, SOx aims at protecting investors via an annual assessment of the internal controls and procedures for issuing financial reports in order to improve the accuracy and reliability of the information disclosed.

## Governance Highlights in 2011 (GRI 4.8, 4.10)

Since the beginning of the company's strategic repositioning process, various management tools have been developed such as the Code of Corporate Governance Practice and the Eletrobras Companies' Code of Ethics, among other policies, rules, and procedures reflecting the commitment to sustainability and business ethics and the appreciation of shareholders' and investors' interests.

Another important piece of evidence corroborating the evolution of the company's governance practices was the approval of the Performance Assessment Manual for Eletrobras's Board of Directors and the Executive Board in late 2011. The holding will perform the first assessment in 2012, disseminating the process to all companies in the System.

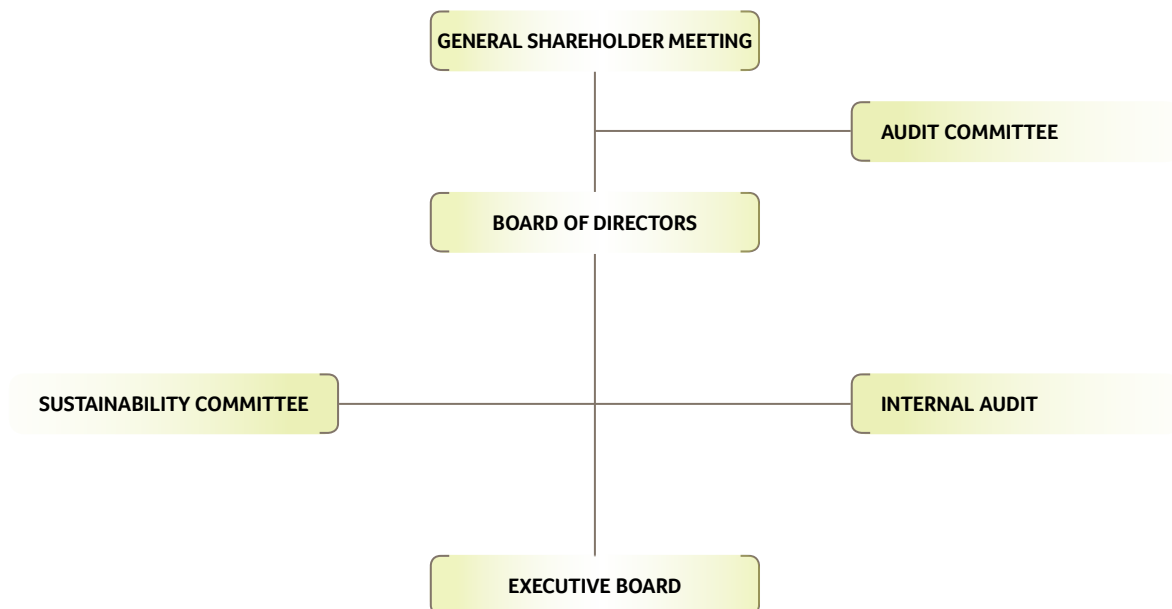
This initiative will further comply with Resolution No. 3 of the Government Committee for Corporate Governance and Equity Management (CGPAR) of December 31st, 2010 which established the adoption of corporate governance guidelines by state-owned companies to enhance and strengthen their practices. Among these is the implementation of a formal performance assessment for the Executive Board and the Board of Directors.

Also in 2011, the Governance Portal was launched for the management and audit advisors and directors of the holding, aiming at helping users to query the information required for the performance of their duties in a fast and safe manner contributing toward efficient communication between the members of the board of directors and facilitating the decision making process

Eletrobras's statutory amendment process was streamlined in 2011 with the approval and sanction of Law No. 12,375 in December 2010. Since then, a presidential decree is no longer required for statutory amendments, which will only be subject to the internal assessment of the Executive Board and Board of Directors and to the approval by the Extraordinary General Meeting, as in any company subject to the Law of Corporations (Law No. 6,404 of 1976).

Various statutory amendments were approved in 2011 in compliance with Resolution No. 3 of CGPAR, among other laws, and with BM&FBOVESPA's new Level 1 Corporate Governance Listing Rules. All these updates are a significant corroboration of the enhancement of the company's corporate governance.

## Structure (GRI 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.9)



Eletrobras's corporate governance structure relies on the General Shareholder Meeting, the Board of Directors, the Audit Committee, and the Executive Board. The process of establishing the members of Eletrobras's highest governance body takes place through the selection of executives with outstanding knowledge in the electric power industry, public administration, and financial and capital markets, as well as those who are reputable and possess moral integrity. The roles and responsibilities of all these bodies are established in the company's bylaws and are regulated by their respective internal regulations.

The Eletrobras Companies' Internal Audit and the Sustainability Committee are associated with the Board of Directors, the latter aims at developing and coordinating integrated actions, involving all companies of the system to enable consistent advancements to the management and implementation of corporate sustainability.

Best governance practices suggest the creation of other committees to support the Board of Directors in order to further studies on strategic issues. Thus, Eletrobras's Executive Board and Board of Directors approved, also in 2011, the creation of two new committees and their respective internal regulations which initiated their activities in 2012.

The creation of these committees also complies with Resolution No. 3 of CGPAR, of December 31st, 2010, given that one of its guidelines provides for the creation of committees to support the Board of Directors, aiming at helping it make technically well-grounded decisions. The new committees are responsible for the following:

- //// Audit and Risks: advises the Board of Directors in the fulfillment of duties concerning the establishment of critical guidelines and the oversight of the company, with specific duties related to the analysis, monitoring, and recommendation concerning issues related to internal controls, audit, and risk management.
- //// Compensation and People Management: advises the Board of Directors in the fulfillment of duties concerning the guidance and oversight of the company, with specific duties related to the analysis, monitoring, and recommendation concerning issues related to compensation and personnel development.

The other committees report to the Executive Board, namely: Committee for the Corporate Integration of Technological Research and Development (CICOP); Eletrobras System's Investment Committee (CISE); Eletrobras System's Information Technology, Telecommunications, and Automation Committee (COTISE); Supply Logistics Strategic Committee (CELSE); Risk Committee; Operation, Planning, Engineering, and Environment Committee (COPEM); and Strategic Committee of the Organizational Processes of Eletrobras System (COPOSE).

## General Shareholder Meeting

The Annual General Meeting is held within the first four months following the end of the fiscal period to verify the administrators' accounts, to examine, discuss, and decide upon financial statements, to deliberate on the allocation of net income and payment of dividends, to elect the members of the Board

of Directors and Audit Committee, and to establish the compensation of directors and of the Audit Committee, as appropriate, subject to the applicable laws.

In exceptional situations, the General Meeting can be held according to the cases provided for by law and whenever the Board of Directors deems convenient, especially for deliberating on the subjects set forth in the bylaws, such as: increase in share capital through subscription of new shares, spin-offs, mergers or corporate takeovers, barter of shares or other securities, and redemption of shares of one or more classes, regardless of approval during the Special Meeting of shareholders of types and classes affected.

## Board of Directors

The Board of Directors, a collegiate deliberation body elected by the General Shareholder Meeting had, in 2011, nine members, eight of which were non-executive members (who are not directors or who do not hold any position in the company). The board has two independent members, defined based on the Code of Best Corporate Governance Practices of the Brazilian Institute of Corporate Governance (IBGC). The position for a minority shareholder of preferred shares was not filled due to non-compliance with the requirements set forth in the bylaws.

The remuneration of board members is a fixed amount and corresponds to 10% of the average remuneration of the directors of the company, pursuant to Law No. 9,292, of 1996, with no variable remuneration. In 2011, remuneration of the Board of Directors totaled BRL 303,960.11 and of the Audit Committee, BRL 196,316.80. Members of the Executive Board receive a variable portion in their remuneration, which is subject to the achievement of goals related to the performance of the holding, severally, or of the Eletrobras Companies, jointly. The total remuneration of the Executive Board in 2011 was BRL 6,024,692.20.

Board members have a unified term of one year with the possibility of reelection. Meetings occur monthly and special sessions may be held whenever necessary. In 2011, 15 meetings were held. The board has internal regulations and includes the president of Eletrobras; however, the president does not hold the position of chairman of the board. In cases of conflict of interest, board members must abstain from the discussion and from the voting procedure that will decide on the issue that gave rise to the conflict of interest.

In late 2010, Law No. 12,353 was enacted determining the participation of current employees in the Board of Directors of state-owned and mixed economy companies and of their subsidiaries and affiliates. The representative must be chosen among current employees by direct vote of their peers. Thus, in 2012, Eletrobras will hold its first election to choose the representative of the employees in the Board of Directors, whose term will be valid for one year from the date they take office, scheduled for April. The process will be regulated by the election regulations and will be coordinated by an electoral committee, formed by two representatives of Eletrobras and two representatives of entities representing the employees. The election will occur simultaneously in all Eletrobras Companies.

## Composição do Conselho de Administração em 2011

Márcio Pereira Zimmermann (chairman)  
Arlindo Magno de Oliveira (independent board member)  
Beto Ferreira Martins Vasconcelos  
José Antonio Corrêa Coimbra  
José da Costa Carvalho Neto  
Lindemberg de Lima Bezerra  
Maurício Muniz Barretto de Carvalho  
Virgínia Parente de Barros (independent board member)  
Wagner Bittencourt de Oliveira

## Audit Committee

The Audit Committee is permanent and has legal and statutory duties. The committee consists of up to five members and their respective alternates, each elected for renewable terms of one year, including a woman, and has its own internal regulations. Three board members are appointed by the majority shareholder, another by the minority shareholders with common shareholders, and the last by minority shareholders with preferred shares. In 2011, the Audit Committee had four members, including a financial specialist, as required by the Securities and Exchange Commission (SEC). General meetings are held monthly and extraordinary meetings are held whenever necessary. In 2011, 13 meetings were held.

## Composição do Conselho Fiscal em 2011

Danilo de Jesus Vieira Furtado (president)  
Ana Lucia de Paiva Lorena Freitas  
Charles Carvalho Guedes (financial specialist)  
Jarbas Raimundo de Aldano Matos

## Executive Board

The Executive Board is responsible for the general management of Eletrobras; its functions are established in the bylaws and its meetings are held on a weekly basis. The directors are chosen by the Board of Directors and are responsible for managing and running the company, in compliance with the guidelines dictated by the board.

In order to avoid possible conflicts of interest and the use of confidential and strategic information, the president and the directors cannot hold any directing, managing, or consulting positions in privately held companies, power utility companies, or private law entities associated in any way whatsoever with the electric power industry, other than subsidiaries, affiliates, special purpose companies, or utilities controlled by the states in which Eletrobras holds ownership interest, where they may hold positions in the board of directors and audit committee.

#### Composition of the Executive Board in 2011

*Chief Executive Officer:* José da Costa Carvalho Neto

*Administrative Director:* Miguel Colasuonno

*Distribution Director:* Marcos Aurélio Madureira da Silva

*Power Generation Director:* Valter Luiz Cardeal

*Transmission Director:* José Antônio Muniz Lopes

*Finance and Investor Relations Director:* Armando Casado de Araujo

## Risk Management (GRI 4.11)

The risk management process implemented in the holding and remaining power generation, transmission, and distribution companies is based on Coso ERM and ISO 31,000 methodologies. Based on this model, a single risk matrix was defined for the entire system, where the main risks to which the Eletrobras Companies are exposed are listed. This matrix includes strategic, operational, financial, and compliance risks.

The group also has a single risk management policy which lists the principles, guidelines, and duties for each individual involved in the company's risk management activities.

This entire process complies with the risk profile established by senior management and is in line with the company's strategic planning. Coordinated by the holding, its integrated character enables a systemic view of results and standardization in all subsidiaries of the system, in addition to allowing more interaction with the company's remaining management processes.

To further support the risk management activities, operational (risk management departments and internal controls) and governance frameworks (risk committees) were established in each company, and employee acculturation and training programs were promoted, supported by the Communications area and by Eletrobras Corporate University (UNISE).

The ongoing enhancement of the internal control environment is another important measure to ensure the efficiency of this process and, in addition, to comply with the requirements of the Sarbanes-Oxley Act, as well as to maintain the ratings of the Company's American Depositary Receipts (ADRs) in the New York Stock Exchange.

With the expansion of coverage and the inclusion of a quantitative approach to its analyses, Eletrobras seeks to improve the systematic monitoring and reporting of the risks to which it is exposed.

### Fines and financial penalties (GRI PR9, SO7, SO8)

In 2011 in the Eletrobras Companies, 2,932 non-financial penalties were registered for non-compliance with rules and regulations. The total material<sup>1</sup> fines amounted to approximately BRL 1.6 billion, corresponding to fiscal procedures, still in the administrative area, with remote risk of loss.

Considering that the Eletrobras Companies are characterized as power service providers, which is a government-regulated utility, no lawsuits have been filed against them arising from unfair competition, trust, or monopoly.

Information on environmental fines can be found in the chapter on Environmental Dimension.



1. Eletrobras considered material fines those exceeding 1% of the net operating income



## Stakeholder engagement (GRI 4.14, 4.15, 4.16 e 4.17)

A Eletrobras's Communications area is undergoing a continuous enhancement process which began with three main documents: the Strategic Action Program (PAE), from which the goals and strategic audiences were extracted; the Eletrobras Companies' Integrated Communication Policy, which lists institutional values, strategic guidelines, responsibilities, and communication processes; and, finally, the Eletrobras Companies' Transformation Plan.

These documents supported the preparation of the Eletrobras Companies' Integrated Communication Plan whose content, perfectly aligned with the business strategies defined in the 2010-2020 Strategic Plan, as well as with brand process, guides the activities of the Communications areas from the establishment of key messages to action plans.

The audiences identified and with which the Eletrobras Companies maintain a relationship are:

- //// Eletrobras Companies' leaderships,
- //// Employees/contractors/interns,
- //// Families of Eletrobras Companies' employees,
- //// Investors/market analysts,
- //// Communities,
- //// Society,
- //// Press,
- //// Partners/sponsors/suppliers,
- //// Governments / regulatory agencies / statesmen

The establishment of a continuous communication flow with their audiences is one of the premises of the Eletrobras Companies designed to ensure transparency in its activities. Considering this goal, several audience-specific communication channels were established, both internal and external.

The main topics discussed with the internal audience, according to the Integrated Communication Plan, reflect the four values described in the Strategic Plan: focus on results; entrepreneurship and innovation; valuing of and commitment to people; and ethics and transparency.

As for the external audience, in addition to the topics outlined above, the company intends to contribute to the creation of areas that will maintain a relationship with the community and promote the sharing of experiences. This will be done by providing information on the businesses, values, conduct, and procedures followed by the Eletrobras Companies in projects involving sponsorship, advertising, maintenance, and improvement of the quality of life of society, from an ethical-cultural and socio-environmental standpoint.

The main tools used to ensure a good relationship with its audiences are:

- //// public hearings and technical meetings that enable the presence of the external audience,
- //// Fale Conosco (Contact Us) channel ([www.eletrobras.com/elb/data/Pages/LUMISFE1BFC04PTBRIE.htm](http://www.eletrobras.com/elb/data/Pages/LUMISFE1BFC04PTBRIE.htm)),
- //// Ombudsman, which receives the various types of claims, fostering (via partnerships with other ombudsman areas in the electric power industry) solutions for demands and transparency in relation to the company's business processes,
- //// financial statements on the website, with a section specifically geared toward Investor Relations,
- //// meetings with the Association of Capital Market Analysts and Investment Professionals (APIMEC),
- //// Energia em Ações (Power in Actions), a quarterly publication that brings to shareholders the main events of interest that took place in the company,
- //// Canal Denúncia (Report Channel), available on Eletrobras Companies' web pages to receive reports and information on possible irregularities or inappropriateness in accounting records.

In addition to all the aforementioned mechanisms, Eletrobras maintains a constant and intense relationship with society by performing its routine activities such as the management of the National Program for Universal Access to and Use of Electricity (Luz para Todos) and the Technological and Industrial Development Program (PDTI), through which the company promotes cooperation and partnership between the Eletrobras Companies and universities, research centers, and industries.

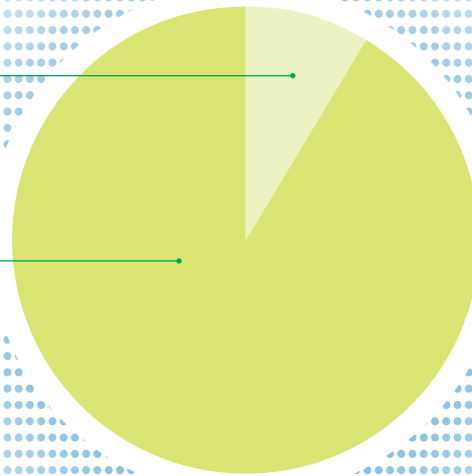
## Ombudsman

Eletrobras Companies' employees are certified by the Brazilian Ombudsman Association (ABO). In quantitative terms, in 2011, the Ombudsman received 3,546 claims. Of this total, 3,233 (91.2%) were solved and 313 (8.8%) are ongoing.

## TOTAL NUMBER OF CONTACTS RECEIVED IN 2011 BY THE OMBUDSMAN: 3,546

Ongoing /// 313  
8,8%

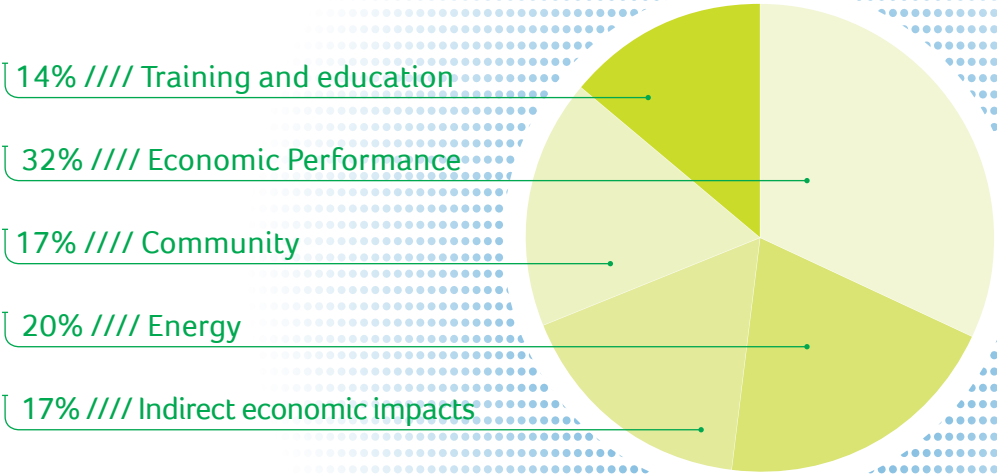
Solved /// 3,233  
91,2%



## Survey with Stakeholders (GRI 3.5, 4.17)

This is the second year in which Eletrobras has conducted its Survey with Stakeholders. In 2011, the survey conducted with the audience encompassed the following stakeholders: shareholders/investors, community, consumers/customers, workforce, suppliers, government, and organized civil society. By contacting its main stakeholders, the company is able to assess the demands from society as a whole in relation to the reporting of its activities. In 2011, 2,695 individuals completed the questionnaire and chose the topics they would like Eletrobras to report with greater emphasis.

# RESULT OF THE SURVEY WITH ELETROBRAS'S STAKEHOLDERS



The topic seen as most relevant by its stakeholders was the company's economic performance. The most important Eletrobras information in relation to this topic in Chapter ECONOMIC DIMENSION. Chapter 2011 HIGHLIGHTS also points out some important economic data. Chapters SOCIAL DIMENSION and ENVIRONMENTAL DIMENSION bring investment information on these areas.

Energy-related indicators are available in chapters CLARIFICATION TO THE POPULATION, THE ELETROBRAS COMPANIES, ECONOMIC DIMENSION and ENVIRONMENTAL DIMENSION. As for the company's indirect economic impacts, Eletrobras does not have a formally established methodology and/or process that allows the quantification of these impacts, considering the variety of projects in which its companies are involved. Concerning the relationship between the Eletrobras Companies and the community, it is possible to find information in the chapter SOCIAL DIMENSION.

For training and education, it is important to remember that this is a topic present both for the internal and the external audiences (chapter SOCIAL DIMENSION).

## Communication and Marketing (GRI 4.9, PR3, PR6, PR7)

All internal and external marketing and communication actions conducted by the Eletrobras Companies must comply with the guidelines established in the Integrated Communication Policy, present in the Eletrobras Brand Manual and in the Eletrobras Companies' Code of Ethics, which aim at guiding, in an integrated manner, the communication actions performed by the holding and its subsidiaries. For more information, please visit the pressroom at [www.eletrobras.com.br](http://www.eletrobras.com.br) where the full version of the Eletrobras Companies' Code of Ethics can also be found.

At the same time, communication actions are regulated, analyzed, and approved by the Department for Social Communication of the Presidency (SECOM) and by the Advertising Self-Regulation Council (CONAR). Thus, company policies are addressed, as well as the legislation in effect in the country, with no non-conformity occurrences in 2011.

### New Brand

As part of the effort unify and integrate communication in its companies, the Eletrobras Brand Committee implemented, in 2010, the management of the company's new brand. As a result of these actions, a work plan was established in 2011 to proceed with the process to develop a model to assess the vision of strategic audiences, defining indicators that reproduce brand perception and corporate reputation.

As for the internal audience, training workshops on branding and brand management were held, offering training to approximately 400 employees of the Eletrobras Companies throughout the country. The completion of this work is scheduled for 2012, with the delivery of general recommendations for the development of a permanent training process that will culminate in the creation of an internal culture to value the brand.

### Responsibility for products and services (GRI PR3)

The company strives to maintain its alignment with the best transparency practices in the market, constantly trying to offer tools that provide information on the characteristics of our products and services.

Among these tools, we can list the electric power bill, company portal, notices, social networks, and a few community programs. The organization's procedures related to information and product and service labeling require data such as safe use of service and information on socio-environmental impacts.

Although our product—power—does not require packaging, the Eletrobras distribution companies prioritize the provision of information on its service, considering the safe and cost-effective use of energy. It is a preventive labeling. All information regarding voltage levels, types of connection, meters, billed consumption, and customer's name and address are displayed in the energy bill delivered monthly to customers. In addition, we provide guidance for disputes of the amount charged on bills, power surge damages to equipment, and assistance and information to all our customers in relation to power supply.

## Customer satisfaction survey (GRI PR5)

The six power distribution companies in the Eletrobras system, plus Eletrobras Chesf, Eletrobras Eletronorte, Eletrobras Eletrosul, and Eletrobras Cepel, conduct a customer satisfaction survey in order to obtain input, geared to the responsible areas, for the implementation of improvement measures.

In the surveys conducted in 2011, total customer satisfaction averaged 74.83% in relation to the entire organization and 81.31% in relation to customer services. For distribution services, the average was 58.78%.

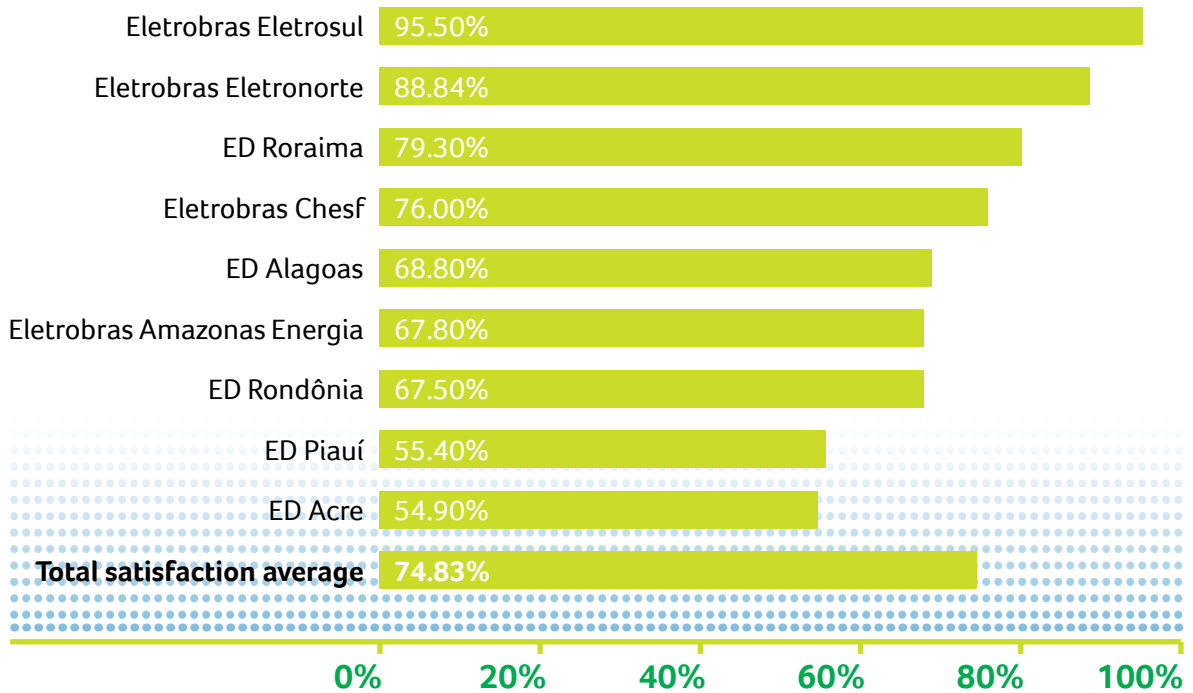
In ED Piauí, the Perceived Quality Satisfaction Index improved by 10 points compared to 2010 as a result of the investments in the system. In Eletrobras Eletronorte, the External Customer Satisfaction Rate was 88.84%, above the target of 87% established by the company, and in Eletrosul the surveys showed results of 100% satisfaction.

As for the distributors in Rondônia, Acre, Alagoas, and Roraima, the general customer satisfaction rate decreased due to shutdowns in the system for the implementation of new distribution lines to address the growing demand of new users and, in some cases, as a result of the interconnection with the National Interconnected System (SIN).

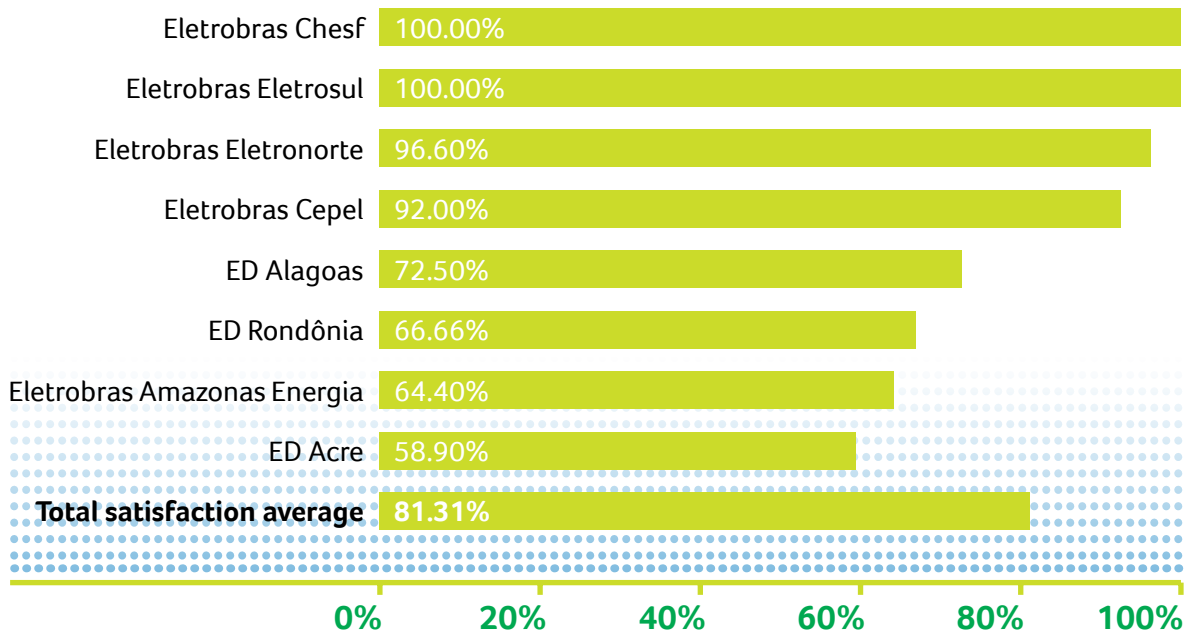
### ////// RESULTS OF THE CUSTOMER SATISFACTION SURVEY, BY COMPANY //////////////////////////////////////

| Companies                         | The organization as a whole | Customer service | Others         | Distribution services |
|-----------------------------------|-----------------------------|------------------|----------------|-----------------------|
| Eletrobras Chesf                  | 76.00%                      | 100.00%          | 78.00%         | Not applicable        |
| Eletrobras Eletronorte            | 88.84%                      | 96.00%           | 93.40%         | Not applicable        |
| Eletrobras Furnas                 | Not conducted               | Not conducted    | -              | Not applicable        |
| Eletrobras Eletronuclear          | Not applicable              | Not applicable   | Not applicable | Not applicable        |
| Itaipu Binacional                 | Not applicable              | Not applicable   | Not applicable | Not applicable        |
| Eletrobras Eletrosul              | 95.50%                      | 100.00%          | 97.20%         | Not applicable        |
| Eletrobras CGTEE                  | Not conducted               | Not conducted    | Not conducted  | Not conducted         |
| Eletrobras Amazonas Energia       | 67.80%                      | 64.40%           | 63.40%         | 57.20%                |
| ED Piauí                          | 55.40%                      | Not conducted    | -              | Not conducted         |
| ED Alagoas                        | 68.80%                      | 72.50%           | 74.80%         | 69.40%                |
| ED Rondônia                       | 67.50%                      | 66.66%           | 66.30%         | 65.80%                |
| ED Acre                           | 54.90%                      | 58.90%           | 66.40%         | 42.70%                |
| ED Roraima                        | 79.30%                      | not conducted    | -              | Not conducted         |
| Eletrobras Cepel                  | -                           | 92.00%           | 88.00%         | Not applicable        |
| Eletrobras Holding                | Not applicable              | Not applicable   | Not applicable | Not applicable        |
| Eletrobras Eletropar              | Not applicable              | Not applicable   | Not applicable | Not applicable        |
| <b>Total satisfaction average</b> | <b>74.83%</b>               | <b>81.31%</b>    | <b>78.44%</b>  | <b>58.78%</b>         |

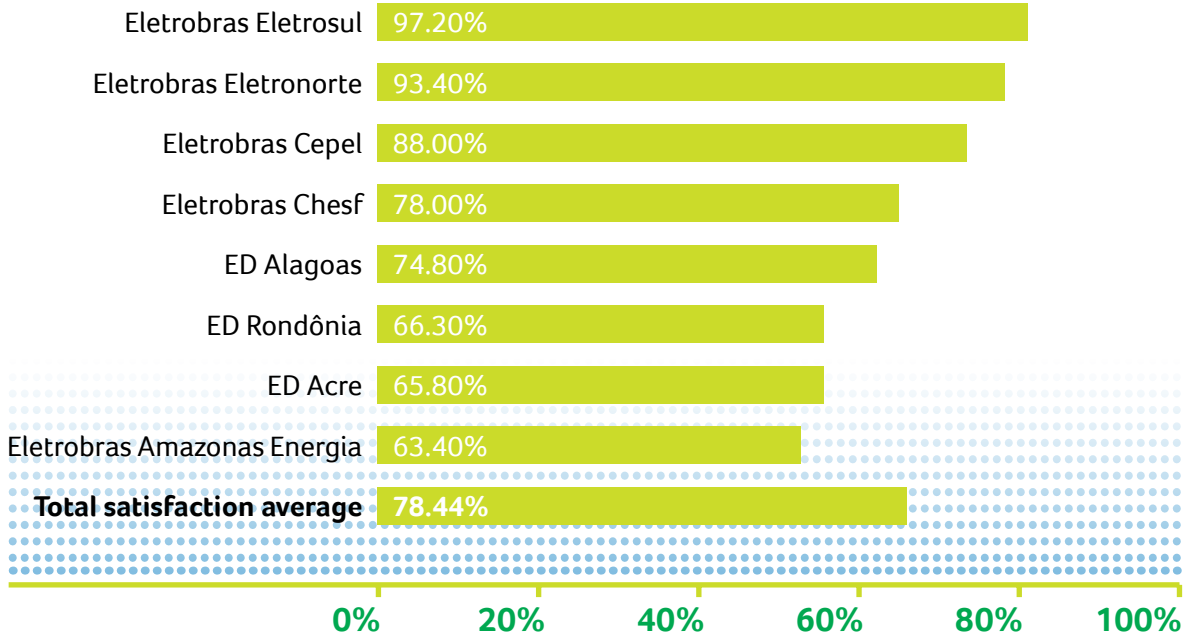
//// THE ORGANIZATION AS A WHOLE //////////////////////////////////////



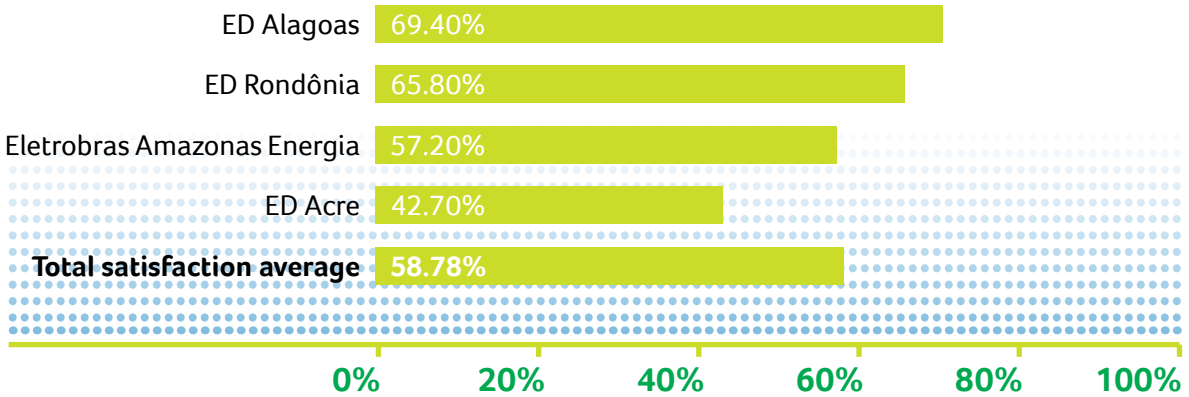
//// CUSTOMER SERVICE //////////////////////////////////////



## OTHERS



## DISTRIBUTION SERVICES





## Ethics (GRI SO4, SO6, PR9)

The Code of Ethics contains guidelines and practices that must be followed by all Eletrobras Companies. As a participant of the Indirect Public Administration, the Eletrobras Companies comprise the Federal Government Ethics Management System, headed by the Public Ethics Commission (CEP), of the Presidency of the Republic of Brazil. In addition, six Eletrobras Companies (Holding, Eletrobras Eletronorte, Eletrobras Eletrosul, Eletrobras Eletronuclear, Eletrobras Chesf, and Eletrobras Furnas) voluntarily take part in the National Forum on Ethics in State-owned Companies which currently relies on 20 large state-owned companies to promote monthly debates and regular studies among participants and to promote and stimulate the participating companies to be trained on ethics. Additionally, the forum organizes annual seminars open to the participation of other companies, universities, and the general public on topics associated with ethics under the auspices and, at times, the participation of CEP itself and of the Office of the Comptroller General (CGU). In 2011, a website was created for the National Forum on Ethics in State-owned Companies to communicate its monthly agenda, information on annual seminars, legislation, and other topics of interest ([www.forumeticaestatais.com.br](http://www.forumeticaestatais.com.br)).

These two groups form permanent forums for the discussion and sharing of experiences on topics associated with ethics.

In November 2011, a workgroup coordinated by the Holding, formed by the Chairman of the Board (Ethics Commission), Finance Department and representatives of the Eletrobras Companies, was created to develop a specific anticorruption management system. This system adopted a manual for employees, which was based on the Foreign Corrupt Practices Act of 1977, and a program was created, according to instructions provided by SEC (the self-regulatory organization of the New York Stock Exchange) where Eletrobras shares are traded.

Anticorruption management has also received special attention due to the alignment with international organizations, such as the Organization for Economic Co-operation and Development (OECD), and with civil society organizations, such as Ethos Institute and Transparência Brasil. The company also intends to adhere, in 2012, to the Pro-Ethics Company Register, recently launched by the Office of the Comptroller General (CGU) in partnership with Ethos Institute.

In 2011, nine corruption cases were registered in companies of the group, five of them in Eletrobras Amazonas Energia, two in ED Rondônia, one in Eletrobras Chesf, and one in ED Acre. All cases received disciplinary procedures, six being terminations and three disciplinary measures.

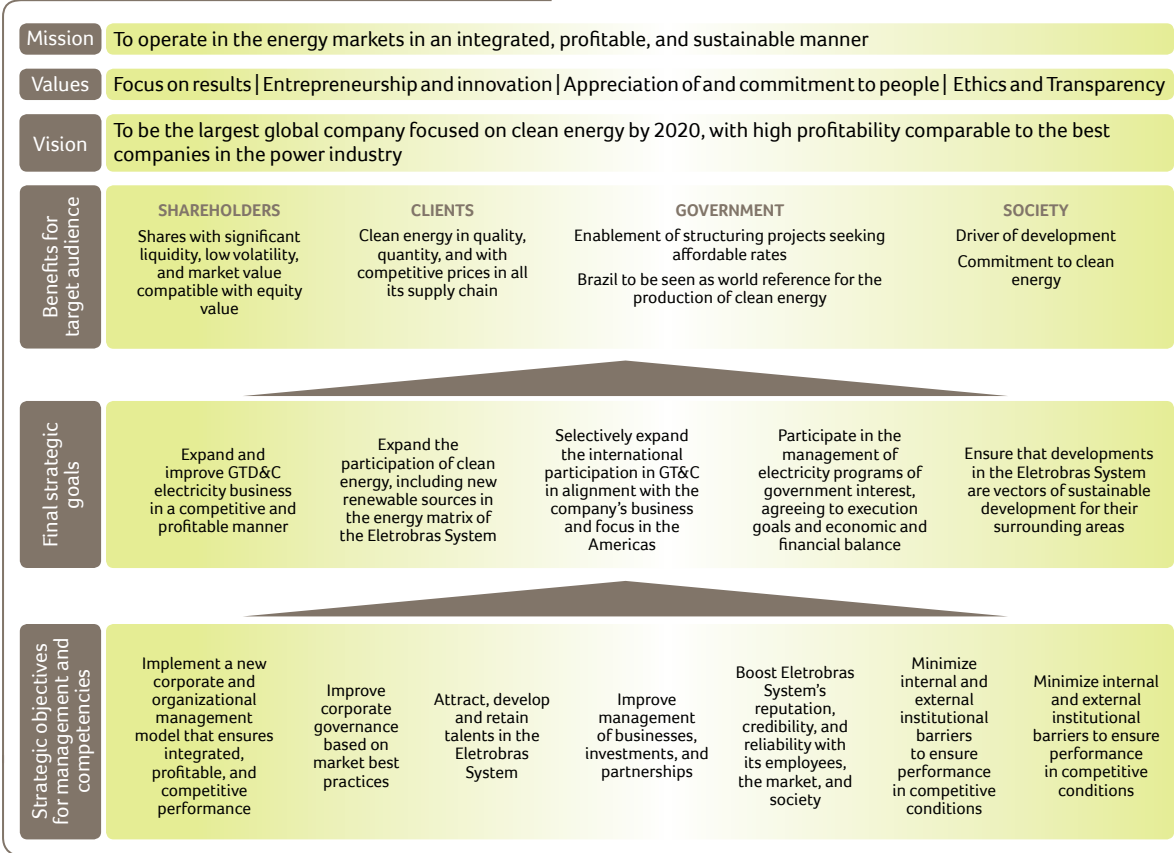
In order to minimize corruption cases associated with the government, the Eletrobras Companies are prohibited from supporting or contributing to political parties or campaigns, as established in the Code of Ethics of the Eletrobras Companies.



# Integrated Strategic Plan

The Strategic Plan for the Eletrobras System for the period of 2010-2020 was approved by Eletrobras's Board of Directors on January 22nd, 2010, and it is the result of the joint effort of all Eletrobras Companies. Strategic positioning (see chart below) is the basis for this plan. It determines the commitment to sustainability as the cornerstone for the expansion of the system, permeating all processes and the development of their businesses. The highlighted sectors of the public represent a synthesis, in four big blocks, of several specific and consolidated parts according to the most important benefits that should be expected from the performance of Eletrobras Companies.

## Strategic positioning



Indeed, as other levels of strategic positioning are covered (final strategic objectives for management and competencies), new audiences are identified in successive cascading levels: minority shareholders; end users of energy, as well as remote communities that still do not have access to electricity; several ministries that interface with the company's business; regulatory and supervisory bodies; trade associations; environmental organizations; suppliers; employees of the Eletrobras Companies and associated market; partners in partnerships and consortiums; communities surrounding developments; the academic and scientific community; media; and organized civil society entities, among others. The relationships between these stakeholders and the Eletrobras Companies are consolidated and standardized by formal documents that are in alignment with the Strategic Plan: policies (sustainability, environmental, water resources, supply logistics, R&D+I, communication, sponsorship); plans (career and remuneration, development and training of personnel); codes (professional conduct and ethics); systems (performance management); and guidelines (social responsibility).

## The evolution of the planning and management process in Eletrobras Companies

After the conclusion, in 2010, of the 2010-2020 Strategic Plan for the Eletrobras System and of the 2010-2014 Master Business Plan, the Planning and Management process of the Eletrobras Companies started its second phase in 2011, in which the following activities were developed.

### Consolidation and updating of the Master Business Plans for the Eletrobras Companies for the 2011-2015 period

The work to incorporate the year 2015 into the Master Business Plans took into account the recommendations from Eletrobras's Board of Directors, received in February 2011, with the incorporation of trading activity into the power generation business segment and the consideration of the management of government programs and industry-specific funds as an area of operation, in a separate volume.

## Preparation of the Master Management Plan of the Eletrobras System

The objective of this Plan is to organize and monitor ongoing actions or those to be initiated in the Holding and in the Eletrobras Companies, associated with the fulfillment of the Strategic Management and Competency Objectives set forth in the 2010-2020 Strategic Plan for the Eletrobras System. These objectives establish the strategic focus in basic support areas, in institutional and organizational competencies, aiming at meeting the requirements set forth in the Core Strategic Objectives (associated with organization core activities) also provided in the same plan.

In order to prepare the plan, projects and actions from the 2009-2012 Strategic Actions Program (PAE), the Eletrobras System Transformation Plan (PTSE), as well as the agenda of the active committees in the Holding, were consolidated. It is indeed an operational plan with emphasis on the short and medium term.

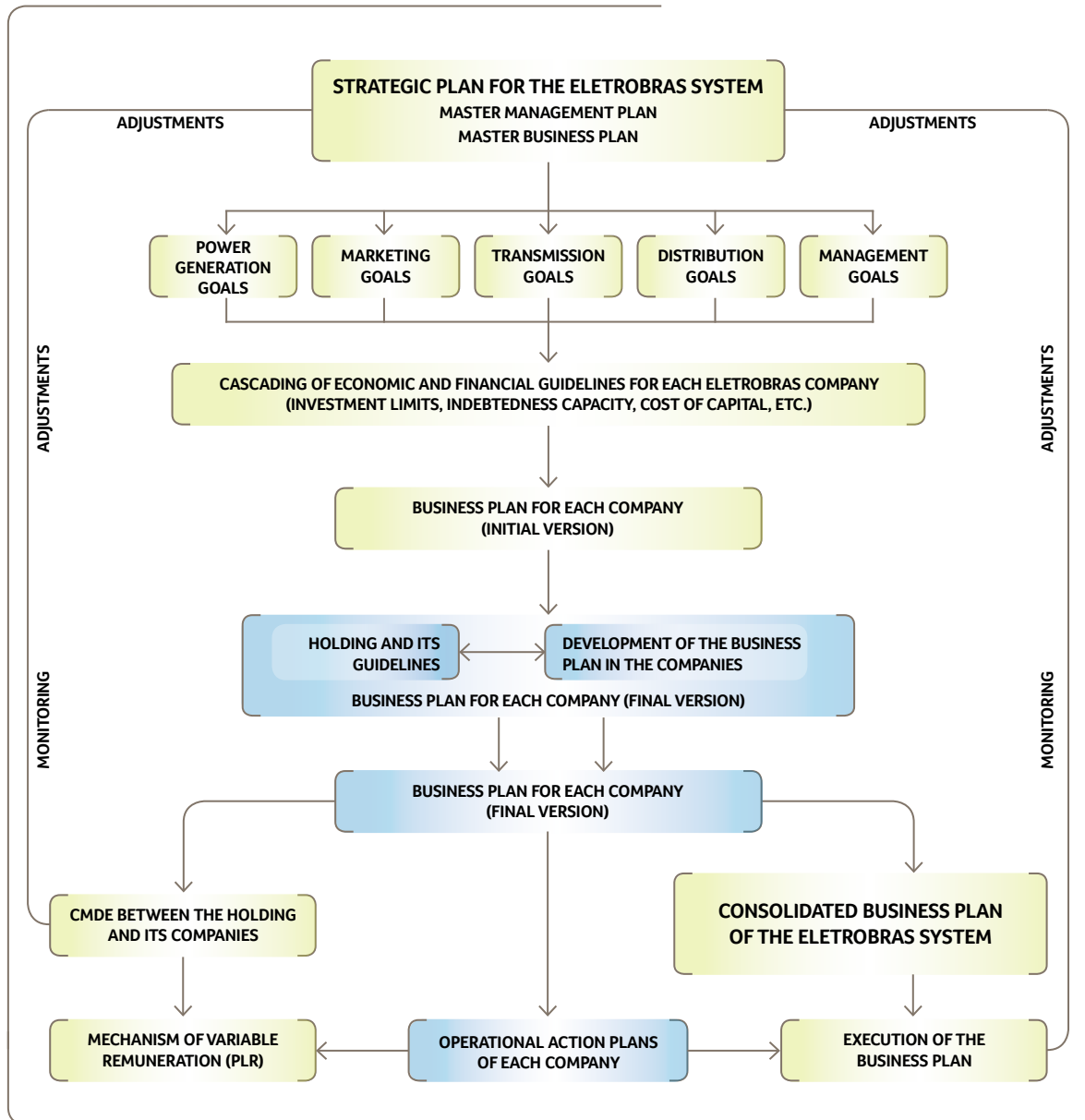
## Preparation of the structure for the Business Plans of each Eletrobras company

Based on the projections for the balance sheet, income statements for the fiscal period, and the cash flow of each of the Eletrobras Companies for the 2012-2021 period which were generated through an internal financial projection model following the IFRS (International Financial Reporting Standards), a set of economic and financial guidelines were established, associated with investment limits, indebtedness capacity, indication of expansion goals, and cost of capital for each of them.

The development of a proposal for the basic architecture for the 2012-2016 Business Plan for each of the Eletrobras Companies was completed in November 2011. This proposal was based on this set of guidelines, on the 2010-2020 Strategic Plan for the Eletrobras system, on the Master Business Plans for the Eletrobras system for the 2011-2015 period – with its analyses, diagnoses, assumptions and portfolio of projects and actions, as well as its respective goals for the generation, marketing, transmission, distribution, and management – and also the Master Management Plan for the Eletrobras System, with its respective portfolio of projects.

The evolution of the planning and management process in the Eletrobras Companies may be seen in the chart below.

# Management and Planning Process of the Eletrobras System



It is a large-scale process that, once completed, will allow Eletrobras Companies to start a new standard for integrated operation focused on profitability, sustainability, and the pursuit of global leadership in clean energy production as provided by its Vision.

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# Generation

## Average plant availability factor in 2011 (GRI EU30)

The companies of the system had a total 227,173 hours of non-availability in 2011, of which 89,244 hours were forced non-availability (unplanned) and 137,930 hours were planned non-availability (61% of the total number)<sup>1</sup>.

### ////// AVAILABILITY FACTOR //////////////////////////////////////

FULLY-OWNED, JOINTLY OWNED AND ITAIPU BINACIONAL

| Source of primary energy | Availability factor (%) |
|--------------------------|-------------------------|
| Uranium                  | 96.2                    |
| Hydroelectric            | 91.9                    |
| Oil                      | 82.4                    |
| Gas                      | 73.1                    |
| Coal                     | 38.0                    |

### ////// AVAILABILITY FACTOR //////////////////////////////////////

SPECIFIC PURPOSE COMPANIES (SPEs)

| Source of primary energy | Availability factor (%) |
|--------------------------|-------------------------|
| Wind                     | 98.0                    |
| Hydroelectric            | 93.0                    |

### ////// TOTAL NUMBER OF UNAVAILABLE HOURS //////////////////////////////////////

|  |                |
|--|----------------|
| <b>Forced non-availability (unplanned)</b> | <b>89,244</b>  |
| Eletrobras Chesf                           | 62,102         |
| Eletrobras Furnas                          | 16,472         |
| Itaipu Binacional                          | 9,059          |
| Eletrobras CGTEE                           | 1,453          |
| Eletrobras Eletronuclear                   | 158            |
| Eletrobras Eletronorte                     | -              |
| <b>Planned non-availability</b>            | <b>137,930</b> |
| Eletrobras Chesf                           | 91,671         |
| Eletrobras Furnas                          | 34,609         |
| Itaipu Binacional                          | 7,046          |
| Eletrobras CGTEE                           | 3,882          |
| Eletrobras Eletronuclear                   | 722            |
| Eletrobras Eletronorte                     | -              |
| <b>Total</b>                               | <b>227,174</b> |

////////////////////////////////////

1. The following companies have reported: Eletrobras CGTEE, Eletrobras Chesf, Eletrobras Eletronorte, Eletrobras Eletronuclear, Eletrobras Furnas and Itaipu Binacional.



## Average generation efficiency in thermoelectric plants (GRI EU11)

The nuclear power plants are the most efficient thermoelectric plants among all the Eletrobras Companies, as shown in the table below: In Angra 1 plant, due to studies and improvements made to the systems and equipment, significant progress has been achieved, thereby increasing the average generation by more than one percent over the last year (from 97% to 98.8%).

### ////// AVERAGE GENERATION EFFICIENCY OF THE THERMOELECTRIC PLANTS ////////////////////////////////////// BY SOURCE OF ENERGY AND BY REGULATORY REGIME (GRI EU11)

| Primary energy source | Generation efficiency (%) |
|-----------------------|---------------------------|
| Coal                  | 20.9                      |
| Natural Gas           | 30.9                      |
| Oil                   | 37.5                      |
| Uranium               | 35.0                      |

## Transmission

Transmission loss of a power company is calculated as the difference between the sum of the generation and import and export and consumption, measured at the points of delivery to distributors and local consumers.

According to the Brazilian regulatory model, the characteristics of the project of a transmission system are defined during the expansion planning phase, when, by means of technical-economic feasibility studies, the best technical and less expensive global alternative (investment costs and losses) is selected for the electric system.

In 2010, under the coordination of Eletrobras, a unified methodology for estimation of electrical transmission loss within the Eletrobras System was established, based on calculations using power flow study.

### ////// LOSS THROUGH TRANSMISSION (GRI EU12)\* //////////////////////////////////////

|                        | Technical losses (%) |
|------------------------|----------------------|
| Eletrobras Chesf       | 2.87                 |
| Eletrobras Furnas      | 2.39                 |
| Eletrobras Eletronorte | 1.57                 |
| Eletrobras Eletrosul   | 1.83                 |
| Sistema Eletrobras     | 2.23                 |

\*Loss in the electric power transmission process between the plants and the substations.

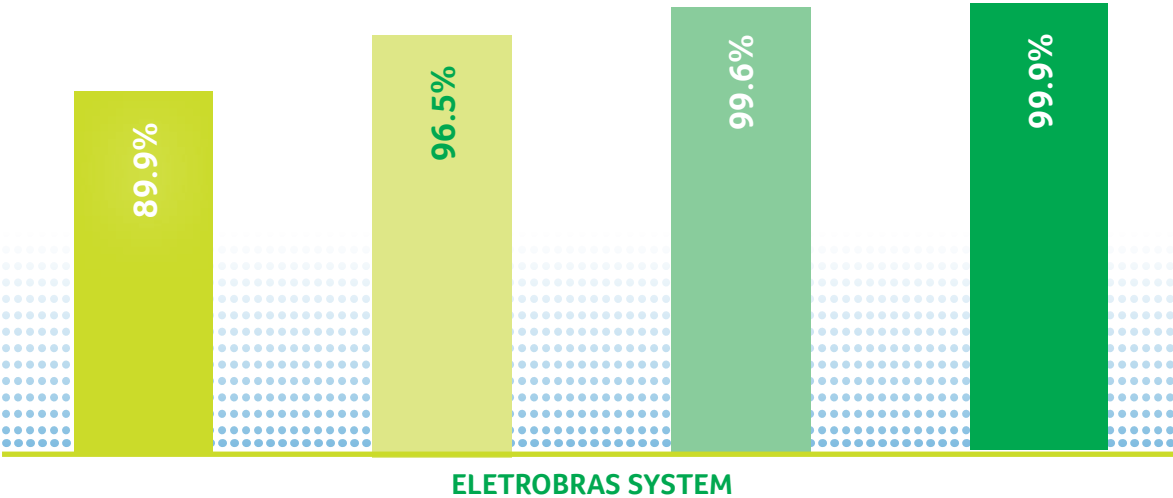
The table below presents the positioning of the Eletrobras Companies regarding the availability of their transmission lines. This indicator represents the percentage of hours, in the year, that the lines remain available for the transmission system, classified by voltage level and by company owner, enabling performance management of the transmission line circuits.

////// AVAILABILITY RATE OF TRANSMISSION LINES (%) //////////////////////////////////////

|                        | 2011    | 2010    |
|------------------------|---------|---------|
| Eletrobras Eletrosul   | 99.9046 | 99.9144 |
| Eletrobras Eletronorte | 99.9346 | 99.9477 |
| Eletrobras Chesf       | 99.8922 | 99.8968 |
| Eletrobras Furnas      | 99.8272 | 99.8717 |

With regards to the robustness index, which aims to assess the basic network capacity to support contingencies without interruption of power supply to consumers, in 2011, the Eletrobras Companies achieved the following performance:

//// 2011 ROBUSTNESS INDICATOR (%) //////////////////////////////////////



- Robustness with respect to all events with load break
- Robustness with respect to all events with load break > 100 MW
- Robustness with respect to all events with load break > 500 MW
- Robustness with respect to all events with load break > 1000 MW

## Distribution

Throughout 2011, the six Eletrobras Distribution Companies presented a lower percentage of loss over the energy injected into their systems. The consolidated rate was reduced by 0.88%, registering 34.28% in December 2011. This level, however, remains significantly above the national average, which is 15%. Therefore, in order to improve the quality in the supply of services and reduce energy loss, project Energy + was created last year, according to details below.

### Project Energy +

The Energy + Project was created in order to improve the operational and financial performance and corporate governance of the six Eletrobras distribution companies through the implementation of several initiatives to reduce the loss of electricity, increase collection rates, and improve the service provided to consumers. Regarding reduction of loss, three main points can be highlighted.

- //// **Rehabilitation and reinforcement for the distribution system of high, medium, and low voltage:** this includes the enhancement in operational performance on low and medium voltage networks located in areas already serviced, regularization of the electricity supply to commercial, industrial and service consumers, and also the construction of transmission lines and substations in 69 kV. Its objectives are to reinforce, rehabilitate, and expand the supply of electricity in urban areas serviced by low, medium, and high voltage networks, including rehabilitation and reinforcement of substations. With these initiatives, the effects of long periods without investments in the distribution networks and lack of operational flexibility associated with outdated models will be overcome.
- //// **Implementation of advanced metering infrastructure:** the objective is to sustainably reduce non-technical loss in supply of electricity by the six Eletrobras distribution companies. It includes the implementation of advanced infrastructure to perform metering, reading, and monitoring of consumption in medium and low voltage, replacement and relocation of current metering systems to maximize precision and minimize risk of theft, the implementation of advanced metering infrastructure in medium voltage feeders, and regularization of electricity supply in low voltage networks, including the installation of shielded networks and metering boxes.
- //// **Modernization of the Integrated Management System of the companies:** the goal is to acquire and install new information management systems to improve corporate performance. Among other aspects, it aims at updating clients' data and mapping distribution networks; the acquisition of computer equipment and other tools is very important for the implementation/operation of an integrated management system. In the commercial segment, there will be a new Integrated System for Commercial Management that will allow the proper performance and monitoring of all related activities. For the management of corporate resources, the system Enterprise Resource Planning (ERP) will be implemented. The ERP will provide support for efficient and transparent execution of processes and activities regarding accounting, asset management, financial management (budget, treasury, revenues, and payments), human resources (administration, payroll, organizational structure, occupational health, and safety and training), acquisitions and logistics, project management, planning and business intelligence, and management of information.

More information can be found at:

<http://www.eletrobras.com/elb/data/Pages/LUMIS30910085PTBRIE.htm>.

According to the table below, the major causes of energy loss for the Eletrobras Companies are deviations, fraud and illegal connections (non-technical losses). This requires the company to have a constant and strict performance with inspection services and regularization of consumer units.

////// **LOSS THROUGH DISTRIBUTION (GRI EU12)\*** //////////////////////////////////////

|                             | <b>Non-technical losses (%)</b> | <b>Technical losses (%)</b> | <b>Total (%)</b> |
|-----------------------------|---------------------------------|-----------------------------|------------------|
| Eletrobras Amazonas Energia | 34.13                           | 7.71                        | 41.84            |
| ED Alagoas                  | 21.53                           | 8.42                        | 29.95            |
| ED Rondônia                 | 15.04                           | 12.74                       | 27.78            |
| ED Roraima                  | 9.16                            | 6.62                        | 15.78            |
| ED Piauí                    | 20.58                           | 12.45                       | 33.03            |
| ED Acre                     | 11.55                           | 11.87                       | 23.42            |
| <b>Total</b>                | <b>24.7</b>                     | <b>9.57</b>                 | <b>34.28</b>     |

\*Loss in the electric power transmission process between the substations and consumers.

## Interruptions (GRI EU28, EU29)

Monitoring of interruptions is done on a daily basis by a management system that manages distribution, which monitors all events. The quality of energy supply is measured by the frequency and duration of interruptions per consumer unit.

In 2011, the Equivalent Frequency of Interruption per Consumer Unit (FEC) of the Eletrobras System was 32 interruptions, showing a reduction compared to 2010 (33 interruptions). Consolidated Frequency for the System is calculated with the weighted number of consumers.

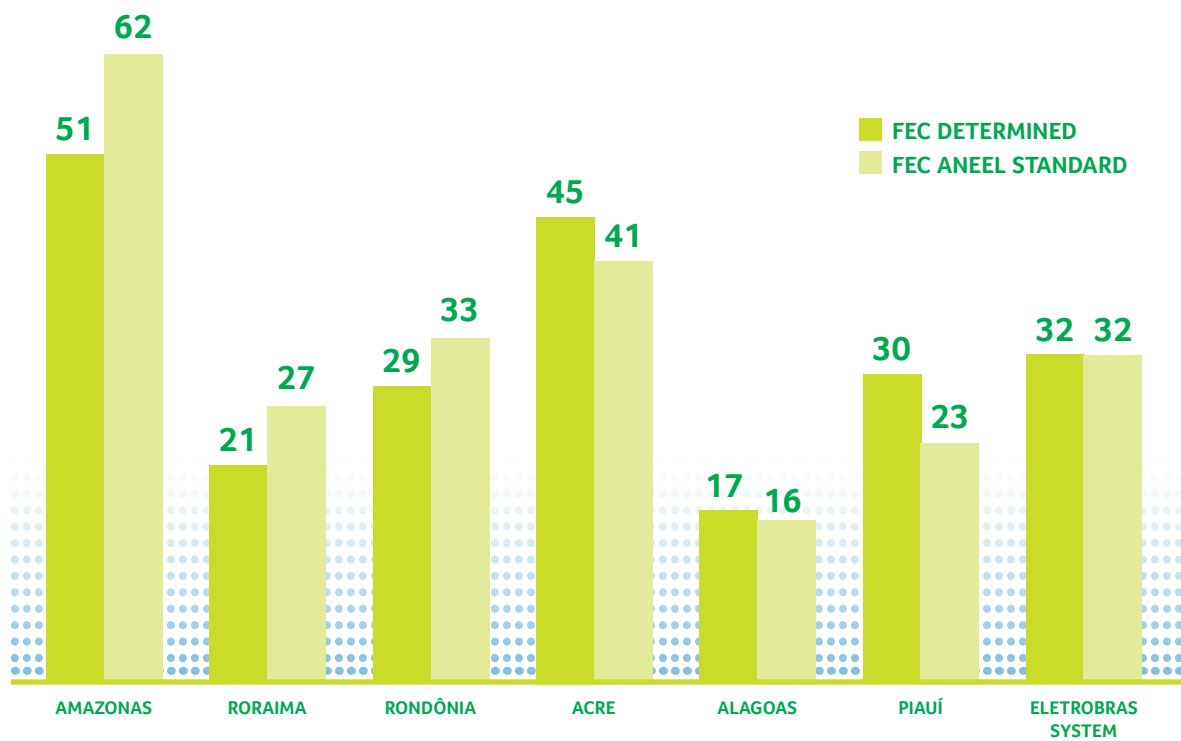
The frequency per company is presented in the following table:

////// **FREQUENCY OF INTERRUPTIONS IN POWER SUPPLY** //////////////////////////////////////  
NUMBER OF INTERRUPTIONS/YEAR

| Year | ED Acre | ED Alagoas | Eletrobras Amazonas Energia |          | ED Piauí | ED Rondônia | ED Roraima |
|------|---------|------------|-----------------------------|----------|----------|-------------|------------|
|      |         |            | Capital City                | Interior |          |             |            |
| 2010 | 44      | 14         | 60                          |          | 32       | 30          | 22         |
| 2011 | 45      | 17         | 51                          | 30       | 30       | 29          | 20         |

In terms of the FEC (Equivalent Frequency of Interruption) limit established by ANEEL, 50% of the companies had lower indicators. Since ANEEL does not establish a standard for the System, the consolidated value was also calculated with the total weighted number of consumers. Considering this value, the System's FEC presented value equal to the limit calculated as ANEEL standard, according to the following chart:

**//// EQUIVALENT OUTAGE FREQUENCY //////////////////////////////////////**  
**BY CONSUMER EQUIVALENT OUTAGE FREQUENCY UNIT (FEC)**



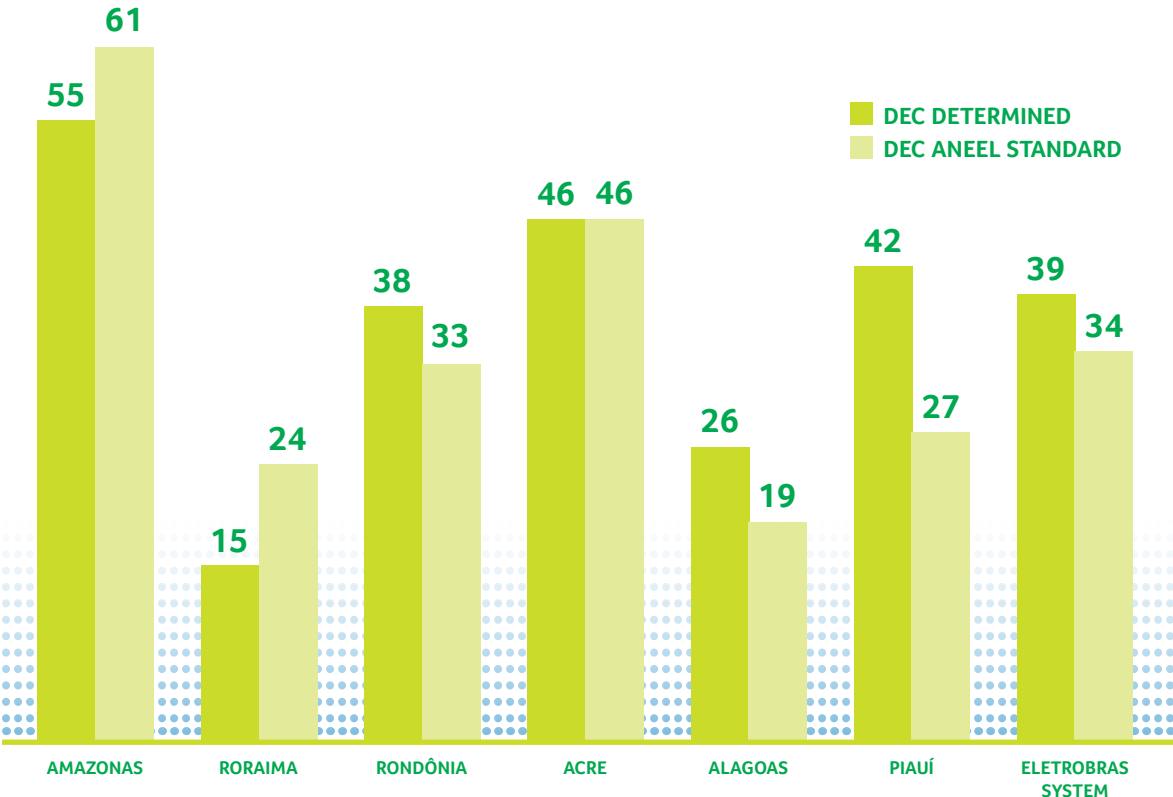
The duration of interruptions shows the average downtime for each consumer unit. In 2011, the Equivalent Outage Duration per Consumer Unit (CED) of the Eletrobras System was 39 hours, showing a reduction compared to 2010 (41 hours). The Consolidated Duration for the System is calculated with the total weighted number of consumers. The duration per company is shown in the following table:

**////// DURATION OF OUTAGES BY CUSTOMER (DEC) //////////////////////////////////////**  
 HOURS/YEAR

| Year | ED Acre | ED Alagoas | Eletrobras Amazonas Energia |          | ED Piauí | ED Rondônia | ED Roraima |
|------|---------|------------|-----------------------------|----------|----------|-------------|------------|
|      |         |            | Capital City                | Interior |          |             |            |
| 2010 | 45      | 20         |                             | 72       | 41       | 32          | 17         |
| 2011 | 46      | 25         | 55                          | 42       | 42       | 38          | 13         |

In relation to the DEC limit established by ANEEL, 50% of the companies presented indicators equal to or smaller. Since ANEEL does not establish a standard for the System, the consolidated value was also calculated with the total weighted number of consumers. Considering this value, the System’s DEC presented a value around 15% above the limit calculated as ANEEL standard, according to the following chart:

**////// EQUIVALENT OUTAGE DURATION //////////////////////////////////////**  
 BY CONSUMER UNIT (DEC)



Aiming at improving quality indexes, the following initiatives are being developed:

Substation automation; replacement and installation of reclosers and transformers; and the creation of new contracts for the increase of tree pruning service teams, maintenance of networks and energized power lines. At ED Roraima, for example, four autoreclosers were installed, allowing the distributor to isolate the rural networks from urban networks, thus separating the problems in rural areas that affected the urban areas.

## Reliability and availability (GRI EU6)

The Eletrobras Companies have a detailed maintenance plan managed by a computerized system in which control, supervision, and protection are technologically updated whenever necessary. Investments are also made in order to replace or modernize obsolete components and also perform technical improvements for the increase in reliability and availability of operations.

Law No. 9,991/2000, regulated by ANEEL, establishes that power utility companies must mandatorily invest 0.20% of their net operating income in the Research and Development Program, aiming to improve the reliability and availability of electricity in the country.

Learn about some of the Company's initiatives to increase reliability of its operations:

- //// Establishment of the Center for Excellence in Energy in Acre (CEEAC): this project is a partnership between Eletrobras, FUNDAPE and UFAC. The center will be built to train professionals in the areas of engineering and environmental management, as well as researchers to develop studies on energy with an emphasis on power generation through the use of bulb-type turbines, research in transmission of energy through direct current, and environmental management. CEEAC will enable the qualification and training of engineers, specialized professionals, and researchers in the areas of environmental energy in order to work in the different phases of projects, such as the construction, operation, and maintenance of developments for power generation and transmission in the northern region of the country. The resources to be invested by Eletrobras are expected to reach BRL 6.3 million.
- //// The main R&D initiatives of ED Alagoas are: expansion and revitalization of the Medium Voltage / Low Voltage (MV/LV) distribution system, increase in the capacity of transformation in substations due to the purchase and revitalization of power transformers, and implementation of projects intended to prevent energy loss.
- //// In Eletrobras Eletronuclear, several systems were installed and others were modernized aiming to maintain the plant's availability/reliability, such as: the installation of a system for metering and billing of electricity, the mechanical seal system for the reactor's cooling pumps, the spare rotor for the main electric generator, fire protection on electric cables near JEB pumps, and impellers on cooling water pumps for the main condensers.

//// Eletrobras Furnas has invested in the acquisition and installation of systems for the monitoring of equipment. These systems provide additional safety for the system because they are designed to verify operational conditions of equipment and anticipate possible failures, decreasing the risks of personal accidents and possible occurrences on the National Interconnected Electric System (SIN). These systems also increase the availability of equipment, avoiding unnecessary shutdowns since maintenance is done as needed rather than at fixed intervals. The company is using the Diane system developed by Cepel in order to monitor and diagnose the operating condition of its transmission system equipment.

## Emergencies (GRI EU21)

The reconnection of electric power supply is treated in various ways, according to the characteristics of each business and to the hazards related to the operations and technologies used. The distribution and transmission companies of the system have standby technical services and assistance for any repairs required by the power grid.

If required, whenever the community, authorities, and industrial clients are involved, the following agencies are contacted: representatives of the communities, city councils, government, and (depending on the severity of the occurrence) fire department, police department, highway patrol, civil defense, and hospitals.

See below the main actions performed by the companies.

//// ED Alagoas has a call center which receives information from users and mobilizes the Operational Center for Distribution (COD), which in turn contacts the Technical Team which proceeds to the location where the failure or disruption occurred.

//// ED Rondônia has strategic (operational) departments which have tools for controlling and preventing accidents and system failures. One of these is the maintenance program acquired by the Operational Department which is currently being implemented and aims at aligning the control of distribution assets which, in addition to controlling equipment individually, will provide preventive, corrective, and predictive maintenance indicators and allow the system to inform which equipment requires intervention. Moreover, field teams have thermal imaging equipment that allows for the identification of potential risks of distribution failure.

//// In Eletrobras Eletronorte, the issue is handled by PRI-TICorp-Sede which defines procedures that aim at responding to incidents, thus ensuring that the disruption and subsequent reconnection of IT services are fully and consistently executed. This reconnection is performed via test procedures, exception handling, and the activation of all IT services affected by the incident.



- //// Eletrobras Eletronuclear has a series of measures and actions which will be carried out in case of nuclear emergencies, whether for prevention and preparation or for response and reconstruction, as described in item 2 of this report.
- //// Eletrobras Eletrosul has an ongoing project developed in conjunction with Natsaúde/UFSC for the implementation of Eletrosul's Emergency Response Plan (PASE).
- //// Eletrobras Furnas also maintains standby teams in the Production departments, aiming at responding to emergencies in transmission lines, substations, and power plants.
- //// Itaipu Binacional awaits system requirements in blackout events. The power plant has start-up systems fueled by emergency diesel generators in case of total shutdowns (black start).
- //// Eletrobras Chesf has Contingency Plans for its facilities, including emergency actions to be performed in case of floods, problems in the transmission system, fire, and invasion of its facilities (social issues). Thus, the following procedures are applied whenever necessary: Fire Safety Plan (PSCI), Emergency Assistance Plan (PAE), Evacuation Plan (PAA), and Annual Flood Prevention Plan, in addition to the Flood Control Manuals for the basins where the main reservoirs are located, coupled with a Released Flow and Level Information Disclose System which establishes the information content and recipients in order to inform the institutions involved to take appropriate actions.



## Highlights of Consolidated Results - 2011 (GRI EC 1)

### Highlights

**Net operating revenue**

**BRL 29,533 million**  
(up 10% when compared to 2010)

**Ebitda**  
(earnings before interest, taxes, depreciation and amortization)

**BRL 6,350 million**  
(up 5.8% when compared to the previous year, representing an adjusted EBITDA of BRL 8,102 million in the year)

**Operating result**

**BRL 4,143 million**  
(up 10.7% when compared to 2010)

**Net Income**

**BRL 77,202 million**  
(up 66.1% when compared to the previous year)

**Consolidated net equity**

**BRL 77,202 million**

**Profitability of net equity**

**4,8%**  
(compared to 3.2% in 2010)

**Net result of exchange rate variation**

**BRL 670 million**

Adjustment of investments and operational accruals in associated companies in the amount of BRL 744 million. Financial Asset/transfer from Itaipu, which grew from BRL 216 million, in 2010, to BRL 836 million, in 2011.

//////MAIN CONSOLIDATED INDICATORS (BRL MILLION) ////

|  | 2011   | 2010   | Variation 11 x 10 |
|--|--------|--------|-------------------|
| Net operating revenue                            | 29,533 | 26,832 | 10%               |
| Personnel, material and service                  | 7,671  | 7,371  | 4%                |
| Depreciation                                     | 1,724  | 1,592  | 8%                |
| Other costs                                      | 15,995 | 14,127 | 13%               |
| EBITDA   | 6,350  | 6,004  | 6%                |
| Financing payables and debentures – without RGR* | 33,467 | 24,979 | 34%               |
| Cash, bonds and securities                       | 16,611 | 16,764 | -1%               |
| Financing receivables – without RGR              | 6,448  | 6,664  | -3%               |
| Net debt**                                       | 10,408 | 1,551  | 571%              |
| Net Equity                                       | 77,202 | 70,530 | 9%                |
| Net Income                                       | 3,733  | 2,248  | 66%               |
| Net income/net equity                            | 5%     | 3%     | 2 p.p.            |
| PMS/net operating revenue                        | 26%    | 28%    | -2 p.p.           |
| Net debt/EBITDA                                  | 1.8    | 0.4    | 4.8x              |
| EBITDA margin                                    | 21%    | 22%    | -1 p.p.           |

\* This amount includes part of Itaipu Binacional's debt to third parties.

\*\* Net debt = financing payables and debentures – cash, bonds and securities – financing receivables.

//////VALUE ADDED STATEMENT//////

FOR THE FISCAL PERIODS ENDED DECEMBER 31, 2011 AND 2010 (VAS)

(BRL thousand)

|   | CONSOLIDATED |              |
|---|--------------|--------------|
|   | 2011         | 2010         |
| <b>1 – REVENUES (EXPENSES)</b>                |              |              |
| Sale of goods, products, and services         | 33,061,356   | 29,814,652   |
| Non-operating                                 | 1,187,135    | 1,200,655    |
|   | 34,248,491   | 31,015,307   |
| <b>2 – INPUTS ACQUIRED FROM THIRD PARTIES</b> |              |              |
| Materials, services, and others               | (11,442,512) | (9,359,773)  |
| Industry charges                              | (1,712,669)  | (1,514,504)  |
| Electricity purchased for resale              | (3,386,289)  | (4,315,084)  |
| Fuel for the production of electricity        | (162,673)    | (743,761)    |
| Operational provisions                        | (2,848,749)  | (1,529,549)  |
|   | (19,552,892) | (17,462,671) |

////// **VALUE ADDED STATEMENT** //////////////////////////////////////

FOR THE FISCAL PERIODS ENDED DECEMBER 31, 2011 AND 2010 (VAS)

(BRL thousand)

|  | <b>CONSOLIDATED</b> |                   |
|--|---------------------|-------------------|
|  | <b>2011</b>         | <b>2010</b>       |
| <b>3 – GROSS ADDED VALUE</b>                   | 14,695,599          | 13,552,635        |
| <b>4 – WITHHOLDINGS</b>                        |                     |                   |
| Depreciation, amortization, and depletion      | (1,723,885)         | (1,592,476)       |
| <b>5 – NET ADDED VALUE PRODUCED BY ENTITY</b>  | 12,971,714          | 11,960,159        |
| <b>6 – ADDED VALUE RECEIVED IN TRANSFER</b>    |                     |                   |
| Ownership interest                             | 482,785             | 669,755           |
| Financial revenues                             | 4,262,326           | 3,374,291         |
|  | 4,745,111           | 4,044,046         |
| <b>7 – TOTAL ADDED VALUE TO BE DISTRIBUTED</b> | 17,716,825          | 16,004,205        |
| <b>DISTRIBUTION OF ADDED VALUE</b>             |                     |                   |
| <b>PERSONNEL</b>                               |                     |                   |
| Personnel, charges, and fees                   | 5,206,206           | 4,877,556         |
| Employee Profit Sharing                        | 317,035             | 296,270           |
| Pension and retirement plan                    | 27,620              | 32,309            |
|  | 5,550,861           | 5,206,135         |
| <b>TAXES</b>                                   |                     |                   |
| Taxes, fees, and contributions                 | 4,086,108           | 4,245,666         |
|  | 4,086,108           | 4,245,666         |
| <b>THIRD PARTIES</b>                           |                     |                   |
| Financial charges and rent                     | 4,027,873           | 3,738,414         |
| Donations and contributions                    | 289,964             | 261,006           |
|  | 4,317,837           | 3,999,420         |
| <b>SHAREHOLDERS</b>                            |                     |                   |
| Dividends and interest on equity               | 360,933             | 370,755           |
| Participation of non-controlling shareholders  | 29,454              | 305,072           |
| Retained earnings                              | 3,371,632           | 1,877,158         |
|  | 3,762,019           | 2,552,985         |
|  | <b>17,716,825</b>   | <b>16,004,205</b> |

## Net Operating Income (ROL)

Net Operating Income (ROL) in 2011 exceeded 2010 by 10.1%, growing from BRL 26,832 million to BRL 29,533 million.

### ////// NET OPERATING INCOME (ROL) //////////////////////////////////////

|  | 2011           | 2010                |
|--|----------------|---------------------|
|  |                | <b>Consolidated</b> |
|  |                |                     |
| <b>a) Power generation</b>             |                |                     |
| Supply/provision/sale of energy        | 18,427         | 18,110              |
| Financial asset/transfer Itaipu        | 836            | 216                 |
| Others                                 |                |                     |
| <b>b) Transmission</b>                 |                |                     |
| Revenue from construction              | 3,603          | 2,323               |
| Revenue from operation and maintenance | 1,979          | 1,467               |
| Restatement of return – transmission   | 2,774          | 2,526               |
| <b>c) Distribution</b>                 |                |                     |
| Supply                                 | 4,148          | 3,929               |
| Revenue from construction              | 729            | 810                 |
| Revenue from operation and maintenance | 565            | 433                 |
| <b>d) Operations with Electricity</b>  | <b>33,061</b>  | <b>29,815</b>       |
| <b>e) Other revenues</b>               | <b>1,187</b>   | <b>1,300</b>        |
| <b>Total</b>                           | <b>34,248</b>  | <b>31,114</b>       |
| Deductions to operating revenue        |                |                     |
| Industry charges                       | (1,713)        | (1,515)             |
| ICMS                                   | (1,086)        | (978)               |
| PASEP and COFINS                       | (1,902)        | (1,711)             |
| Other deductions                       | (15)           | (16)                |
| <b>Total deductions</b>                | <b>(4,716)</b> | <b>(4,282)</b>      |
| <b>Net operating income</b>            | <b>29,533</b>  | <b>26,832</b>       |

In BRL million.

### ////// NET OPERATING REVENUE (BRL MILLION) //////////////////////////////////////

|                                    | 2011          | 2010          | %          |
|------------------------------------|---------------|---------------|------------|
| Electricity operations (net total) | 28,346        | 25,632        | 11%        |
| Others                             | 1,187         | 1,300         | -9%        |
| <b>Total</b>                       | <b>29,533</b> | <b>26,832</b> | <b>10%</b> |

## Operating Costs and Expenses

Eletrobras had an increase in operational provisions due to the need to make provisions for losses with loans and financing and for losses in investments.

Eletrobras Eletronorte had a relevant increase in its operating costs caused by the need for provisions for eminent domain, a program for voluntary termination of employment, and a loan for settlement of debts and losses with ICMS. At Eletrobras Chesf, the BRL 700 million increase in provisions was due substantially to an increase in expenses with personnel, contingencies, and the voluntary termination of employment plan. At Eletrobras Furnas, the increase in costs and expenses was due to the cost for transmission projects (with emphasis on the installation of the transmission line that will connect the Porto Velho-RO Collector Substation to the Araraquara 2 Substation – Madeira Project), provision for the Staff Readjustment Program (PREQ), and impairment regarding Simplício and Batalha UHEs, as a result of the application of norms set forth by the Accounting Statements Committee. Eletrobras Eletrosul had an increase in electricity acquired for resale due to delays in the start of power generation projects.

### ////// OPERATING COSTS AND EXPENSES //////////////////////////////////////

|                             | 2011 (BRL million) | 2010 (BRL million) |
|-----------------------------|--------------------|--------------------|
| Eletrobras Holding          | 3,841              | 3,548              |
| Eletrobras Furnas           | 6,584              | 5,821              |
| Eletrobras Chesf            | 3,756              | 3,053              |
| Eletrobras Eletrosul        | 1,059              | 785                |
| Eletrobras Eletronorte      | 4,851              | 4,105              |
| Eletrobras Eletropar        | 2                  | 6                  |
| Eletrobras Eletronuclear    | 1,381              | 1,258              |
| Eletrobras CGTEE            | 389                | 503                |
| Itaipu Binacional           | 1,901              | 1,902              |
| Eletrobras Amazonas Energia | 1,733              | 2,396              |
| ED Alagoas                  | 816                | 757                |
| ED Rondônia                 | 840                | 630                |
| ED Piauí                    | 730                | 902                |

////// UNCONTROLLABLE COSTS (BRL MILLION) //////////////////////////////////////

|  | 2011         | 2010         | %          |
|--|--------------|--------------|------------|
| Electricity purchased for resale           | 3,386        | 4,315        | -22%       |
| Use of power grid                          | 1,421        | 1,354        | 5%         |
| Remuneration and reimbursement             | 1,329        | 1,087        | 22%        |
| Result to be offset from Itaipu Binacional | 655          | 441          | 49%        |
| <b>Total</b>                               | <b>6,791</b> | <b>7,197</b> | <b>-6%</b> |

Consolidated costs for the Eletrobras Companies, excluding expenses between the companies

The electricity acquired decreased by 22% mainly due to the reduction of this item in the Eletrobras Amazonas Energia subsidiary as a result of the conversion to gas (previously oil) by some independent power producers (PIEs).

The item Remuneration and Reimbursement, which represents the offsetting for the use of water resources, increased by 22%. This total is paid to municipalities and varies according to the amount of energy produced in each region and period.

////// CONTROLLABLE COSTS (BRL MILLION) //////////////////////////////////////

|  | 2011          | 2010          | %          |
|--|---------------|---------------|------------|
| Personnel, material, and services      | 7,671         | 7,371         | 4%         |
| Fuel for the production of electricity | 163           | 253           | -36%       |
| PASEP and COFINS                       | 1,902         | 1,711         | 11%        |
| Depreciation and amortization          | 1,724         | 1,592         | 8%         |
| Operational provisions                 | 2,849         | 2,497         | 14%        |
| Donations and contributions            | 290           | 261           | 11%        |
| Construction                           | 4,280         | 2,953         | 45%        |
| Others                                 | 1,360         | 669           | 103%       |
| <b>Total</b>                           | <b>20,177</b> | <b>17,522</b> | <b>15%</b> |

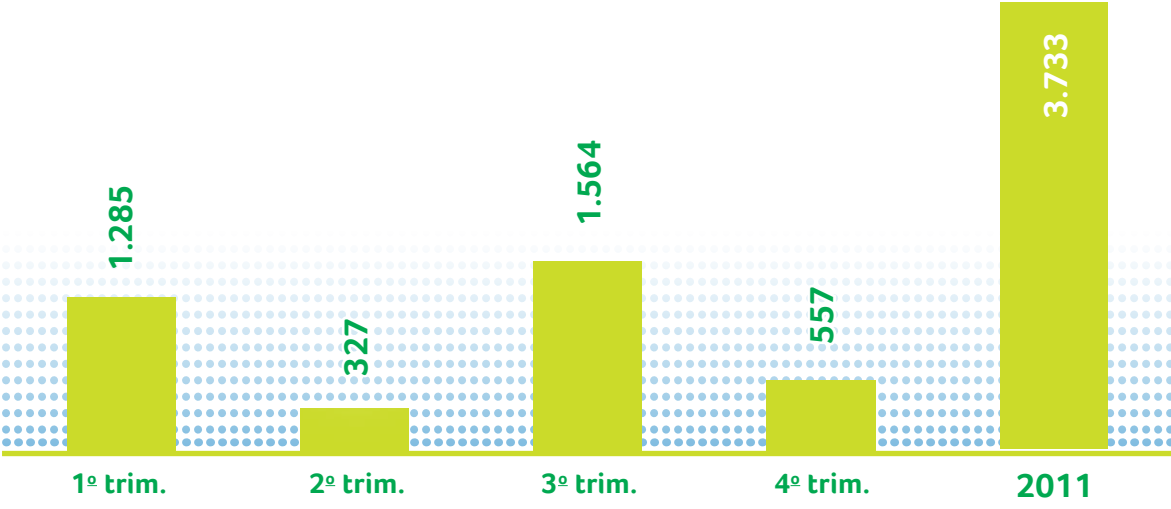
Consolidated costs for the Eletrobras Companies, excluding expenses between the companies



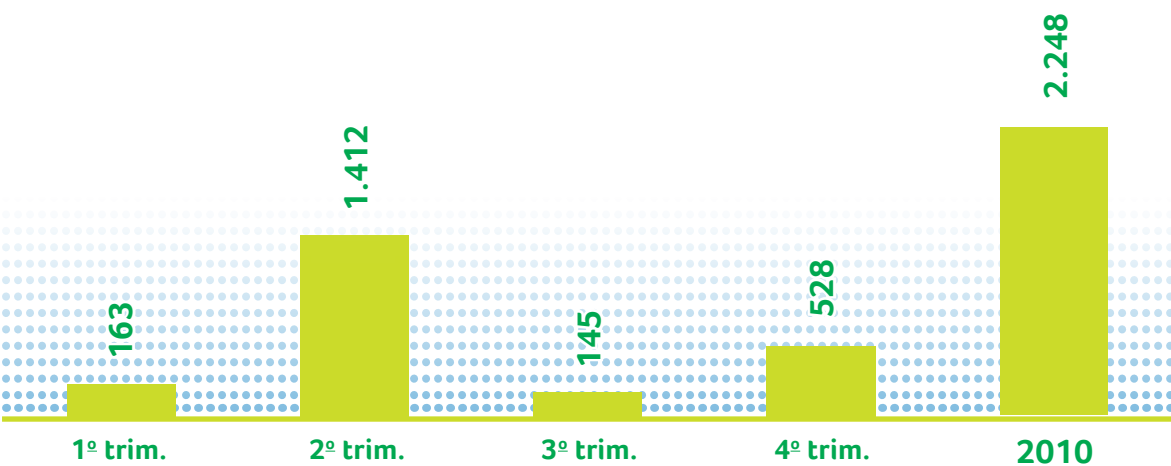
# Net Income

In 2011, Eletrobras registered a net income of BRL 3,733 million, presenting growth of 66.1% when compared to the net income of BRL 2,248 million in 2010.

**//// NET INCOME 2011 (BRL MILLION) //**



**//// NET INCOME 2010 (BRL MILLION) //**



The results of Eletrobras (Holding) were positively influenced, mainly by exchange variation (receivables from Itaipu Binacional). The following points can be highlighted regarding the subsidiaries.

Eletrobras Eletronuclear positively contributed with earnings of BRL 307 million mainly due to the restructuring of its debt, which caused an improvement in its financial results. Eletrobras Amazonas Energia reduced its loss by BRL 700 million when compared to the previous year, basically due to non-impairment in the year 2011. By the end of the 2011 period, Eletrobras Furnas showed a net income of BRL 260 million, down 40.9% when compared to 2010 when it presented income of BRL 636 million. This reduction was mainly due to an increase in operating costs and expenses. Eletrobras Chesf presented, in 2011, a reduction of 28.6% in its net income when compared to 2010, going from BRL 2,177 million to BRL 1,554 million. This reduction is largely explained by an increase in operating costs and expenses, as shown below.

#### ////// ELETROBRAS COMPANIES //////////////////////////////////////

|                             | 2011 (BRL million) | 2010 (BRL million) |
|-----------------------------|--------------------|--------------------|
| Eletrobras Holding          | 3,733              | 2,248              |
| Eletrobras Eletronorte      | 58                 | 154                |
| Eletrobras Eletronuclear    | 307                | -119               |
| Eletrobras Eletropar        | 23                 | 23                 |
| Eletrobras Eletrosul        | 104                | 68                 |
| Eletrobras Furnas           | 260                | 636                |
| Eletrobras CGTEE            | 17                 | 41                 |
| Eletrobras Chesf            | 1,554              | 2,177              |
| Itaipu Binacional           | 1,470*             | 776**              |
| Eletrobras Amazonas Energia | -625               | -1,353             |
| ED Alagoas                  | -45                | -44                |
| ED Rondônia                 | -129               | 5                  |
| ED Piauí                    | 42                 | -91                |

Source: explanatory notes (Holding).

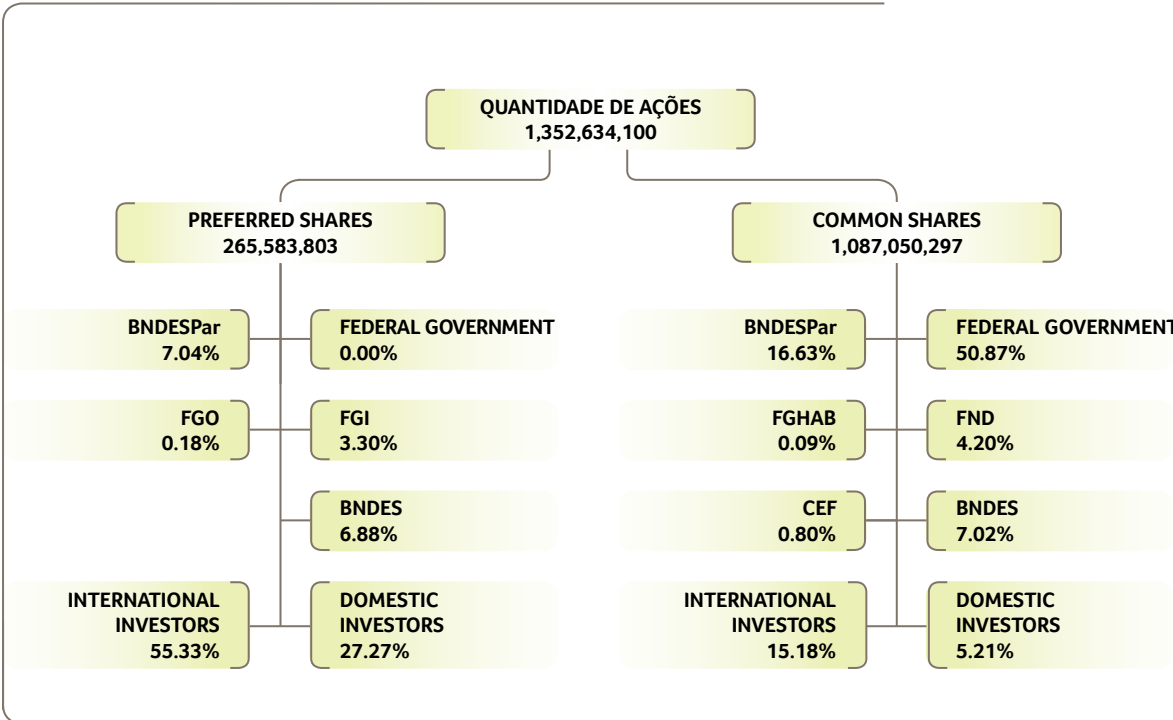
\* Conversion to BRL based on closing rates on December 31, 2011 (1 USD = BRL 1.87545).

\*\* Conversion to BRL based on closing rates on December 31, 2010 (1 USD = BRL 1.6658).

# Corporate Structure

According to deliberation in the 157<sup>th</sup> Extraordinary General Meeting (AGE), held on March 16<sup>th</sup>, 2011, Eletrobras's capital increase, in the amount of BRL 5,148,764,252.10, was approved, relative to the 155<sup>th</sup> Extraordinary General Meeting (AGE) which took place on January 11<sup>th</sup>, 2011. Thus, Eletrobras's social capital went from BRL 26,156,567,211.64 to 31,305,331,463.74, upon the issuance of 220,277,010 common shares (ON), and 38,250,240 B-class preferred shares (PNB).

## Shareholding structure (on December 31, 2011)



////// TOTAL INTEREST IN SOCIAL CAPITAL //////////////////////////////////////

|   | Number of shares     | %              |
|---|----------------------|----------------|
| Federal Government                          | 552,970,634          | 40.88%         |
| BNDES                                       | 94,601,503           | 6.99%          |
| BNDESPAR                                    | 199,449,053          | 14.75%         |
| JP Morgan Chase Bank                        | 115,399,189          | 8.53%          |
| Brazilian Development Fund (FND)            | 45,621,589           | 3.37%          |
| Caixa Econômica Federal (CEF)               | 8,701,564            | 0.64%          |
| Guaranteed Fund for Popular Housing (FGHAB) | 1,000,000            | 0.07%          |
| Skagen K T Verdipapirfond                   | 27,493,563           | 2.03%          |
| Investment Guarantee Fund (FGI)             | 8,750,000            | 0.65%          |
| Operation Guarantee Fund (FGO)              | 468,600              | 0.03%          |
| Minority residents                          | 131,360,629          | 9.71%          |
| Non-resident minority                       | 166,817,776          | 12.33%         |
| <b>Total</b>                                | <b>1,352,634,100</b> | <b>100.00%</b> |

## Expansion

////// NATURE OF INVESTMENTS (BRL MILLION) //////////////////////////////////////

|                            | 2011         | 2010         | %           |
|----------------------------|--------------|--------------|-------------|
| Power Generation           | 3,138        | 2,815        | 11.4        |
| Transmission               | 2,515        | 1,257        | 100.1       |
| Distribution               | 779          | 822          | (5.2)       |
| Environmental quality      | 56           | 50           | 1.1         |
| Research                   | 14           | 16           | (12.5)      |
| Infrastructure             | 272          | 319          | (14.7)      |
| <b>Corporate Total</b>     | <b>6,775</b> | <b>5,279</b> | <b>28.3</b> |
| Power Generation           | 2,109        | 822          | 156.6       |
| Transmission               | 995          | 853          | 16.6        |
| <b>Total SPEs</b>          | <b>3,104</b> | <b>1,635</b> | <b>89.8</b> |
| <b>Total – Investments</b> | <b>9,879</b> | <b>6,914</b> | <b>42.9</b> |

## Generation

### ////// INVESTMENTS IN GENERATION //////////////////////////////////////

| Under implementation |          | Under feasibility studies |          |
|----------------------|----------|---------------------------|----------|
| Type of plant        | MW       | Type of plant             | MW       |
| Hydroelectric        | 20,860.3 | Hydroelectric             | 19,652.0 |
| Wind                 | 258.0    | Eólica                    | 489.7    |
| Nuclear              | 1,405.0  | Térmica                   | 1,800.0  |
| Solar                | 1.0      |                           |          |

### ////// POWER GENERATION FORECAST 2012 //////////////////////////////////////

|              | Developments                   | Total power (MW) | Operation 2012 (MW) | Eletrobras Companies                       | Interest (%) | State | Forecast for start of generation |  |
|--------------|--------------------------------|------------------|---------------------|--|--------------|-------|----------------------------------|--|
| CORPORATE    | UHE Passo São João             | 77.0             | 77.0                | Eletrobras Eletrosul                       | 100.0        | RS    | Feb/12                           |  |
|              | UHE Simplício                  | 333.7            | 333.7               | Eletrobras Furnas                          | 100.0        | RJ/MG | Mar/12                           |  |
|              | PCH Barra do Rio Chapéu        | 15.1             | 15.1                | Eletrobras Eletrosul                       | 100.0        | SC    | Jul/12                           |  |
|              | PCH João Borges                | 19.5             | 19                  | Eletrobras Eletrosul                       | 100.0        | SC    | Jul/12                           |  |
|              | UHE São Domingos               | 48.0             | 48.0                | Eletrobras Eletrosul                       | 100.0        | MS    | Sep/12                           |  |
|              | <b>Subtotal</b>                | <b>493.3</b>     | <b>492.8</b>        |  |              |       |                                  |  |
| PARTNERSHIPS | UHE Santo Antônio              | 3,150.4          | 1,072.4             | Eletrobras Furnas                          | 39.0         | RO    | Jan/12                           |  |
|              | UHE Mauá                       | 361.0            | 361.0               | Eletrobras Eletrosul                       | 49.0         | PR    | May/12                           |  |
|              | UEE Miassaba 3                 | 68.5             | 68.5                | Eletrobras Eletronorte e Eletrobras Furnas | 49.0         | RN    | Jun/12                           |  |
|              | UEE Rei dos Ventos 1           | 58.5             | 58.5                | Eletrobras Eletronorte e Eletrobras Furnas | 24.5         | RN    | Jun/12                           |  |
|              | UEE Rei dos Ventos 3           | 60.1             | 60.1                | Eletrobras Eletronorte e Eletrobras Furnas | 24.5         | RN    | Jun/12                           |  |
|              | UEE Pedra Branca               | 30.0             | 30.0                | Eletrobras Chesf                           | 49.0         | BA    | Nov/12                           |  |
|              | UEE São Pedro do Lago          | 30.0             | 30.0                | Eletrobras Chesf                           | 49.0         | BA    | Oct/12                           |  |
|              | UEE Sete Gameleiras            | 30.0             | 30.0                | Eletrobras Chesf                           | 49.0         | BA    | Sep/12                           |  |
|              | UEE Cerro Chato I, II e III    | 90.0             | 32.0                | Eletrobras Eletrosul                       | 90.0         | RS    | Jan/12                           |  |
|              | UEE Complexo Eólico Livramento | 60.0             | 78.0                | Eletrobras Eletrosul                       | 49.0         | RS    | Dec/12                           |  |
|              |                                | <b>Subtotal</b>  | <b>3,938,5</b>      | <b>1,820,5</b>                             |              |       |                                  |  |
|              |                                | <b>Total</b>     | <b>4,431,8</b>      | <b>2,313,3</b>                             |              |       |                                  |  |

## Transmission

The Eletrobras Companies participated in activities for the planning of the expansion of transmission of the Energy Expansion Decennial Plan (PDE) 2020. In this PDE cycle, the study for the integration of the

Belo Monte hydroelectric complex stands out, which relied on the effective participation of the Eletrobras Companies in the conception of alternatives for transmission that allow energy to be transmitted from this complex to the northern, northeastern and southeastern regions of the country. The alternative selected integrates Belo Monte to Miracema, Itacaiunas, and Tucuruí substations, in the northern region, through a 500 kV transmission system. The integration to the northeast is composed of a transmission system, also in 500 kV, from the Miracema substation to the Milagres and Sapeaçu substations with an approximate extension of 2,000 km. The integration to the southeast is formed by two direct current bipoles  $\pm 800$  kV, with 4,000 MW capacity each, interconnecting the Xingu substation to the Estreito and Nova Iguaçu substations with distances exceeding 2,000 km. In the southeast, a set of 500 kV reinforcements were defined in order to take the power generated by Belo Monte without overloading the existing transmission system.

It is also important to highlight the participation of the Eletrobras Companies in the study that defined the expansion of the interconnection between the south and the southeast regions through the Londrina-Assis 500 kV transmission line, second circuit, and Itatiba-Bateias transmission line, allowing for the increase in electricity exchange between these systems.

In 2011, a feasibility study for the service of the municipality of Cruzeiro do Sul, in Acre, was prepared by the Eletrobras Companies attesting the benefits of the integration of the second largest city in the state to the National Interconnected System.

### Participation of the Eletrobras Companies in the expansion of power transmission (GRI EU4)

In 2011, the Eletrobras Companies participated in three transmission biddings acquiring 16 of the 24 lots available, totaling 3,155 km of transmission lines, and representing approximately 80% of the total offered (3,957 km). These developments will provide the Eletrobras Companies with an Allowed Annual Revenue (RAP) of close to BRL 55.88 million, corresponding to its own developments. Another point to be highlighted is the participation of the Eletrobras Companies in the aforementioned biddings in partnership with private developers, which will provide BRL 158,85 million RAP proportionate to the shareholding interest.

The implementation of transmission developments has been severely affected by the long period required for the issuance of environmental licenses (Preliminary License – LP and Installation License – LI). Even so, in 2011, the Eletrobras Companies incorporated approximately 101 km of transmission lines, 2,826 MVA in transformation capacity in substations, as well as 577 Mvar in reactive compensation to the National Interconnected System (basic network). In addition, in 2011, Eletrobras Companies, in partnerships with private developers creating the Specific Purpose Companies (SPEs), incorporated 426 km of transmission lines to the National Interconnected System (basic network).

At the nationwide level, we can highlight the Rio Madeira developments with the works of the Porto Velho Collector Substation, the Porto Velho Collector Transmission Line, and the Porto Velho/Araraquara  $2 \pm 600$  kV Collector Transmission Line – C1 and number 1 Rectifier Station, an ongoing development that is scheduled to be fully operational by August 2013. It should be noted that number 1 Rectifier

Station, which was sharing the Installation License with the Porto Velho Collector Substation, obtained its definitive Installation License on October 20th, 2011. Circuit 1 of the of Porto Velho 230 kV Collector Transmission Line – Porto Velho was activated on November 15th, 2011, which allowed the execution of tests on the first equipment of UHE Santo Antônio and Circuit 2, activated on January 12th, 2012. The delay in the process of environmental licensing for the developments strongly compromises the schedule, with negative effects on the profitability of the developments.

The transmission developments that started their commercial operation in 2011 are highlighted below.

## Transmission developments completed in 2011 (own and in partnership)

### ////// DEVELOPMENTS COMPLETED – OWN > 230 kV //////////////////////////////////////

| Eletrobras Companies   | Developments   | kV          | Extension (km) | MVA          | Mvar       |
|------------------------|--|-------------|----------------|--------------|------------|
| Eletrobras Chesf       | Ibicoara Substation*   | 500/230/138 | -              | 510          | -          |
| Eletrobras Chesf       | Cícero Dantas Substation                                       | 230/69      | -              | 50           | -          |
| Eletrobras Chesf       | Campina Grande II/Natal II – C3/C4 Transmission Line           | 230         | 3              | -            | -          |
| Eletrobras Chesf       | Bom Nome Substation  | 230/138     | -              | 100          | -          |
| Eletrobras Chesf       | Pituaçu-Narandiba – C1/C2 Transmission Line                    | 230         | 1.8            | -            | -          |
| Eletrobras Chesf       | Açu II (TR2) Substation  | 230/69      | -              | 50           | -          |
| Eletrobras Chesf       | Paraíso Substation   | 230/138     | -              | 100          | -          |
| Eletrobras Chesf       | Sapeaçu-Funil (S. A. Jesus Substation)-Secc. Transmission Line | 230         | 1              | -            | -          |
| Eletrobras Chesf       | Joiaram (TR3) Substation                                       | 230/69      | -              | 150          | -          |
| Eletrobras Eletronorte | Altamira (RB) Substation                                       | 230         | -              | -            | 30         |
| Eletrobras Eletronorte | Coxipó – AT5 Substation  | 230/138     | -              | 100          | -          |
| Eletrobras Eletronorte | Ji-Paraná (BC3) Substation                                     | 230         | -              | -            | 18.5       |
| Eletrobras Eletronorte | Guamá 2 (BC1 and BC2) Substation                               | 230         | -              | -            | 111        |
| Eletrobras Eletronorte | Jauru (AT2) Substation   | 230/138     | -              | 300          | -          |
| Eletrobras Eletronorte | Miranda II (AT3) Substation                                    | 230/138     | -              | 100          | -          |
| Eletrobras Eletronorte | Balsas-Ribeiro Gonçalves and SE Associated* Transmission Line  | 230/500/69  | 95             | 450          | -          |
| Eletrobras Eletronorte | Santa Maria (TR1) Substation                                   | 230/69      | -              | 100          | -          |
| Eletrobras Eletronorte | Vilhena (BC1, BC2 and BC3) Substation                          | 230         | -              | -            | 56         |
| Eletrobras Eletronorte | Utinga (BC3 and BC4) Substation                                | 230         | -              | -            | 111        |
| Eletrobras Eletrosul   | Canoinhas “E” Substation (2 AT and 6 TC Substations)           | 230/138     | -              | 150          | -          |
| Eletrobras Eletrosul   | Xanxerê “I” Substation (Substations AT3 and AT4)               | 230         | -              | 141          | -          |
| Eletrobras Eletrosul   | Dourados “F” Substation (AT4)                                  | 230/138     | -              | 75           | -          |
| Eletrobras Eletrosul   | Joinville “J” Substation                                       | 230/138/69  | -              | -            | -          |
| Eletrobras Eletrosul   | Curitiba “K” Substation  | 525/230     | -              | -            | -          |
| Eletrobras Furnas      | Serra da Mesa 6R Substation                                    | 500         | -              | -            | 73         |
| Eletrobras Furnas      | Jacarepaguá 10A Substation                                     | 345         | -              | 225          | -          |
| Eletrobras Furnas      | Barro Alto 5R Substation                                       | 230         | -              | -            | 27.7       |
| Eletrobras Furnas      | Poços de Caldas 15A (BC) Substation                            | 345         | -              | -            | 150        |
| Eletrobras Furnas      | Poços de Caldas 14A (TR5) Substation                           | 345/138/138 | -              | 225          | -          |
| <b>Total:</b>          |  |             | <b>101</b>     | <b>2,826</b> | <b>577</b> |

\* Works related to PAC (The Government's Growth Acceleration Program).

////// DEVELOPMENTS COMPLETED– PARTNERSHIPS (SPEs) > 230 kV //////////////////////////////////////

| Eletrobras Companies   | Development  | Interest (%) | kV  | Extension (km) | MVA        | Mvar       | Completion |
|------------------------|--|--------------|-----|----------------|------------|------------|------------|
| Eletrobras Eletronorte | Jauru-Cuiabá (CS) Transmission Line and Associated Substation*         | 49           | 230 | 354            | 750        | 272        | Nov/11     |
| Eletrobras Eletrosul   | Porto Velho/Porto Velho (Elb Enorte) Collector Transmission Line – C1* | 100          | 230 | 22             | -          | -          | Nov/11     |
| Eletrobras Furnas      | Barra dos Coqueiros-Quirinópolis Transmission Line *                   | 49           | 230 | 50             | -          | -          | Jun/11     |
| <b>Total</b>           |  |              |     | <b>426</b>     | <b>750</b> | <b>272</b> |            |

\*Works related to PAC

For the year 2012, the Eletrobras Companies plan to invest BRL 3,281 million in the transmission segment, incorporating approximately 1,349 km of transmission lines, 11,121 MVA in transformation capacity in substations and 869 Mvar in reactive compensation. Also in 2012, the Eletrobras Companies, in partnerships with private developers, created the Specific Purpose Companies (SPEs) and estimate that 4,958 km of transmission lines and 16,554 MVA in transformation capacity will be added to substations which will be incorporated to the National Interconnected System (basic network).

The most important transmission developments in 2012 are the following.

////// DEVELOPMENTS TO BE IMPLEMENTED – OWN > 230 KV\*\* //////////////////////////////////////

| Eletrobras Companies | Development  | kV      | Extension (km) | MVA | Mvar | Completion |
|----------------------|--|---------|----------------|-----|------|------------|
| Eletrobras Chesf     | Termopernambuco-Pirapama II – Transmission Line C1/C2*               | 230     | 11             | -   | -    | Jul/12     |
| Eletrobras Chesf     | 500 kV Messias/Recifel II Transmission Line – C1*                    | 500     | 45             | -   | -    | Jul/12     |
| Eletrobras Chesf     | Paulo Afonso III-Zebu* Transmission Line                             |         | 12             | -   | -    | May/12     |
| Eletrobras Chesf     | Picos (TR2) Substation   | 230/69  | -              | 50  | -    | Feb/12     |
| Eletrobras Chesf     | Milagres (TR3) Substation  | 230/69  | -              | 100 | -    | Feb/12     |
| Eletrobras Chesf     | Funil (TR4) Substation   | 230/69  | -              | 34  | -    | Jan/12     |
| Eletrobras Chesf     | Ibicoara/Brumado II Transmission Line – C1*                          | 230     | 95             | -   | -    | Mar/12     |
| Eletrobras Chesf     | Goianinha/Mussuré II Transmission Line C1 and Associated Substation* | 230     | 12,6           | -   | -    | May/12     |
| Eletrobras Chesf     | Suape III* Substation  | 230/69  | -              | 200 | -    | Jun/12     |
| Eletrobras Chesf     | Santa Rita II* Substation  | 230     | -              | 300 | -    | May/12     |
| Eletrobras Chesf     | Zebu* Substation   | 230     | -              | 200 | -    | Jul/12     |
| Eletrobras Chesf     | Catu (TR3) Substation  | 230/69  | -              | 100 | -    | May/12     |
| Eletrobras Chesf     | Banabuiu / Mossoró Transmission Line – C2                            | 230     | 175            | -   | -    | Sep/12     |
| Eletrobras Chesf     | Suape II* Substation   | 500/230 | -              | 600 | 120  | Jul/12     |
| Eletrobras Chesf     | Jardim (ATR2) Substation   | 500/230 | -              | 600 | -    | Jul/12     |
| Eletrobras Chesf     | Sobral III (ATR2) Substation   | 500/230 | -              | 600 | -    | May/12     |



////// DEVELOPMENTS TO BE IMPLEMENTED – OWN > 230 KV\*\* //////////////////////////////////////

| <b>Eletronorte<br/>Companies</b> | <b>Development</b>  | <b>Extension<br/>kV</b> | <b>Extension<br/>(km)</b> | <b>MVA</b> | <b>Mvar</b> | <b>Completion</b>   |
|----------------------------------|---|-------------------------|---------------------------|------------|-------------|---------------------|
| Eletronorte Chesf                | Natal III* Substation   | 230/69                  | -                         | 300        | -           | Jun/12              |
| Eletronorte Chesf                | Canaçari IV and Secc. LT Jardim / Canaçari II Substation – C1 | 500/230                 | 0,5                       | 2.400      | -           | Aug/12              |
| Eletronorte Chesf                | Jardim / Penedo Transmission Line – C1*                       | 230                     | 110                       | 100        | 10          | Sep/12              |
| Eletronorte Chesf                | Picos / Tauá Transmission Line *                              | 230                     | 183                       | -          | -           | Nov/12              |
| Eletronorte Chesf                | Polo Substation   | 230/69                  | -                         | 100        | -           | Nov/12              |
| Eletronorte Chesf                | Funil / Itapebi Transmission Line – C3*                       | 230                     | 198                       | -          | -           | Oct/12              |
| Eletronorte Chesf                | Cícero Dantas (TR2) Substation                                | 230/69                  | -                         | 16,6       | -           | Dez/12              |
| Eletronorte Chesf                | Jardim / Nossa Senhora do Socorro Transmission Line           | 230                     | 1,3                       | -          | -           | 24 months after CC1 |
| Eletronorte Chesf                | Messias / Maceió II Transmission Line                         | 230                     | 20                        | -          | -           | 24 months after CC1 |
| Eletronorte Chesf                | Nossa Senhora do Socorro Substation                           | 230/69                  | -                         | 300        | -           | 24 months after CC1 |
| Eletronorte Chesf                | Maceió II Substation  | 230/69                  | -                         | 400        | -           | 24 months after CC1 |
| Eletronorte Chesf                | Poçoões II Substation   | 230/138                 | -                         | 200        | -           | 24 months after CC1 |
| Eletronorte Eletronorte          | Imperatriz (TR2) Substation                                   | 500/230                 | -                         | 450        | -           | Jan/12              |
| Eletronorte Eletronorte          | Ji - Paraná (AT1 and BC2) Substation                          | 230/138                 | -                         | 100        | 18,5        | Jan/12              |
| Eletronorte Eletronorte          | Vilhena (CE) Substation                                       | 230                     | -                         | -          | 100         | Feb/12              |
| Eletronorte Eletronorte          | Peritoró (TR3) Substation                                     | 230/69                  | -                         | 100        | -           | Apr/12              |
| Eletronorte Eletronorte          | Presidente Dutra (TR3) Substation                             | 230/69                  | -                         | 50         | -           | Apr/12              |
| Eletronorte Eletronorte          | Barra do Peixe (AT2) Substation                               | 230/138                 | -                         | 50         | -           | Apr/12              |
| Eletronorte Eletronorte          | Marabá (TR3) Substation                                       | 230/69                  | -                         | 50         | -           | May/12              |
| Eletronorte Eletronorte          | São Luís II (CE) Substation                                   | 230                     | -                         | -          | 250         | May/12              |
| Eletronorte Eletronorte          | Rio Branco (TR3) Substation                                   | 230/69                  | -                         | 100        | -           | Jun/12              |
| Eletronorte Eletronorte          | Barra do Peixe (ATR3) Substation                              | 230/138                 | -                         | 50         | -           | Jun/12              |
| Eletronorte Eletronorte          | Porto Velho (TR4) Substation                                  | 230/69                  | -                         | 100        | -           | Jun/12              |

////// DEVELOPMENTS TO BE IMPLEMENTED – OWN > 230 KV\*\* ////

| Eletrobras Companies   | Development                                      | kV           | Extension (km) | MVA             | Mvar         | Completion |
|------------------------|--|--------------|----------------|-----------------|--------------|------------|
| Eletrobras Eletronorte | Ji-Paraná (RB) Substation                        | 230          | -              | -               | 20           | Sep/12     |
| Eletrobras Eletronorte | Lucas do Rio Verde* Substation                   | 230/138      | -              | 75              | -            | Sep/12     |
| Eletrobras Eletronorte | Ji-Paraná (TR3) Substation                       | 230/69       | -              | 60              | -            | Nov/12     |
| Eletrobras Eletronorte | Jorge Teixeira-Lechuga* Transmission Line        | 230          | 60             | -               | -            | Nov/12     |
| Eletrobras Eletronorte | Pimenta Bueno (BC) Substation                    | 230          | -              | 55,5            | -            | Dec/12     |
| Eletrobras Eletrosul   | Biguaçu “D” (AT2) Substation                     | 525/230      | -              | 672             | -            | Feb/12     |
| Eletrobras Eletrosul   | Biguaçu “F” (AT3) Substation                     | 230/138      | -              | 150             | -            | Nov/12     |
| Eletrobras Eletrosul   | Tapera 2 “B” (TR3) Substation                    | 230/69/13,8  | -              | 83              | -            | Nov/12     |
| Eletrobras Eletrosul   | Joinville Norte Substation                       | 230/138      | -              | 150             | -            | NA         |
| Eletrobras Eletrosul   | Passo Fundo-Monte Claro Transmission Line        | 230          | -              | -               | -            | NA         |
| Eletrobras Eletrosul   | Cascavel Oeste-Guaíra Transmission Line          | 230          | 0,6            | -               | -            | NA         |
| Eletrobras Eletrosul   | Joinville Substation                             | 230/138/69   | -              | 691             | -            | NA         |
| Eletrobras Furnas      | SE Barro Alto-Transformer Bank Substation        | 230          | -              | 50              | -            | Jan/12     |
| Eletrobras Furnas      | Poços de Caldas (TR6) Substation                 | 345/138      | -              | 225             | -            | Feb/12     |
| Eletrobras Furnas      | Guarulhos (2 BC) Substation                      | 345          | -              | -               | 250          | Apr/12     |
| Eletrobras Furnas      | Tijuco Preto (AT4)                               | 765/345      | -              | 1.500           | -            | Apr/12     |
| Eletrobras Furnas      | Mascarenhas de Moraes (AT12) Substation          | 345/138      | -              | 400             | -            | Jun/12     |
| Eletrobras Furnas      | Brasília Sul (TR8B) Substation                   | 345/138/13,8 | -              | 150             | -            | Jun/12     |
| Eletrobras Furnas      | Brasília Sul (AT3) Substation                    | 345/230      | -              | 225             | -            | Jun/12     |
| Eletrobras Furnas      | Samambaia (AT3) Substation                       | 345/138      | -              | 225             | -            | Jul/12     |
| Eletrobras Furnas      | Rio Verde (AT3) Substation                       | 230/138      | -              | 100             | -            | Aug/12     |
| Eletrobras Furnas      | Bom Despacho 3 -Ouro Preto 2* Transmission Line  | 500          | 180            | -               | 100          | Oct/12     |
| Eletrobras Furnas      | Tijuco Preto-Itapeti-Nordeste* Transmission Line | 345          | 71             | -               | -            | Nov/12     |
| Eletrobras Furnas      | Mascarenhas/Linhares* Transmission Line          | 230          | 99             | 150             | -            | Nov/12     |
|                        |  | <b>Total</b> | <b>1,371.0</b> | <b>12,612.1</b> | <b>868.5</b> |            |

\*Works related to PAC.  
NA = not available.

## Developments with Specific Purpose Companies (SPEs)

In 2011, the Eletrobras Companies took part in several developments associated with other companies in the form of Specific Purpose Companies (SPEs) such as:

- //// Implementation of the Porto Velho Rectifier Station
- //// Implementation of the Porto Velho-Rio Branco Transmission System
- //// Hydroelectric power plants of Belo Monte, Jirau and Santo Antônio
- //// Porto Velho (RO)/Araraquara 2 (SP) Transmission Line
- //// Oriximiná (PA)/Itacoatiara-Cariri (AM) Transmission Line and Itacoatiara and Cariri (AM) substations.

## Distribution

### Trading of electricity

In 2011, the consumer market of the six distribution companies was formed by a total of 3,489,736 consumer units, being 2,965,428 residential, 254,907 commercial, and 12,816 industrial. Consumers of other classes totaled 256,585. (GRI EU 3)

These consumers used a total of 13,678 GWh, of which 36% was represented residential consumption; 21% commercial units; 22% industrial units; and 79% other consumers.

### ////// CONSUMER UNITS //////////////////////////////////////

|  | 2011      | 2010      |
|--|-----------|-----------|
| Total consumers  | 3,489,736 | 3,292,599 |
| Total municipalities served                              | 463       | 463       |
| Number of customer service agencies/centers              | 526       | 351       |
| Total number of services provided (agencies and centers) | 2,569,731 | 2,750     |
| Number of customer service centers                       | 526       | 162       |
| Total calls answered (CTAs)                              | 6,327,783 | 4,237,033 |

In relation to consumption in 2011 a 6.2% increase was registered compared to 2010, representing a significant growth considering that the Brazilian GDP grew by 2.7%. The residential and commercial units had a significant increase in consumption of approximately 7.3% and 8%, respectively. The industrial consumer units, reflecting the domestic economy, recorded a smaller increase in consumption of approximately 5.8%. All companies presented positive growth in their electricity supply; those that had more significant growth were ED Rondônia and ED Roraima, totaling approximately 8.9% each.

It should be noted that residential consumption was influenced not only by the increase in new consumer units – 187,581 new units were added to the market – but also due to an increase in average residential consumption caused by the increase in average family income. The significant increase in the number of consumer units, 5.7%, was influenced by the Federal Government's program Luz para Todos.

#### ////// CONSUMERS //////////////////////////////////////

| Classe         | 2011          | 2010          | 2009          | 2008          | 2007         |
|----------------|---------------|---------------|---------------|---------------|--------------|
| Residential    | 4,906         | 4,574         | 4,030         | 3,753         | 3,331        |
| Commercial     | 2,978         | 2,813         | 2,387         | 2,226         | 2,009        |
| Industrial     | 2,874         | 2,662         | 2,443         | 2,628         | 2,465        |
| Rural          | 586           | 539           | 508           | 490           | 400          |
| Outras classes | 2,334         | 2,291         | 2,159         | 2,061         | 1,561        |
| <b>Total</b>   | <b>13,678</b> | <b>12,879</b> | <b>11,527</b> | <b>11,158</b> | <b>9,766</b> |

#### Tariff revision

The tariff readjustment indices of the Eletrobras Distribution Companies, established by ANEEL in 2011, can be found in the table below.

#### ////// TARIFF READJUSTMENT INDEX – IRT 2011 //////////////////////////////////////

|   | Amazonas<br>Energia | ED<br>Acre | ED<br>Alagoas | ED<br>Piauí | ED<br>Rondônia | ED<br>Roraima |
|---|---------------------|------------|---------------|-------------|----------------|---------------|
| Economic IRT                                  | 11.96%              | 8.83%      | 5.74%         | 7.89%       | 3.51%          | 12.21%        |
| Financial components                          | 3.47%               | 13.03%     | -0.58%        | 2.71%       | 6.06%          | -1.53%        |
| Total IRT                                     | 15.43%              | 21.86%     | 5.16%         | 10.60%      | 9.57%          | 10.68%        |
| Average effect captive consumer - preliminary | 11.24%              | 29.25%     | 1.15%         | 12.23%      | 10.10%         | 12.92%        |
| Deferral (*)                                  | - BRL 46.5 million  |            |               |             |                |               |
| Average effect captive consumer - final       | 11.24%              | 11.72%     | 1.15%         | 12.23%      | 10.10%         | 12.92%        |

\*To be considered as financial component in the calculation for the next tariff readjustment in ED Acre, in 2012, restated by the IGP-M variation.

## International activities

In 2011, Eletrobras continued the studies of hydroelectric potential and transmission lines in different parts of the world. The following projects can be highlighted: UHE Tumarim in Nicaragua and UHE Inambari in Peru, which had their feasibility studies completed; the Binational UHE with the Argentine Garabi-Panambi, which had its inventory completed; and the Brazil-Uruguay Transmission Line, which is in its initial construction phase.

The hydroelectric development Tumarín is located in Rio Grande de Matagalpa in Nicaragua, South Atlantic Autonomous Region near the east coast of the country, which borders the Caribbean Sea. Eletrobras and the construction company Queiroz Galvão are partners at the SPE *Centrales Hidrelétricas de Centroamérica* (CHC), whose corporate objective, through its subsidiary *Centrales Hidrelétricas de Nicaragua* (CHN), is to take part in the joint development of feasibility studies, implementation, and development of the hydroelectric potential. The Basic Project, along with its business plan, is now in its final stage of revision.

The Inambari hydroelectric development is located on the Inambari River on the border of the provinces of Puno, Cuzco, and Madre de Dios, on the east side of the Andes in Peru, approximately 300 km from the border of the state of Acre in Brazil, and it is being developed by Eletrobras, in partnership with Eletrobras Furnas and construction company OAS LTDA, through the SPE Inambari Geração de Energia S.A. The feasibility studies are in their final stages and indicate an installed potential of 2,200 MW, and in the next stage of the project, the Definitive Concession for Power Generation will be requested to the Peruvian Ministry of Mines and Energy which will allow for the construction and commercial operation of the development.

Four other projects are currently being analyzed in the Peruvian territory, including UHE Paquitazapango, UHE Tambo 40, UHE Tambo 60, and UHE Mainique, totaling approximately 7,700 MW. Their completed pre-feasibility studies were made in consortium with Odebrecht, Andrade Gutierrez, and Engevix, under the institutional coverage of a technical cooperation agreement between Eletrobras and its companies which was renewed in 2011.

Eletrobras's strategy is to develop its participation in the international electricity market, be it directly or in consortium with national or foreign companies, aiming at the implementation of developments, mainly in renewable power generation or transmission of electricity, provided they comply with a rigorous risk and opportunity assessment.

## Operation in the international market



The operation in the international market aims at creating value through new investment opportunities in other countries and taking advantage of gains in scale and benefits brought about by better integration in the continental power system, as well as the generation of new markets for the segment of goods and services providers. Its main focus is in business opportunities in the American continent. In addition, in the medium and long-term, the company intends to participate in investments for the implementation of renewable power generation and transmission in Africa. However, the prioritization of these markets does not stop Eletrobras from considering attractive investment opportunities in other regions.

## Border interconnections

The Eletrobras Companies operate four interconnections with neighboring countries, as shown below.

Interconnection with Paraguay – it is composed of four transmission lines that connect the Itaipu Binacional power plant to the Margem Direita substation in Paraguay and to the Foz do Iguaçu substation in Brazil. The power produced by the Paraguayan sector of the plant can be supplied to Brazil through a direct current transmission system, with a capacity for 6,300 MW, from the Foz do Iguaçu substation to the Ibiúna substation in São Paulo.

Interconnection with Argentina – it is formed through the frequency converter station in Uruguaiana in Brazil, with 50 MW capacity, and the transmission line in 132 kV which interconnects the Uruguaiana substation to the Paso de los Libres substation in Argentina.

Interconnection with Venezuela – it is formed through a transmission line in 230 kV, with capacity for 200 MW, which interconnects the city of Boa Vista in the state of Roraima to the city of Santa Elena in Venezuela.

Interconnection with Uruguay – it is formed through the Rivera frequency converter station in Uruguay, with 70 MW capacity and a 230 kV transmission line, which interconnects the converter to the Livramento substation in Brazil.

The Brazilian and Uruguayan Ministries of Energy signed, in July 2006, a Memorandum of Understanding which aims at strengthening the power integration between the two countries through the construction of a large-scale interconnection with a capacity for 500 MW that entails the construction of the following developments:

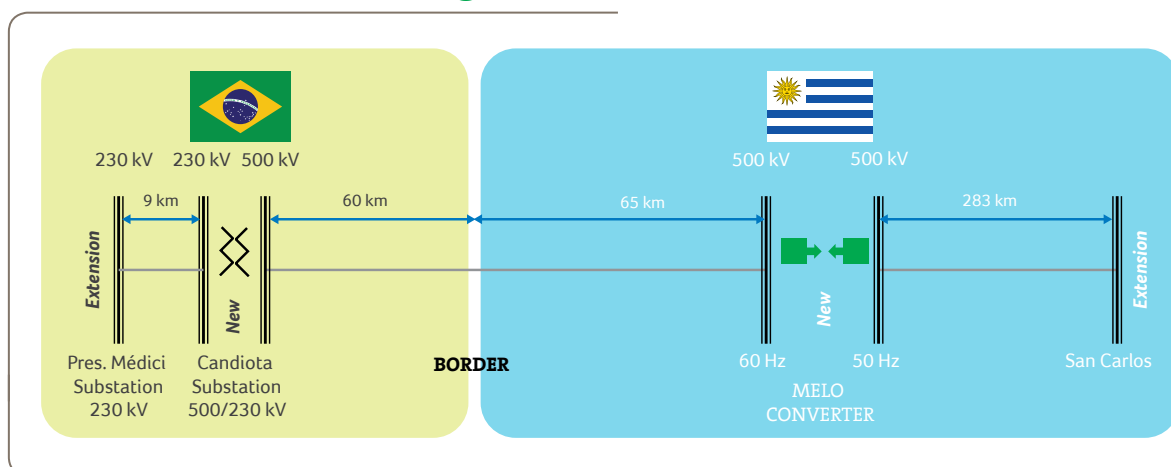
### On the Brazilian side:

- //// expansion of Presidente Médici Substation (a 230 kV entry line)
- //// construction of a 9-km, 230 kV transmission line between Presidente Médici Substation and Candiota Substation
- //// construction of a new 500/230 kV Candiota Substation – 672 MVA
- //// construction of a 60-km, 500 kV transmission line between Candiota Substation and the border with Uruguay

### On the Uruguayan side:

- //// construction of a 65-km, 500 kV transmission line between the Brazilian border and the Converter Melo Substation
- //// construction of the Converter Melo Substation – 60/50 Hz – 500 MW
- //// construction of a 283-km, 500 kV transmission line between the Converter Melo Substation and the San Carlos Substation
- //// expansion of the San Carlos Substation

## Interconnection Diagram



## Capital market

### Analysis of Eletrobras shares

Eletrobras shares ended 2011 with a depreciation of 16.32% for ordinary shares, closing at BRL 17.84, and preferred shares up 6.97%, closing at BRL 26.85. 2011 was marked by strong volatility in the international market due to the debt crisis in European countries and to the uncertainties generated by the negotiation of America's debt cap, causing S&P to lower its credit rating.

The Brazilian stock market fluctuated due to these oscillations from the international market. Eletrobras shares in particular, as well as other companies in the power industry, presented volatility due to news in 2011 on the solution to the concessions that would expire in 2015. The influence of the operation for capital increase through the capitalization of Advances for Future Capital Increase (AFACs) in early 2011 can also be highlighted since, due to their volume and price, they caused dilution in shareholders, affecting the prices of Eletrobras shares.

### ADR Level II Program – New York Stock Exchange

In 2011, the ADRs of Eletrobras ordinary shares (EBR) registered a maximum share price of USD 15.64 on April 8th. The minimum share price recorded was of USD 8.25 on October 4th. This asset ended the year trading at USD 9.71, down 26.44% when compared to December 2010 when its price closed at USD 13.20, considering ex-dividend totals.

The ADRs of Eletrobras preferred shares (EBR.B) presented their highest price on April 6th, USD 18.97. Their minimum price registered was USD 11.18 on October 4th. This asset ended the year at USD 14.50, down 7.53% when compared to December 2010 when it closed at USD 17.60, considering ex-dividend totals.



## Latibex Program – Madrid Stock Exchange

In December 2011, the ordinary shares of the Latibex program (XELTO) closed at EUR 7.39, down 26.90% when compared to 2010 when they closed at EUR 10.11. The preferred shares of the Latibex program (XELTB) ended 2011 trading at EUR 10.98. In December 2010, this asset closed at EUR 12.19, down 9.93%..

## Rating (risk classification)

Eletrobras's risk classification, according to credit-rating agency Standard & Poor's, is directly associated with the rating given to Brazil due to the Government being the majority shareholder of the company. Seen as an extension of the Federal Government, the company was rated BBB for business in foreign currency and A- for business in local currency and was seen with a stable outlook.

As justification for the credit ratings assigned to Eletrobras, we can name the following factors:

- //// operation as a financial agent responsible for financing and the expansion of investments by subsidiaries, in addition to its role as steward of Government assets;
- //// strong liquidity and large asset base, in addition to the Federal Government's substantial interest in its shareholding structure.

In order to ensure Eletrobras's commitment to the best international practices for transparency and corporate governance, Form 20-F is annually published and submitted to the Securities and Exchange Commission (SEC), where relevant business management information, results of operations, or information on the current financial situation can be found in the sections on "Risk Factors" and "Critical Accounting Policies". Management of the main risks inherent in the activities of the company is performed in an integrated manner through implementation of a corporate risk management model for the Eletrobras Companies, leading to the reduction of potential losses and damages to the environment and to society, preserving and adding value to the company and its shareholders, and minimizing gaps by means of the correct identification and measurement of such risks.

## Purchases (GRI EC6)

Hiring and purchasing for the Eletrobras Companies are conducted through bidding, in compliance with the law of Biddings and Contracts (Law No. 8,666/93), which regulates acquisitions for public agencies. Exceptions are cases foreseen in law No. 8,666/93, which eliminates the requirement for bidding, and the hiring for Itaipu Binacional, which complies with a specific legislation.

This ensures equal treatment to the participants of the bidding process. However, as established by the Statute of the Microenterprise and Small Businesses (Federal Complementary Law No. 123/2006), the Eletrobras Companies ensure, as a tie-breaking criterion, hiring preference to small businesses and micro-enterprises.

To ensure transparency in the procurement process, Eletrobras created the Bidding and Contracting Portal of the Eletrobras System, through which it provides access to information relating to calls for bid, valid contracts and minutes of price records of all companies in the System. The Companies also publish periodically summaries of their biddings and contracts in the Federal Government's Transparency Portal.

Some Eletrobras Companies<sup>1</sup> have processes that allow for the mapping of the region of origin of goods and services purchased. Thus, of the total BRL 1,361,418,624.61 of purchases made, approximately 36% were made directly from local suppliers, i.e. suppliers located in the Brazilian regions of the Companies' operations.



1. Reported: Eletrobras Amazonas Energia, ED Piauí, ED Rondônia, ED Roraima, Eletrobras Eletronorte, Eletropar Eletrobras and Itaipu Binacional

## Research and development – R&D (GRI EU8)

In 2011, the Eletrobras Companies increased investments in research and development (R&D). In 11 years, the Eletrobras Companies improved their technological cooperation, management, and structure and obtained significant results in R&D+I due to the generation of knowledge, product development, and the completion of several projects.

Since the publication of Law No. 9,991 on July 24th, 2000, the Eletrobras Companies have been required to invest resources in research and development and annually post public calls for new proposals for projects aiming at the implementation of their scientific research and technological development programs. The law provides that companies that generate and transmit electricity must invest 1% of their net operating income in R&D, while energy distributors must invest the same amount in R&D and energy efficiency.

For companies that generate and transmit electricity, this 1% is distributed, as established by ANEEL, in the following manner: 0.4% to R&D, 0.4% to MCTI – CT-Energ, and 0.2% to Empresa de Pesquisa Energética (EPE - Energy Research Company). Power distribution companies allocate 0.2% to R&D, 0.2% to MCTI – CT Energ, 0.1% to EPE, and 0.5% to energy efficiency. In addition to the required investments, Eletrobras annually invests up to 0.5% of its social capital in Fundo de Desenvolvimento Tecnológico (FDT - Technological Development Fund), which is mostly used by Cepel.

All Eletrobras Companies annually post public calls for proposals for R&D projects aiming at the implementation of their scientific research and technological development programs. In 2011, 50 projects were selected and submitted to ANEEL for assessment. The highlight was ED Alagoas, which invested around BRL 3 million, nearly three times the amount invested in the previous year.

## ////// INVESTMENTS IN R&D+ I //////////////////////////////////////

|  | Realized in 2009<br>(BRL thousand) | Realized in 2010<br>(BRL thousand) | Realized in 2011<br>(BRL thousand) |              |
|--|------------------------------------|------------------------------------|------------------------------------|--------------|
| Institutional contribution to the Electric Power Research Center – Eletrobras (Cepel)  | 131,183.58                         | 135,310.83                         | 145,129.07                         | 7.26         |
| Other R&D projects with Eletrobras Cepel, in addition to the institutional contribution (including Law No. 9,991)  | 40,004.32                          | 61,767.68                          | 49,648.45                          | -19.62       |
| R&D projects established by Laws No. 9,991/00 and 10,848/04 carried out by the Eletrobras Companies with ICTs and universities (excluding Eletrobras Cepel)* | 43,850.70                          | 33,993.36                          | 92,247.17                          | 171.37       |
| Compulsory contribution to MME to fund studies and research to plan the expansion of the energy system (Law No. 10,848/04)                                   | 33,253.90                          | 36,893.73                          | 39,569.72                          | 7.25         |
| Compulsory deposit to the Energy Sector Fund CT-Energ established by Laws No. 9,991/00 and 10,848/04   | 66,593.28                          | 70,764.56                          | 76,517.84                          | 8.13         |
| Consideration for the participation in CT-Energ projects   | 0.00                               | 0.00                               | 861.96                             | -            |
| Other R&D activities in Brazil   | 39,540.72                          | 32,075.41                          | 25,902.15                          | -19.25       |
| R&D activities abroad  | 2,160.00                           | 1,920.00                           | 2,105.00                           | 9.64         |
| <b>Total</b>   | <b>356,586.51</b>                  | <b>372,725.56</b>                  | <b>431,981.35</b>                  | <b>15.90</b> |

\* Laws No. 9,991/2000, 10,848/04 and others, all regulated by ANEEL.

\*\* Percentage increase in 2011 compared to 2010.

## ////// NUMBER OF PATENTS //////////////////////////////////////

|       | 2007 | 2008 | 2009 | 2010 | 2011 |
|-------|------|------|------|------|------|
| Filed | 2    | 8    | 8    | 10   | 2    |

## ////// INVESTMENTS IN RESEARCH AND DEVELOPMENT (IN BRL) (GRI EU8) //////////////////////////////////////

|  |                    |
|--|--------------------|
| Energy efficiency                                  | 14,979,488         |
| Energy distributed                                 | 2,098,966          |
| Generation and advanced technologies               | 26,899,264         |
| Innovative services associated with sustainability | 18,961,892         |
| Renewable energy technologies                      | 11,380,346         |
| Transmission and distribution technologies         | 105,700,523        |
| <b>Total</b>                                       | <b>180,020,478</b> |

## Electric Energy Research Center (Eletrobras Cepel)

Eletrobras Cepel is the central hub for R&D+I programs and projects for the Eletrobras Companies. It was created in 1974 through an Eletrobras initiative and has been contributing to the maintenance of an advanced infrastructure in electric systems and equipment in the country. Cepel continuously seeks innovative solutions for technological issues in the Brazilian electric system. The benefits provided by Eletrobras Cepel go beyond the Eletrobras Companies and include the Ministries of Mines and Energy (MME), Environment (MMA), and Science, Technology and Innovation (MCTI), as well as trade groups such as the Energy Research Company (EPE), Operator of the National Electric System (ONS), Power Trading Chamber (CCEE), and the Brazilian Electricity Regulatory Agency (ANEEL), along with utility companies and equipment manufacturers.

The final activities of the center are structured in seven large categories, corresponding to the departments of Energy Optimization and Environment, Electricity Networks, Systems Automation, Lines and Stations, Distribution Technology, Special Technologies and Laboratories.

It also develops and maintains, with the support and partnership of the Eletrobras Companies, its own methodologies and a series of computer programs for the expansion planning and operation activities, in real time, of interconnected systems for the generation and transmission of electricity, taking into account environmental aspects and inclusion of new renewable sources.

Eletrobras Cepel develops genuinely Brazilian technology, which is essential for the management of the interconnected power system, following strict safety criteria, thereby significantly contributing to the reduction of financial and environmental costs, the optimization of natural resources, the diversification of the energy matrix, the minimization of carbon emissions, the reliability in energy supply, and the promotion of low tariffs and national energy safety. Its complex comprised of 32 laboratories is used for the support of R&D projects as well as for testing, expert report production, and certification. The center provides important technological support for programs and projects of the Federal Government, such as PROCEL, PROINFA and ReLuz; it also prepares the National Energy Plan and Energy Expansion Decennial Plans.

In consideration for the resources made available by the Eletrobras Companies, BRL 178 million for the 2011 budget, Eletrobras Cepel annually develops a portfolio of institutional research projects on strategic topics with a corporate scope, long-term view, and high impact.

## Smart Grid – Parintins Project

An innovative action aimed at transforming the lives of the population of Parintins (AM) is the implementation of smart grids.

The goal of the Parintins Project developed by Eletrobras is the implementation of smart grids that, through sensors installed in the distribution network, are able to inform the company of any failure in the power distribution network.

The objective of this project is to develop a reference model for the Eletrobras Distribution Companies (EDEs); the idea is to test different types of technology within the smart grid concept by creating a pilot project in order to assess the effective contribution of these implementations in the improvement of operational performance of the EDEs.

This was a cooperative project between the six Eletrobras distribution companies along with the participation of four research and educational institutions: Cepel, Telecommunication Research and Development Center (CPqD), Catholic University of Rio de Janeiro (PUC-RJ), and the State University of Amazônia (UEA).

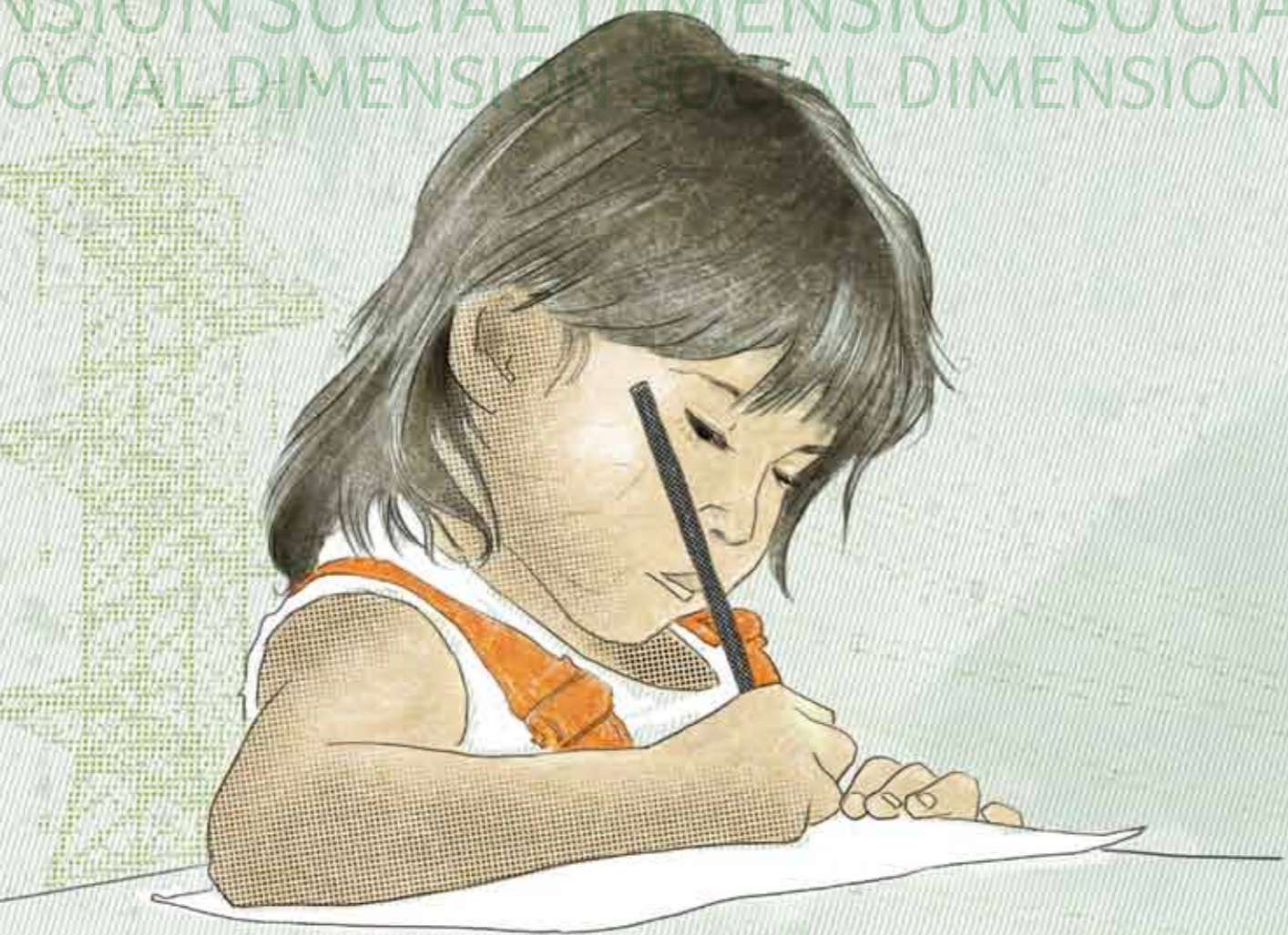
## Electric Vehicle Project

One of the most relevant projects developed by the Eletrobras Companies is the Electric Vehicle Project. The project's main goal is to contribute to the development of technology in order to make electric powered vehicles technically and economically viable, consequently promoting rational and efficient use of energy and protecting the environment.

This project also meets other potential goals: reduction of production costs, knowledge transfer, development of research, training of professionals, use in own fleet, and enabling off-peak consumption (for battery charging).

The project started as an agreement between Itaipu Binacional and KWO (*Kraftwerke Oberhasli*), a leading Swiss power company, in August 2004. There are also other partners who are part of the project such as automaker Fiat, technology companies, power utility companies, and research institutions (Brazil and Paraguay); therefore, this enables the sharing of information and knowledge.

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The social responsibility of the Eletrobras Companies is based on structuring actions regarding several communities with which the company relates, as well as labor practices that are in line with national and international guidelines.

## Profile of Internal Stakeholders

(GRI LA1, EC7, HR4, HR5, LA13, LA14, LA15, EU15)

On December 31st, 2011, the Eletrobras Companies had 28,544 of their own employees. The hiring process is carried out by means of a civil service examination, as established in the Federal Constitution, which is incompatible with any form of orientation during the selection process including place of birth or residence. However, in senior management positions applicants are chosen by the Boards of Directors of the Eletrobras Companies (GRI EC7).

### ////// OWN EMPLOYEES BY REGION //////////////////////////////////////

|                             | Midwest    |              | Northeast    |              | North      |              | Southeast    |              | South      |              | Total         |
|-----------------------------|------------|--------------|--------------|--------------|------------|--------------|--------------|--------------|------------|--------------|---------------|
|                             | Female     | Male         | Female       | Male         | Female     | Male         | Female       | Male         | Female     | Male         |               |
| Eletrobras Amazonas Energia | -          | -            | 3            | 6            | 358        | 1,940        | 1            | 1            | 1          | -            | 2,310         |
| Eletrobras Cepel            | -          | -            | -            | -            | -          | -            | 104          | 391          | -          | -            | 495           |
| Eletrobras CGTEE            | -          | -            | -            | -            | -          | -            | -            | -            | 118        | 560          | 678           |
| Eletrobras Chesf            | -          | -            | 1,175        | 4,484        | -          | -            | -            | -            | -          | -            | 5,659         |
| Eletrobras Holding          | 9          | 18           | 1            | 2            | 2          | 1            | 381          | 691          | -          | 3            | 1,108         |
| Eletrobras Eletronorte      | 505        | 1,284        | 42           | 332          | 199        | 1,448        | 2            | 3            | -          | -            | 3,815         |
| Eletrobras Eletronuclear    | -          | 3            | -            | -            | -          | -            | 467          | 2,064        | -          | -            | 2,534         |
| Eletrobras Eletropar*       | -          | -            | -            | -            | -          | -            | -            | -            | -          | -            | -             |
| Eletrobras Eletrosul        | 4          | 59           | -            | -            | 2          | 21           | -            | -            | 261        | 1,207        | 1,554         |
| Eletrobras Furnas           | 44         | 440          | -            | -            | 2          | 62           | 658          | 3,444        | 6          | 204          | 4,860         |
| Itaipu Binacional**         | 2          | 2            | -            | -            | -          | -            | 1            | 1            | 267        | 1,174        | 1,447         |
| ED Acre                     | -          | -            | -            | -            | 58         | 217          | -            | -            | -          | -            | 275           |
| ED Alagoas                  | -          | -            | 183          | 1,118        | -          | -            | -            | -            | -          | -            | 1,301         |
| ED Rondônia                 | -          | -            | -            | -            | 177        | 580          | -            | -            | -          | -            | 757           |
| ED Roraima                  | -          | -            | -            | -            | 80         | 211          | -            | -            | -          | -            | 291           |
| ED Piauí                    | -          | -            | 299          | 1,161        | -          | -            | -            | -            | -          | -            | 1,460         |
| <b>Total</b>                | <b>564</b> | <b>1,806</b> | <b>1,703</b> | <b>7,103</b> | <b>878</b> | <b>4,480</b> | <b>1,614</b> | <b>6,595</b> | <b>653</b> | <b>3,148</b> | <b>28,544</b> |

There are no temporary employees at the Eletrobras Companies.

\* All employees allocated to Eletrobras Eletropar belong to staff of other Eletrobras Companies.

\*\* Paraguayan employees are not considered.



## ////// OWN EMPLOYEES BY WORK SHIFT //////////////////////////////////////

|                             | 4 hours<br>female | 4 hours<br>male | 6 hours<br>female | 6 hours<br>male | Full time<br>female | Full time<br>male | Total         |
|-----------------------------|-------------------|-----------------|-------------------|-----------------|---------------------|-------------------|---------------|
| Eletrobras Amazonas Energia | -                 | -               | -                 | -               | 363                 | 1,947             | 2,310         |
| Eletrobras Cepel            | -                 | -               | 1                 | -               | 103                 | 391               | 495           |
| Eletrobras CGTEE            | 2                 | -               | 38                | 244             | 78                  | 316               | 678           |
| Eletrobras Chesf            | -                 | -               | -                 | -               | 1,175               | 4,484             | 5,659         |
| Eletrobras Holding          | -                 | -               | 4                 | 7               | 389                 | 708               | 1,108         |
| Eletrobras Eletronorte      | -                 | -               | -                 | -               | 748                 | 3,067             | 3,815         |
| Eletrobras Eletronuclear    | -                 | -               | -                 | -               | 467                 | 2,067             | 2,534         |
| Eletrobras Eletropar*       | -                 | -               | -                 | -               | -                   | -                 | -             |
| Eletrobras Eletrosul        | -                 | 2               | 5                 | 1               | 262                 | 1,284             | 1,554         |
| Eletrobras Furnas           | -                 | -               | -                 | -               | 710                 | 4,150             | 4,860         |
| Itaipu Binacional           | 1                 | 1               | -                 | -               | 269                 | 1,176             | 1,447         |
| ED Acre                     | -                 | -               | -                 | -               | 58                  | 217               | 275           |
| ED Alagoas                  | -                 | -               | -                 | -               | 183                 | 1,118             | 1,301         |
| ED Rondônia                 | -                 | -               | -                 | -               | 177                 | 580               | 757           |
| ED Roraima                  | -                 | -               | -                 | -               | 80                  | 211               | 291           |
| ED Piauí                    | 2                 | 4               | 47                | 247             | 250                 | 910               | 1,460         |
| <b>Total</b>                | <b>5</b>          | <b>7</b>        | <b>95</b>         | <b>499</b>      | <b>5,312</b>        | <b>22,626</b>     | <b>28,544</b> |

\*All employees allocated to Eletrobras Eletropar belong to the staff of other Eletrobras Companies'.

Of the 675 employees that took maternity or paternity leave, 636 returned to work, being 99.9% of 486 men and 80% of women. Of these, 90% of men and 99% of women remained employed one year after returning to work. (GRI LA15)<sup>1</sup>

## ////// MATERNITY / PATERNITY LEAVE //////////////////////////////////////

|   | Female |     | Male  |      | Total |         |
|---|--------|-----|-------|------|-------|---------|
| Employees entitled to maternity/paternity leave   | 215    |     | 672   |      | 887   |         |
| Employees who took maternity/paternity leave  | 189    |     | 486   |      | 675   |         |
|   | Female |     | Male  |      | Total |         |
|   | Total  | %   | Total | %    | Total | % Média |
| Employees who returned to work after maternity/paternity leave  | 151    | 80% | 485   | 100% | 636   | 90%     |
| Employees who returned to work after the end of their maternity/paternity leave and remained employed 12 months after returning to work | 149    | 99% | 438   | 90%  | 587   | 95%     |

////////////////////////////////////

1. The holding does not perform mapping of the number of paternity leaves, classifying them as legal absences, so a new way of monitoring these cases is under review for the future.

See details below of the breakdown of the company's workforce (GRI LA13):

**////// BREAKDOWN OF THE GOVERNANCE BODY BY GENDER //////////////////////////////////////**  
**BOARD OF DIRECTORS, AUDIT COMMISSION AND BOARD OF TRUSTEES**

| <b>By gender</b> |            | <b>By age</b>        |            |
|------------------|------------|----------------------|------------|
| Female           | 19         | < 30 years of age    | 0          |
| Male             | 118        | 30 - 50 years of age | 41         |
|                  |            | > 50 years of age    | 96         |
| <b>Total</b>     | <b>137</b> | <b>Total</b>         | <b>137</b> |

**////// NUMBER OF EMPLOYEES (BY FUNCTIONAL CATEGORY) //////////////////////////////////////**

| <b>Management positions</b> | <b>Positions requiring higher education</b> | <b>Positions not requiring higher education</b> | <b>Total</b> |
|-----------------------------|---|---|--------------|
| 2,043                       | 7,970                                       | 18,531  | 28,544       |

**////// NUMBER OF PERMANENT EMPLOYEES (BY FUNCTIONAL CATEGORY) //////////////////////////////////////**

|   |               |
|---|---------------|
| Management positions – Female               | 387           |
| Management positions – Male                 | 1,656         |
| Positions with higher education – Female    | 2,109         |
| Positions with higher education – Male      | 5,861         |
| Positions without higher education – Female | 2,913         |
| Positions without higher education – Male   | 15,618        |
| <b>Total</b>                                | <b>28,544</b> |

**////// EMPLOYEES BY AGE GROUP //////////////////////////////////////**

|        | <b>Employees under 30 years of age</b> | <b>Employees above 50 years of age</b> | <b>Employees between 30 and 50 years of age</b> |
|--------|--|--|---|
| Female | 651                                    | 1.439                                  | 2.147   |
| Male   | 2.124                                  | 7.331                                  | 9.193   |

\*Eletrobras Chesf did not report.

////// NUMBER OF EMPLOYEES BY FUNCTIONAL CATEGORY ELIGIBLE FOR RETIREMENT ////

|                             | In the next 10 years (%) |                                      |  | In the next 5 years (%) |                                      |  |
|-----------------------------|--------------------------|--------------------------------------|--|-------------------------|--------------------------------------|--|
|                             | Management positions     | Positions requiring higher education | Positions not requiring higher education | Management positions    | Positions requiring higher education | Positions not requiring higher education |
| Eletrobras Amazonas Energia | 0.3                      | 1.9                                  | 14.8                                     | 0.1                     | 0.7                                  | 5.2                                      |
| Eletrobras Cepel            | 100.0                    | 50.0                                 | 81.0                                     | 67.0                    | 33.0                                 | 63.0                                     |
| Eletrobras CGTEE            | 55.6                     | 14.3                                 | 46.1                                     | 18.5                    | 6.3                                  | 9.2                                      |
| Eletrobras Chesf            | 3.4                      | 7.6                                  | 34.5                                     | 2.5                     | 5.4                                  | 23.5                                     |
| Eletrobras Holding          | 2.3                      | 3.0                                  | 4.2                                      | 7.0                     | 8.3                                  | 15.0                                     |
| Eletrobras Eletronorte      | 22.0                     | 12.5                                 | 20.4                                     | 36.6                    | 19.7                                 | 24.3                                     |
| Eletrobras Eletronuclear    | 85.8                     | 47.6                                 | 42.2                                     | 74.9                    | 40.8                                 | 31.8                                     |
| Eletrobras Eletrosul        | 1.0                      | 1.5                                  | 8.4                                      | 1.0                     | 2.5                                  | 6.7                                      |
| Eletrobras Furnas           | 82.6                     | 54.5                                 | 66.0                                     | 76.0                    | 46.1                                 | 58.9                                     |
| Itaipu Binacional           | 70.6                     | 36.4                                 | 45.3                                     | 31.1                    | 16.3                                 | 24.6                                     |
| ED Alagoas                  | 0.0                      | 0.0                                  | 6.4                                      | 0.0                     | 0.0                                  | 0.0                                      |
| ED Rondônia                 | 0.1                      | 0.3                                  | 0.4                                      | 0.0                     | 0.1                                  | 0.2                                      |
| ED Roraima                  | 7.0                      | 1.7                                  | 1.9                                      | 1.8                     | 0.3                                  | 0.5                                      |
| ED Piauí                    | 38.0                     | 29.0                                 | 28.0                                     | 20.0                    | 12.0                                 | 13.0                                     |
| ED Acre                     | 4.6                      | 6.7                                  | 14.9                                     | 40.9                    | 20.0                                 | 29.3                                     |
| <b>Total</b>                | <b>473.3</b>             | <b>267</b>                           | <b>414.5</b>                             | <b>377.4</b>            | <b>211.5</b>                         | <b>305.2</b>                             |

////// EMPLOYEES ELIGIBLE FOR RETIREMENT BY REGION //////////////////////////////////////

|                             | In the next 10 years (%) |              |               |               |               | In the next 5 years (%) |              |               |               |               |
|-----------------------------|--------------------------|--------------|---------------|---------------|---------------|-------------------------|--------------|---------------|---------------|---------------|
|                             | Midwest                  | Northeast    | North         | Southeast     | South         | Midwest                 | Northeast    | North         | Southeast     | South         |
| Eletrobras Amazonas Energia | 0                        | 0            | 16.92         | 0             | 0             | 0                       | 0            | 6.01          | 0             | 0             |
| Eletrobras Cepel            | 0                        | 0            | 0             | 66            | 0             | 0                       | 0            | 0             | 47            | 0             |
| Eletrobras CGTEE            | 0                        | 0            | 0             | 0             | 45.21         | 0                       | 0            | 0             | 0             | 10.16         |
| Eletrobras Chesf            | 0                        | 45.5         | 0             | 0             | 0             | 0                       | 31.38        | 0             | 0             | 0             |
| Eletrobras Holding          | 0.09                     | 0            | 0             | 9.3           | 0             | 1.44                    | 0            | 0             | 28.79         | 0             |
| Eletrobras Eletronorte      | 16.66                    | 24.87        | 18.03         | 60            | 0             | 21.96                   | 33.15        | 23.56         | 0             | 0             |
| Eletrobras Eletronuclear    | 0.25                     | 0            | 0             | 99.75         | 0             | 0.3                     | 0            | 0             | 99.7          | 0             |
| Eletrobras Eletrosul        | 1.21                     | 0            | 0.19          | -             | 20.08         | 0.45                    | 0            | 0.06          | -             | 9.65          |
| Eletrobras Furnas           | 59.3                     | 0            | 50            | 63.82         | 72.86         | 47.93                   | 0            | 42.19         | 56.66         | 68.1          |
| Itaipu Binacional           | 25                       | 0            | 0             | 100           | 44            | 25                      | 0            | 0             | 100           | 21.86         |
| ED Alagoas                  | 0                        | 0.19         | 0             | 0             | 0             | 0                       | 0.04         | 0             | 0             | 0             |
| ED Rondônia                 | 0                        | 0            | 0             | 0             | 0             | 0                       | 0            | 0             | 0             | 0             |
| ED Roraima                  | 0                        | 0            | 2.22          | 0             | 0.54          | 0                       | 0            | 0             | 0             | 0             |
| ED Piauí                    | 0                        | 0            | 29            | 0             | 0             | 0                       | 0            | 12            | 0             | 0             |
| ED Acre                     | 0                        | 0            | 12.73         | 0             | 0             | 0                       | 0            | 28.73         | 0             | 0             |
| <b>Total</b>                | <b>102.51</b>            | <b>70.56</b> | <b>129.09</b> | <b>398.87</b> | <b>182.69</b> | <b>97.08</b>            | <b>64.57</b> | <b>112.55</b> | <b>332.15</b> | <b>109.77</b> |

////// **TOTAL NUMBER AND RATE OF NEW HIRES AND EMPLOYEE TURNOVER** //////////////////////////////////////  
 BY AGE GROUP AND REGION (GRI LA2)

| By age group          | Employees who left the company | New hires    | Number of employees | Admission rate | Turnover rate |
|-----------------------|--------------------------------|--------------|---------------------|----------------|---------------|
| <b>Total</b>          | <b>1,106</b>                   | <b>1,256</b> | <b>26,679</b>       | <b>5%</b>      | <b>4%</b>     |
| 18 to 25 years of age | 37                             | 247          | 738                 | 33%            | 5%            |
| 26 to 30 years of age | 107                            | 411          | 2,421               | 17%            | 4%            |
| 31 to 40 years of age | 92                             | 404          | 5,720               | 7%             | 2%            |
| 41 to 50 years of age | 34                             | 132          | 6,622               | 2%             | 1%            |
| 51 to 60 years of age | 592                            | 43           | 9,406               | 0.5%           | 6%            |
| > 60 years of age     | 244                            | 19           | 1,772               | 1%             | 14%           |
| <b>Total</b>          |                                |              |                     |                |               |

The Companies Eletrobras Holding and ED Rondônia did not report the total number of employees by age group

### Employees covered by collective bargaining agreements (GRI LA4)

Of the 28,544 employees of the Eletrobras Companies, 28,544 are covered by collective bargaining agreements, in other words, 100% of its employees

### Gender (GRI LA1, LA2)

Gender and diversity issues are critical points to advance sustainability across the Companies. In this sense, through concrete actions that have to respect human rights as one of its main guidelines, Eletrobras continuously improves its practices that aim to overcome challenges of sustainable development. The participation of the Eletrobras Companies, since 2005, in Federal Government Pro-Gender Equity and Race Program of the Department for Women's Policies stands out. The program results in the preparation of action plans on the part of the companies that aim to promote equal opportunities and good relationship between men and women in the workplace. Furthermore, the Eletrobras Companies participate in the Ministry of Mines and Energy's Standing Committee for Gender Issues where they share experiences about gender equality practices and value diversity not only in the corporate environment but also in social projects that they support.

Reinforcing the commitment to gender issues, in 2010, Eletrobras adhered to the Women's Empowerment Principles, a joint initiative of UN Women and the United Nations Global Compact, which encourages companies to incorporate, in their business, values and practices aimed at the empowerment of women and gender equity.

The Eletrobras Companies take part Ministry of Mines and Energy's Standing Committee for Gender Issues, and has voluntarily adhered, since 2005, to the Federal Government's Pro-Gender Equity and Race Program of the Department of Women's Policies, which aims to promote equal opportunities and good relationship between men and women in the workplace.

////// OWN EMPLOYEES BY GENDER //////////////////////////////////////

|                             | Female        | Male          | Total by company |
|-----------------------------|---------------|---------------|------------------|
| Eletrobras Amazonas Energia | 363           | 1,947         | 2,310            |
| Eletrobras Cepel            | 104           | 391           | 495              |
| Eletrobras CGTEE            | 118           | 560           | 678              |
| Eletrobras Chesf            | 1,175         | 4,484         | 5,659            |
| Eletrobras Holding          | 393           | 715           | 1,108            |
| Eletrobras Eletronorte      | 748           | 3,067         | 3,815            |
| Eletrobras Eletronuclear    | 467           | 2,067         | 2,534            |
| Eletrobras Eletropar*       | 0             | 0             | 0                |
| Eletrobras Eletrosul        | 267           | 1,287         | 1,554            |
| Eletrobras Furnas           | 710           | 4,150         | 4,860            |
| Itaipu Binacional           | 270           | 1,177         | 1,447            |
| ED Acre                     | 58            | 217           | 275              |
| ED Alagoas                  | 183           | 1,118         | 1,301            |
| ED Rondônia                 | 177           | 580           | 757              |
| ED Roraima                  | 80            | 211           | 291              |
| ED Piauí                    | 299           | 1,161         | 1,460            |
| <b>Total</b>                | <b>5,412</b>  | <b>2,3132</b> | <b>28,544</b>    |
| <b>Total %</b>              | <b>18.96%</b> | <b>81.04%</b> |                  |

\*All employees allocated to Eletrobras Eletropar belong to the staff of other Eletrobras Companies

////// TOTAL NUMBER AND RATE OF NEW HIRES AND EMPLOYEE TURNOVER //////////////////////////////////////  
BY GENDER

|              | Employees who left<br>the Company | New hires    | Admission rate* | Turnover rate** |
|--------------|-----------------------------------|--------------|-----------------|-----------------|
| <b>Total</b> | <b>1,106</b>                      | <b>1,256</b> | <b>4%</b>       | <b>4%</b>       |
| Feminino     | 216                               | 281          | 5%              | 4%              |
| Masculino    | 890                               | 975          | 4%              | 4%              |

\*Rate of admissions: Number of hires/ Total number of employees

Reported: ED Alagoas, ED Rondônia, ED Roraima, Eletrobras Eletronorte, Eletrobras Eletronuclear, Eletrobras Eletrosul, Itaipu Binacional)

\*\*Turnover rate: Number of employees who have left the job/ Total number of employees ( Reported: Eletrobras Amazonas Energia, Eletrobras CGTEE, Eletrobras Chesf, Eletrobras Holding, Eletrobras Eletronorte, ED Alagoas, ED Rondônia, ED Piauí, ED Acre, Eletrobras Eletrosul, Eletrobras Eletronuclear, Eletrobras Furnas, Itaipu Binacional)

## Freedom of association (GRI HR5)

The Eletrobras Companies recognize in the Collective Bargaining Agreement the freedom to participate in collective bargaining agreements and union association of their employees.

In 2011, there were no signs that such rights were being violated in any operations or suppliers.

## Remuneration (GRI EC5, EC7, LA14)

The remuneration policies of the company undergo annual assessments, maintaining an effort to unify management procedures and standardize practices for personnel management. To this end, the company relies on a Career and Remuneration Plan (PCR), readjustments through collective bargaining agreements, and an employee valuing policy based on professional performance.

The lowest salary in the Eletrobras Companies in 2011 was BRL 982.48, which is 80% higher than the national minimum wage (BRL 545.00). When observing the average salary of female employees, the amount represents 305% the national minimum wage; for the male employees, this rate is 292% . .

### ////// AVERAGE BASE-SALARY BY GENDER AND FUNCTIONAL CATEGORY //////////////////////////////////////

|   |        |
|---|--------|
| Management positions – Female                     | 9,976  |
| Management positions – Male                       | 12,514 |
| Positions requiring higher education – Female     | 6,303  |
| Positions requiring higher education – Male       | 8,834  |
| Positions not requiring higher education – Female | 3,169  |
| Positions not requiring higher education – Male   | 3,033  |

### ////// RATIO BETWEEN WOMEN’S/MEN’S BASE-SALARY //////////////////////////////////////

|  |      |
|--|------|
| Management position                      | 80%  |
| Positions requiring higher education     | 72%  |
| Positions not requiring higher education | 104% |

### ////// SENIOR MANAGEMENT //////////////////////////////////////

|  |        |
|--|--------|
| Total number of people with senior management positions  | 44     |
| Total number of people with senior management positions considered as being from local communities | 20     |
| Percentage of members with senior management positions considered as being from local communities  | 45.45% |

Senior management: Only presidents and directors are considered.

## Career and Remuneration Plan (PCR)

In 2011, continuity was given to career development based on competencies. A workgroup, with representatives from all the Eletrobras Companies, developed a methodology to map and assess specific competencies based on their professional performance of the Career and Remuneration Plan (PCR).

In addition, in 2011, as requested by unions, a new deadline for adherence to this plan was established. Therefore, the percentage of employees who adhered voluntarily to the PCR went from 97% in 2010 to 98.20% in 2011.

## Knowledge Management Plan (GC)

The Eletrobras Companies started, in 2011, a process for the implementation of a corporate knowledge management plan (GC), aiming to retain the knowledge of their technical staff, and to promote the dissemination of this knowledge to other relevant areas of the company.

This process seeks synergies with successful practices already adopted by the Eletrobras Companies and also with practices of similar companies recognized as benchmarks on this subject

## Health and safety (GRI EU16, EU25, LA7, LA8, LA9)

The Eletrobras Companies comply with the Occupational Health and Safety Policy which manages data and indicates specific demands, focusing on prevention, addressing legal requirements, promoting continuous improvements in management, and reducing the number of accidents and occurrences related to health issues.

As a result of the implementation of this policy, it is possible to mention ED Alagoas, where the number of accidents among its own staff was reduced by 24% in 2011, when compared to 2010; at Eletrobras Eletronorte, this reduction was 21%.

In addition, in 2011 the total number of injuries (with or without lost time) was 224, and the total injury rate was 0.67%, presenting a reduction compared to the previous year when this number was 1.27% (GRI LA7).

| ///// HEALTH AND SAFETY ////////////////////////////////////// |     |
|--|-----|
| Number of individuals involved in accidents                    | 124 |
| Number of deaths*  | 1   |
| Pending health and safety lawsuits                             | 29  |
| Settled health and safety lawsuits                             | 2   |

\*The number refers to own employees.

## Health and Safety Committees (GRI LA6)

Over 75% of employees are represented by formal health and safety committees. For this, the companies have 217 Internal Committees for the Prevention of Occupational Accidents (CIPA) and 36 local committees aiming at conducting occupational health and safety activities, as required by the Brazilian labor legislation in all regions of the country.

### ////// ACTIVITIES ON HEALTH AND SAFETY AT WORK //////////////////////////////////////

|                             | Counseling  |           |        | Education and training |           |        | Prevention  |           |        | Training    |           |        |
|-----------------------------|-------------|-----------|--------|------------------------|-----------|--------|-------------|-----------|--------|-------------|-----------|--------|
|                             | Communities | Employees | Family | Communities            | Employees | Family | Communities | Employees | Family | Communities | Employees | Family |
| Eletrobras Amazonas Energia | Yes         | Yes       | No     | Yes                    | Yes       | No     | Yes         | Yes       | No     | No          | Yes       | Yes    |
| Eletrobras Cepel            | No          | Yes       | Yes    | No                     | Yes       | No     | No          | Yes       | No     | No          | Yes       | Yes    |
| Eletrobras CGTEE            | No          | Yes       | Yes    | No                     | Yes       | No     | No          | Yes       | No     | No          | Yes       | Yes    |
| Eletrobras Chesf            | No          | Yes       | Yes    | No                     | Yes       | No     | No          | Yes       | No     | No          | Yes       | Yes    |
| ED Acre                     | No          | Yes       | No     | Yes                    | Yes       | Yes    | No          | Yes       | Yes    | No          | Yes       | Yes    |
| ED Alagoas                  | n.a.        | n.a.      | n.a.   | n.a.                   | n.a.      | n.a.   | n.a.        | n.a.      | n.a.   | n.a.        | n.a.      | n.a.   |
| ED Rondônia                 | No          | Yes       | No     | No                     | Yes       | Yes    | Yes         | Yes       | Yes    | No          | Yes       | n.a.   |
| ED Roraima                  | No          | Yes       | Yes    | No                     | Yes       | Yes    | No          | Yes       | Yes    | No          | Yes       | No     |
| Eletrobras Eletronorte      | No          | Yes       | No     | No                     | Yes       | Yes    | No          | Yes       | Yes    | No          | Yes       | Yes    |
| Eletrobras Eletronuclear    | No          | Yes       | Yes    | No                     | No        | No     | No          | Yes       | No     | No          | Yes       | Yes    |
| Eletrobras Eletropar        | n.a.        | n.a.      | n.a.   | n.a.                   | n.a.      | n.a.   | n.a.        | n.a.      | n.a.   | n.a.        | n.a.      | n.a.   |
| Eletrobras Eletrosul        | Yes         | Yes       | Yes    | Yes                    | Yes       | Yes    | Yes         | Yes       | Yes    | Yes         | Yes       | Yes    |
| Eletrobras Furnas           | Yes         | Yes       | Yes    | Yes                    | Yes       | Yes    | No          | Yes       | No     | No          | Yes       | Yes    |
| Itaipu Binacional           | n.a.        | Yes       | Yes    | n.a.                   | Yes       | Yes    | n.a.        | Yes       | Yes    | n.a.        | Yes       | Yes    |
| ED Piauí                    | n.a.        | n.a.      | n.a.   | No                     | Yes       | No     | n.a.        | n.a.      | n.a.   | n.a.        | n.a.      | n.a.   |
| Eletrobras Holding          | No          | Yes       | Yes    | No                     | Yes       | No     | No          | Yes       | Yes    | No          | Yes       | Yes    |

n.a. = not available

In addition, since 2008, with the Plan for Transformation of the Eletrobras Companies, several work-groups have been created, such as Health/Quality of Life and Occupation Safety; these groups are represented by one technician from each company under the coordination of the Department for People Management of Eletrobras Holding. The main goal is to identify the best practices in health/quality of life and occupational safety and standardize and/or unify them among the companies of the system, promoting the continuous follow-up on these topics.



## Training and empowerment in health and safety (GRI LA8)

The company also promotes training and empowerment, covering topics such as first aid, accident prevention and risks in the workplace. Geared toward employees of the Eletrobras Companies and formally conducted, this training relies on the participation of internal and external instructors and the follow-up of the occupational health and safety department of the companies.

For employees of companies providing services, the contractor is responsible for the training of its own employees. However, some actions are being planned by companies of the system, aiming at promoting health and safety throughout the entire business chain.

### Some health and safety actions promoted by the Eletrobras Companies

- //// Eletrobras Eletronorte's Quality of Life Program aims at reducing occupational stress and reducing work-related diseases and repetitive strain injuries (RSI).
- //// The REVIVER Program of Itaipu Binacional gave continuity to the development of its health and safety actions, in its preventive and curative essence, implementing actions that raise awareness of employees and their dependants on the importance of continuous improvement in health and quality of life. It also promotes a seminar for service providers to attend lectures on integration and guidance on internal health, safety, and environmental policies. This seminar is provided in the items of agreement entered into by Itaipu Binacional and contractors.
- //// Eletrobras CGTEE promotes the Program for Respiratory Protection against Coal Dust, Ash, and Gases which defines the appropriate individual protection equipment (IPE) for each of the existing risks. This protection is made with IPEs and the corresponding training on how to properly use them. The company also promotes vaccination campaigns against influenza for all employees and interns.
- //// The prevention of diseases in ED Acre is done through lectures and vaccination of employees and their families.
- //// Eletrobras CGTEE also promotes vaccination campaigns against influenza for all employees and interns.
- //// In ED Rondônia, activities related to the Program Revoada de Pipas took place; this program aims at raising awareness of children on the dangers of flying kites near power lines. The press is also invited and contributes to the message to reach a large portion of the population.
- //// The IV Electricians Rodeo, in the city of Ji-Paraná, allows employees of contractors to show their abilities in the execution of activities associated with their work.
- //// At Eletrobras Eletronuclear, the Praia Brava Hospital services employees of the Nuclear Center and their dependants. Since 1999, this hospital has been managed by the Eletrobras Eletronuclear Medical Assistance Fund (FEAM) and also services the local population. Of the over 250,000 patients seen each year, 90% are people from local communities and neighboring municipalities through the Unified Health System (SUS).

Throughout 2011, 86% of all electricity bills sent to consumers by the Eletrobras Companies contained messages on safety, totaling over 430,000 monthly bills carrying this prevention message.

### Items related to health and safety in the Collective Bargaining Agreement (GRI LA8)

The Eletrobras Companies invest in actions geared toward the internal and external stakeholders, aiming at the promotion of education, counseling, and focusing on the health of their employees and their family members, as well as of all the communities of the areas where the companies operate.

There are employees who are involved in occupational activities with a high rate or high risk of specific occupational diseases. Among them is loss of hearing, pulmonary complications and, in construction developments, endemic diseases. Thus, programs are aimed at raising employees' awareness on the prevention of such incidents.

In addition, the demands on occupational health and safety are annually negotiated. Several topics on health and quality of life are in the Collective Bargaining Agreement (ACT) entered into by Eletrobras Companies and workers' unions for the period of 2011-2012 (GRI LA9).

Among them, we can highlight items such as the one that allows for a reduction of work hours starting on the date of completion of maternity leave, as well as ensuring the extension of this leave when required by the employee; it is also possible to get an extension of the leave when the employee is going through the process of adoption or legal custody. In addition, the company started granting leaves in cases of hospitalization due to illness, surgery, home recovery, and/or emergency situations when employees need to accompany their spouse or partner, first degree family members, and health insurance dependants.

The company also started offering exemption on reimbursement limits for psychotherapy and physiotherapy treatments in cases of sickness allowance or work-related accidents. The dependents that bear physical or mental disability and take part in the developmental psychology programs may also rely on this benefit.

## Performance Management System (SGD) (GRI LA10, LA12)

SGD is a management tool focused on competencies and results that will allow the Eletrobras Companies to develop and strategically manage their employees, channeling resources to reach goals and results that ensure profitability, sustainability, competitiveness, and value creation in four stages:

- //// PLANNING: goal development stage, which must be developed based on the actions defined in the company's Strategic Plan and in line with the responsibilities of the area where the employee works.
- //// MONITORING: stage in which the actions required to reach each goal are executed and professional competencies are demonstrated. Based on periodic performance monitoring, the assessing and the assessed parties register relevant data related to the established goals and professional competencies, creating a history to support the assessment stage.
- //// ASSESSMENT: stage in which the analysis comparing the expected and realized performance in relation to the goals established and competencies defined for each employee is conducted.
- //// DEVELOPMENT: stage in which the final feedback meeting takes place and the employee's Individual Development Plan (PDI) is prepared. The meeting between manager and employee aims at measuring the results observed, employee competencies, lessons learned, and opportunities for development.

In June 2011, SGD's 2011/2012 first Unified Cycle was initiated in the Eletrobras Companies, and its planning and monitoring (general competencies and team goals) stages were completed. The final performance and career development assessments are scheduled for the first quarter of 2012.

## Management of Organizational Climate

In 2011, the results obtained in the first Unified Climate Survey, conducted in late 2010, were internally communicated to the employees of the Eletrobras Companies. The second Unified Climate Survey, conducted in 2011, involved 15,374 respondents from the Eletrobras Companies, registering a favorable response rate of 68.59%. Based on the results from the two surveys, improvement actions that meet the companies' strategic goals, organizational performance, and employee well-being will be prepared.

# Training and development (GRI LA10)

The Eletrobras Companies are committed to investing and fostering the development of their employees by means of specific programs and actions.

In 2011, the companies provided a total of 2,048,923 hours of training, according to the tables below:

## TRAINING HOURS

|   |           |
|---|-----------|
| Positions requiring higher education - Female     | 192,635   |
| Positions requiring higher education - Male       | 487,898   |
| Managerial positions - Female                     | 133,163   |
| Managerial positions - Male                       | 451,711   |
| Positions not requiring higher education - Female | 182,471   |
| Positions not requiring higher education - Male   | 1,076,960 |

## Average number of training hours per year, by employee, by functional category

|   |     |
|---|-----|
| Positions requiring higher education - Female     | 91  |
| Positions requiring higher education - Male       | 3   |
| Managerial positions - Female                     | 344 |
| Managerial positions - Male                       | 272 |
| Positions not requiring higher education - Female | 62  |
| Positions not requiring higher education - Male   | 68  |

The holding pays for graduate courses and reimburses part of the monthly tuition fees for language courses. Moreover, it develops training programs such as Programa Foccus, for the development of new leaderships; the Managerial Development Program, aimed at all managers of the Eletrobras Companies; MBA in Energy Business Management; Specialization in Protection of Electric Systems; Specialization in smart grids; course on Integrated Risk Management; and course on IT Governance.

# Skilled labor (GRI EU14)

The Corporate Education Plan (PEC) is part of the corporate education model implemented by Eletrobras (Project IV.6.3 Eletrobras System’s People Development and Training Plan).

In order to contribute to the development of its employees by offering quality corporate education, Eletrobras created, in 2005, the Corporate University of the Eletrobras System (UNISE). Its courses are

offered to all employees working for companies of the group and are based on distance-education techniques (such as online resources and videoconferences) and on-site courses.

## Culture of Innovation in the Eletrobras Companies

Upon the approval of Eletrobras's Research, Development and Innovation Policy in 2009, several initiatives have been adopted in order to put this policy into practice. In this sense, one of the outcomes of Objective V of the R&D+I Policy (in order to promote technological development and a culture of innovation) was the Action for Awareness on Innovation.

In addition to being an educational action developed by the Eletrobras System University (UNISE), it includes a workshop for talks, presentations, and group works on innovation. The objective is to raise awareness in employees on the importance of this topic. Between 2010 and 2011, 50 groups took part, totaling 910 employees impacted.

After taking part in the workshop, employees can gain access to the System for Innovative Ideas (SIN), which was implemented in the Eletrobras Holding. SIN is an integrated system for management of employees' ideas; the registered ideas are analyzed by a multidisciplinary committee, and if implemented they could bring improvements, increase operational efficiency, and even bring new businesses to the company. By the end of 2011, the committee had received over 100 ideas that enabled the creation of four work groups for the implementation of these initiatives.

## Investment in training of R&D+I management

In order to train R&D+I professionals, Eletrobras has partnerships with research and educational institutions. One of the ongoing initiatives in 2011 was the 18-month-long course on Strategic Management of Technological Innovation offered by the Campinas State University (UNICAMP). With the first class formed exclusively for employees of the Eletrobras Companies started in 2009 and the second in 2010, the specialization offers R&D+I representatives a place for discussion on the subject. The program trained over 80 employees.

Another important initiative is the maintenance of the agreement with the National Institute of Industrial Property (INPI), executed in July 2010, for training on intellectual property aiming to promote technical, scientific, educational, and cultural cooperation.

At Eletrobras Chesf, as part of the Corporate Education Plan – PEC, educational initiatives were conducted, geared to the company's managers and technical team, and they received an investment of approximately BRL 9,000,000 (nine million Brazilian reais) in 2011. In addition, there is the Programa Vivendo e Aprendendo (Living and Learning Program), which offers courses to workers with little schooling via elementary and high-school courses. This program won the 2011 Ser Humano Paulo Freire Award, placing first in the corporate education category - corporate mode.

# Profile of External Stakeholders

## Communities

The Eletrobras Companies maintain relationships with various social groups which are identified in the studies conducted for the implementation of developments and are the target audience of the environmental actions related to compensation, mitigation, and remediation established in the environmental licensing process (Environmental Impact Assessments, Preliminary License, Basic Environmental Project, Installation License, and Operating License). In addition, the company helps local communities by means of Social Responsibility programs, strategically guided by areas of operation, as detailed below.

## Community engagement (GRI SO1)

Throughout its experience, Eletrobras confirmed the need to hold meetings for clarification and to create channels to allow for communication with the various stakeholders from the initial planning stages of the developments. During the Environmental Impact Assessments and the preparation of environmental programs in the Basic Project stage, communities are invited and encouraged to take part in discussion forums regarding the project and its impacts, as well as to express their expectations.

At the same time, constant dialogs with the community in order to understand their problems and needs are essential to maintain the relationship between the parties. In this sense, Eletrobras promotes meetings, which are open to the public, with tools tailored to fit local realities, meetings and a public hearing, determined by the environmental agency during the licensing process of the developments, and provides several communication channels.

In 2011, approximately 74% of the operations (52 out of 70 operations indicated) included local community engagement programs, impact assessments, and development programs, granting resources to the local population that totaled BRL 109,388,150.00.

## Impact on local communities (GRI SO9 e SO10)

The operations of the Eletrobras Companies can produce more or less social and environmental impacts, depending on the characteristics of the region where they are installed. The social groups affected are identified in the beginning of the planning phase. As planning phases advance, specific studies are conducted to understand the expectations of the population, their way of life, their economic base, and how they are organized.

Developing its activities in compliance with the laws and regulation in effect, Environmental Impact Assessments are conducted during the feasibility studies related to the projects, whose scope is defined by the licensing environmental agencies. The analysis of socio-environmental impacts caused by the project is conducted through identification, anticipation of their magnitude, and interpretation of the relevance of the likely material impacts, detailing the following: positive and negative effects; direct and indirect effects; short, medium and long-term effects; temporary and permanent effects; their

degree of reversibility; their cumulative and synergetic properties; and the distribution of social burdens and benefits (CONAMA Resolution 001/1986).

It is important to bear in mind that simply the news about the implementation of a power plant is enough to raise expectations in terms of job and business opportunities, resulting in an immigration flow into the area of the developments. Thus, a temporary population influx puts a considerable strain on utilities and local infrastructure, especially during the peak periods of the work, and pressure on the infrastructure network, local health and education.

It is possible to name a few modifications that are relevant to the populations affected by the hydroelectric development such as: temporary changes to the regional real estate market; increased generation of solid waste and sanitary wastewater; increased highway, rural, and urban traffic; compulsory relocation of affected families; presence of new individuals in the routine of the community; arrival of workers coming from other locations with different habits and customs; traffic of heavy machinery and probable use of explosives during the implementation of the development; risks generated by epidemiological problems associated with the flooding of the reservoir, due to the potential proliferation of disease vectors.

To minimize and offset these negative impacts, the Eletrobras Companies develop a series of initiatives as shown below:

### Some initiatives carried out by the Eletrobras Companies

- //// Eletrobras Eletrosul conducts a survey on the socio-environmental perception of the developments, aiming to approach and understand the conditions of the communities impacted. As a preventive measure for the socio-environmental impacts, the company also implemented, in 2011, the Integrated Sustainable Development Program and the socio-economic and environmental diagnosis of the municipalities to receive the wind farms in the state of Rio Grande do Sul.
- //// For the Regional Insertion Plan, which aims at offsetting and maximizing local development, Eletrobras Eletronorte completed the construction of the basic infrastructure in 2011 such as the recovery of the river banks in the municipality of Cametá – PA, the construction of schools in various municipalities in Pará, and administrative centers, a health center, and a bus terminal in the municipality of Breu Branco – PA.
- //// In turn, Itaipu Binacional voluntarily promotes initiatives that support the social and economic development of the region. Based on the expansion of its mission, which took place in 2003, Itaipu Binacional has implemented programs that benefit the community, the environment, and internal stakeholders, including education, health, fighting sexual exploitation of children and adolescents, fighting violence, stimulus of income generation, gender equality, tourism, and volunteer work. In addition, through the Cultivando Água Boa Program (Maintaining Clean Water), the company has developed actions that involve environmental education, fishing, medicinal plants, family and organic farming, sustainability of indigenous communities, biodiversity, and environmental monitoring and assessment.

## Eletrosul Integrated Sustainable Development Program

The Integrated Sustainable Development Program was created due to the need to consolidate projects currently undergoing a termination process and the sizing of a single program that provides the development of public policies, sustainability, and local development based on the current socio-environmental projects.

Hence, the program aims to consolidate a management tool in line with the company's social investment policy, its businesses, Eletrobras System's guidelines, corporate management reports, Strategic Planning, and the Brazil Poverty Eradication Plan of the Federal Government.

Its implementation enables the integration, standardization, and optimization of the management processes, as well as the insertion and strengthening of the company's image in the communities that surround the facilities, developments, and business implementation; investment assertiveness; decreased operating costs related to risks and vulnerabilities; positive socio-environmental transformation of communities; and systematic contribution to address the criteria required by management reports.

## Relocations and resettlements (GRI EU20, EU22)

The Eletrobras Companies' concern with avoiding relocations and resettlements of the population starts in the initial studies of a project. Even so, in 2011, 463 people were physically relocated due to the projects developed by the companies. Moreover, 1,178 people were economically relocated, that is, there was the loss of assets or access to assets, which in some cases represented the temporary loss of livelihood.

In these cases, specific actions are developed with communities to ensure the economic, social, and cultural integrity of the population affected. The Relocation Programs are specific for each development and are established according to the characteristics of the region.

The first step is to identify urban and rural settlements, as well as legally protected populations, aiming to minimize impacts to the fullest permissible extent. In conjunction with the environmental licensing and the preparation of the Executive Project, a socio-economic register is prepared which gathers information on the population affected. Moreover, there is the land ownership register that supports cases of eminent domain, support to relocation in the remaining property, or relocation to other properties.

In order to provide clarification and the development of communication channels with the various social groups affected, meetings are held concerning the scope of the environmental studies and the social communication actions developed for the project.



# Social Responsibility

In order to contribute to sustainable development in Brazil and countries in which they operate, the Eletrobras Companies ground their operating strategy on the Sustainability Policy and Social Responsibility Guidelines. In addition, companies align their actions with various voluntary commitments, such as the UN Global Compact and the Millennium Development Goals. In this sense, companies support social projects in different lines of action: education, health, culture, sports and leisure, employment and income generation, assurance of children's rights, and the environment.

Eletrobras Holding has, year after year, diversified the nature of its projects, as shown in the table below:

## EXTERNAL SOCIAL INDICATORS (BRL THOUSAND)

| Social Projects                                      | 2011          | 2010          | %           |
|--|---------------|---------------|-------------|
| Education  | 924           | 1,599         | -42%        |
| Health and Infrastructure                            | 0,00          | 48            | -100%       |
| Employment and Income Generation                     | 1,353         | 1,030         | 31%         |
| Enforcement of Children's and Adolescents' Rights    | 466           | 370           | 26%         |
| Environment  | 66            | 219           | -70%        |
| Sports and Leisure                                   | 1,217         | -             | -           |
| <b>Sports Projects</b>                               |               |               |             |
| With incentives (Sports Incentive Law)*              | 1,791         | 800           | 124%        |
| Without incentives                                   | 29,944        | 24,576        | 22%         |
| <b>Cultural and Institutional Projects</b>           |               |               |             |
| Cultural Sponsorships with Incentives**              | 12,890        | 26,999        | -52%        |
| <b>Institutional Sponsorships without Incentives</b> | 8,686         | 13,086        | -34%        |
| Philanthropic Donations                              |               |               |             |
| Financial Resources                                  | 500           | -             | -           |
| <b>Total Investments</b>                             | <b>57,837</b> | <b>68,727</b> | <b>-16%</b> |

\*The total informed in 2010 was adjusted in relation to the inclusion of BRL 500,000, related to Women's Basketball of the Brazilian Basketball Confederation.

\*\*The variation of the totals invested in cultural sponsorships is due to the end of the sponsorship, in 2010, of the renovation of the Rio de Janeiro Municipal Theater and of the Baccarelli Orchestra

## Access to electricity (GRI EU23)

In 2011, Eletrobras invested in a series of programs, in partnership with the government, in order to improve or maintain access to electricity and to customer assistance service, as detailed below.

### Luz para Todos

The National Program for Universal Access to and Use of Electricity Luz Para Todos, institutionalized in 2003, aims at providing, by 2014, electricity to the portion of population residing in the Brazilian countryside that still does not have access to this utility.

The program, in addition to supplying energy to the rural population, offers solutions for its use as an instrument of social and economic development in low-income communities, contributing to reducing poverty and increasing family income. Access to electricity facilitates integration with health, education, water supply, and basic sanitation services, as well as to social programs promoted by the Federal Government. The program also anticipates the free installation of up to three electricity points (one per room), two power outlets, conduits, light bulbs, and other materials necessary.

By enabling access to electricity, the program helps retain families in rural areas, improving their quality of life. Access to electricity makes families purchase home appliances and electric rural equipment, increasing their income, improving basic sanitation, health, and education, thus strengthening the economy in these communities.

Priority is given to serve communities in the Citizenship Territory Program or through the Brazil Poverty Eradication Plan as well as those from rural settlements, indigenous communities, quilombolas<sup>2</sup>, communities located within extractive reserves or within areas intended for power generation or transmission developments whose responsibility does not fall upon the respective utility company, in addition to schools, health centers, and community water wells.

It is estimated that more than 400,000 direct and indirect job opportunities were generated as a result of the implementation of this program, considering that the use of local labor and the purchase of local materials and equipment manufactured in the areas surrounding the locations served are prioritized.

Luz para Todos is coordinated by the Ministry of Mines and Energy in conjunction with Eletrobras and its subsidiaries, and the holding is responsible for operating the program for the technical-budgetary analysis of construction programs prepared by Executive Agents, for managing their execution, for inspecting their execution and progress of the works, and for the release of federal funding.

In this sense, Eletrobras operates a credit line for electric power utility companies, licensed distribution companies, and rural electrification cooperatives, authorized by ANEEL, with resources granted



2. A Quilombola is a resident of a Quilombo in Brazil, a community that sheltered fugitive slaves. They are the descendants of these slaves who escaped from plantations that existed in Brazil until abolition in 1888.

by the Global Reversion Reserve (RGR) as financing and by the Energy Development Account (CDE) as a financial subsidy.

In 2011, 247,862 new installations were made by the program, totaling 2,902,398 connections and corresponding to more than 14.5 million people who benefitted in the Brazilian rural area. In relation to the goals established for 2011, 78% of the overall goal of 317,854 connections was reached, considering the commitment of the executors to Eletrobras and state governments.

Considering only the commitments to Eletrobras, 53,191 projects were registered in Luz para Todos Program's Project Management System in 2011, totaling 432,635 projects since 2004. This total resulted in the execution of 2,330,160 connections, corresponding to 88% of the total number of connections contracted between the Executor Agents and Eletrobras, as well as:

- //// the connection of consumer units in the rural area of 5,378 Brazilian municipalities
- //// the construction of 587,139 km of low and high-voltage power lines
- //// the installation of 6.1 million utility poles
- //// the installation of 883,190 transformers
- //// the installation of 2,078 photovoltaic systems.

Still, under the program several situations were identified in which services were subject to the execution of projects with special characteristics, since the locations served are far from existing power distribution lines, in difficult to reach areas, and usually with a low population density. In these cases, complementing the Construction Work Programs that predominantly make use of traditional distribution lines, the Special Projects were created, as established by MME Ordinance No. 60, of February 12th, 2009, focusing on extremely isolated populations in remote areas and in a sustainable manner, prioritizing the use of Renewable Energy Sources (FRE).

In 2011, Eletrobras signed with the Executor Agents 17 agreements related to Special Projects, using resources from the Energy Development Account (CDE), in the amount of BRL 7.15 million, and aiming at serving 348 consumer units via decentralized power generation using FRE and the building of small sections of distribution line (mini-grids). Another 51 projects are currently being assessed, and it is expected that the works be complete before the end of 2014. The majority of projects foresee service via photovoltaic solar systems in the northern region of the country.

In 2011, BRL 1.30 billion was released, of which BRL 1.08 billion came from CDE resources and BRL 0.22 billion, from the Global Reversion Reserve (RGR). Since 2004, a total of BRL 11.17 billion (resources from CDE and RGR) were released to the Luz para Todos Program, from the total contracted amount of BRL 14.02 billion, that is, 80% of the total resources contracted.

The tables below show the total resources contracted and released from 2001 to 2011, broken down by region.

////// CONTRACTED RESOURCES UNTIL 12/31/2012 - BRL MILLION //////////////////////////////////////

| Region        | Construction Work Programs |                 |                  | Special Projects | Total            |                 |                  |
|---------------|----------------------------|-----------------|------------------|------------------|------------------|-----------------|------------------|
|               | CDE                        | RGR             | CDE+RGR          | CDE              | CDE              | RGR             | CDE+RGR          |
| North         | 3,127.75                   | 318.29          | 3,446.04         | 6.07             | 3,133.82         | 318.29          | 3,452.11         |
| Northeast     | 5,427.54                   | 887.42          | 6,314.96         | 1.08             | 5,428.62         | 887.42          | 6,316.04         |
| Midwest       | 765.84                     | 590.82          | 1,356.66         | -                | 765.84           | 590.82          | 1,356.66         |
| Southeast     | 847.95                     | 1,191.42        | 2,039.37         | -                | 847.95           | 1,191.42        | 2,039.37         |
| South         | 339.43                     | 511.91          | 851.34           | -                | 339.43           | 511.91          | 851.34           |
| <b>Brazil</b> | <b>10,508.51</b>           | <b>3,499.86</b> | <b>14,008.37</b> | <b>7.15</b>      | <b>10,515.66</b> | <b>3,499.86</b> | <b>14,015.52</b> |

////// RECURSOS LIBERADOS ATÉ 31/12/2011 – R\$ MILHÕES //////////////////////////////////////

| Region        | Construction Work Programs |                 |                  | Special Projects | Total           |                 |                  |
|---------------|----------------------------|-----------------|------------------|------------------|-----------------|-----------------|------------------|
|               | CDE                        | RGR             | CDE+RGR          | CDE              | CDE             | RGR             | CDE+RGR          |
| North         | 2,442.85                   | 269.61          | 2,712.46         | 1.23             | 2,444.08        | 269.61          | 2,713.69         |
| Northeast     | 4,466.79                   | 752.00          | 5,218.79         | 0.32             | 4,467.11        | 752.00          | 5,219.11         |
| Midwest       | 584.83                     | 468.06          | 1,052.89         | -                | 584.83          | 468.06          | 1,052.89         |
| Southeast     | 679.77                     | 885.47          | 1,565.24         | -                | 679.77          | 885.47          | 1,565.24         |
| South         | 262.66                     | 358.66          | 621.32           | -                | 262.66          | 358.66          | 621.32           |
| <b>Brazil</b> | <b>8,436.90</b>            | <b>2,733.80</b> | <b>11,170.70</b> | <b>1.55</b>      | <b>8,438.45</b> | <b>2,733.80</b> | <b>11,172.25</b> |

////// LIGAÇÕES CONTRATADAS ATÉ 31/12/2011 //////////////////////////////////////  
ENTRE OS AGENTES EXECUTORES E A ELETROBRAS

| Region        | Construction Work Programs | Special Projects | Total            |
|---------------|----------------------------|------------------|------------------|
| North         | 532,947                    | 297              | 533,244          |
| Northeast     | 1,314,321                  | 51               | 1,314,372        |
| Midwest       | 198,056                    | -                | 198,056          |
| Southeast     | 422,643                    | -                | 422,643          |
| South         | 180,583                    | -                | 180,583          |
| <b>Brazil</b> | <b>2,648,550</b>           | <b>348</b>       | <b>2,648,898</b> |

## Production Community Centers (CCPs)

Production Community Centers (CCPs) are small projects supported by Eletrobras that seek to demonstrate and encourage the productive use of electricity in rural areas through their use in processing, and which add value to a community's agricultural production.

In these units implemented in partnerships led by Eletrobras, energy becomes a production input and plays its role as a vector of development in the interior of the country. As a result of the community initiative, there is economic growth of the group involved, the strengthening of social relations among project participants and other local players, in addition to being a way of contributing to the viability of the rural electricity market, which is characterized by high installation costs and low profitability for distribution dealers.

In 2011, Eletrobras opened 10 CCPs spread throughout the south and midwest, benefitting a total 800 families.

## Energy Efficiency in Low-Income Communities

Geared toward consumer units located in low-income communities, the main objective of the Project is to promote the safe and efficient use of energy through educational initiatives, lectures and visits by social analysts and field agents, and replacement of equipment that is regarded as obsolete (refrigerators and lamp bulbs). During the visit, screening is performed to identify customers enrolled in CADÚnico, basic assumption to qualify for the replacement of equipment by the project. Bulbs are replaced for all identified suitable participants and refrigerators are replaced by means of a drawing. In 2011, Eletrobras Amazonas Energia replaced 9,341 refrigerators and 33,668 bulbs, ED Alagoas 1,809 refrigerators and 9,223 bulbs, ED Piauí 4,180 refrigerators and 12,075 bulbs, ED Acre 1,506 refrigerators and ED Rondônia 4,159 refrigerators. These initiatives resulted in power savings of 10,362.48 MWh/year<sup>3</sup> a reduction in peak demand of 2,583.8 kW<sup>4</sup> has been registered (GRI EN6).

## Technical cooperation to serve remote regions

Aiming to support distributors in serving remote regions using systems based on Renewable Energy Sources, Eletrobras maintains technical cooperation projects with the Inter-American Institute for Cooperation on Agriculture (IICA) and the German agency *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ).

Within the scope of these cooperation projects, Eletrobras provides technical support to Centrais Eletrobras do Pará S.A. (CELPA) for the implementation of four special projects included in the Araras Pilot Project in the municipality of Curalinho (PA). The systems used in Araras are mostly comprised of photovoltaic panels, with a low-voltage distribution grid to serve 76 families. Currently, the project is in the commissioning phase and should soon be delivered to CELPA's operations area.

Still regarding cooperation projects, the company provides support to Eletrobras Amazonas Energia in the execution of 12 Special Projects which aim at providing 222 families with decentralized purely photovoltaic power generation systems. This support is provided from the beginning of executive projects up to their monitoring, assessment of operational data, and improvement of project management. Since



3. Reported: ED Alagoas, ED Piauí, ED Acre and Eletrobras Amazonas Energia.
4. Reported: ED Alagoas, ED Piauí and Eletrobras Amazonas Energia.

2006, activities have also been developed to support Eletrobras Distribuição Acre in order to enhance the management and monitoring of 100 individual photovoltaic systems (24 kWp), installed by LPT in the Chico Mendes Extractive Reserve, located in the municipality of Xapuri.

## Human Rights (GRI HR1, HR4, HR6, HR7, HR9, HR10, HR11)

Topics related to human rights receive special attention from Eletrobras, especially in relation to the studies conducted for the implementation of new developments and for the adoption of measures to avoid any violation of human rights in the locations where it operates.

Eletrobras seeks to raise the awareness of its employees and other stakeholders on this subject through campaigns and events. Thus, of the 21 company operations, 18 are subject to reviews of human rights and/or impact assessments, even though some of its subsidiaries do not have formal processes to verify events of a violation of human rights, both for existing operations and new facilities.

In order to deal with these issues, internal and external channels are made available for reporting, such as the Ombudsman and the Ethics Committee, in addition to Internet-based and phone-based tools. In 2011, it was decided that all institutional material, whether internal or external, must provide the link to the Ombudsman portal in order to expand the communication of the channel to the general public.

In addition to the Ombudsman channel, a link is also made available for the Gender Channel of the holding, which handles complaints/reports concerning gender, moral, and/or sexual harassment and other forms of discrimination.

In November 2011, in response to claims involving Eletrobras's outsourced employees, CEE recommended to the holding's Ombudsman to adopt a segmented system to collect complaints/reports, geared to the outsourced audience working at Eletrobras holding's facilities and who do not have direct access to computers. Thus, the holding's Ombudsman is currently in the final stage of acquiring suggestion boxes to this end which shall be installed in the common areas used by this audience. At the same time, a specific communication plan is being developed to address this suggestion box system.

**////// INVESTMENT CONTRACTS AND AGREEMENTS //////////////////////////////////////**  
**CONTAINING HUMAN RIGHTS-RELATED PROVISIONS OR SUBMITTED TO HUMAN RIGHTS-RELATED ASSESSMENTS (GRI HR1)**

|  |                    |
|--|--------------------|
| Total number of significant investment agreements and contracts closed   | 253*               |
| Total number of investment agreements and contracts containing human rights-related provisions or submitted to human rights-related assessment           | 238*               |
| Total financial amount of investment agreements and contracts containing human rights-related provisions or submitted to human rights-related assessment | 3,757,793,270.29** |
| Total financial amount of significant investment agreements and contracts closed   | 3,663,050,330.85** |

\*ED Roraima has not reported.  
 \*\*Itaipu Binacional and ED Acre have not reported.

**////// SIGNIFICANT CONTRACTS //////////////////////////////////////**  
**INCLUDING HUMAN RIGHTS-RELATED PROVISIONS (GRI HR1)**

|                             | Total number of contracts | Contracts containing human rights-related provisions | Percentage   |
|-----------------------------|---------------------------|--|--------------|
| Eletrobras Chesf            | 10                        | 10   | 100          |
| Eletrobras Holding          | 16                        | 16   | 100          |
| Eletrobras Eletronorte      | 1                         | 1  | 100          |
| ED Rondônia                 | 15                        | 15   | 100          |
| ED Piauí                    | 11                        | 3  | 27           |
| Eletrobras Eletronuclear    | 15                        | 15   | 100          |
| Eletrobras Eletrosul        | 16                        | 16   | 100          |
| Eletrobras Furnas           | 0                         | 0  | 0            |
| ED Alagoas                  | 29                        | 29   | 100          |
| Eletrobras Amazonas Energia | 8                         | 1  | 12,5         |
| Eletrobras Cepel            | 0                         | 0  | 0            |
| Eletrobras CGTEE            | 119                       | 119  | 100          |
| <b>Total</b>                | <b>240</b>                | <b>225</b>   | <b>93,75</b> |

The Organization considers as significant the agreements approved by the Board of Directors. In the particular case of Eletrobras Furnas, the value of the agreements to be approved by the Council exceeds 0.5% of the company equity; in 2011 there was no hiring of this size. ED Roraima has not reported. Itaipu Binacional does not invest in other companies.

**Bonded or child labor (GRI HR6 e HR7)**

Preventively, all contracts executed by the companies of the system have provisions that establish the compliance of the contracted party with Eletrobras Companies' commitment toward the refusal to participate in practices related to child labor, abuse, and sexual exploitation of children and adolescents, bonded labor or demeaning work practices, as well as in any form of physical, sexual, moral, or psychological violence, according to the Eletrobras Companies' Code of Ethics.

To take part in public biddings, all companies must declare their compliance with the Federal Constitution (art. 7, XXXIII) regarding the nonexistence of employees less than 18 years of age in the company, except for apprentices.

Eletrobras controls the risks related to the occurrence of bonded or bonded-like labor in relation to its suppliers and operations:

**////// RISK CONTROL OF BONDED LABOR EVENTS //////////////////////////////////////**

|   |     |
|---|-----|
| No. of significant suppliers with risk of bonded or bonded-like labor | 23  |
| No. of operations with risk of bonded or bonded-like labor            | 457 |

Eletrobras CGTEE, Eletrobras Furnas, and Itaipu Binacional did not report on this issue.

**Inspection and monitoring of contracts – ED Rondônia**

Aiming at continuous improvement, ED Rondônia held its first workshop with Contract Managers to promote better monitoring and inspection.

In addition, ED Rondônia, in order to monitor the faithful fulfillment of contract provisions, is implementing the following procedures: preparation of a Supplier Conduct Manual; Supplier Policies and Ethics; Contract Follow-up Report, and a detailed checklist.

**Indigenous communities (GRI HR9)**

Eletrobras strives to strengthen its relationship with indigenous communities by developing social projects which form the Integrated Actions Program, such as training courses and the implementation of units for digital inclusion in the indigenous communities that were benefited by the government program Luz para Todos. The Integrated Actions Program has developed 30 projects for these communities since 2006. Two major programs aimed at these communities have been coordinated by Eletrobras for over thirty years: Parakanã and Waimiri Atoari.

**Parakanã Program**

The Parakanã Program was created in 1980 by Eletrobras Eletronorte as a form of mitigating the impacts caused by the construction of the Tucuruí hydroelectric power plant in the Parakanã lands. The indigenous land of Parakanã is located in two municipalities of the state of Pará: Novo Repartimento and Itupiranga. The situation of these indigenous peoples was precarious before this program was created: their cultural values were disappearing, many of them were sick, and there were problems with the registration and regularization of the land.



Today, over thirty years after the beginning of this project, the indigenous people of Parakanã live in a legal reserve with an area of 351,697.41 hectares, their population has grown due to investments in health and education, and their rich cultural traditions have been reestablished.

To learn more: <http://www.parakana.org.br/>

### Waimiri Atoari Program

In May, 2011, the indigenous population of Waimiri Atoari totaled 1,469 people. This growth is due to mitigating actions performed by Eletrobras Eletronorte through a program for the local community affected by the construction of the Balbina hydroelectric power plant in their lands, in Amazonas.

When the program started, many of the Waimiri Atoari were sick, their land was irregular, and their population was affected by the demoralization of their ethnicity and by their dependence on external help for food. Today, they live a different reality. There are large planted areas, a large inventory of animals for slaughter, and they are self-sufficient in food. They recovered their cultural habits and 63.4% of the Waimiri Atoari learned to read and write, with the remaining population in the process of learning. The program also provided improvements in health for the population by controlling diseases, improving nutrition, and promoting the vaccination of individuals. The land is demarcated and registered, with no cases of trespassing, and is systematically inspected. The land ownership is fully regulated with the real estate registry office and in the union's asset department.

To learn more: <http://www.waimiriatoari.org.br/>

### Other initiatives promoted by the company involving indigenous communities

- //// In 2011, Eletrobras Furnas recovered an existing weir in the indigenous land of Barragem, contributing to the fish culture as a source of food for the community and to the process of cultural values passed on to their children.
- //// At Eletrobras Eletronorte, the São Marcos Program has been responsible for several agreements and terms of commitment signed with the indigenous people in the region. Carried out through indigenous associations and always with the intervention of FUNAI, these agreements aim to preserve Eletronorte's transmission lines that are located in the São Marcos indigenous land and surrounding areas, as well as the development of local communities.

## Cases of Discrimination (GRI HR4)

Most Eletrobras Companies have Institutional Ethics Committees and Ombudsman for the receiving, processing and solving of claims and reports that deal with discrimination and other related subjects.

In 2011, the Eletrobras Companies identified six cases of discrimination. Among these, two related to gender discrimination and four to other relevant forms of discrimination.

At Eletrobras Chesf, there were three cases of mobbing filed by employees. One was solved through administrative proceedings, and the other two were assessed and were not accepted as legitimate cases of harassment. In addition, there were two anonymous reports which were dismissed due to lack of consistency in the information provided.

Also at Eletrobras Chesf, there was a case mobbing reported by the union which was accepted in admissibility proceedings by the Ethics Committee to initiate a verification process. There was also a complaint filed by an employee who alleged a sense of isolation and authoritarianism from superiors, denial of professional development, decrease in earnings, and the feeling that managers were distancing themselves from employees. This claim is pending analysis in the Ethics Committee.

At Eletrobras Furnas, two cases were reported: one regarding gender discrimination which was forwarded to its respective department for the applicable measures to be taken, and a discrimination case related to professional category and workplace region. The company handled the case in an isonomic manner.

At Itaipu Binacional, a lawsuit was filed which alleges, among other things, discrimination (pain and suffering) and is now undergoing investigation. In addition, a case of sexual harassment was reported to the Ethics Committee, which prepared a report to the Chief Executive Officers recommending an investigation.

The two cases reported in the 2010 Sustainability Report are still ongoing.

## ////// NUMBER OF CASES OF DISCRIMINATION //////////////////////////////////////

### Number of identified discrimination cases based on:

|  |          |
|--|----------|
| Color  | 0        |
| Gender   | 2        |
| Political orientation  | 0        |
| Social origin  | 0        |
| Race   | 0        |
| Religion   | 0        |
| Mobbing  | 0        |
| Sexual harassment  | 0        |
| Other relevant forms of discrimination involving internal or external stakeholders in operations | 4        |
| <b>Total</b>   | <b>6</b> |

## Voluntary commitments and participation in strategic entities (GRI 4.12, 4.13)

### Global Compact

The Eletrobras Companies subscribe to the UN Global Compact's Ten Principles in the areas of Human Rights, Labor Rights, Protection of the Environment and the Fight Against Corruption. By doing so, the company commits itself to supporting and promoting these principles within its area of influence, and to making the Global Compact and its principles a part the strategy, culture, and daily operations of the organization.

### Declaration of Corporate Commitment to Fight Sexual Abuse of Children and Adolescents

The company also adheres to the Declaration of Corporate Commitment to Fight Sexual Abuse of Children and Adolescents, which commits to expanding the focus on social responsibility, systematically developing and increasing the number of concrete and effective actions to promote awareness of employees and all its production chain on this issue. The company also commits to, whenever possible, establishing clauses in existing contracts regarding the issue, making clients aware of the importance of the promotion of children's and adolescents' rights, and informing local channels to report these incidents.

## Women's Empowerment Principles – joint initiative of the Global Compact and UN Women

The company adhered to this joint initiative of the Global Compact and UN Women in 2010, and it maintains its commitment to value and empower women, thereby reinforcing the company's commitment to promote gender equality and respect for human rights.

## Adherence to the Fourth Edition of the Pro-Gender-and-Race-Equality Program

As recognition to the commitment to corporate practices that value equality between men and women in the workplace, the Eletrobras Companies received from the Special Department of Women's Policies the Pro-Gender Equality Seal – Fourth Edition. Eletrobras has received this Seal since the program's first edition; its aim is to promote equal opportunities and treatment for men and women in public and private organizations and institutions through the development of new concepts in people management and organizational culture.

## ILO's Pact for the Eradication of Bonded Labor

The Eletrobras Companies are committed to cutting commercial relations with economic agents involved in the exploitation of bonded labor.

In addition to this commitment, Eletrobras Companies' representatives participate, according to their field of expertise, in several trade associations and civil society organizations.

## Public policies (GRI SO5)

Eletrobras works in conjunction with several associations and also with the Ministry of Mines and Energy (MME) in order to participate in the development and promotion of public policies directly or indirectly associated with the company's business. Thus, the following initiatives are:

In the energy industry:

//// PROCEL (more information on chapter ENVIRONMENTAL DIMENSION)

//// PROINFA (more information chapter SOCIAL DIMENSION)

//// Program *Luz Para Todos* (more information chapter SOCIAL DIMENSION)

Social policies:

//// Gender Committee of the Ministry of Mines and Energy (MME) and associated companies

//// Inter-ministerial Committee for Social and Economic Inclusion of Pickers of Reusable and Recyclable Materials (CIISC)

//// Committee of Entities to Fight Hunger and for Life (COEP)

//// discussions on the Forestry Code and the Global Reversion Reserve (RGR)

//// System for Management of Ethics in the Federal Government, under the coordination of the Commission for Public Ethics (CEP), as established by law

//// National Forum for Ethics in State-owned Companies

//// public hearings with the participation of presidents and directors of the Eletrobras Companies, or other companies of the system, through invitation from Congress, with a special highlight on the 2011 hearing when matters regarding nuclear energy and the Forest Code were discussed



Eletrobras's environmental policy states its commitment to mitigating and minimizing the environmental impacts arising from its operation while following the country's economic growth (EN 26).

### Principles of Environmental Policies of Eletrobras

- //// Principle of Internal Coordination – Ensure the environmental dimension is incorporated into the company's processes.
- //// Principle of External Coordination – Implement environmental programs and actions in coordination with other industries and institutions.
- //// Principle of Relationship with Society – Promote the relationship with several different segments of society.
- //// Principle of the Use of Sustainable Energy Resources – Explore the potential of local and regional energy resources, following the principles of sustainable development.
- //// Principle of Scientific and Technological Development – Support the scientific and technological development applied to environmental issues.
- //// Principle of Environmental Management – Implement an environmental management system integrated with other existing corporate management systems.

The policy advocates the maintenance of a continuous and systematic process for improvement of management practices and is based on the compliance with public policies, especially those regarding the environment, water resources, energy, and climate changes, as well as with international agreements Brazil has entered into .

## Sustainability Management Indicators (IGS)

In alignment with the sixth principle of the Environmental Policy, Eletrobras implemented an important instrument for management support: the System of Indicators for Corporate Sustainability Management (IGS) – Environmental Dimension, developed by Eletrobras Cepel and coordinated by Eletrobras Holding was institutionalized in 2010 by the Board of Directors. This tool allows for the assessment of existing environmental management systems in the Eletrobras Companies, uniformly establishing measures of numerous variables for the construction of indicators and leading to the improvement of processes and to the establishment of goals that ensure the maintenance of a systematic and continuous improvement process in management practices. The use of this tool allows the management of indicators through configurable and traceable information, even by external audit, and it helps in data consolidation for the several corporate reports focused on meeting the demands of shareholders, investors, and other stakeholders, including the listing processes in capital markets.

The system promotes continuous improvements in processes by providing protocols that must be followed to measure and report several parameters in the same manner for all the Eletrobras Companies. Through IGS, monitoring of four great themes (water, energy, waste, and biodiversity) started last year, using 39 indicators.

In order to define these indicators, the company analyzed several national and international reports of the electric power sector, reports from corporate sustainability assessment, and communication. Many indicators identified as essential were the same as those used by the GRI methodology (base for this report).

Therefore, the majority of data presented in the chapter was taken from the system, which centralizes information of the subsidiaries and helps other areas to follow-up on their performance.

Since external demand changes periodically, this is a project of continuous development that seeks to be flexible and adaptable to the needs of each company. In 2011, there was a significant increase in content, from 91 to 218 variables.

The Environmental IGS allocates data referring to six activities – hydroelectric and thermoelectric power generation, transmission, distribution, administrative activities, and legal compliance.

In order to improve the completion of the IGS System database, training is provided to the company teams by Cepel's development team. In 2011, five training courses were held.

In 2011, for the first time IGS was used for the preparation of the sustainability report. For the construction of seven of GRI's quantitative indicators, 58 of the 143 quantitative variables available in IGS were completed by the companies.



# Energy (GRI EN4, EN5, EN6, EN7, EU7)

Eletrobras has sought to work toward energy efficiency in the country, operating in two fronts: one is focused on the reduction of consumption in its administrative operations and activities, and the other is focused on society.

The indirect energy (electricity) used in the Eletrobras Companies comes mostly from the National Interconnected System (SIN). In 2011, as part of the initiatives by the Development Management System (SGD), Eletrobras Holding established the goal to reduce by 5% the total kWh/month of electricity consumption in its facilities.

## ////// TOTAL CONSUMPTION OF ELECTRICITY // ORIGINATED FROM SIN IN 2011

|     | Administrative activities | Hydroelectric power generation | Thermoelectric power generation | Grand total  |
|-----|---------------------------|--------------------------------|---------------------------------|--------------|
| MWh | 105,423.04                | 162,373.01                     | 924,139.23                      | 1,191,935.30 |
| GJ  | 379,522.93                | 584,542.84                     | 3,326,901.24                    | 4,290,967.02 |

The following companies are considered: Eletrobras CGTEE, Eletrobras Eletronorte, Eletrobras Chesf, Eletrobras Cepel, Eletrobras Eletrosul, Eletrobras Holding, Eletrobras Eletronuclear, Itaipu Binacional, ED Acre, ED Piauí, ED Rondônia, and ED Roraima (totaling 12 companies).

In order to reduce their own energy consumption, the Eletrobras Companies carried out conversion actions, retrofitting of equipment, and redesign of processes, mainly focusing on the replacement of obsolete equipment for more efficient equipment such as air-conditioning, lighting, and power generation systems. Thus, in 2011, there was a total reduction of 734,118 GJ in electricity consumption.

## ////// ENERGY SAVINGS (GJ) //

|  | 2011           |
|--|----------------|
| Conversion and retrofitting of equipment | 734,081        |
| Redesign of process                      | 36             |
| <b>Grand total</b>                       | <b>734,118</b> |

In addition, the Eletrobras Companies have energy efficiency programs that aim to promote the efficient and sustainable use of electricity by society. These programs are mainly implemented in low-income consumer units, as well as in public schools, traffic equipment, public buildings, water and sewage systems, etc. These initiatives include the replacement of obsolete equipment for more efficient equipment such as light bulbs and refrigerators, installation of photovoltaic kits, educational activities for consumers about safe, rational, and efficient use of energy, and performance of energy diagnosis.

With regard to low income consumers, the Energy Efficiency Project in Low-Income Communities provided an energy savings of 10,362.48 MWh/year and a reduction in demand at peak demand of 2,583.8 kW (GRI EN6).

## National Program for the Conservation of Electricity (Procel)

Procel is the federal government's program aimed at fighting waste electric and promoting energy efficiency. Operating since 1985, the program is coordinated by MME (Ministry of Mines and Energy) and carried out by Eletrobras. In 2011, it reached the mark of 6.696 billion kWh saved, equivalent to 196,000 tCO<sub>2</sub> avoided, i.e. CO<sub>2</sub> emission from a fleet of 67,000 vehicles. This result also corresponds to 1.56% of total energy consumption in Brazil in the same year or consumption of approximately 3.6 million Brazilian homes. In addition, it postpones investments equivalent to a 1,606 MW hydroelectric power plant and a reduction in demand during the system's peak hours of 2,619 MW.

This program has many different fronts and is divided into subprograms, some of which are described below.

### Procel GEM – Municipal Energy Management

Its mission is to help city authorities to spend less on electricity. The program collaborates with city authorities in the management and efficient use of consumer units in administrative buildings, identifying ways of minimizing waste and monitoring expenses, and consequently saving financial resources to be used in the city's priority sectors.

The program also promotes the PROCEL Award – Electricity Efficient City and supports the Efficient Cities Network (RCE), which in 2011 covered over 978 municipalities. The eighth edition of the PROCEL Award, which was held in 2011, awarded five energy efficiency initiatives.

In the same year, PROCEL GEM directly served 106 city authorities in five Brazilian states, saving a total of 509,000 kWh in energy. Since its creation, the program has operated in 434 municipalities in 17 states, saving 64.36 million kWh. This amount of electricity could supply a city with 152,000 inhabitants, like São Caetano do Sul (SP) for example, for an entire year.

### Procel Indústria – Energy Efficiency Management in the Industry

This program provides technical support to several different industry segments on energy performance of their facilities. Currently, the focus is on optimizing motor systems (drives, electric motors, couplings, driven loads, and hydraulic installations) that are responsible for 64% of electricity consumption in the industry and 28% of total electricity consumption in the country, presenting the highest potential for energy loss.

PROCEL Indústria develops activities to promote energy efficiency through agreements and protocols with state federations of industries, the National Confederation of Industry (CNI), universities, SEBRAE, and trade associations.

By the end of 2011, 206 multipliers (professors and consultants) and 2,907 agents (industry engineers and technicians) of 690 industries had been trained. In 2011, the partnership with the Federation of Industries of Rio Grande do Sul (FIERGS) can be highlighted, resulting in energy savings of approximately

845 MWh and an average rate of return on investment of 17.6 months, totaling an estimated energy savings of 35 GWh for the program, with an average rate of return on investment of 15 months.

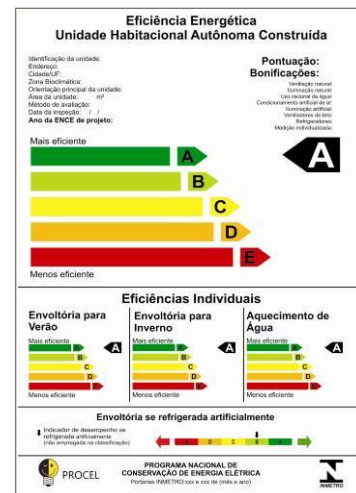
PROCEL Indústria also includes the establishment of the Laboratories of Energy Efficiency for Motor Systems (Lamotriz) in associated universities and public institutions, aiming at stimulating teaching, research, and extension activities geared toward the energy efficiency market of the industrial sector in Brazil. The Lamotriz Network comprises 14 laboratories. By the end of 2011, 104 scholarships had been granted, comprised of 2 scholarships for doctorate degrees, 21 for Master's degrees, and 81 for undergraduate degrees.

## Procel Edifica – National Program for Energy Efficiency in Buildings

This program aims at developing activities to promote and encourage the adoption of energy efficiency concepts in buildings, supporting the viability of the Energy Efficiency Law (10,295/2001) concerning efficient buildings, and contributing to the expansion of the housing sector in the country by reducing operating costs with construction and use of buildings.

In order to conduct their activities, PROCEL Edifica has worked in five different areas: Training, Technologies, Dissemination, Subsidies to Regulation and Housing and Energy Efficiency, and Marketing and Support. In 2011, the company supported many initiatives focused on energy efficiency in buildings, including the support for the granting of the National Energy Conservation Label to 20 buildings; development of computer tools to support the implementation of Technical Regulations for Quality in the Energy Efficiency Levels in Buildings (RTQ); and the structuring of the Energy Efficiency Network in Buildings (R3e).

As a result of activities carried out by the program, the company received the Brazil 2011 Green Building Award, through popular vote, in the Sustainable Public Policies category.



National Energy Conservation Label for single-family homes

## Procel EPP – National Program for Energy Efficiency in Public Buildings

The PROCEL EPP provides support to agents involved in the administration of public buildings, aid in the standardization and implementation of infrastructure, and support to the electricity utility companies in energy efficiency projects.

In 2011, the program concluded and made available for tests the software for the Register of Public Buildings and their Respective Administrators and the software for Price Database, aiming at helping with the approval of projects that are supported through resources of the Global Reversion Reserve (RGR) and began the development of the software for the Registration and Analysis of Projects.

In addition, the program completed the development of six technical manuals on energy efficiency in public buildings and made it available for download.

### Procel Sanear – Management of Energy Efficiency in Environmental Sanitation

The goal of this program is to promote energy efficiency in the environmental sanitation sector, as well as the management of water use and reduction of its waste. To this end, the program operates through strategic partnerships focused on the promotion of actions to train professionals of environmental sanitation companies on energy efficiency; on the incentive for the development of projects that promote energy efficiency; and on the fight against water and energy waste in sanitation and irrigation systems.

The program also supports Applied Research, Development and Innovation (R&D+I) actions in the country, especially through the operation of the LENHS Network (Laboratories of Energy and Water Efficiency in Sanitation).

The signing of an agreement between the Federal University of Mato Grosso do Sul (UFMS) and the Foundation to Support Research, Learning and Culture (FAPEC) marks the commitment to cooperation between the company and academics in a joint effort in search for solutions. And the participation in the Committee of Special Studies for Energy Management – ABNT/CEE-116, for the development of norm ISO 50001, also reiterates the company's commitment to participate in measures that promote energy efficiency in businesses.

### Procel Reluz – Energy Efficiency in Public Lighting and Traffic Signs

With operations across the country, this program implements projects for energy efficiency in public lighting and traffic signs systems through the replacement of incandescent, mixed, or mercury-vapor bulbs for high-pressure sodium-vapor bulbs and metallic vapor, which are more efficient than the previous ones. For the traffic lights, the incandescent lamps are replaced by systems that use light-emitting diodes (LEDs), which have longer useful life and consume on average 90% less energy.

In 2011, the total savings, with electricity and reduction in demand during peak hours due to initiatives developed by PROCEL Reluz, was 58.03 million kWh and 13,213 kW, respectively. This resulted from the replacement of over 223,000 public lighting points in 65 municipalities in eight states in Brazil. The replacement of these points received investments of approximately BRL 91 million, up 176% when compared to resources provided in 2010.

## Procel Seal

Work in partnership with manufacturers, laboratories and INMETRO to execute the program and define the regulation of the seal and insertion of two new categories of equipment (pumps and centrifugal motor-pumps) incorporated between 2010 and 2011, totaling 32 categories. The Eletrobras PROCEL Seal issued the concession to 3,784 models of equipment. In 2011, it was responsible for energy savings 8.63% higher than 2010, totaling 6,636 GWh for the year.

## Procel Education

Projects in partnership with elementary, middle, and high schools, and higher education in the private and public sector and electricity utility companies. In 2011, there was an agreement for: the implementation of another Center for Excellence in Energy Efficiency, totaling four; two seminars to propose improvements in PROCEL at Schools; development of tools for distance learning on energy efficiency; completion of a tool for distance learning (EAD) on energy efficiency for the Engineering undergraduate course; development of educational resources through the Novo Telecurso methodology on energy efficiency, in partnership with Fundação Roberto Marinho (FRM); and the implementation of centers for excellence in energy efficiency. In addition, executive projects were completed in Paulista State University (UNESP of Guaratinguetá/SP) and in the Federal University of Campina Grande (UFCG).

## Procel Info

Information portal with over 2,500 news articles on energy efficiency through newsletters. Areas divided by theme were created, making it easy for users to gain access to the following themes: PROCEL's results, labeling in buildings, survey on possessions and habits, studies on energy efficiency for the industry, and efficiency in schools. In 2011, the portal received over 450,000 visits and registered 2,532 new users, totaling 16,271. The portal was rated as good by over 99% of users.

## Eletrobras Network Procel Solar

This project, in partnership with seven universities, aims at training over 2,000 technicians over a five-year period for the installation of solar water heaters, also collaborating with Caixa in the assessment of solar water heating systems in the program Minha Casa Minha Vida. The pilot class graduated in 2011, with 45 professionals trained.

## Eletrobras Companies's initiatives a-nd results on energy efficiency

- //// ED Acre replaced refrigerators in low-income consumer units with an expected reduction of 1,080 MWh/year, which corresponds to 3,888,000 GJ/year
- //// At Eletrobras Furnas, 18 energy diagnoses were performed in schools, public buildings, and water and sewage supply systems in states where the company has installations or projects under development, identifying a savings potential of 871,53 MWh/year and a potential for reduction in demand of 327,54 kW
- //// At Eletrobras Eletronorte, the Municipal Energy Management project, associated with PROCEL, implemented three Municipal Energy Management Units in Acre, Roraima, and Amazonas, aiming at managing energy expenses and consumption in the city government's consumer facilities, fighting waste
- //// Eletrobras Cepel, in partnership with PROCEL Sanear, performed three diagnoses of energy/hydroelectric energy potential
- //// The agreement between Eletrobras Holding and SEBRAE-RJ, which promotes energy efficiency in small businesses in the state of Rio de Janeiro, enabled: the implementation of energy efficiency centers in four trade associations; the preparation of three industry manuals; 19 consultancies for energy diagnosis; 51 lectures for the industry; and eight brief courses, as well as the first course in Brazil on energy efficiency and bioclimatic architecture for small businesses. It also took part in 12 events, in addition to the preparation of 30 articles on the subject
- //// At ED Rondônia, the project Canção@Energia.Escola uses music and its tools to teach students, teachers, employees, parents, and communities through the use of a multimedia kit on the efficient and safe use of electricity
- //// At Eletrobras Chesf, the project Energia monitors electricity consumption in traffic lights, with a reduction of 59% in João Pessoa, for example, resulting from the installation of LED bulbs which, in addition to saving energy, last much longer than incandescent bulbs
- //// At ED Alagoas, the project Agente Eletrobras (focused on consumer units located in low-income communities in 93 municipalities in the state of Alagoas, and whose goal is to promote educational actions for consumers on the safe, rational, and efficient use of electricity) made 23,239 visits, replacing 9,223 bulbs and 1,809 refrigerators, which led to energy savings of 1,776.16 MWh/year and a reduction in demand of 438.9 kW during peak hours.

## Eletrobras Furnas's initiatives on energy efficiency

Eletrobras Furnas focuses on two areas in order to drive energy efficiency in its activities: one is educational, focused on raising awareness and on the dissemination of information to employees and society in general, and the other is technical, for the improvement of public and private installations.

Therefore, in 2011, the company's initiatives on energy efficiency for the public, commercial, and industrial segments enabled a savings potential of 2 GWh. In the same period, the educational activities geared toward reducing the waste of electricity and water trained 1,300 teachers and over 51,000 students. The projects for dissemination and marketing, such as participation in trade fairs and events raised awareness for over 50,000 people.

In addition, over 100,000 people were involved in the following projects: Eletrobras Furnas/PROCEL in Schools; Energy Patrol; Cultural Animation; technical lectures; events; and an agreement with the Brazilian Astronomic Society for the inclusion of the topic of energy conservation in the Brazilian Astronomy and Astronautics Olympics.

## Alternative sources for power generation

With the purpose of diversifying the energy matrix and reaching the goal of becoming the largest clean energy company in the world by 2020, the company also has directed efforts for projects and studies on power generation from alternative sources:

**WIND POWER GENERATION** – expansion of wind power generation in Cerro Chato (RS), under the coordination of Eletrobras Eletrosul, and participation in partnerships for the construction of new wind farms

**SOLAR ENERGY** – MegaWatt Solar project and pilot power plant for the production of electricity through solar modules, both under the coordination of Eletrobras Eletrosul

**SOLAR THERMOELECTRIC POWER GENERATION** – solar thermoelectric power generation project with parabolic concentrators in the semiarid areas in the northeast areas of the country, under the coordination of Eletrobras Chesf and Eletrobras Cepel

**POWER GENERATION WITH BIOMASS** – project for the production of ethanol biodiesel from plants that grow in the southeast for the production of electricity, under the coordination of Eletrobras Furnas, and the project for bio-oils in diesel motors for thermoelectric power generation, under the coordination of Eletrobras Eletronorte

**ELECTRIC VEHICLE** – project for the development of technology for electric vehicles, under the coordination of Itaipu Binacional and with involvement of the other Eletrobras Companies and 17 different national and international partners

**ENERGY OF TIDES** – project for the development of a near shore convertor for the production of electricity from sea waves, under the coordination of Eletrobras Chesf.

## Program to Promote Alternative Sources of Energy (Proinfa)

PROINFA has reached its main goal of increasing the share of wind, biomass, and Small Hydroelectric Power Plants (PCHs) sources in the National Interconnected System.

Its implementation contributed to the diversification of the energy matrix, in addition to fostering the generation of approximately 150,000 direct and indirect job opportunities throughout the country, generating large industrial demands and the nationalization of cutting-edge technology.

Eletrobras, as the trading agent of energy and manager of PROINFA agreements, highlighted, in 2011, the contribution of the program to the diversification of the energy matrix, with the start of the commercial operation of 18 developments, divided into 11 wind farms (287.73 MW) and seven PCHs (109.50 MW), adding a total of 397.23 MW to the power of the National Interconnected System.

These new developments, in addition to those in operation and in connection with PROINFA, represented, until 12/31/2012, 131 operational power plants and added 2,888.71 MW to the installed capacity.

### ////// PROINFA DEVELOPMENTS //////////////////////////////////////

| Fontes       | Developments in operation in 2011 |               | Total developments in operation up to 2011 |                 |
|--------------|-----------------------------------|---------------|--|-----------------|
|              | Developments                      | Power (MW)    | Developments                               | Power (MW)      |
| PCH          | 07                                | 109.50        | 60   | 1,156.65        |
| Wind         | 11                                | 287.73        | 51   | 1,181.72        |
| Biomass      | -                                 | -             | 21   | 550.34          |
| <b>Total</b> | <b>18</b>                         | <b>397.23</b> | <b>132</b>                                 | <b>2,888.71</b> |

## Water (GRI EN8)

The use of this resource by the Eletrobras Companies is monitored by using the internal IGS tool and is done in two different manners: in operations and in administrative activities.

For the Hydroelectric Power Plants, even though the volume of water captured is high, practically all the water has non-consumptive usage; that is, this water is not actually consumed. The water captured in reservoirs formed by dams of Hydroelectric Power Plants is carried to the power house through the canals, tunnels and/or metallic ducts and move the turbines for the generation of electricity. At times, it is also used for the cooling of equipment. After passing through the turbines in the power house, the water is returned to the river's natural course through the tailrace. In some cases, the water passes directly through the spillway.



In the case of administrative activities, Eletrobras Amazonas Energia, ED Rondônia and ED Alagoas do not measure water used by artesian wells, as well as in 90% of the substations of Eletrobras Eletronorte. In ED Rondônia, a reduction in water consumption was noticed after the installation of new toilets, and, in the case of Eletrobras CGTEE, there was significant increase due to the start-up of a new generating unit.

Eletrobras Chesf has a workgroup that is responsible for reducing the waste of water by establishing reduction goals. Water consumption in its installations was, in 2011, part of the scope of activities of the Workgroup for Fighting Waste of Electricity (GT-CODEE). The Eletrobras Eletronorte's Hydroelectric Power Plants of Tucuruí and Samuel capture rainwater for consumption

////// **WATER CONSUMPTION (m<sup>3</sup>)** //////////////////////////////////////

|   | <b>2011</b>          |
|---|----------------------|
| Surface water – thermoelectric generation*    | 978,372.00           |
| Supply network – administrative activities**  | 1,000,738.159        |
| Supply network – thermoelectric generation*** | 57,901.09            |
| <b>Grand total</b>                            | <b>2,037,011.248</b> |

\* Eletrobras Eletronuclear.  
 \*\* Eletrobras Chesf, Eletrobras Cepel, Eletrobras CGTEE, ED Acre, Eletrobras Eletronorte, Eletrobras Eletrosul, Eletrobras Furnas, Eletrobras Holding, Eletrobras Eletronuclear, Itaipu Binacional, ED Alagoas and ED Rondônia.  
 \*\*\* Eletrobras Chesf, Eletrobras CGTEE, Eletrobras Eletronorte and Eletrobras Furnas.

## Biodiversity (GRI EN12, EN13, EN14)

The developments for power generation, transmission, and distribution of the Eletrobras Companies operate in compliance with the legislation for the environment regarding activities that take place in protected areas or that have a high level of biodiversity. The companies identify and monitor the impact of their activities on biodiversity, according to its extent, relevance, and magnitude. For each impact identified, the respective mitigation, control, and compensation measures are carried out to ensure the application of the best techniques for environmental control and monitoring.

The most relevant impacts on biodiversity that can occur during implementation and operation of developments are loss of flora and wildlife diversity, change in the ecosystems, loss of vegetation cover, and loss of natural habitats. In order to mitigate these impacts, the companies develop actions for the recovery and conservation of biodiversity in compliance with the principles and guidelines of Eletrobras's Environmental Policy, aiming at rationally exploring energy resources and maintaining balance with the environment and with engineering and social-environmental aspects .

## Eletronuclear: Program to Measure Water Temperature in Itaorna and Piraquara de Fora

Possible changes in seawater used for cooling (in the process of condensation of vapor generated in the secondary circuit), which is captured in Itaorna (RJ) and discharged in Saco Piraquara de Fora (RJ) and in relevant marine habitats, are monitored by the Program to Measure Water Temperature in Itaorna e Piraquara de Fora. The thermal influence on marine populations and the compliance with applicable legislations are the main objectives of this program, which monitors the thermal dispersion in the discharge zone and monitors the temperature of the catchment area in Itaorna (with temperature being measured every fifteen days) in depths of 0.5 m, 2.0 m and 4.0 m. The quality of the water is monitored by the Program to Monitor and Control Water Quality, whose goal is to monitor the quality of potable water, waste water, saline, and industrial effluents in areas owned by Eletronuclear or areas that could be affected by the operation of the Nuclear Center Almirante Álvaro Alberto (CNAEA). In order to ensure that the limits established by the State Institute for the Environment (INEA-RJ) are not exceeded (measurements are performed weekly), the Program in Piraquara de Fora to Measure Residual Chlorine monitors the concentration of residual chlorine (chlorine used as biocide to prevent incrustations of cirripedia /barnacles that may cause damage to structures of the plant's water circulation system) that is discharged in Saco Piraquara de Fora by the circulation water.

According to the legislation and regulation in effect during the feasibility studies of projects, environmental impact studies are conducted whose scope is defined by the environmental licensing agencies. The studies may reveal issues that lead to revision of the project with changes in dimensions, layouts, or location, aiming to reduce environmental impacts and preserve biodiversity. Among the studies normally conducted, the primary inventory of wildlife and flora that supports the identification of impacts and the proposal of mitigation and compensation measures can be highlighted.

One of Eletronuclear Companies most relevant themes is the management of the use and occupation of banks of reservoirs of their Hydroelectric Power Plants. Given that the total perimeter of the banks of Eletronuclear Companies' reservoirs is 37,000 km – an area larger than the South American coast – and that the total area of reservoirs is 19,500 km<sup>2</sup>, a permanent workgroup is kept in SCMA aiming at analyzing the current situation of its reservoirs and identifying forms of managing conflicts on the adequate use of soil. All reservoirs are surrounded by Permanent Preservation Areas (APPs) which are protected by specific environmental legislation.

## Activities in protected areas (GRI EN11, EN13)

The implementation of new developments often entails impacts in areas with high biodiversity or adjacent areas. By 2011, 154 protected areas had received support from the Eletrobras Companies, voluntarily or through legal obligations, such as actions derived from TACs, environmental compensations, terms of commitment, and legal conditions. These areas are located in the major Brazilian biomes: the Cerrado, the Atlantic Rainforest, the Amazon region, the Coastal environment, and the Grasslands (Pampas). There are 29 national parks, 24 indigenous lands, 23 state parks, 19 biological reserves, 16 ecologic stations, 13 environmental protection areas, 6 ecologic parks, 4 natural parks, 4 sustainable development reserves, 3 biological sanctuaries, 2 extractive reserves, 2 municipal parks, 1 private reserve of natural heritage, 2 areas of relevant ecologic interest, 1 forest, 1 ecologic corridor, 1 national forest, 1 forest park, 1 ecologic reserve, and 1 archeological site.

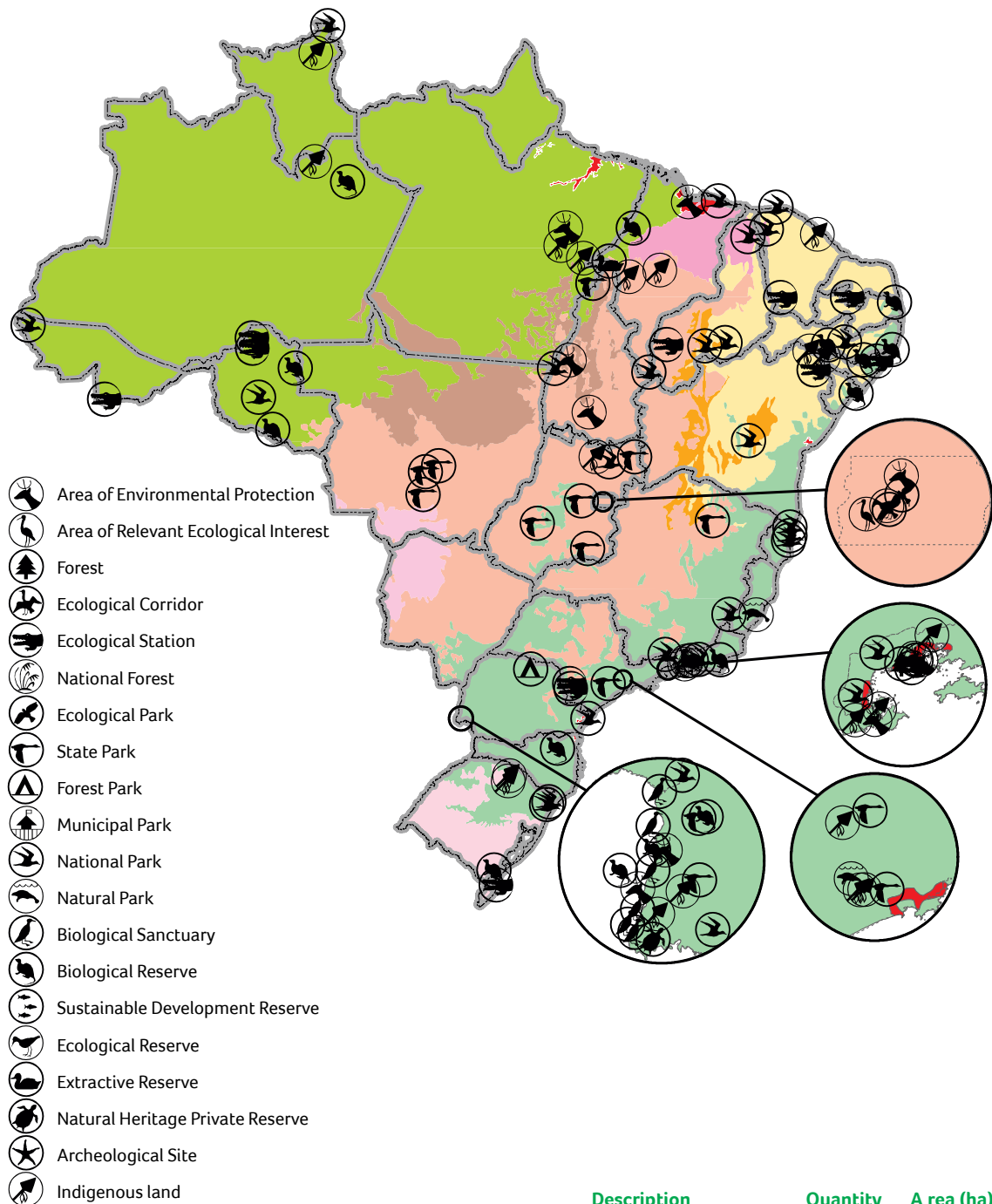
The areas that received support from Eletrobras in 2011 total 18,708,459.8 hectares, of which 60.7% are managed by federal agencies, 23.5% by state, municipal, and private agencies, and 15.8% by controlled companies.

In 2011 Eletrobras's owned, lease or managed facilities in or around protected areas totaled 11,626.67 km<sup>2</sup>, being:

### ////// AREAS OF THE FACILITIES ////////////////////////////////////// IN PLACES WITH HIGH BIODIVERSITY OR ADJACENTS

|                             | Reservoirs (km <sup>2</sup> ) | Transmission lines (km <sup>2</sup> ) | Substations (km <sup>2</sup> ) | Other Facilities (km <sup>2</sup> ) |
|-----------------------------|-------------------------------|---------------------------------------|--------------------------------|-------------------------------------|
| ED Alagoas                  | -                             | -                                     | 0.18                           | -                                   |
| Itaipu Binacional           | 1,350                         | -                                     | -                              | -                                   |
| Eletrobras Amazonas Energia | 2,560                         | -                                     | -                              | -                                   |
| ED Rondônia                 | 0,39                          | -                                     | -                              | -                                   |
| Eletrobras Cepel            | -                             | -                                     | -                              | 0.23                                |
| Eletrobras Furnas           | 4,788,7                       | 5.67                                  | -                              | 1                                   |
| Eletrobras Eletronuclear    | -                             | -                                     | -                              | 3.5                                 |
| Eletrobras Eletronorte      | 2,917                         | -                                     | -                              | -                                   |
| <b>Total</b>                | <b>11,616,09</b>              | <b>5.67</b>                           | <b>0.18</b>                    | <b>4.73</b>                         |

## Protected areas with support from the eletrobras system



### Biomes

|                     |                          |
|---------------------|--------------------------|
| Amazon              | Caatinga-Amazon Ecotone  |
| Caatinga            | Cerrado-Amazon Ecotone   |
| Southern Plains     | Cerrado-Caatinga Ecotone |
| Cerrado             | Atlantic Forest          |
| Coastal Environment | Pantanal                 |

| Description                                   | Quantity   | Area (ha)         |
|---|------------|-------------------|
| Protected Areas with support from Eletrobras  | 130        | 14,714,701        |
| Indigenous lands with support from Eletrobras | 24         | 3,993,759         |
| <b>Total</b>                                  | <b>154</b> | <b>18,708,460</b> |

## Initiatives for managing impacts on biodiversity (GRI EN14)

- //// In Itaipu Binacional, the results obtained in the Wildlife Nursery, in the Forest Nurseries, in monitoring biodiversity in the reservoir, and in the fish pass system (Piracema Canal) are integrated by the managing area that guides current and future actions.
- //// The Cultivating Good Water Program, created in 2003 from the inclusion of social environmental concepts in the Itaipu Binacional mission, is based on the management of micro river basins forming the Paraná 3 River Basin (Brazilian side) and of the Basin of the Carapá and Poti Rivers (Paraguayan side). Since then, a series of actions that Itaipu Binacional developed for the protection and conservation of wildlife and flora were gathered under a single program named Biodiversity, our Heritage. The program seeks to ensure that the significant investments made by the company are used in the conservation of regional biodiversity in the following areas: the implementation of the Permanent Preservation Areas (buffer zone of the reservoir) and the Biological Sanctuaries; the monitoring of biological diversity, migration, and the lake's fish inventory; research of reproduction processes; and management of endangered native fauna and forest research.
- //// In the Rio Vermelho PCH (ED Rondônia) quarterly visits are made to monitor soil, air, water, and plant conditions, in order to prevent impacts on the biodiversity of the area.
- //// The environmental management system implemented at Eletrobras Eletronorte aims to manage environmental issues caused by industrial plants in production. Based on the aspects and possible impacts generated by industrial activities of production and transmission and on the corresponding legal requirements, preventive and corrective actions are managed. Within the scope of the Fishing and Ichthyofauna Environmental Program, in 2011 three Ichthyofauna campaigns and four Limnology campaigns were held at UHE Samuel, depending on the Jamari River hydrological period. In the Tucuruí Hydroelectric Power Plant, on the other hand, four Ichthyofauna and Limnology campaigns were held in quarterly intervals. In Curuá-Una, three Ichthyofauna campaigns were conducted.
- //// The results of samples collected by Eletrobras Eletronuclear allow for comparison with data obtained in samples regularly collected from sea, rain, and surface water, and other samples such as beach sand, algae, fish, milk, pasture, and air. This study found that the power plants in Angra have not caused any significant impact on the environment in over 20 years of operation, not contributing to the endangerment and/or extinction of any species. A highly specialized team of biologists, physicists, and chemists conducts continuous environmental monitoring programs and sends the results obtained through monthly, biannual, and annual reports to the supervisory bodies and licensing agencies – State Institute of the Environment (INEA), Brazilian Institute of the Environment and Renewable Resources (IBAMA), and National Commission for Nuclear Energy (CNEN).
- //// The purpose of the Manatee Project, developed by Eletrobras Amazonas Energia, is to work with the rehabilitation of animals that suffered abuse and were apprehended by IBAMA for later release. In addition, the company has the Aquatic Turtles Preservation and Research Center and the Aquatic Mammals Preservation and Research Center. The purpose of these centers is to conduct scientific studies aiming at the preservation of existing species. The company also develops programs with the people who live near the development for their education on environmental issues in order to preserve biodiversity, such as the Project Uatumã Turtles, Carnaval dos Bichos (Animal Carnival) and the Tree Day.

## Endangered species (GRI EN15)

During the preparation of environmental studies, the Eletrobras Companies identify impacts on endangered species of wildlife and flora. Regional and national lists are consulted such as the Red List of Brazilian Endangered Wildlife Species and the Red List of Brazilian Endangered Flora Species, made available by the Ministry of the Environment, as well as international lists such as the International Union for Conservation of Nature (IUCN) and Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The following table presents data from environmental studies conducted by four companies of the Eletrobras System:

**////// NUMBER OF SPECIES ON THE RED LIST //////////////////////////////////////**

|                       | <b>Eletrobras CGTEE<br/>(IUCN)</b> | <b>Eletrobras Eletronorte<br/>(MMA, Ibama and IUCN)</b> | <b>Itaipu Binacional<br/>(IUCN)</b> | <b>Eletrobras Furnas<br/>(IUCN)</b> | <b>Total</b> |
|-----------------------|------------------------------------|---|-------------------------------------|-------------------------------------|--------------|
| Extinct               | 0                                  | 0   | 0                                   | 0                                   | 0            |
| Extinct in the wild   | 0                                  | 0   | 0                                   | 0                                   | 0            |
| Critically endangered | 0                                  | 0   | 0                                   | 4                                   | 4            |
| Endangered            | 0                                  | 9   | 3                                   | 7                                   | 19           |
| Vulnerable            | 0                                  | 12  | 6                                   | 9                                   | 27           |
| Nearly Endangered     | 1                                  | 0   | 5                                   | 32                                  | 38           |

Some areas where the companies are installed had, even before the development, many endangered species at different risk levels. Thus, upon assuming their commitment to the environment, the Eletrobras Companies carry out various programs and projects such as Itaipu Binacional's Wildlife Nursery and the Roberto Ribas Lange Zoo, maintained by the company at Refúgio Biológico Bela Vista (RBV), which ensures a proper environment for the reproduction of more than 360 animals.

## GHG emissions (GRI EN3, EN16, EN17, EN18, EN20)

### Inventory

In relation to climate changes, Eletrobras pioneers the promotion of studies on this issue in the country. Yearly, a greenhouse gas emission inventory is prepared for all its companies using the methodology provided by the Intergovernmental Panel on Climate Change (IPCC) and the guidelines established by the GHG Protocol, always seeking to expand content, scope, and data coverage, which has led to an increase in total emissions by the Eletrobras Companies. Eletrobras seeks a unified strategy for its companies in terms of adopting common practices that minimize or offset its GHG emissions. The company further intends to encourage universities and research centers to conduct new studies on climate vulnerability and its impact on the energy generation business in Brazil.

The main assumptions adopted for the preparation of the inventory are:

- //// In relation to operating limits, Eletrobras's Emission Inventory is being prepared using Option 2 based on the operational control.
- //// The emission factors used are based on the Brazil's Initial National Communication to the United Nations Framework Convention on Climate Change.
- //// The energy value of the fuel consumed is calculated based on conversion factors listed in the 2008 Brazilian Energy Balance (BEM) (baseline year 2007).
- //// The information includes the emissions of the following greenhouse gases (GHG): carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and sulfur hexafluoride (SF<sub>6</sub>).

For the 2011 baseline year, the inventory had its content expanded in relation to Scope 3, considering the emissions of air travel made by employees.

The largest portion of greenhouse gas emissions comes from large, medium, and small stationary sources of thermoelectric power generation (5,588,506 tCO<sub>2</sub>e), which corresponds to 59.7% of the total emissions. Still in Scope 1, direct emissions related to SF<sub>6</sub> released by electrical equipment reached 2.7% of the total for this scope and can be subject to programs for their reduction. In relation to Scope 2, it is important to note that emissions related to loss in transmission represent 3.5% of the total emissions inventory.

When comparing 2010 to 2011, a few variations can be observed. The reasons for these variations, as well as data related to the emissions, are provided in the tables below.

////// GHG EMISSIONS //////////////////////////////////////

| COMPANY                     | Scope 1            |            |        |        |        |        |                 |               |                    | Scope 2                 |                      |                      | Scope 3   |            |                             | SUBTOTAL BY COMPANY |                       |                      |
|-----------------------------|--------------------|------------|--------|--------|--------|--------|-----------------|---------------|--------------------|-------------------------|----------------------|----------------------|-----------|------------|-----------------------------|---------------------|-----------------------|----------------------|
|                             | Fixed              |            |        | Mobile |        |        | Fugitive        |               |                    | Electricity consumption | Loss in transmission | Loss in distribution | PIE       | Air travel | Transportation of employees |                     | Terrestrial logistics |                      |
|                             | Company-owned UTEs | Generators | Others | Road   | Water  | Air    | SF <sub>6</sub> | Refrigeration | Fire Extinguishers |                         |                      |                      |           |            |                             |                     |                       |                      |
| Eletrobras CGTEE            | 2,594,110          | d.n.a.     | 1      | 343    | d.n.a. | d.n.a. | d.n.a.          | n.a.          | 1.0                | 40                      | d.n.a.               | d.n.a.               | d.n.a.    | 386        | 353                         | 3,653               | 2,598,888             |                      |
| Eletrobras Chesf            | 8,811              | 5          | n.a.   | 4,513  | d.n.a. | 537    | 38,240          | n.a.          | 16.2               | 230                     | 71,196               | d.n.a.               | d.n.a.    | 7,510      | d.n.a.                      | n.a.                | 131,059               |                      |
| Eletrobras Furnas           | 123,863            | 12         | 26     | 1,287  | 5      | 153    | 104,046         | n.a.          | 34.6               | 463                     | 168,105              | d.n.a.               | d.n.a.    | 1,513      | d.n.a.                      | n.a.                | 399,507               |                      |
| Eletrobras Eletronorte      | 651,068            | 62         | n.a.   | 7,007  | 6      | d.n.a. | 3,585           | n.a.          | 1.8                | 120                     | 34,820               | d.n.a.               | 1,257,058 | 3,234      | d.n.a.                      | n.a.                | 1,956,962             |                      |
| Eletrobras Eletronuclear    | d.n.a.             | 1,376      | 6      | 1,082  | 20     | d.n.a. | d.n.a.          | n.a.          | 2.3                | 39                      | d.n.a.               | d.n.a.               | d.n.a.    | 338        | 1,853                       | 3                   | 4,720                 |                      |
| Eletrobras Eletrosul        | d.n.a.             | 51         | 10     | 1,716  | d.n.a. | d.n.a. | 3,677           | n.a.          | 2.3                | 435                     | 55,421               | d.n.a.               | d.n.a.    | 223        | 312                         | n.a.                | 61,847                |                      |
| Eletrobras Holding          | d.n.a.             | d.n.a.     | d.n.a. | 45     | d.n.a. | d.n.a. | d.n.a.          | n.a.          | 1.1                | 160                     | d.n.a.               | d.n.a.               | d.n.a.    | 2,615      | d.n.a.                      | n.a.                | 2,821                 |                      |
| Eletrobras Amazonas Energia | 2,210,331          | d.n.a.     | n.a.   | 970    | d.n.a. | d.n.a. | 0               | n.a.          | 12.9               | 3,247                   | d.n.a.               | 107,759              | 1,416,757 | 634        | d.n.a.                      | n.a.                | 3,739,712             |                      |
| Itaipu Binacional           | d.n.a.             | d.n.a.     | 48     | 546    | 5      | d.n.a. | 7,170           | n.a.          | 0.9                | 68                      | d.n.a.               | d.n.a.               | d.n.a.    | 1,044      | 1,131                       | 28                  | 10,040                |                      |
| Eletrobras Cepel            | d.n.a.             | d.n.a.     | 2      | 23     | d.n.a. | d.n.a. | 24              | n.a.          | 0.7                | 129                     | d.n.a.               | d.n.a.               | d.n.a.    | 246        | 407                         | n.a.                | 832                   |                      |
| ED Acre                     | 323                | d.n.a.     | d.n.a. | 148    | d.n.a. | d.n.a. | 201             | n.a.          | 0.2                | 27                      | d.n.a.               | n.a.                 | 115,685   | 388        | d.n.a.                      | n.a.                | 116,772               |                      |
| ED Alagoas                  | d.n.a.             | 2          | 0      | 1,930  | d.n.a. | d.n.a. | n.a.            | n.a.          | 0.5                | n.a.                    | d.n.a.               | 36,387               | d.n.a.    | n.a.       | d.n.a.                      | 4                   | 38,323                |                      |
| ED Rondônia                 | d.n.a.             | 1          | d.n.a. | 789    | d.n.a. | d.n.a. | 120             | n.a.          | 1.9                | 65                      | d.n.a.               | 26,706               | 203,794   | 673        | d.n.a.                      | n.a.                | 232,149               |                      |
| ED Roraima                  | d.n.a.             | d.n.a.     | d.n.a. | 195    | d.n.a. | d.n.a. | 0               | n.a.          | 0.1                | n.a.                    | d.n.a.               | 34,782               | d.n.a.    | n.a.       | d.n.a.                      | n.a.                | 34,977                |                      |
| ED Piauí                    | d.n.a.             | 1,638      | 16     | 2,048  | d.n.a. | d.n.a. | 72              | n.a.          | 2,6                | 99                      | d.n.a.               | 34,782               | d.n.a.    | 309        | d.n.a.                      | n.a.                | 38,967                |                      |
| Subtotal sources            | 5,588,506          | 3,146      | 110    | 22,642 | 36     | 691    | 157,135         | 0             | 79                 | 5,120                   | 329,541              | 240,417              | 2,993,294 | 19,114     | 4,055                       | 3,688               | TOTAL                 |                      |
| Subtotal by source type     |                    | 5,591,763  |        |        | 23,368 |        |                 | 157,214       |                    |                         | 5,120                | 329,541              | 240,417   | 2,993,294  | 19,114                      | 4,055               | 3,688                 | (tCO <sub>2</sub> e) |
| Subtotal by scope           | 5,772,344          |            |        |        |        |        |                 |               |                    | 575,079                 |                      |                      | 3,020,151 |            |                             | 9,367,574           |                       |                      |

d.n.a. – does not apply | n.a. – not available



## ////// VARIATIONS IN VALUES BETWEEN 2010 AND 2011 (IN tCO<sub>2</sub>e) //////////////////////////////////////

|    |                         |   |
|----|-------------------------|---|
| E1 | Company-owned UTEs      | Emissions by Eletrobras CGTEE increased from 1,340,439 to 2,594,110 due to the start up, in 2011, of a new coal-fired power plant. Emissions in Amazonas Energia decreased from 3,067,521 to 2,210,331.   |
| E1 | Mobile                  | There was a small variation which can be explained by decreased data coverage and/or by the increased use of methanol in the vehicles.  |
| E1 | Fire extinguishers      | Minor source. Figures similar to those presented in the previous year.  |
| E2 | Electricity Consumption | There have been changes to the calculation methodology: starting in the 2011 baseline year, the energy used for production in the power plant is not considered. This change was relevant for Eletrobras Eletronuclear, which decreased from 6,783 to 39 tCO <sub>2</sub> e. There was a major variation in Eletrobras Furnas as well, which can be explained by the low coverage of the data informed for the 2011 baseline year.  |
| E2 | Loss in transmission    | The variation in this part can be explained due to the 50% decrease in SIN's average emission factor provided by MCT between 2010 and 2011.   |
| E3 | PIEs                    | For the grand total, the comparison between the two years shows similar results that reflect the maintenance of thermoelectric generation in isolated systems.<br>It can be noted that the figures for Eletrobras Eletronorte and ED Rondônia suffered major variations when comparing the two years. This is due to the fact that in 2010 the Termonorte UTE was assigned as a PIE associated with ED Rondônia, and subsequently it was verified that the correct procedure was to assign this PIE to Eletronorte. |

NEW PARTS MEASURED IN 2011:

Scope 1: opening of fixed sources in generators and others; opening of mobile sources in road, air, and water transportation;  
Scope 2: loss in distribution; Scope 3: air travel, terrestrial logistics, employee transportation.

## Emission reduction programs (GRI EN7, EN18)

The companies of the group have sought various initiatives to reduce the consumption of indirect energy in its activities, such as the use of videoconferences instead of employee travel<sup>1</sup>.

Yearly, the Eletrobras Companies prepare the Greenhouse Gas Inventory, as per their commitment to inventory emissions. This initiative complies with the Eletrobras Companies' Sustainability Policy and is based on the methodology provided by the Intergovernmental Panel on Climate Change (IPCC) and on the guidelines established in the Greenhouse Gas Protocol.

In addition, some companies have chosen to use an individual fuel quota for each vehicle, as well as a scheduled route for the transportation of employees<sup>2</sup>.

In 2011, in the scope of the SCMA work group that deals with climate strategy, two workshops were conducted at Cepel to exchange information between the companies, develop new indicators, and enhance the methodology used for preparing the Eletrobras Companies' Greenhouse gas inventory.

The purposes of the first workshop, Eletrobras Companies Technical Meeting on Forest Carbon Inventory, were: 1) to become aware of the activities and projects conducted by the Eletrobras Companies in relation to forest planting and conservation in order to support future estimates of stored and fixed carbon;

////////////////////////////////////

1. Only ED Acre, Eletrobras Amazonas Energia, Eletrobras Chesf, and Itaipu Binacional.
2. Only Eletrobras Eletronuclear, Eletrobras Amazonas Energia, Eletrobras Eletronorte, Itaipu Binacional, and Eletrobras Chesf.

2) to discuss the existing methodologies to quantify the content of the fixed and/or stored carbon by forests in order to support the preparation or adoption of a methodology to be used in greenhouse gas emissions inventories, taking into account the feasibility of its use in relation to the limitations concerning the availability of data; and 3) to identify opportunities for CDM projects (Clean Development Mechanism) related to forests in the Eletrobras Companies.

The second workshop focused on Fugitive Emissions of Sulfur Hexafluoride (SF<sub>6</sub>) and its purposes were: 1) To promote the exchange of information between the companies in order to support the dissemination of the best management practices and the maintenance of SF<sub>6</sub> gas-based equipment; 2) To identify opportunities for significant reductions in fugitive emissions of SF<sub>6</sub>; and 3) To develop appropriate indicators to be inserted in the IGS system to demonstrate the SF<sub>6</sub> fugitive emission results for the Greenhouse Gas Emission Inventory.

Some cases (GRI EN18) can be found below.

### Initiatives of the Holding for the reduction of GHG emissions

In 2009, Eletrobras Holding acquired three electric vehicles for its fleet, which are currently in use in the Rio de Janeiro and Brasília offices. Since October 2011, Eletrobras Holding has prioritized the fueling of flex-fuel cars (ethanol and gasoline) of its fleet, whenever possible, with ethanol due to its advantages in relation to greenhouse gas emissions. Currently, Eletrobras's fleet is comprised of 23 vehicles, 17 of which run on bi-fuel.

### Programs by Eletrobras Chesf to reduce GHG emissions

Eletrobras Chesf has endeavored to minimize its GHG-related impacts. An important measure is the exclusive use of ethanol to fuel its fleet of light vehicles. In addition, it has adopted Global Positioning Systems (GPS) to control the use and adoption of the best routes for the missions to be performed by its vehicles, as well as the auxiliary system for engine operation control favoring the use of vehicles in their most efficient condition.

The Electric Vehicle Project (developed under the coordination of Itaipu Binacional) delivered to Eletrobras Chesf, in 2011, a prototype for use and testing in its operations. Hence, the company has taken the first step toward the implementation a broad and effective project to reduce GHG emission. The use of electric vehicles would represent savings of 84.4%<sup>3</sup> when compared to a gasoline-fueled vehicle.



3. Source: [http://www2.itaipu.gov.br/ve/portugues/ficha\\_tecnica.html](http://www2.itaipu.gov.br/ve/portugues/ficha_tecnica.html).

## Reduction SF<sub>6</sub> emissions by Eletrobras Eletronorte

Some Eletrobras Eletronorte programs have made substantial contributions toward the reduction of GHG emissions, especially SF<sub>6</sub>, such as the preparation of a technical instruction to measure, handle, and treat SF<sub>6</sub>, scheduled to be implemented throughout Eletrobras Eletronorte in 2012; execution of a contract (ongoing since 2009) for the overall recovery of 76 FA2 230 kV and FA4 500 kV breakers, replacing all seals responsible for containing SF<sub>6</sub>; purchase of SF<sub>6</sub> gas analyzers for all regional operations of Eletrobras Eletronorte containing a device to store the SF<sub>6</sub> analyzed and subsequently restore it to the breaker; zero SF<sub>6</sub> emission in the analysis process (test) of the gas contained in breakers and in the shielded substation at UHE Tucuruí.

## Reduction of SO<sub>2</sub> emission in the Presidente Médici Power Plant

Eletrobras CGTEE's new development, called Stage C of the Presidente Médici Thermoelectric Power Plant, relies on a modern system to reduce particulate matter and sulfur dioxide which uses calcium oxide to mitigate SO<sub>2</sub> emissions.

## Programs by Itaipu Binacional to reduce GHG emissions

Among the measures adopted by Itaipu Binacional to reduce GHGs and carbon sequestration, the company has implemented a policy to prioritize the fueling of the flex-fuel vehicles of its fleet with ethanol (passenger car and utility vehicles). In 2011, consumption of ethanol (considered a non-GHG emitting source) prevented the burning of 192,912 liters of gasoline, resulting in avoided emissions of approximately 345 tCO<sub>2</sub>e of GHG. In addition, the adoption of electric vehicles in Itaipu Binacional's fleet prevented the consumption of 52,248 liters of gasoline in the same period, corresponding to avoided emissions of 96.83 tCO<sub>2</sub>e.

In terms of programs to offset GHG emissions in 2011, Itaipu Binacional planted a total of 241,584 seedlings in its protected areas (reservoir's buffer zones – Brazilian margin – and biological shelters) and in partnership with municipalities in its area of influence (reservoir drainage area). Thus, it is estimated that the amount of atmospheric CO<sub>2</sub> sequestered in the vegetation planted in 2011 alone (seedlings) corresponds to 686.96 tCO<sub>2</sub>e. Considering the maintenance of the whole existing forest (on the Brazilian side), the total GHG sequestered in 2011 alone increased to 4,630,421 tCO<sub>2</sub>e.

Itaipu Binacional also recovers spent lubricant and insulating mineral oil used in transformers so that they are reused for the same applications and aims to further reduce its fugitive emissions of SF<sub>6</sub> and refrigeration gases.

The company has partnered with local entities to design and install the first rural agro-energy condominium. Through this project, electricity is produced using greenhouse gases derived from the decomposition of pig manure in biodigesters. The biogas generated is taken to a thermoelectric power plant operated by the cooperative of the rural producers, where it is fired in a micro thermoelectric plant. The energy produced will be sold to Companhia Paranaense de Energia Elétrica (COPEL).

## SO<sub>x</sub> and NO<sub>x</sub> Emissions

The SO<sub>x</sub> (sulfur oxides) and the NO<sub>x</sub> (nitrogen oxides) emissions from the activities conducted by the Eletrobras Companies are mostly related to power generation processes in thermoelectric power plants and to the consumption of fuels by mobile sources, as shown in the tables below.

### ////// FUEL CONSUMPTION – GJ //////////////////////////////////////

|              | Type of fuel            | Administrative activities | Thermoelectric generation |
|--------------|-------------------------|---------------------------|---------------------------|
| RENEWABLE    | Ethanol                 | 26,568.70                 | -                         |
|              | Natural Gas             | 126                       | 1,861,901,349.51          |
|              | Compressed Natural Gas  | 242.87                    | -                         |
|              | Liquefied Petroleum Gas | 878.78                    | -                         |
|              | Coal                    | -                         | 26,083,998.31             |
| NONRENEWABLE | Gasoline                | 28,743.35                 | -                         |
|              | Fuel oil                | -                         | 1,242,762.03              |
|              | Diesel                  | 128,717.99                | 8,250,547.69              |
|              | Two-stroke Oil          | 17.98                     | -                         |
|              | Aviation Kerosene       | 7,099.98                  | -                         |
|              | Uranium                 | -                         | 111,922,556.94            |
|              | <b>TOTAL</b>            |                           | <b>192,395.65</b>         |

The following companies were considered: Eletrobras CGTEE, Eletrobras Eletronorte, Eletrobras Chesf, Eletrobras Cepel, Eletrobras Eletrosul, Eletrobras Holding, Eletrobras Eletronuclear, Itaipu Binacional and ED Acre (a total of nine companies).

### ////// SO<sub>x</sub> AND NO<sub>x</sub> EMISSIONS (GRI EN20) //////////////////////////////////////

| Companies                   | tSO <sub>x</sub> | tNO <sub>x</sub> |
|-----------------------------|------------------|------------------|
| Eletrobras CGTEE            | 62,247.82        | 9,885.69         |
| Eletrobras Chesf            | 0.82             | 16.39            |
| Eletrobras Furnas           | 39.25            | 224.81           |
| Eletrobras Eletronorte      | 666.13           | 1,592.11         |
| Eletrobras Amazonas Energia | 13,526.50        | 6,103.22         |
| ED Acre                     | 0.42             | 0.90             |
| <b>TOTAL</b>                | <b>76,480.93</b> | <b>17,823.13</b> |

## Waste (GRI EN22, EN24)

The Eletrobras Companies are expanding their activities to monitor and control waste, especially for processes related to power generation and support and maintenance activities for power plant operation.

These activities comply with the legal and normative provisions in effect and are based on the provisions set forth in Article 9 of Law No. 12,305/2010 (National Policy on Solid Waste).

However, the values informed do not correspond to the total amount of waste generated, since some units do not present a management system (which will be implemented in the next few years, gradually expanding the control).

The methods for disposal are selected by pursuing the best possible environmental solution for each type of waste. In addition, based on the National Policy on Solid Waste, the Eletrobras Companies send, preferably, the recyclable waste to waste picker cooperatives.

In terms of PCB waste, the Eletrobras Companies discarded 1,434 tons in 2011.

### ////// DISPOSAL OF WASTE, IN TONS //////////////////////////////////////

| Destination         | Administrative Activities | Thermoelectric Generation | Grand Total     |
|---------------------|---------------------------|---------------------------|-----------------|
| Sanitary Landfill   | 2,092.08                  | 41.00                     | 2,133.08        |
| Industrial Landfill | 313.28                    | 5.19                      | 318.47          |
| Composting          | 0.96                      | -                         | 0.96            |
| Incineration        | 42.49                     | -                         | 42.49           |
| Local Storage       | 131.55                    | -                         | 131.55          |
| Co-Processing       | 4.40                      | 20.42                     | 24.82           |
| Recycling           | 83.64                     | 63.92                     | 147.56          |
| Reuse               | 0.76                      | -                         | 0.76            |
| <b>Total</b>        | <b>2,669.16</b>           | <b>130.53</b>             | <b>2,799.69</b> |

### ////// WASTE GENERATED, IN TONS //////////////////////////////////////

| Type of Waste                      | Administrative Activities (t) | Hydroelectric Generation | Thermoelectric Generation | Transmission    | Grand Total      |
|------------------------------------|-------------------------------|--------------------------|---------------------------|-----------------|------------------|
| Resíduos Perigosos Classe I*       | 681.93                        | 135.85                   | 575                       | 454.51          | 1,847.29         |
| Resíduos Não Perigosos Classe IIA* | 3,711.76                      | 41.00                    | 47,436.36                 | 1,445.63        | 52,634.76        |
| Resíduos Não Perigosos Classe IIB* | 513.98                        | 118.87                   | 41.46                     | 8,083.16        | 8,757.47         |
| Resíduos de Saúde                  | 0.04                          | -                        | -                         | -               | 0.04             |
| <b>Total</b>                       | <b>4,907.71</b>               | <b>295.72</b>            | <b>48,052.82</b>          | <b>9,983.30</b> | <b>63,239.56</b> |

\* This waste was classified according to NBR 10004/04.

The following companies are considered: CGTEE, Eletrobras Eletronorte, Eletrobras Chesf, Eletrobras Cepel, Eletrobras Eletrosul, Eletrobras Holding, Eletrobras Eletronuclear and Itaipu Binacional.

In order to increase knowledge on the topic of waste in companies and to support and complement the protocols of the IGS System, in 2011, the Eletrobras Companies' first Workshop on Waste was held with the participation of approximately 50 technicians from the companies.

The main conclusions and recommendations were:

- //// In general, the environmental areas do not control waste and its issues - they are administrative, operational, and construction areas
- //// There must be a corporate view: each company has individual initiatives
- //// There are no formal recycling cooperatives near the developments
- //// There is no mechanism for the donation of scrap
- //// The formation of cooperatives must be stimulated (involving social responsibility)
- //// Need for waste collection norms for the various areas of the company, tailored to regional specificities
- //// Investments must be made in environmental education and communication for the internal audience of the Eletrobras Companies.

## Nuclear waste

The total amount of solid nuclear waste produced in 2011 at Almirante Álvaro Alberto Nuclear Center, by the Angra 1 and Angra 2 power plants, was 73.24 m3, a 10% reduction in relation to 2010.

After its use, the nuclear fuel (spent fuel) is transferred to the pools located in the buildings of the reactors and not sent to any type of processing or reprocessing. All radioactive waste generated in the nuclear power plants is safely stored and isolated from the public and environment, and its safety, radiologic protection, traceability, and volume reduction are the basis of this work.

### ////// NUCLEAR WASTE STORES //////////////////////////////////////

BY TYPE AND STORAGE METHOD

| Classification* | Type  | Storage method  |
|-----------------|---|---|
| High activity   | Spent fuel elements                                   | Pools inside or outside the power plants, whose capacity supports the entire lifecycle of the operation.                                |
| Medium activity | Purification resins and process fluids                | Buildings appropriately designed in close proximity to the power plant, whose capacities support the entire lifecycle of the operation. |
| Low activity    | Disposable material used in operation and maintenance | Buildings located in close proximity to the power plant.  |

\*Based on the half-life of radioactive elements they contain, waste is also classified as long or short duration.

## Spills (GRI EN23)

In 2011, some spills occurred in the operation areas of the Eletrobras Companies. These spills were controlled and remediated, as shown below:

### ////// SPILLS //////////////////////////////////////

| Company                     | Number of spills | Location   | Volume (m <sup>3</sup> ) | Substance               | Actions taken   | Impacts   |
|-----------------------------|------------------|--|--------------------------|-------------------------|---|---|
| Eletrobras Amazonas Energia | 4                | Municipalities of Iranduba, Parintins, Humaitá, Apuí | n.a.                     | Oil waste               | Investments were made and infrastructure works were conducted to avoid spills, in addition to environmental awareness through lectures to all parties involved in the process.  | n.a.  |
|                             | 2                | Municipalities of Manaus, and Barreirinha            | n.a.                     | Fuel oil                |   | n.a.  |
| Eletrobras Eletrosul        | 14               | Regional Maintenance                                 | 0.6                      | Insulating mineral oil. | n.a.  | n.a.  |
| Eletrobras FURNAS           | 1                | Foz do Iguaçu Substation                             | 10                       | Insulating mineral oil  | Appropriate actions were taken to control and remediate the affected area via barriers and absorbing pads. The waste generated by these spills, such as gravel, soil, and pads contaminated with oil, were collected and stored properly. They will be sent for final disposal or co-processing, in compliance with the regulation in effect. | The spilled oil was directed to rainwater channels that flow into a river located on the borders of the substation, contaminating a portion of the stream located near Eletrobras Furnas and the land adjacent to the margin. |
|                             | 1                | Substation of the Itumbiara Power Plant              | 1.8                      | Insulating mineral oil  |   |   |
|                             | 1                | Tijuco Preto Substation                              | 3.24                     | Insulating mineral oil  |   |   |

At ED Piauí, a soil analysis is being prepared by a specialized company as a result of a spill of insulating oil, which occurred in 2010, and reached an area of approximately 100 m<sup>2</sup>, caused by the fall of two regulators on the feeder of the Parnaíba-PI Substation.

## Environmental fines (GRI EN28)

In 2011, the Eletrobras Companies paid two environmental fines, totaling R\$ 2,125,930.37. Other fines received have been appealed and are still on trial.

## Environmental investments (GRI EN30)

In 2011 the Eletrobras Companies allocated a total of BRL 116,612,734.64 for funding and investments in environmental protection, as shown below:

### /////TOTAL INVESTMENTS AND EXPENSES IN ENVIRONMENTAL PROTECTION/////

|   | Funding              | Investment            |
|---|----------------------|-----------------------|
| Waste collection, treatment, and disposal   | BRL 9,589,795.59     | BRL 535,524.00        |
| Environmental management (environmental consulting)                                   | BRL 2,251,230.05     | BRL 32,686,389.00     |
| Environmental management (internal staff and costs related to the environmental area) | BRL 3,062,711.10     | BRL 476,157.04        |
| Others  | BRL 5,028,295.36     | BRL 13,497,339.56     |
| Research and development  | BRL 1,372,339.00     | -                     |
| Preservation of biodiversity  | BRL 11,281,919.63    | BRL 1,779,806.93      |
| Recovery of degraded sites and protection of areas                                    | BRL 91,294.50        | BRL 2,620,872.05      |
| Remediation of contaminated sites   | BRL 747,928.25       | -                     |
| Wastewater treatment  | BRL 395,250.56       | BRL 425,830.00        |
| Treatment of atmospheric emissions  | BRL 30,770,052.02    | -                     |
| <b>Total</b>  | <b>64,590,816.06</b> | <b>52,021,918.58</b>  |
|   |                      | <b>116,612,734.64</b> |





Eletrobras

AWARDS AND RECOGNITIONS (GRI 2.10)

Sustainability, which is Eletrobras Companies' constant concern in all its initiatives, was also the focus of awards and recognitions received by the holding in 2011. And the achievements brought by the careful and daily monitoring of socio-environmental aspects and by corporate transparency have resulted in the valuation of the brand and of Eletrobras' reputation in relation to its various audiences (GRI 2.10).

In 2011, Eletrobras was present, for the fifth consecutive year, in the Sao Paulo Stock Exchange's Corporate Sustainability Index (ISE/BOVESPA). This achievement reflected the effort made by the company and its employees to continuously strengthen and improve corporate practices, guided by ethics, transparency, and social and environmental responsibility.

The Eletrobras brand was also listed in two important value appraisal rankings for this item, both at the domestic and international level: it was elected, for the third consecutive year, the most prestigious company in the Brazilian energy industry, receiving an award offered by the *Época Negócios* magazine, and it placed 16<sup>th</sup> in the world in Utilities/Electric and ninth in the ranking for the most important Brazilian brands, both organized by *Brand Finance* consulting. This position also reflects Eletrobras's increased brand value in 2011, considering that our company has gained 16 positions in the *Brand Finance's* most valuable global brands, from 37<sup>th</sup> place in 2010 to 21<sup>st</sup> place in 2011.

For the award granted by the magazine, in which more than 15,000 people gave their opinion, six attributes were assessed: quality of products and services, trust, admiration, socio-environmental responsibility, innovative conduct, and tradition. This innovative conduct led Eletrobras to receive this award, especially for its technical works, in the largest event in the Brazilian electric power industry - SNPTEE - and Eletrobras Eletronorte to receive the award *As Empresas Mais Inovadoras do Brasil* (Most Innovative Companies in Brazil), promoted by *Época Negócios* magazine in partnership with A.T. Kearney.

Eletrobras's subsidiary in the northern region of the country, Eletrobras Eletronorte, also placed second in the *+ Inovadoras no Uso de TI* Award (Most Innovative Companies in IT Use), granted by the Information Week magazine (a major reference in IT innovation in Brazil) and for the first time among the Eletrobras Companies, it fulfilled the eight criteria established by the *Prêmio Nacional da Qualidade* (National Quality Award) granted by Fundação Nacional da Qualidade (FNQ): leadership; strategies and plans; clients; society; information and knowledge; people; processes; and results.

In turn, Eletrobras Eletronuclear stood out for its performance in the environmental area, being the winner of the 7° Prêmio Brasil Ambiental (7<sup>th</sup> Environmental Brazil Award), granted by the American Chamber of Commerce in the Sustainable Management category with the company's environmental and waste management program. Still in relation to sustainability, Eletrobras, by means of PROCEL Edifica (National Program for Energy Efficiency in Buildings), won the Green Building Brazil Award in the Sustainable Public Policy category. This award, created by NGO Green Building Council Brazil, aims at honoring individuals, companies, and Brazilian organizations for sustainable activities.

Completing the three pillars of sustainability, Eletrobras's distributors also made advances in their management in 2011. Eletrobras Amazonas Energia and ED Alagoas placed first and third, respectively, in the ABRACONEE Award (Brazilian Association of Electric Power Industry Accountants) as Best Accounting Information Promotion in the Small and Medium-Sized Company category.



Since 2005, Eletrobras has been reporting its socio-environmental practices. Its Sustainability Reports have been in line with the GRI guidelines since 2008, and, in 2009, Portuguese, English, and Spanish versions of the report were made available on the company's website. However, for the first time, Eletrobras has combined its Annual and Sustainability Reports into a single report, expressing the importance of sustainability to the company's strategy (GRI 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11 e 3.13).

The 2011 Sustainability Report of the Eletrobras Companies contains information from the 16 Eletrobras Companies: Eletrobras Holding, Eletrobras Eletropar, Eletrobras Cepel, Eletrobras CGTEE, Eletrobras Chesf, Eletrobras Eletronorte, Eletrobras Eletrosul, Eletrobras Eletronuclear, Eletrobras Furnas, Itaipu Binacional, and the Distribution Companies ED Acre, ED Alagoas, Eletrobras Amazonas Energia, ED Piauí, ED Rondônia, and ED Roraima.

This report has used the guidelines provided by GRI's Electric Utilities Supplement and by the Brazilian Institute of Social and Economic Analyses (IBASE). It has an annual cycle, and the content herein refers to the period between January 1st and December 31st, 2011, with a GRI application level B+. The previous version was published on July 12th, 2010.

The materiality of the report was considered and chosen by various internal and external stakeholders. Indicators were chosen for each material item based on three criteria: the inclusion of indicators that are commonly reported by companies in the electric power industry; the inclusion of indicators reported in previous years in order to ensure comparability; and address indicators whose management has been established by the company in order to ensure reliability of the data informed.

By means of a bidding process, Eletrobras hired KPMG, which carried out the assurance process of this report.

## Contact data for issues related to the report or its content (GRI 3.4)

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### Company websites

//// Eletrobras Holding: <http://www.eletrobras.com>

//// Eletrobras Amazonas Energia: <http://www.amazonasenergia.gov.br/cms/>

//// Eletrobras Cepel: <http://www.cepel.br/>

//// Eletrobras CGTEE: <http://www.cgtee.gov.br>

//// Eletrobras Chesf: <http://www.chesf.gov.br>

//// ED Alagoas: <http://www.ceal.com.br/>

//// ED Piauí: <http://www.cepisa.com.br>

//// ED Rondônia: <http://www.ceron.com.br/>

//// ED Roraima: <http://www.boavistaenergia.gov.br/>

//// ED Acre: <http://www.eletoacre.com.br/>

//// Eletrobras Eletronorte: <http://www.eln.gov.br>

//// Eletrobras Eletronuclear: <http://www.eletronuclear.gov.br/>

//// Eletrobras Eletropar: <http://www.eletrobraspar.com>

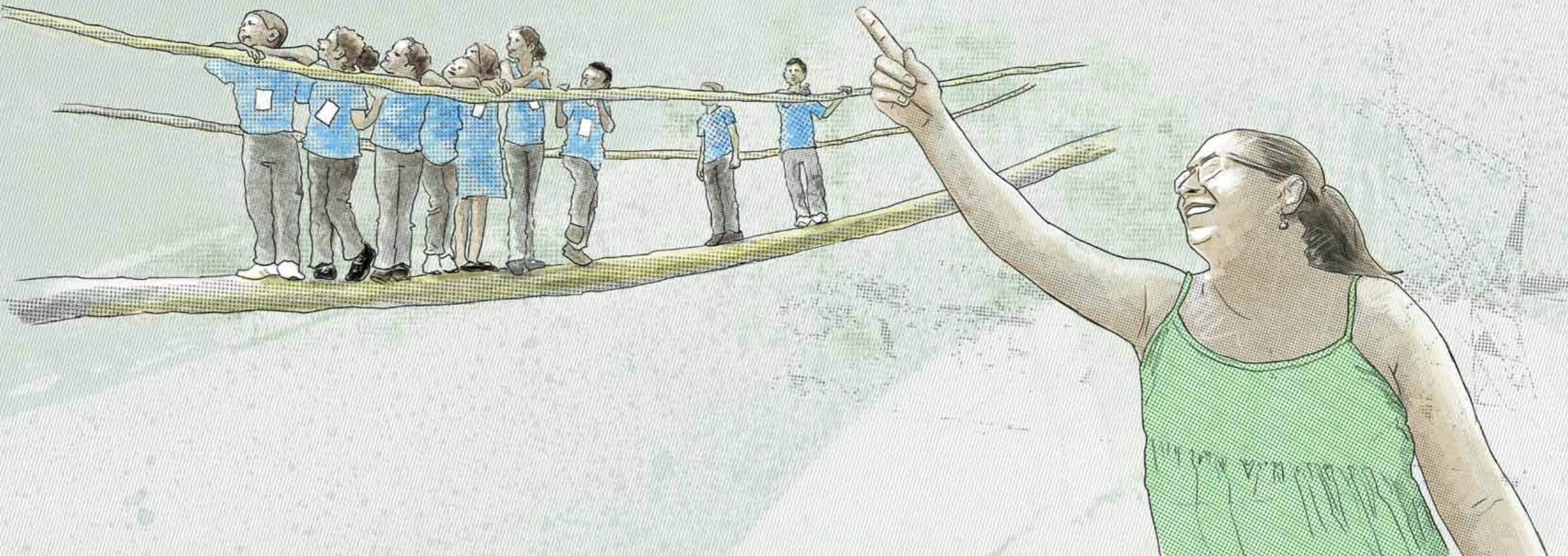
//// Eletrobras Eletrosul: <http://www.eletrosul.gov.br>

//// Eletrobras Furnas: <http://www.furnas.com.br/>

//// Itaipu Binacional: <http://www.itaipu.gov.br/>



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The answers to the GRI indicators presented in this report can be found in this document or in the Table of Contents (GRI 3.12).

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| EN13      | Environmental Performance | Habitats protected or restored.   | 148, 150      |
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| EN15      | Environmental Performance | Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.                        | 153           |
| EN16      | Environmental Performance | Total direct and indirect greenhouse gas emissions by weight.   | 154           |
| EN17      | Environmental Performance | Other relevant indirect greenhouse gas emissions by weight.   | 154           |
| EN18      | Environmental Performance | Initiatives to reduce greenhouse gas emissions and reductions achieved.   | 154, 156, 157 |
| EN20      | Environmental Performance | NO <sub>x</sub> , SO <sub>x</sub> , and other significant air emissions by type and weight.   | 154, 159      |
| EN22      | Environmental Performance | Total weight of waste by type and disposal method.  | 160           |
| EN23      | Environmental Performance | Total number and volume of significant spills.  | 162           |
| EN24      | Environmental Performance | Weight of transported, imported, exported, or treated waste deemed hazardous and percentage of transported waste shipped internationally.                                 | 160           |
| EN26      | Environmental Performance | Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.  | 137           |
| EN28      | Environmental Performance | Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations.                                 | 163           |
| EN30      | Environmental Performance | Total environmental protection expenditures and investments by type.  | 163           |

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| Indicator | Indicator                       | Description   | Page             |
|-----------|---------------------------------|---|------------------|
| LA1       | Labor Practices and Decent Work | Total workforce by employment type, employment contract, and region.  | 25, 28, 106, 110 |
| LA2       | Labor Practices and Decent Work | Total number and rate of employee turnover by age group, gender, and region.  | 110              |
| LA4       | Labor Practices and Decent Work | Percentage of employees covered by collective bargaining agreements.  | 110              |
| LA6       | Labor Practices and Decent Work | Percentage of workforce represented in formal health and safety committees.   | 114              |
| LA7       | Labor Practices and Decent Work | Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region.  | 113              |
| LA8       | Labor Practices and Decent Work | Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases. | 113, 115, 116    |
| LA9       | Labor Practices and Decent Work | Health and safety topics covered in formal agreements with trade unions.  | 113, 116         |
| LA10      | Labor Practices and Decent Work | Average hours of training per year per employee by employee category.   | 117, 118         |
| LA12      | Labor Practices and Decent Work | Percentage of employees receiving regular performance and career development reviews.   | 117              |
| LA13      | Labor Practices and Decent Work | Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity.        | 106, 108         |
| LA14      | Labor Practices and Decent Work | Ratio of basic salary of men to women by employee category.   | 106, 112         |
| LA15      | Labor Practices and Decent Work | Return to work and retention rates, by gender.  | 106, 107         |
| HR1       | Human Rights                    | Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening.                             | 128, 129         |
| HR4       | Human Rights                    | Total number of incidents of discrimination and actions taken.  | 106, 128, 132    |
| HR5       | Human Rights                    | 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.  | 106, 112         |
| HR6       | Human Rights                    | Operations identified as having significant risk for incidents of child labor, and measures taken to contribute to the elimination of child labor.                            | 128, 129         |
| HR7       | Human Rights                    | Operations identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of forced or compulsory labor.    | 128, 129         |
| HR9       | Human Rights                    | Total number of incidents of violations involving rights of indigenous people and actions taken.  | 128, 130         |
| HR10      | Human Rights                    | Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.   | 128              |
| HR11      | Human Rights                    | Number of grievances related to human rights filed, addressed, and resolved through formal grievance mechanisms.  | 128              |
| SO1       | Society                         | Percentage of operations with implemented local community engagement, impact assessments, and development programs.   | 120              |

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| Indicator   | Indicator              | Description  | Page           |
|-------------|------------------------|--|----------------|
| <b>SO4</b>  | Society                | Actions taken in response to incidents of corruption.  | 55             |
| <b>SO5</b>  | Society                | Public policy positions and participation in public policy development and lobbying.   | 134            |
| <b>SO6</b>  | Society                | Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.   | 55             |
| <b>SO7</b>  | Society                | Total number of legal actions for anticompetitive behavior, anti-trust, and monopoly practices and their outcomes.   | 46             |
| <b>SO8</b>  | Society                | Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations.  | 46             |
| <b>SO9</b>  | Society                | Operations with significant potential or actual negative impacts on local communities.   | 120            |
| <b>SO10</b> | Society                | Prevention and mitigation measures implemented in operations with potential or actual negative impacts on local communities.   | 120            |
| <b>PR3</b>  | Product Responsibility | Type of product and service information required by procedures and labeling, and percentage of products and services subject to such requirements.   | 51             |
| <b>PR5</b>  | Product Responsibility | Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.  | 52             |
| <b>PR6</b>  | Product Responsibility | Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.                                       | 51             |
| <b>PR7</b>  | Product Responsibility | Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes. | 51             |
| <b>PR9</b>  | Product Responsibility | Monetary value of (significant) fines for noncompliance with laws and regulations concerning the provision and use of products and services.   | 46, 55         |
| <b>EU1</b>  | Electric Utilities     | Installed capacity, broken down by primary energy source and by regulatory regime.   | 25, 28, 33     |
| <b>EU2</b>  | Electric Utilities     | Net energy output broken down by primary energy source and by regulatory regime.   | 25, 28, 33     |
| <b>EU3</b>  | Electric Utilities     | Number of residential, industrial, institutional and commercial customer accounts.   | 25, 28, 37, 92 |
| <b>EU4</b>  | Electric Utilities     | Length of above and underground transmission and distribution lines by regulatory regime.  | 25, 28, 37, 87 |
| <b>EU6</b>  | Electric Utilities     | Management approach to ensure short and long-term electricity availability and reliability.  | 71             |
| <b>EU7</b>  | Electric Utilities     | Demand-side management programs (DSM) including residential, commercial, institutional and industrial programs.  | 140            |
| <b>EU8</b>  | Electric Utilities     | Research and development activities and expenditures aimed at providing reliable electricity and promoting sustainable development.  | 100, 101       |
| <b>EU10</b> | Electric Utilities     | Planned capacity against projected electricity demand over the long term, broken down by energy source and regulatory regime.  | 26             |

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| <b>Indicator</b> | <b>Indicator</b>   | <b>Description</b>  | <b>Page</b> |
|------------------|--------------------|---|-------------|
| <b>EU11</b>      | Electric Utilities | Average generation efficiency of thermal plants by energy source and by regulatory regime.  | 65          |
| <b>EU12</b>      | Electric Utilities | Transmission and distribution losses as a percentage of total energy.   | 65, 68      |
| <b>EU14</b>      | Electric Utilities | Programs and processes to ensure the availability of a skilled workforce.   | 118         |
| <b>EU15</b>      | Electric Utilities | Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region.                                      | 106         |
| <b>EU16</b>      | Electric Utilities | Policies and requirements regarding health and safety of employees and employees of contractors and subcontractors.                                   | 113         |
| <b>EU19</b>      | Electric Utilities | Stakeholder participation in the decision making process related to energy planning and infrastructure development.                                   | 26          |
| <b>EU20</b>      | Electric Utilities | Approach to managing the impacts of displacement.   | 122         |
| <b>EU21</b>      | Electric Utilities | Contingency planning measures, disaster/emergency management plan and training programs, and recovery/restoration plans.                              | 17, 72      |
| <b>EU22</b>      | Electric Utilities | Number of people physically or economically displaced and compensation, broken down by type of project.   | 122         |
| <b>EU23</b>      | Electric Utilities | Programs, including those in partnership with government, to improve or maintain access to electricity and customer support services.                 | 124         |
| <b>EU25</b>      | Electric Utilities | Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases. | 113         |
| <b>EU28</b>      | Electric Utilities | Power outage frequency.   | 68          |
| <b>EU29</b>      | Electric Utilities | Average duration of power outage.   | 68          |
| <b>EU30</b>      | Electric Utilities | Average plant availability factor by energy source and by regulatory regime.  | 64          |

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# 2011 IBASE Social Audit - Eletrobras

## ////// 1- BASIS OF CALCULATION //////////////////////////////////////

|                        | <b>2011</b>    |
|------------------------|----------------|
| Net revenues (NR)      | 29,533 million |
| Operating results (OR) | BRL 4,143,000  |
| Gross payroll (GP)     | BRL 3,619,082  |

## ////// 2 - INTERNAL SOCIAL INDICATORS //////////////////////////////////////

|   | <b>Total (BRL thousand)</b> | <b>% of GP</b> | <b>% of NR</b> |
|---|-----------------------------|----------------|----------------|
| Food  | 284,271                     | 7.85%          | 6.86%          |
| Mandatory payroll taxes and benefits        | 1,061,237                   | 29.32%         | 25.62%         |
| Private Pension Plan                        | 247,163                     | 6.83%          | 5.97%          |
| Health                                      | 323,727                     | 8.95%          | 7.81%          |
| Safety and health at workplace              | 37,086                      | 1.02%          | 0.90%          |
| Education day cares or stipend for day care | 36,586                      | 1.01%          | 0.88%          |
| Culture                                     | 2,076                       | 0.06%          | 0.05%          |
| Training and professional development       | 67,540                      | 1.87%          | 1.63%          |
| Transportation                              | 20,602                      | 0.57%          | 0.50%          |
| Profit sharing                              | 419,251                     | 11.58%         | 10.12%         |
| Others                                      | 151,052                     | 4.17%          | 3.65%          |
| <b>Total - Internal social indicators</b>   | <b>2,650,591</b>            | <b>73.24%</b>  | <b>63.98%</b>  |

### ////// 3 - EXTERNAL SOCIAL INDICATORS //////////////////////////////////////

|  | 2011                 |                |                |
|--|----------------------|----------------|----------------|
|  | Total (BRL thousand) | % of GP        | % of NR        |
| Education  | 18,422               | 0.44%          | 0.44%          |
| Culture  | 56,869               | 1.37%          | 1.37%          |
| Health and sanitation  | 81,404               | 1.96%          | 1.96%          |
| Sports   | 35,243               | 0.85%          | 0.85%          |
| Food   | 3,487                | 0.08%          | 0.08%          |
| Job opportunities and income generation/Relocation of families | 8,614                | 0.21%          | 0.21%          |
| Others   | 13,294               | 0.32%          | 0.32%          |
| <b>Total contributions to society</b>                          | <b>217,333</b>       | <b>5.25%</b>   | <b>5.25%</b>   |
| Taxes (excluding payroll taxes)                                | 3,837,342            | 92.62%         | 92.62%         |
| <b>Total - External social indicators</b>                      | <b>4,665,879</b>     | <b>112.62%</b> | <b>112.62%</b> |

### ////// 4 - ENVIRONMENTAL INDICATORS //////////////////////////////////////

|  | 2011                 |           |           |
|--|----------------------|-----------|-----------|
|  | Total (BRL thousand) | % of GP   | % of NR   |
| Investments related to the production/operation of the company | 135,980              | 4%        | 3%        |
| Investments in programs and/or external projects               | 91,758               | 3%        | 2%        |
| <b>Total investments related to the environment</b>            | <b>227,738</b>       | <b>6%</b> | <b>5%</b> |

Regarding the establishment of "annual goals" to minimize waste, the general consumption during production/operation, and to increase efficiency in the use of natural resources, the company:

### ////// 5 - WORKFORCE INDICATORS //////////////////////////////////////

|  | 2011   |
|--|--------|
| Number of employees at the end of term                 | 28,544 |
| Number of hires during term                            | 1,256  |
| Number of outsourced employees                         | 8,248  |
| Number of interns                                      | 1,866  |
| Number of employees over 50                            | 8,770* |
| Number of women working for the company                | 5,412  |
| % of management positions occupied by women            | 19     |
| Number of black employees working for the company      | n.d.   |
| % of management positions occupied by blacks           | n.d.   |
| Number of employees with disabilities or special needs | 507    |

\* Eletrobras Chesf did not report



## ////// 6 - RELEVANT INFORMATION //////////////////////////////////////

### RELATED TO CORPORATE CITIZENSHIP

|   | <b>2011</b>  |   |  |
|---|--|---|--|
| Ratio of highest to lowest compensation in the company  |  |   | 23,28  |
| Total number of work-related accidents  |  |   | 124  |
| The social and environmental projects developed by the company were defined by:   | <input type="checkbox"/> senior management                 | <input checked="" type="checkbox"/> senior and mid-level management | <input type="checkbox"/> all employees                               |
| The company's standards for safety and cleanliness in the workplace were set by   | <input type="checkbox"/> senior management and managements | <input type="checkbox"/> all employees                              | <input checked="" type="checkbox"/> all + CIPA                       |
| Concerning freedom of association, collective bargaining rights, and internal representation of employees, the company:       | <input type="checkbox"/> does not get involved             | <input type="checkbox"/> follows norms established by ILO           | <input checked="" type="checkbox"/> stimulates and complies with ILO |
| The private pension plan covers:  | <input type="checkbox"/> senior management                 | <input type="checkbox"/> senior and mid-level management            | <input checked="" type="checkbox"/> all employees                    |
| The profit sharing program covers:  | <input type="checkbox"/> senior management                 | <input type="checkbox"/> senior and mid-level management            | <input checked="" type="checkbox"/> all employees                    |
| In the selection of suppliers, the same ethical and social and environmental responsibility standards adopted by the company: | <input type="checkbox"/> are not considered                | <input type="checkbox"/> are suggested                              | <input checked="" type="checkbox"/> are required                     |
| In relation to the participation of employees in volunteer work programs, the company   | <input type="checkbox"/> does not get involved             | <input type="checkbox"/> supports                                   | <input checked="" type="checkbox"/> organizes and stimulates         |
| Total number of consumer complaints and criticism   | With the company ____                                      | With PROCON (Consumer Protection Agency) ____                       | Taken to Court _n.a._  |
| % of complaints and criticism received or solved?   | in the company ____%                                       | With PROCON (Consumer Protection Agency) ____%                      | Taken to Court _n.a._%   |
| <b>Total added value to be distributed (in BRL thousands)</b>   |  |   | <b>BRL 17,716,825</b>  |

**TOTAL ADDED VALUE TO BE DISTRIBUTED 17,716,825**

#### DISTRIBUTION OF ADDED VALUE

|                                    |               |           |
|------------------------------------|---------------|-----------|
| Distribution of Added Value (DAV): | STAFF         | 5,550,861 |
|                                    | TAXES         | 4,086,108 |
|                                    | THIRD PARTIES | 4,317,837 |
|                                    | SHAREHOLDERS  | 3,762,019 |

# Independent auditors' limited assurance report

To

The Board of Directors and shareholders of  
Centrais Elétricas Brasileiras S.A. – Eletrobras  
Rio de Janeiro – RJ

## Introduction

We have been engaged for the purpose of applying Limited Assurance Procedures on the sustainability information contained in the Sustainability Report of Centrais Elétricas Brasileiras S.A. - Eletrobras (“Company”), related to the year ended December 31, 2011, which was prepared under the Company’s management responsibility. Our responsibility is to issue a Limited Assurance report on this sustainability information.

## Procedures of Limited Assurance

The limited assurance procedures were performed in accordance with the standards NBC TO 3000 – Assurance Engagement Other than Audit and Review, issued by CFC – Accounting Federal Council and with ISAE 3000 - International Standard on Assurance Engagements, issued by International Auditing and Assurance Standards Board - IAASB., both related to assurance engagements other than audits or reviews of historical financial information.

The procedures comprised: (a) the planning of the work, considering the relevance, coherence, volume of quantitative and qualitative information and operational and internal control systems that served as a basis for the preparation of the sustainability information contained in the Company’s Sustainability Report; (b) the understanding of the calculation methodology and the consolidation of the performance indicators through interviews with the personnel responsible for the preparation of information; (c) the comparison, on a sample basis, of the quantitative and qualitative information with the sustainability information disclosed at the Sustainability Report; and (d) the comparison of the financial indicators with the financial statements and/or accounting records.

## Reporting criteria

The sustainability information contained in the Company’s Sustainability Report was prepared according to the Global Reporting Initiative guidelines (GRI-G3) for sustainability reporting and to the Electric Utilities Sector Supplement – RG Version 3.0/EUSS Final Version.

## Scope and limitations

The objective of our work was to apply limited assurance procedures on the sustainability information disclosed in the Company’s Sustainability Report, not including the assessment of its GHG emissions and the appropriateness of its policies, practices and sustainability performance.

The applied procedures do not represent an examination in accordance with the Brazilian and international audit rules for financial statements. In addition, we do not provide any assurance on the achievability of future information (such as targets, expectations and ambitions) nor on qualitative information that is under subjective evaluation.

## Conclusion

Based on the procedures described above, we have not identified any relevant modification that should be performed on the sustainability information contained in the Sustainability Report of Eletrobras, related to the year ended December 31, 2011, to agree with the GRI-G guidelines, the Electric Utilities Sector Supplement – RG Version 3.0/EUSS Final Version and with the records and files that subsidized its elaboration.

Rio de Janeiro, June 18, 2012.



KPMG Auditores Independentes  
CRC-SP 14428/O-6 F-RJ

Vânia Andrade de Souza  
Contador CRC RJ-057497/O-2

The process for the preparation of the 2011 Sustainability Report included the participation of different areas within the Eletrobras Companies, involving the data gathering relating to operational, economic, social and environmental aspects.

This report is the result of a joint effort of all Eletrobras Companies, mobilized for the purpose of sharing knowledge and adding important pieces of information that demonstrate our initiatives and commitment to sustainability.

**General Coordination**

Eletrobras Companies Sustainability Commission

**Publication**

Communication Advisory and Relationship with the Press

**Technical coordination and consolidation of information**

Keyassociados

**Text**

Keyassociados

**Graphic design and layout**

Conceito Comunicação Integrada

**Illustrations**

Julio Carvalho

The 2011 Sustainability Report for the Eletrobras Companies is available in printed format and also in an online version, at the following website [www.eletrobras.com](http://www.eletrobras.com).

Contact: [pcc@eletrobras.com](mailto:pcc@eletrobras.com)

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