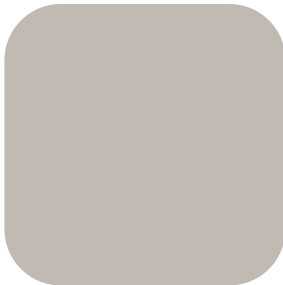


2024



Annual Report  
Sustainability Report



GRI content index and a Global Compact Communication on Progress

| Cross References<br>GRI content index and a Global Compact accomplishment |  | Global Compact Principles          | EDP Sustainability Report 2004 content |
|---|--|------------------------------------|--|
| SECTION   | INDICATOR  |                                    | AVAILABILITY <sup>(1)</sup> PAGE       |
| <b>Vision and Strategy</b>  |  |                                    |  |
| Sustainability vision and strategy  | 1.1  | 1                                  | 14-15                                  |
| Message from the Chairman   | 1.2  |                                    | 6                                      |
| <b>Profile</b>  |  |                                    |  |
| Organisation profile  | 2.1 a 2.9  | N.A.                               | 10-13                                  |
| Report scope  | 2.10 a 2.22  | N.A.                               | 3,11                                   |
| <b>Governance structure and management systems</b>                        |  |                                    |  |
| Structure and governance  | 3.1 a 3.8  | N.A.                               | 12                                     |
| Stakeholders engagement   | 3.9 a 3.12   | N.A.                               | 48-52                                  |
| Overarching policies and management systems                               | 3.13 a 3.20  | 7                                  | 22-66                                  |
| <b>Performance indicators</b>   |  |                                    |  |
| Economic performance  |  |                                    |  |
| Customer  | <b>B EC1, EC2</b>  | N.A.                               | 11                                     |
| Suppliers   | B EC3, EC4<br>A EC11   | N.A.                               | 24,25                                  |
| Employees   | B EC5  | N.A.                               | 24                                     |
| Providers of capital  | B EC6, EC7   | N.A.                               | 22-24                                  |
| Public sector   | B EC8, EC9, EC10<br>A EC12   | N.A.                               | 25                                     |
| Indirect impacts  | A EC13   |                                    |  |
| Environmental performance   |  |                                    |  |
| Materials   | B EN1, EN2   |                                    |  |
| Energy  | B EN3, EN4<br>A EN17<br>A EN19   | 8<br>9                             | 20, 29, 31, 71-83<br>27-33             |
| Water   | B EN5<br>A EN20, EN21, EN22  | 8                                  | 20, 31, 71-83                          |
| Biodiversity  | B EN6, EN7<br>A EN24, EN25, EN26, EN27, EN28, EN29                       | 8                                  | 42, 43<br>42, 43                       |
| Air emissions   | B EN8, EN9, EN10<br>A EN30   | 8                                  | 39, 40<br>39                           |
| Waste   | B EN11<br>A EN31   | 8                                  | 41-42<br>41-42                         |
| Water emissions   | B EN12, EN13<br>A EN32   | 8                                  | 20,71-83<br>20                         |
| Suppliers   | A EN33   |                                    | 52                                     |
| Products and services   | B EN14, EN15   | 8                                  | N.A. -                                 |
| Compliance  | B EN16   | 8                                  | 43-44                                  |
| Transportation  | A EN34   |                                    | 30                                     |
| Overall   | A EN35   |                                    |  |
| Social performance  |  |                                    |  |
| Employment  | B LA1, LA2<br>A LA12   | N.A.                               | 54<br>56                               |
| Labour / management   | B LA3, LA4<br>A LA13   | 3                                  | 55<br>55                               |
| Health and safety   | B LA5, LA6, LA7, LA8<br>A LA14, LA15                                     | N.A.                               | 56-58<br>56-58                         |
| Training and education  | B LA9<br>A LA16, LA17  | N.A.                               | 56<br>55                               |
| Diversity and opportunities   | B LA10, LA11   | 6                                  | 55                                     |
| Human rights  | B HR1<br>B HR2 e HR3<br>B HR4<br>B HR5<br>B HR6<br>B HR7<br>A HR8 a HR14 | 1<br>1 e 2<br>1 e 6<br>3<br>5<br>4 | 45<br>45-46<br>55<br>45-46<br>45-46    |
| Society   | B SO1, SO3<br>B SO2<br>A SO4, SO5, SO6, SO7                              | N.A.<br>10                         | 45, 46<br>17                           |
| Product responsibility  |  |                                    | N.A. -                                 |

**B** - Core indicator  
**A** - Additional indicator  
<sup>(1)</sup> The level of availability of each indicator is provided by internal evaluation undertaken by EDP.  
 N.A. - Not applicable

## THIS REPORT

This is the EDP Group's second Sustainability Report. It is based on information that has gradually been consolidated, extending the involvement of other areas of the Company and enriching the contents reported every year.

This report forms part of a set of three complementary sections: a Sustainability Report, a Financial Report, an Institutional Report and Report on Corporate Governance Report. In spite of its nature, it as can be consulted as an independent document, therefore resulting in the duplication of some information. Whenever information is considered complementary, there are specific references to the reports where it can be found in more detail.

This year's report is organised differently, divided into sections describing the Company's performance in relation to the EDP Group's eight Principles of Sustainable Development approved in March 2004. The Company's goal is to give a more balanced but equally in-depth account of its performance in relation to these principles in future reports.

During the year, we made a considerable effort towards preparing a set of sustainability indicators and organising them in a more robust, reliable system so that the Key Sustainability Indicators (Portugal) in this report could be checked by an independent body this year.

As in previous reports, this one follows the Global Reporting Initiative (GRI) guidelines. For the first time, the report also "describes the progress" of EDP in fulfilling the ten principles of the Global Compact (GC), an international initiative sponsored by the United Nations, which EDP joined in early 2004. Our degree of compliance with the GRI and the nine GC principles can be assessed in the index provided.

This report takes into consideration the 11 GRI principles, though it has not been possible, as yet, to fully apply them all. The external appraisal of the key sustainability indicators shows that an important step has been taken towards this goal. The objective is to extend the external appraisal to all the information reported in the next two years.

The full consolidation method has been used throughout the report, i.e. it considers 100 % of the performance of the companies owned entirely by the EDP Group and also 100 % of the performance of those where EDP has management control. This universe corresponds to 94% of the group's turnover.

It is important to point out that the information on HidroCantábrico's performance has been reported using a different consolidation method for indicators such as generation and maximum net power. In these cases, HidroCantábrico consolidates by the proportional method, i.e. the Trillo Nuclear Power Station, of which the Company owns 15.5%, appears in terms of generation figures, while its environmental performance is not reported, as HidroCantábrico does not have management control of the power station. Whenever indicators not following this criterion are reported, their scope will be indicated.

Finally, all three sections are available at [www.edp.pt](http://www.edp.pt), where there is also more information about the EDP Group.



# Index

|  |           |
|--|-----------|
| MESSAGE FROM THE CHAIRMAN                        | 6         |
| THE ROAD TO SUSTAINABILITY                       | 9         |
| EDP GROUP  | 10        |
| <b>VISION OF SUSTAINABLE DEVELOPMENT</b>         | <b>14</b> |
| <b>IMPORTANT EVENTS IN 2004</b>                  | <b>16</b> |
| <b>ANNUAL PERFORMANCE</b>                        | <b>19</b> |
| <b>SUSTAINABILITY KEY INDICATORS</b>             | <b>20</b> |
| <b>CREATION OF VALUE</b>                         | <b>22</b> |
| <b>EFFICIENT USE OF RESOURCES</b>                | <b>27</b> |
| <b>ENVIRONMENTAL PROTECTION</b>                  | <b>34</b> |
| <b>INTEGRITY</b>                                 | <b>45</b> |
| <b>DIALOGUE WITH STAKEHOLDERS</b>                | <b>48</b> |
| <b>HUMAN CAPITAL MANAGEMENT</b>                  | <b>54</b> |
| <b>PROMOTION OF ACCESS TO ELECTRICITY ENERGY</b> | <b>59</b> |
| <b>SUPPORT TO SOCIAL DEVELOPMENT</b>             | <b>63</b> |
| <b>APPENDICES - FACILITY FILES</b>               | <b>68</b> |
| APPENDICES - FACILITY FILES                      | 70        |
| <b>GLOSSARY AND ABBREVIATIONS</b>                | <b>84</b> |
| GLOSSARY AND ABBREVIATIONS                       | 86        |
| INDICATORS OF CRITERIA ADOPTED                   | 89        |
| <b>CERTIFICATION DOCUMENT</b>                    | <b>92</b> |

**Message from the Chairman**



**Francisco de la Fuente Sánchez**  
Chairman of the Board

*Shareholders,*

I believe I can safely say that 2004 was a year of great dynamism for EDP. Our commitment to strengthening the Company's customer orientation, which is clearly reflected in the new trademark, and our adoption of an Iberian position, reinforced by our increased shareholding in HidroCantábrico, are proof of the energy with which we are responding to the major challenges facing us today: the liberalisation of the electricity market in Portugal and the creation of an Iberian energy market in the Iberian Peninsula.

Looking at the big picture, these are not the only challenges that we have to face. The struggle against climate change, in the environmental sphere, and our responsibility for the Company in general and its employees in particular, in the social sphere, are examples of other concerns that deserve our attention and have been included in our strategy and management cycle.

Sustainable development has played an important role in this context. In March, the Board of Directors approved the EDP Group's Principles of Sustainable Development and this report describes the Company's commitment to each of these principles. We are aware that we have not yet achieved a total balance and that there are principles for which the Company is going to have to go that extra mile. This is a commitment that we accept for future reports. In early 2005, the Board of Directors also approved the EDP Group's Code of Ethics, though not without intense discussion within the Company. The new code is designed to strengthen the good practices that the group has always followed.

In January 2004, EDP joined Global Compact, an international initiative sponsored by the United Nations Secretary General. This is the first year in which we are reporting our performance under its ten principles, which are based on human rights, labour, environment and anti-corruption.

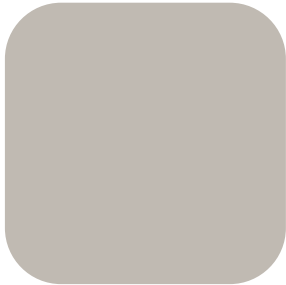
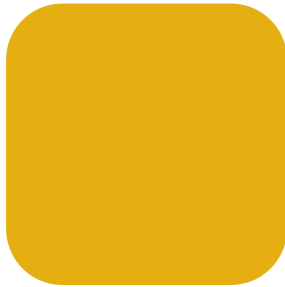
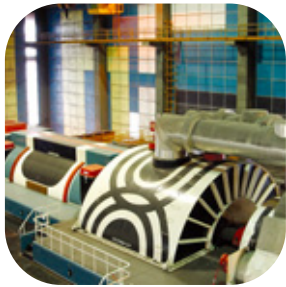
It was our commitment in the 2003 Report, and we intend to continue to improve the credibility of the information that we publish. As a result, in early 2004, we began reviewing our systems for recording and consolidating sustainability information. They are only expected to be fully operational in 2006 but, even so, this year it was possible for an external body to check a number of key indicators reflecting the Company's activities. These efforts are aimed at broadening the application of the principles set forth in the Global Reporting Initiative.

In addition to these commitments, 2004 was a very important year in the Company's internal adaptation to the carbon emissions market, beginning in 2005. We have started implementing the structures needed for 2005-2007 and are already preparing for 2008-2012. At the same time, we are strongly committed to wind energy. We have increased our installed capacity by more than 71.5 MW, and have already opened the new combined cycle power station in Ribatejo. These facts alone demonstrate EDP's commitment to becoming a benchmark, opting for cleaner, more efficient technologies.

The year 2003 was "year zero" in our commitment to sustainability. In 2004, we made considerable progress in structuring and implementing the Sustainable Development Principles approved in the meantime. We are still strongly committed to making 2005 a year of consolidation and implementation of a considerable number of ongoing projects. And we are facing up to all these challenges with a new, optimistic "smile".

*Francisco de la Fuente Sánchez*

Francisco de la Fuente Sánchez  
Chairman of the Board





“Supplying energy is paving the way for progress and people’s well-being. And we want to do this without compromising coming generations’ chances of meeting their own needs in the future”.

Francisco de la Fuente Sánchez  
Chairman of the Board

# The road to sustainability

|   |           |
|---|-----------|
| 1. EDP GROUP                                | 10        |
| 1.1. Activities and markets                 | 10        |
| 1.2. Corporate governance                   | 12        |
| 1.3. Governance structure                   | 12        |
| 1.4. Sustainability at EDP                  | 12        |
| <b>2. VISION OF SUSTAINABLE DEVELOPMENT</b> | <b>14</b> |
| <b>3. IMPORTANT EVENTS IN 2004</b>          | <b>16</b> |

**1. EDP GROUP**

**1.1. Activities and markets**

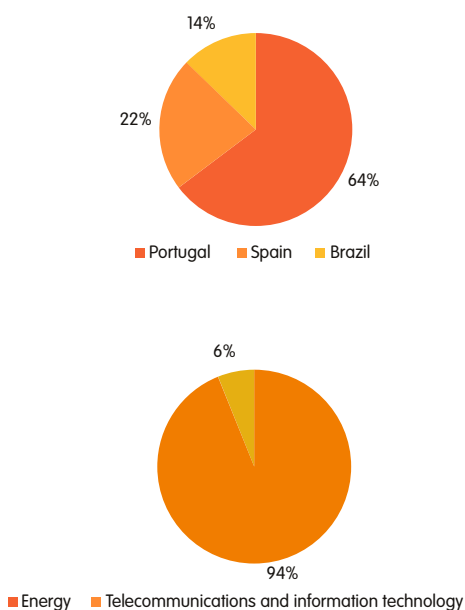
The EDP Group's core business is the generation, distribution and sale of electricity in the Iberian Peninsula and Brazil. EDP also operates in the telecommunications sector, thanks to its shareholding in ONI, and in the natural gas sector, through HidroCantábrico's shareholding in Naturcorp and a minority shareholding in Portgás.

The EDP Group's information technology sector has been totally reorganised and a new management model has been developed for its information systems. The sale of 60% of its EDINFOR shares to LOGICAC MG was completed in the first few days of 2005. As a result, LOGICAC MG now occupies an important position in the Iberian Peninsula.

The EDP Group's turnover demonstrates its Iberian positioning, as 86% of its total turnover was based in this region.

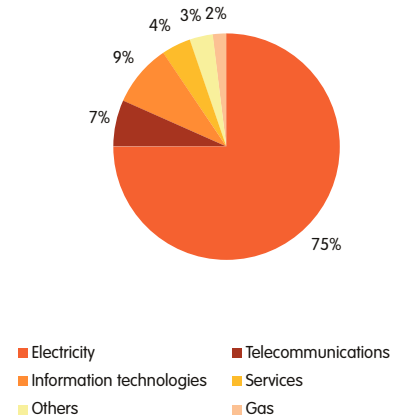
We can also clearly see the group's alignment in terms of its core business, as 94% of its turnover is in the energy sector.

**EDP Group's turnover**



About 75% of our employees are involved in this activity, while the remaining 25% work in telecommunications, information technologies, services and others.

**Distribution of EDP Group employees**



In 2004, the EDP Group produced 41.2 TWh of electricity and distributed 76 TWh, satisfying the needs of 9.4 million customers.

In the gas sector, HidroCantábrico distributed 31,877 GWh of gas, which corresponds to an increase of 2% in the energy distributed and 72% in the energy sold, supplying 579,302 customers.

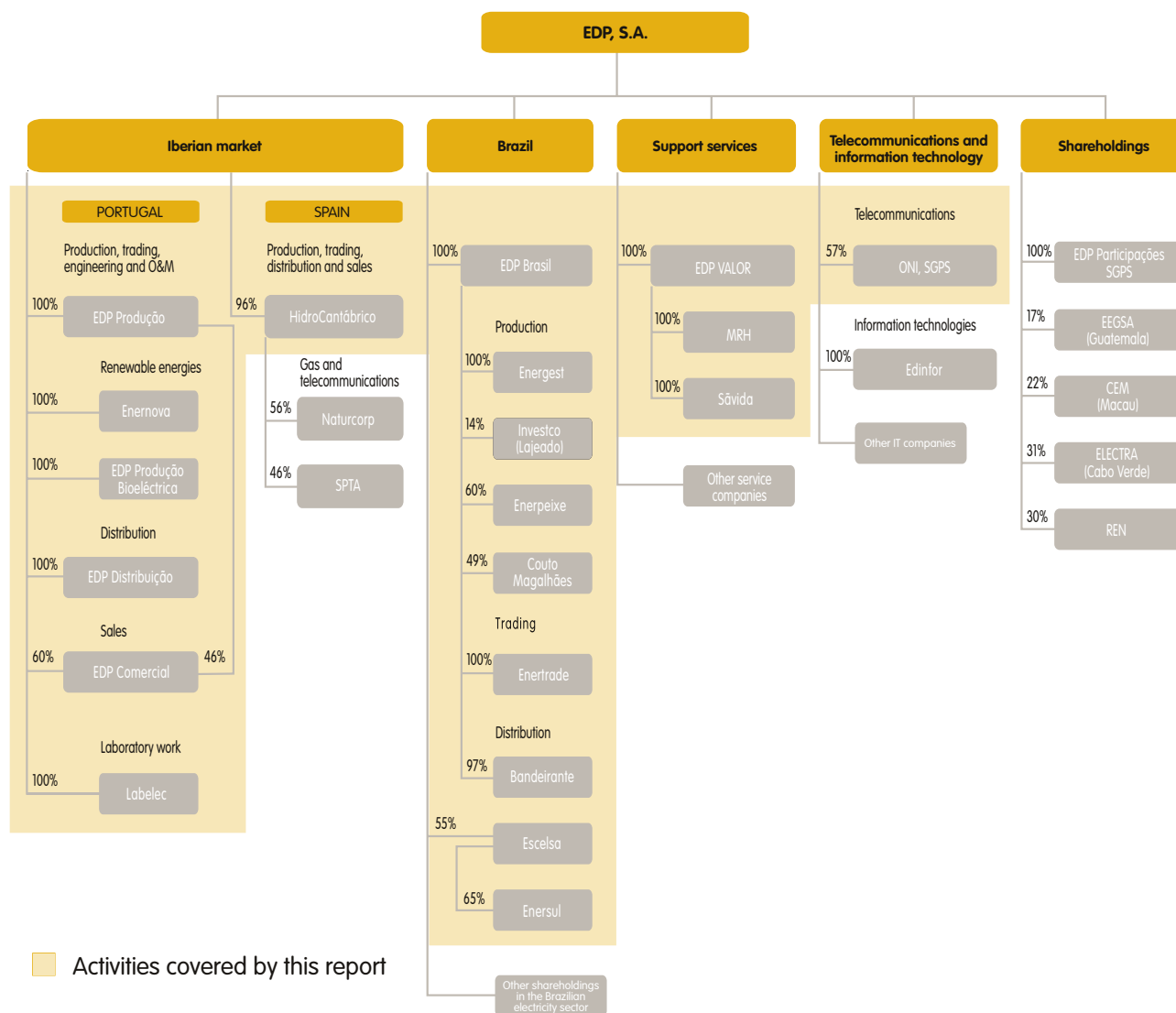
With regard to the reorganisation of the energy sector in Portugal, the prospect announced in last year's report of integrating the natural gas assets into EDP fell through, as a result of a decision by the European Union. The decision did not, however, affect the Company's strategic objectives announced in 2003. They are:

- Strengthening our competitive position in the Iberian Peninsula;
- Controlling costs and improving quality of service in electricity distribution;
- Maximising the economic value of our international investments and investments in complementary activities.

EDP Group's main operating indicators

|   | 2004      | 2003      | 2002      | Var.<br>03-04 |
|---|-----------|-----------|-----------|---------------|
| <b>Electricity in Portugal</b>                  |           |           |           |               |
| Maximum power (MW)                              | 8,402     | 7,939     | 7,654     | 5.8%          |
| Electricity sales - generation (GWh)            | 25,373    | 28,532    | 25,513    | -11.1%        |
| Electricity sales - distribution and sale (GWh) | 38,946    | 37,646    | 36,434    | 3.5%          |
| Number of customers                             | 5,823,338 | 5,768,287 | 5,665,549 | 1.0%          |
| <b>Electricity in Spain</b>                     |           |           |           |               |
| Maximum power (MW)                              | 2,595     | 2,554     | 3,204     | 1.6%          |
| Electricity sales - generation (GWh)            | 14,408    | 14,155    | 13,308    | 1.8%          |
| Electricity sales - distribution and sale (GWh) | 13,618    | 13,371    | 12,213    | 1.8%          |
| Number of customers                             | 579,836   | 564,584   | 551,356   | 2.7%          |
| <b>Gas in Spain</b>                             |           |           |           |               |
| Gas sales - distribution and sale (GWh)         | 31,877    | 27,363    | 1,755     | 16.5%         |
| Number of customers                             | 579,302   | 543,268   | -         | 6.6%          |
| <b>Electricity in Brazil</b>                    |           |           |           |               |
| Maximum power (MW)                              | 999       | 1,053     | 903       | -5.1%         |
| Electricity sales - generation (GWh)            | 2,837     | 2,601     | 1,399     | 9.1%          |
| Electricity sales - distribution and sale (GWh) | 27,245    | 21,997    | 20,996    | 23.9%         |
| Number of customers                             | 2,998,026 | 2,902,215 | 2,848,120 | 3.3%          |

Simplified organisational chart of the EDP Group



■ Activities covered by this report

## 1.2. Corporate governance

In 2004, EDP changed its name to EDP – Energias de Portugal, S.A., at a General Meeting of Shareholders held on 7 October.

As a security-issuing company, EDP has given particular consideration to the best organisational models and best practices and guidelines for its corporate governance.

Its activities are divided into corporate groups based on organisation, functions and responsibilities determined by the Executive Committee. The Executive Committee defines the group's structure and allocates functions to the different business units, the Shared Services Unit - EDP Valor and the EDP Group's Corporate Centre.

EDP has a central support structure for decision-making, with transversal competencies, working with the Executive Committee. This support structure consists of a group of general managers and a Corporate Centre organised into offices and coordination areas.

In 2004, the Corporate Centre was reorganised and priority areas of action were defined to make the structure lighter and more flexible. More information can be found in the Institutional Report and Report on Corporate Governance.

## 1.3. Governance structure

EDP's Articles of Association provide for six different corporate bodies: the General Meeting of Shareholders, the Board of Directors, the Auditor, the Company Secretary, the Salaries Committee and the Environment Board.

The present Board of Directors, elected at the General Meeting of Shareholders in May 2003, delegated its powers for the everyday running of the Company to a five-member Executive Committee. In early 2005, the Board of Directors was enlarged to 15 members, four of whom are independent.

EDP's Board of Directors also set up an Auditing Committee consisting of three independent members. This committee's main purpose is to provide permanent monitoring of the activities of the Company's external auditors and make recommendations for the preparation of its financial information.

EDP's management and governance are subject to statutory and legal rules and to internal regulations, including those of the Board of Directors, Executive Committee and Auditing Committee, available at [www.edp.pt](http://www.edp.pt).

## 1.4. Sustainability at EDP

The issues of the environment and sustainability are transversal to the management of the EDP Group businesses and the responsibility for the Company's overall performance must be shared as much as possible.

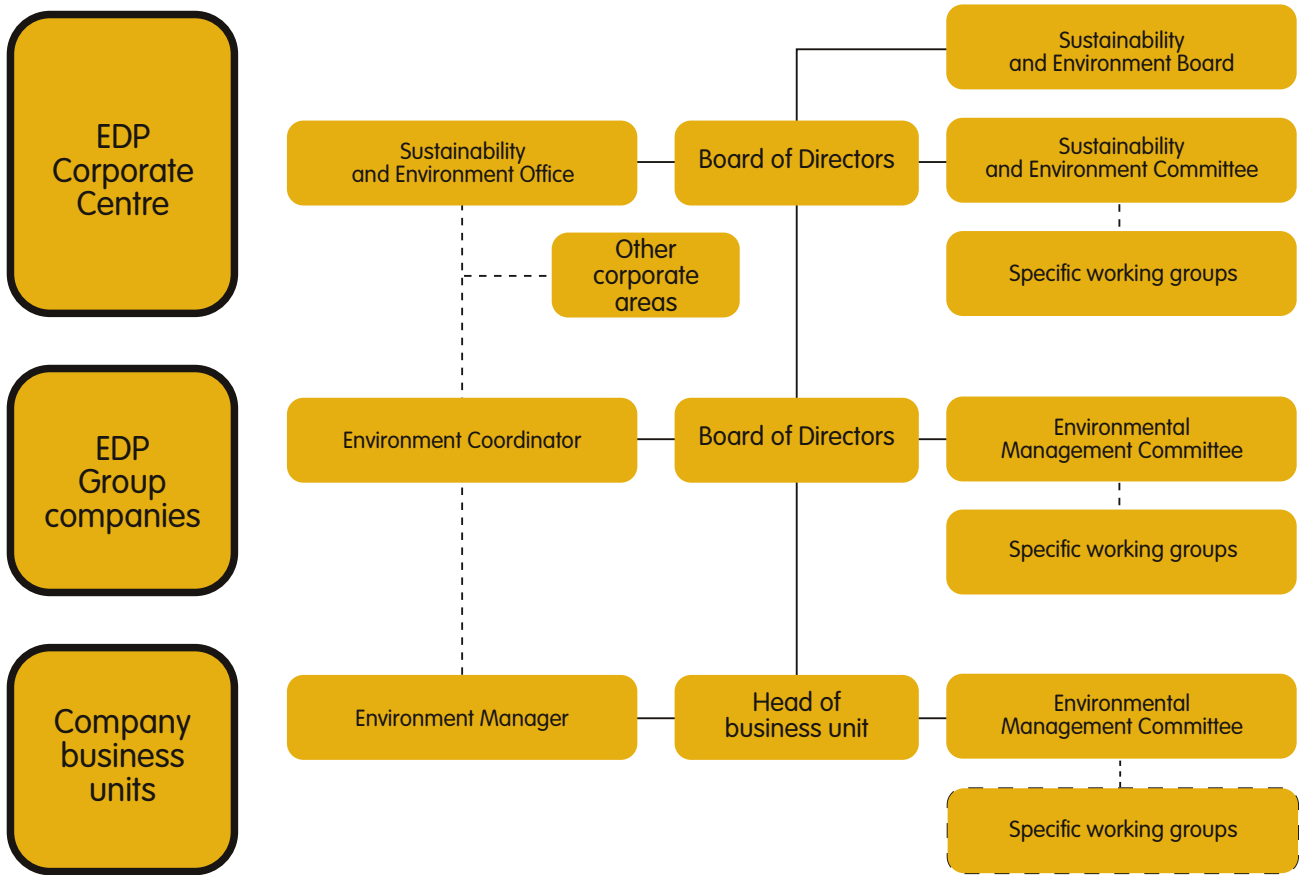
The corporate Sustainability and Environment Office (GSA) provides support for decision-making and is attached to the Executive Committee just like all the other offices at the Corporate Centre.

A corporate committee defines policies and plans of action and is coordinated by the GSA. Its members are senior managers from each subsidiary company. Its proposals are submitted to the consideration of the Executive Committee.

There are also environmental structures at each organisational level providing support for decision-making, preparing plans of action and monitoring their execution, decentralising executive actions in the business units.

Functional dependencies are clearly defined and so there is close communication between the corporate and operational structures, ensuring that information gets to the companies' different organisational levels.

**Sustainability and environment in the EDP Group**



## 2. VISION OF SUSTAINABLE DEVELOPMENT

In March 2004, EDP approved its Principles of Sustainable Development, thus making a public commitment to carry on its business while seeking a balance between the economic, environmental and social aspects of its activity.

This balance takes into account the group's vision, mission and values. In short, EDP's aim is to be the most competitive, efficient energy operator in the Iberian Peninsula, basing its activities on three fundamental goals: the creation of value for its shareholders, customer orientation and belief in its human capital. To achieve this, its activities abide by the principles of transparency, respect for the environment and for the highest standards of ethics and honesty. The Company's statement of vision, mission and values can be found in the Institutional Report and Report on Corporate Governance Section of this Annual Report.

The need to state our recently approved Principles is the result of the Company's current framework, which is as follows:

- EDP regards the energy sector as a natural growth sector. This is where it conducts its core business, the generation, distribution and sale of electricity, and EDP plans to continue investing in it;
- The sector in which it operates is a driving force of society as it is today;
- Its activity has important environmental effects, especially due to the need to burn fossil fuels, and social consequences, because of the large number of employees involved;
- The market in which it operates is moving rapidly towards total liberalisation.

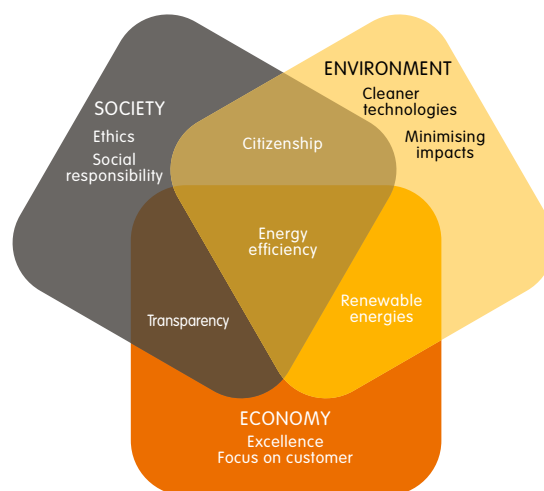
The increased competition means that the Company has to do everything possible to satisfy its customers' needs, while abiding by the highest standards of quality of service;

- It is an international group. It has considerable holdings in Brazil and Spain, along with interests in other countries. It is the third largest electricity company in the Iberian Peninsula and now controls the second Spanish gas operator.

In short, the sector in which it operates, the present size of the Company, the market to which it belongs and its internationalisation have been decisive factors in the commitment it is now making. The challenge is to guarantee that the satisfaction of energy needs can coexist with environmentally correct and socially responsible practices throughout its sphere of influence.

This concern is nothing new. EDP already boasts a long tradition of considering these aspects in its management. However, the approval of these principles has resulted in greater systematisation and a more comprehensive corporate analysis.

This report is the main step towards this demonstration, where the Company's performance and its future objectives are present in each of the principles included here.



## EDP Group's Principles of Sustainable Development

1

### Creation of value

- Create shareholder value
- Increase productivity and efficiency, and reduce exposure to risks related to the economical, environmental and social impact of its activities
- Commit to customer orientation, ensuring high quality of service
- Integrate environmental and social aspects in planning and decision making processes

2

### Efficient use of resources

- Promote the development of cleaner and more efficient energy technologies
- Develop means of generation based on renewable energies
- Promote the rational use of energy

3

### Environmental protection

- Minimize the environmental impact of all its activities
- Participate in initiatives that contribute to the preservation of the environment
- Extend the use of environmental criteria to the entire value chain

4

### Integrity

- Ensure the observance of ethical standards in the conduction of business
- Respect human rights in its sphere of influence
- Elaborate specific codes of conduct

5

### Dialogue with Stakeholders

- Ensure an open, transparent and trustful relationship with the different stakeholder groups
- Establish stakeholder communication channels and integrate their concerns
- Report performance in a credible, objective way in its economical, environmental and social dimensions

6

### Human capital management

- Reinforce management systems to ensure health, safety and well-being of workers
- Promote the development of individual skills and reward excellence and merit
- Reject abusive and discriminatory practices

7

### Promotion of access to electric energy

- Promote reliable and generalized access to electric energy
- Adopt a transparent and socially fair price policy
- Develop means of electricity generation with appropriate quality at a minimum cost

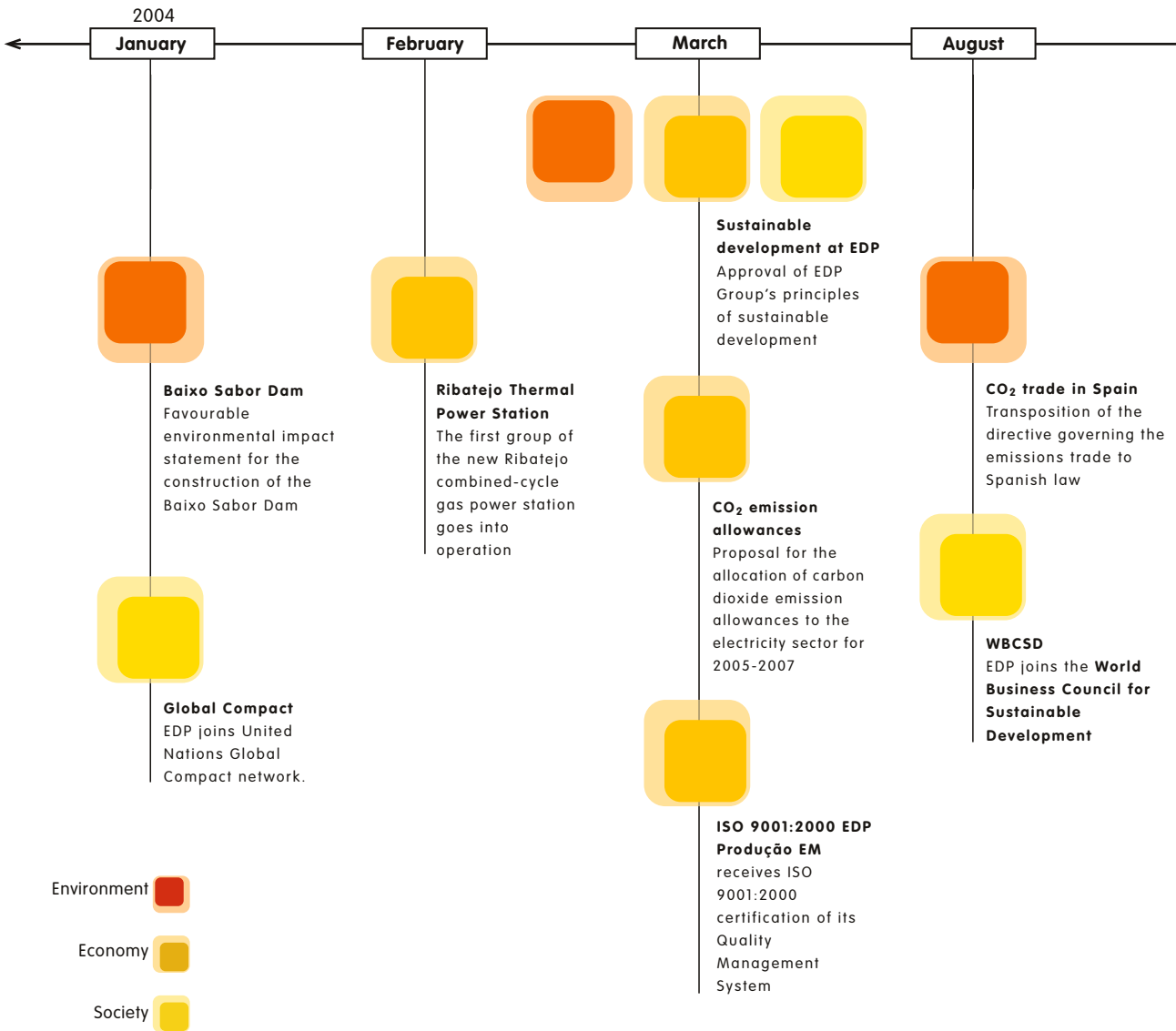
8

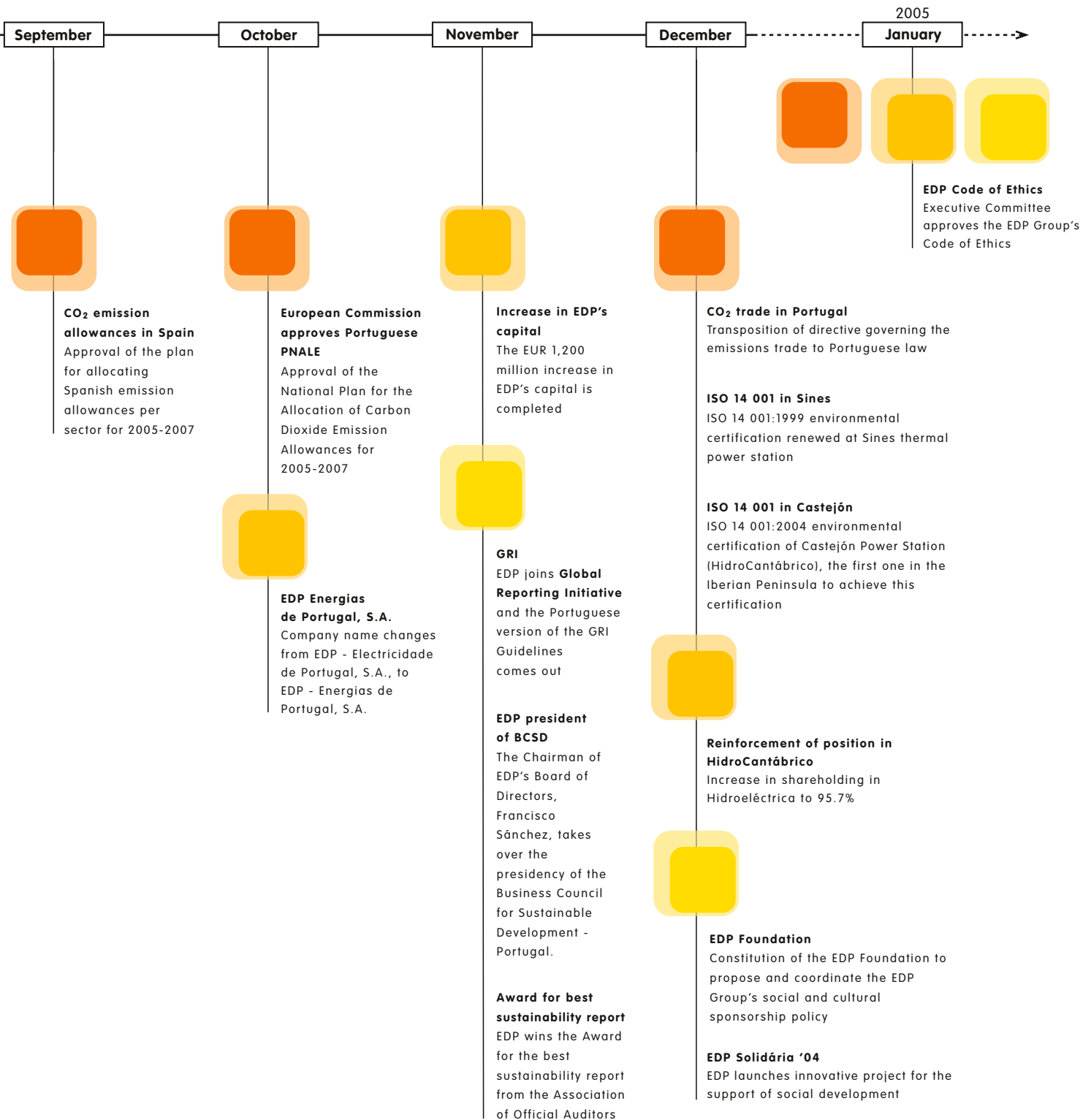
### Support to social development

- Support social and cultural promotion initiatives, based on transparent assessment of importance to the community
- Promote technology transfer to developing countries



**Important Events in 2004**





“Good management is being able to conjugate the interests of shareholders, customers and employees, running the business in a search for economic, social and environmental balance - the pillars of sustainable development”.

Francisco de la Fuente Sánchez  
Chairman of the Board

# Annual performance

|  |           |   |           |
|--|-----------|---|-----------|
| Sustainability Key Indicators          | 20        |   |           |
| <b>1. CREATION OF VALUE</b>            | <b>22</b> | <b>4. INTEGRITY</b>   | <b>45</b> |
| 1.1. Economic performance              | 22        | 4.1. EDP Group's Code of Ethics                                   | 45        |
| 1.1.1. Shareholder structure           | 22        | 4.2. Participation in organisations                               | 46        |
| 1.2. Shareholders                      | 24        |   |           |
| 1.3. Employees                         | 24        | <b>5. DIALOGUE WITH STAKEHOLDERS</b>                              | <b>48</b> |
| 1.4. Suppliers                         | 24        | 5.1. Customers  | 49        |
| 1.5. Community                         | 25        | 5.2. Shareholders   | 50        |
| 1.6. Risk management                   | 25        | 5.3. Employees  | 51        |
|  |           | 5.4. Suppliers  | 52        |
|  |           | 5.5. Government and scientific institutions and local communities | 52        |
| <b>2. EFFICIENT USE OF RESOURCES</b>   | <b>27</b> | <b>6. HUMAN CAPITAL MANAGEMENT</b>                                | <b>54</b> |
| 2.1. Research and development          | 27        | 6.1. Employment   | 54        |
| 2.2. Renewable energies                | 28        | 6.2. Training   | 56        |
| 2.3. Fuels                             | 29        | 6.3. Health and safety  | 56        |
| 2.4. Transports                        | 30        | 6.4. Safety and accident prevention                               | 57        |
| 2.5. Consumption                       | 31        |   |           |
| 2.5.1. Electricity                     | 31        | <b>7. PROMOTION OF ACCESS TO ELECTRICITY ENERGY</b>               | <b>59</b> |
| 2.5.2. Water                           | 31        | 7.1. Public service obligations                                   | 59        |
| 2.5.3. Consumables                     | 31        | 7.2. Promotion of access to electricity                           | 59        |
| 2.6. Demand slide management           | 32        | 7.2.1. Customers with special needs                               | 60        |
|  |           | 7.2.2. Social prices  | 60        |
| <b>3. ENVIRONMENTAL PROTECTION</b>     | <b>34</b> | 7.3. Quality of service   | 61        |
| 3.1. Climate change                    | 35        | 7.3.1. Technical service  | 61        |
| 3.2. Management Systems                | 37        | 7.3.2. Commercial service   | 62        |
| 3.2.1. Environmental management system | 37        |   |           |
| 3.2.2. Environmental licensing         | 38        | <b>8. SUPPORT FOR SOCIAL DEVELOPMENT</b>                          | <b>63</b> |
| 3.2.3. Environmental accounting        | 38        | 8.1. Fundação EDP   | 63        |
| 3.3. Environmental impact assessment   | 38        | 8.2. Fundación HidroCantábrico                                    | 64        |
| 3.4. Atmospheric emissions             | 39        | 8.3. Community support Initiatives                                | 64        |
| 3.5. Water and wastewater              | 40        | 8.4. Support of developing countries                              | 66        |
| 3.6. Waste                             | 41        |   |           |
| 3.7. Biodiversity                      | 42        |   |           |
| 3.8. Compliance                        | 43        |   |           |
| 3.8.1. Incidents                       | 43        |   |           |
| 3.8.2. Complaints                      | 43        |   |           |
| 3.8.3. Administrative offences         | 44        |   |           |

Annual Report • Sustainability Report  
**Sustainability Key Indicators**  
**2004**

**EDP Grup Consolidated**

| <b>Financial and economic indicators</b> | Eur' 000   |
|--|------------|
| Turnover                                 | 7,221,690  |
| EBITDA                                   | 1,968,041  |
| EBIT                                     | 1,058,446  |
| Net profit                               | 440,152    |
| Operating investment                     | 1 247,405  |
| Net assets                               | 22,589,320 |
| Shareholders' Equity                     | 6,401,714  |
| Financial liabilities                    | 8,598,844  |
| Return on shareholders' equity           | 7.8%       |
| Return on assets                         | 2.3%       |
| Profit per share (€)                     | 0.14       |
| Payout ratio (%)                         | 76.40%     |
| Market capitalization                    | 8,154,079  |

**Portugal**  
**Operating Indicators**

| <b>Net generation</b>   |                   |
|---|-------------------|
| <b>Total electricity generation (MWh)</b>                           | <b>25,373,682</b> |
| Conventional thermal generation (MWh)                               | 11,755,851        |
| Combined cycle generation (MWh)                                     | 3,418,755         |
| Co-generation (MWh)   | 655,710           |
| Water power generation (MWh)  | 9,257,164         |
| Wind power generation (MWh)   | 237,034           |
| Biomass generation (MWh)  | 49,168            |
| Steam Production(TJ)  | 5,528             |
| <b>Primary energy consumption</b>                                   |                   |
| Total primary energy consumption (TJ)                               | 147,105           |
| Coal consumption (t)  | 3,534,969         |
| Fuel oil consumption (t)  | 557,906           |
| Natural gas consumption(Nm <sup>3</sup> x10 <sup>3</sup> )          | 831,687           |
| Diesel consumption (t)  | 2,059             |
| Biomass consumption (t)   | 95,694            |
| <b>Consumption and use of water</b>                                 |                   |
| Use of cooling water (m <sup>3</sup> )                              | 1 736,835,370     |
| Gross water consumption in electricity generation (m <sup>3</sup> ) | 4,984,539         |
| <b>Electricity consumption</b>                                      |                   |
| Total electricity consumption of generating facilities (MWh)        | 1,499,992         |

**Portugal**  
**Social Indicators**

| <b>Employment and labour relations<sup>(1)</sup></b> |       |
|--|-------|
| Turnover (%)   | 2.28% |
| Average employee age (yrs)                           | 46    |
| Absentee rate (%)                                    | 5.52% |
| <b>Prevention and safety<sup>(1)</sup></b>           |       |
| Installed capacity, certified by OHSAS 18 001 (%)    | 83%   |
| Occupational accidents (no.) <sup>(2)</sup>          | 77    |
| Frequency index (Tf)                                 | 5.12  |

**Portugal**

| <b>Environmental Indicators</b>                                     |           |
|---|-----------|
| <b>Environmental certification</b>                                  |           |
| Installed capacity certified by ISO 14001 (%)                       | 35%       |
| <b>Emissions into air</b>   |           |
| Total emissions (Gg)  |           |
| CO <sub>2</sub>   | 12,051.71 |
| SO <sub>2</sub>   | 67.31     |
| NO <sub>x</sub>   | 31.69     |
| Particles   | 1.58      |
| Specific emissions (g/kWh)  |           |
| CO <sub>2</sub>   | 718.00    |
| SO <sub>2</sub>   | 4.01      |
| NO <sub>x</sub>   | 1.89      |
| Particles   | 0.09      |
| <b>Emissions into water</b>   |           |
| Total wastewater volume in electricity generation (m <sup>3</sup> ) | 4,142,741 |
| Emissions into the sea (m <sup>3</sup> )                            | 1,047,285 |
| Emissions into inland waters and estuaries (m <sup>3</sup> )        | 3,095,456 |
| <b>Waste disposal</b>   |           |
| Total waste disposal (t)  | 100,998   |
| Total hazardous waste (t)   | 1,249     |
| Total non-hazardous waste (t)                                       | 99,749    |
| Waste recovery (%)  | 51%       |
| Total subproduct sold (t)   | 364,623   |

(1) - Does not include ONI or EDINFOR  
(2) Only resulting in sick leave or death

**Spain**

**Operating indicators**

| <b>Net generation and distribution of electricity</b> |            |
|---|------------|
| <b>Total electricity generation (MWh)</b>             | 13,699,071 |
| Conventional thermal generation(MWh)                  | 12,316,788 |
| Water power generation (MWh)                          | 853,638    |
| Wind power generation (MWh)                           | 513,622    |
| Biomass generation (MWh)                              | 15,023     |
| <b>Total electricity distributed (MWh)</b>            | 7,599,000  |

**Primary energy consumption**

|   |           |
|---|-----------|
| Total primary energy consumption (TJ)                             | 106,468   |
| Coal consumption (t)  | 3,750,057 |
| Fuel oil consumption (t)  | 13,383    |
| Natural gas consumption (Nm <sup>3</sup> ×10 <sup>3</sup> )       | 343,623   |
| Diesel consumption (t)  | 1,522     |
| Blast furnace gas consumption (Nm <sup>3</sup> ×10 <sup>3</sup> ) | 150,834   |
| Coke gas consumption (Nm <sup>3</sup> ×10 <sup>3</sup> )          | 150,834   |

**Consumption and use of water**

|   |             |
|---|-------------|
| Use of cooling water (m <sup>3</sup> )                              | 661,414,861 |
| Gross water consumption in electricity generation (m <sup>3</sup> ) | 92,611,998  |

**Spain**

**Environmental indicators**

**Environmental certification**

|  |     |
|--|-----|
| Installed capacity certified by ISO 14001 (MW) | 393 |
|--|-----|

**Emissions into air**

|                        |        |
|------------------------|--------|
| <b>Total emissions</b> |        |
| CO <sub>2</sub>        | 11,842 |
| SO <sub>2</sub>        | 41.53  |
| NO <sub>x</sub>        | 29.43  |
| Particles              | 2.92   |

**Specific emissions (g/KWh)**

|                 |       |
|-----------------|-------|
| CO <sub>2</sub> | 913.0 |
| SO <sub>2</sub> | 3.20  |
| NO <sub>x</sub> | 2.27  |
| Particles       | 0.23  |

**Emissions into water**

|  |         |
|--|---------|
| Total wastewater in electricity generation (m <sup>3</sup> ) | 815,340 |
|--|---------|

**Waste disposal**

|                               |         |
|-------------------------------|---------|
| Total waste disposal (t)      | 598,238 |
| Total hazardous waste (t)     | 386     |
| Total non-hazardous waste (t) | 597,852 |
| Waste recovery (%)            | 99%     |

**Brazil**

**Operating indicators**

**Net electricity generation**

|   |           |
|---|-----------|
| <b>Total electricity generation (MWh)</b> | 5,889,407 |
| Conventional thermal generation(MWh)      | 11,163    |
| Water power generation (MWh)              | 5,878,244 |

**Primary energy consumption**

|                        |           |
|------------------------|-----------|
| Diesel consumption (t) | 3,269,221 |
|------------------------|-----------|

## 1. CREATION OF VALUE

- Create shareholder value
- Increase productivity and efficiency, and reduce exposure to risks related to the economical, environmental and social impact of its activities
- Commit to customer orientation, ensuring high quality of service.
- Integrate environmental and social aspects in planning and decision making processes

Creating value does not only mean managing risks and working efficiently and productively in order to reduce the consumption of resources. Today, it also means regarding the customer as the centre of the Company's activity, ensuring customer loyalty by offering high-quality, simpler, more reliable, more environmentally balanced services.

By creating value for its shareholders, the Company also creates value for other agents related to it. It generates new jobs; it generates wealth for suppliers; it generates comfort for its customers; and it also generates wealth for the community.

### EDP's strategic objectives for 2005-2007

In December 2004, EDP submitted its strategic objectives for 2005-2007 to the market in London. The most important are:

- Strengthening its competitive position in the Iberian Peninsula;
- Controlling costs and improving quality of service in electricity distribution;
- Maximising the economic value of its international investments and investments in complementary activities.

This plan involves a total investment of some EUR 6 thousand millions, more than 80% of which is for maintenance and expansion of electricity - generating facilities in Portugal and Spain.

This will be done by investing heavily in renewable energies, which represent 27% of the total investment planned, and by investing in electricity distribution in the Iberian Peninsula.

### 1.1. Economic performance

In 2004, the EDP Group's consolidated EBITDA was EUR 1,968 millions, which represents an increase of 7% in relation to 2003.

#### Main economic and financial data

|                                     | EUR thousands |            |            |
|-------------------------------------|---------------|------------|------------|
|                                     | 2004          | 2003       | 2002       |
| Turnover                            | 7,221,690     | 6,977,520  | 6,386,508  |
| Operating profits                   | 1,058,446     | 905,742    | 648,704    |
| Net profits                         | 440,152       | 381,109    | 335,216    |
| Operating investment <sup>(1)</sup> | 1,247,405     | 1,067,951  | 1,479,976  |
| Financial investment                | 146,185       | 181,760    | 966,434    |
| Net assets                          | 22,589,320    | 18,650,669 | 18,125,190 |
| Equity                              | 6,401,714     | 5,298,007  | 5,494,182  |
| Financial liabilities               | 8,598,844     | 7,942,709  | 7,994,076  |
| Market capitalisation               | 8,154,079     | 6,270,000  | 4,770,000  |
| Profit per share (EUR)              | 0.14          | 0.13       | 0.11       |
| Pay-out ratio <sup>(2)</sup>        | 76.4%         | 70.8%      | 80.5%      |

(1) Considering 100% operating investment of consolidated companies.

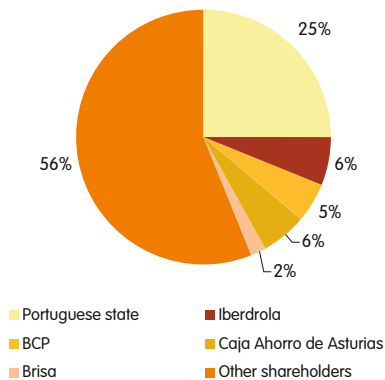
(2) Dividend distributed from previous year / Net profit of previous year.

#### 1.1.1. Shareholder structure

EDP increased its holding in HidroCantábrico in 2004 by acquiring an additional 56.2% of its shares. EDP now owns 95.7%.

In order to do this, EDP carried out the largest capital increase in Portugal, attracting Portuguese and foreign, private and institutional investors and reinforcing its benchmark shareholder structure. There was no significant change in EDP's shareholder structure in this increase of capital.

EDP Group's shareholders



EDP is quoted on Euronext Lisbon and on the New York Stock Exchange (NYSE).

At present, around 2,936 million ordinary EDP shares with a face value of EUR 1.00 are traded at Euronext Lisbon, representing 80.3% of its share capital. EDP is among the Portuguese companies with the greatest relative weight, around 19%, in the Euronext Lisbon PSI20 Index. It is also one of the seven Portuguese companies listed in Euronext 100.

EDP shares are also a benchmark in several European indices, including the Dow Jones Eurostoxx Utilities.

#### Creating value for EDP

Every year, EDP promotes a number of major initiatives to adapt the organisation to its adopted strategy. These initiatives are designed to optimise processes and result, on one hand, in a substantial increase in productivity and, on the other, in a considerable reduction in costs.

There were three large initiatives in 2004 and they are described in more detail in the Institutional Report and Report on Corporate Governance:

#### EDP's continuing focus on the energy business.

The sale of 60% of Edinfor's shares was part of the Group's strategy to focus on its core business, the energy sector. With this operation, the EDP Group will guarantee access, at competitive prices,

to the best international practices in the field of information technologies, while creating the right conditions for Edinfor to make its mark in its natural market and benefit from the size and global positioning of LogicaCMG, the selected strategic partner.

#### Synergy project with HidroCantábrico.

This project will identify the best business practices and potential for cost reduction and coordination in operational and back-office areas.

From an operational point of view, we are looking to optimise generation processes like complementary position management and better coordination in increasing generation capacity. Particularly important is the articulation of trading on the wholesale electricity markets and the bulk purchase of fuel for thermal power stations.

Commercially speaking, this operation means integrated customer management and compatible, optimised systems and technological platforms supporting business in Portugal and Spain.

We hope to be able to reduce overall costs by between EUR 37 million and EUR 46 million by 2007.

#### Efficiency project in Brazil.

During the restructuring of EDP's assets in Brazil, in 2004 some appropriate steps were taken to prepare for the launch of an operation planned for 2005. Its aim is for EDP's shares to be quoted on the São Paulo stock exchange, Bovespa. This would give the Company more efficient access to the capital market in order to make it self-reliant.

This operation not only requires internal reorganisation with a view to best corporate management practices and achieving company, organisational and operational efficiency, but will also create a robust company capable of taking advantage of business opportunities in the country.



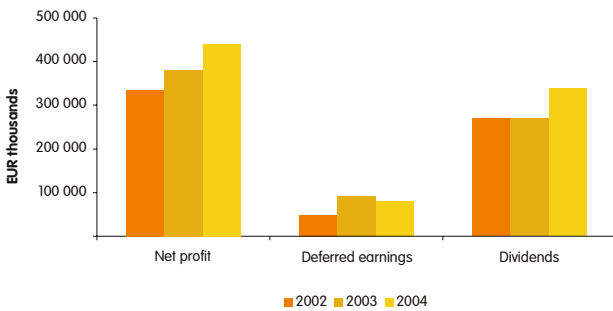
**1.2. Shareholders**

In 2004, EDP's shares rose by 11.1%, going from EUR 2.01 to EUR 2.23, representing 20% (EUR 5,471 million) of the total volume of shares traded at Euronext Lisbon.

EDP has followed a sustained dividend policy, in which it has shared with all its shareholders a substantial part of the Company's profits in harmony with the Company's and the market's conditions.

The General Meeting of Shareholders in March 2004 approved the motion to distribute a gross dividend of 9 euro cents per share.

**Net profits, deferred earnings and dividends**



The net profit in 2004 was about 16% higher than in 2003, at around EUR 440 million.

**1.3. Employees**

There are currently 16,057 employees working for the EDP Group (including Spain and Brazil).

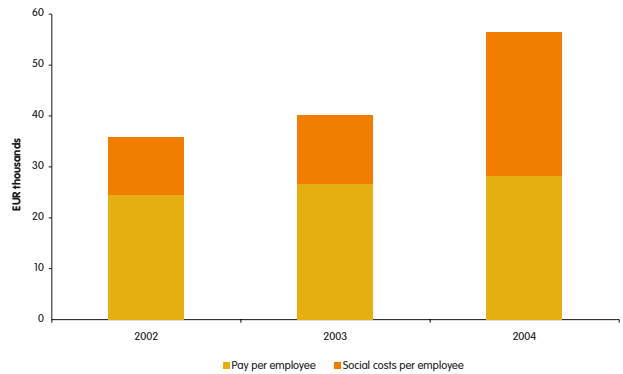
In 2004, personnel costs were EUR 833 million, 28% more than in 2003.

There are two main reasons for the difference in personnel costs in 2004 compared to 2003:

- Increase in social contributions, which include benefits granted to the Group's employees, such as retirement supplements and medical care for active employees, retirees and pensioners and their families, representing about 50% of personnel costs in 2004;

- Six percent rise in salary costs from 2003 to 2004.

**Personnel costs**



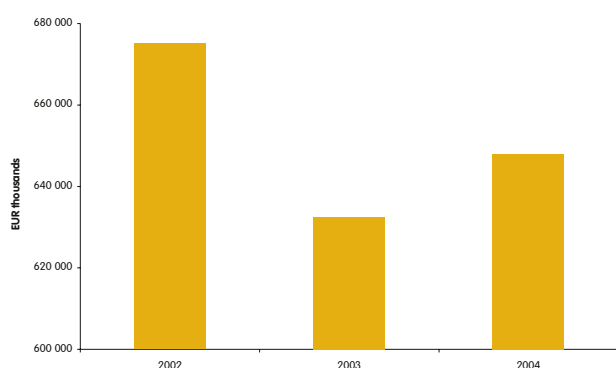
The Company allocates shares as part of the variable component of the salaries of its executive directors and senior managers as an incentive to performance and the achievement of medium- and long-term objectives. They are distributed on the basis of variables such as environmental or social goals, which are naturally part of company management functions.

**1.4. Suppliers**

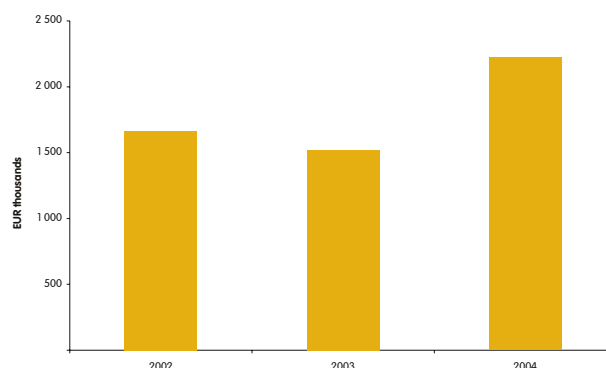
In 2004, the EDP Group's operating investment was EUR 1,341 million, which represents an increase of 25.6%.

In 2004, EDP outsourced about 649 million worth of services, which is 2.6% more than in 2003.

### Outsourcing



### Donations



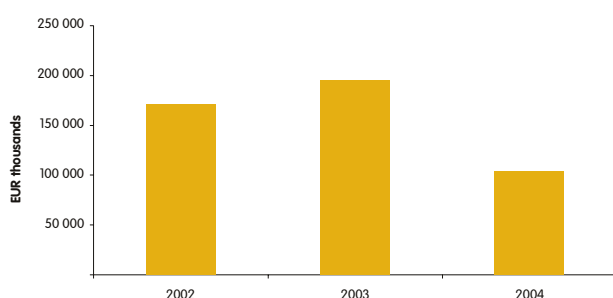
## 1.5. Community

The community benefits directly from the companies' activity. Where EDP is concerned, these benefits may be direct, in the form of donations, or indirect, through the Company's corporate income tax.

In 2004, the Company made donations worth EUR 2.2 million, which is 46% more than in 2003.

Income tax went down 47% in relation to 2003. This fall was due to a reduction in corporate income tax from 33% to 27%.

### Income tax



## 1.6. Risk management

Sustainability cannot be built only on the basis of good economic performance, as the risks to which companies are exposed these days are not only financial but are also the result of the environmental and social consequences of their activities. Managing sustainability therefore means protecting the business.

EDP's risk management has been aimed at measuring and establishing appropriate mechanisms for managing and controlling the different aspects of the Group's main risks in a strategy of gradual, systematic progression, beginning with the most important risks (trading, debt, pensions fund) and extending progressively towards total coverage.

In 2004, the first version of the EDP Risk Chart was drawn up. It identified, classified and, whenever possible quantified, the most important risks of EDP's core business in Portugal. This chart is currently being integrated with that of HidroCantábrico and it will then be extended to the companies in Brazil and those that do not belong to our core business.

The inclusion of the carbon risk in the business led to changes in the risk management models in 2004 so that they would reflect CO<sub>2</sub> in the overall trading risk.

Until this year, electricity generation in Portugal had its own particular form of risk management. The existence of long-term contracts (Energy Purchase Contracts – EPCs) was, in itself, a risk-reduction mechanism.

The liberalisation of the electricity market made it necessary to revise our EPCs. This involved using a compensatory mechanism that was negotiated and approved by the European Commission and was equivalent to the difference between the expectable income from each power station during its working life, assuming that the EPCs remained in effect, and the expectable income in a market environment.

An annual review mechanism was also agreed upon in order to maintain a risk profile for the next 10 years equivalent to that in existence while the EPCs were in effect. This mechanism means that variations in volume and or prices (market and fuels), in relation to those agreed, are considered in the prices of the following year.

This mechanism must also take into account shortages or surpluses of CO<sub>2</sub> emission allowances, given that they are added to fuel values for this purpose.

So far, there have been 34 EPCs, representing about 83% of Portuguese electricity generation. Of these, 61% belong to EDP.

Trading is responsible for managing the volume and price risk for the EDP market not covered by the EPCs.

Trading also manages an investment of USD 2.5 million in the World Bank's Community Development Carbon Fund. This 130 million-dollar fund acts as an intermediary between CDM projects in developing countries seeking funding and companies, governments, foundations and NGOs seeking to improve the local people's living conditions and to obtain emission allowances.

## 2. EFFICIENT USE OF RESOURCES

- Promote the development of cleaner and more efficient energy technologies
- Develop means of generation based on renewable energies
- Promote the rational use of energy

Natural resources have to be managed with the same care as any other scarce assets, consuming only the necessary quantities and seeking alternatives that reduce dependence on resources that may not exist in sufficient quantities in the future.

This issue is always considered in EDP's resource management policy. Therefore, its commitment to innovation and forms of generation using renewable energy sources such as wind power and biomass and, more recently, photovoltaic energy have contributed to energy solutions that enable the Company to maintain high standards of development in the future.

On the other hand, controlled management of the Company's energy, water and consumables consumption reflects its commitment to an efficient performance and ongoing cost reduction.

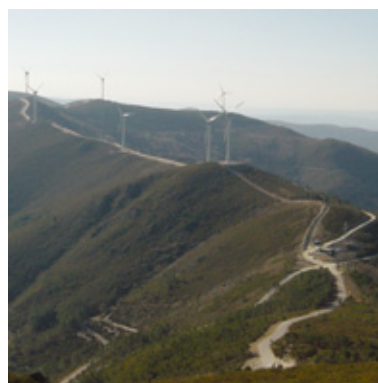
### 2.1. Research and development

As part of EDP's transversal research and development policy established in 2003, it has continued to develop and monitor the following priority areas:

- Energy market and value-added services;
- Conventional generation, environment and sustainability;
- Distributed generation and renewable energies;
- Electricity distribution.

In 2004, the most important projects were in the areas of distributed generation and renewable energies. Two demonstrative pilot projects were implemented at the Sacavém complex in the field of micro-generation:


- Micro-gas 30 kW turbine operating under co-generation;
- Multi-technology platform: micro-generation from renewable energy sources, including wind and photovoltaic power.



Serra do Açor Wind Farm

#### Objectives established in 2004

|   |   |  |
|---|---|--|
| Construction of 71 MW of wind power in Portugal                                       |  | The last farm to go into operation was that in Açor in September 2004. |
| Construction of the Campollano wind farm with 146 wind turbines and 124.1 MW in Spain |  | This was the largest project ever undertaken at any one time in Spain. |
| Membership to the Greenlight Project promoted by the European Commission              |  | Application already submitted to EU and awaiting decision.             |

 **Achieved**

 **Partially achieved**

 **Not achieved**

This platform consists of a photovoltaic system with a motorised follow-up system, a fixed photovoltaic system and a hybrid photovoltaic/wind system.

Where generation was concerned, we continued studies of integrated management of sludge from thermal power stations applied to the Carregado, Barreiro and Setúbal power stations. These studies were conducted by the "Associação para o Desenvolvimento" at "Instituto Superior de Agronomia" (ADISA) and classified the sludge generated by each power station and studied different possible forms of final disposal, including their potential for recycling.

The Sines Bioar Project, which evaluates and manages air quality and its social impacts in the Sines region, has been fully implemented. The project lasted from 2002 to 2004 and was the result of a partnership between three university and research institutions (ISCTE, IST and FCUL) under the coordination of CCDR – Alentejo. The final report on this project will be published at the end of the first quarter of 2005. Additional information on the project can be found on <http://www.ccr-alt.pt/sinesbioar/>.

In 2005 and 2006, several pilot projects are planned for photovoltaic and wave energies and an offshore wind project. Through these projects, EDP wishes to learn more about energy conversion systems with a view to possible future projects of this type on a larger scale, given Portugal's high potential:

- Pilot projects at the Sines and Penide photovoltaic power stations with installed capacities of 300 kWp and 100 kWp, respectively;
- AQUABUOY wave energy power station, a project to implement 1,250 kW of power to be developed under a cooperation protocol between Enernova, the AquaEnergy Group, Finavera and INETI;
- Mar da Palha Offshore Wind Farm (near-shore power station in the Tagus Estuary) with an installed capacity of about 50 MW.

## 2.2. Renewable energies

The year 2004 was a very important one for EDP in the field of renewable energies.

EDP's proposed goals were achieved with the construction of another 71 MW of wind power. In 2003 and 2004, EDP managed to double the wind power installed in Portugal.

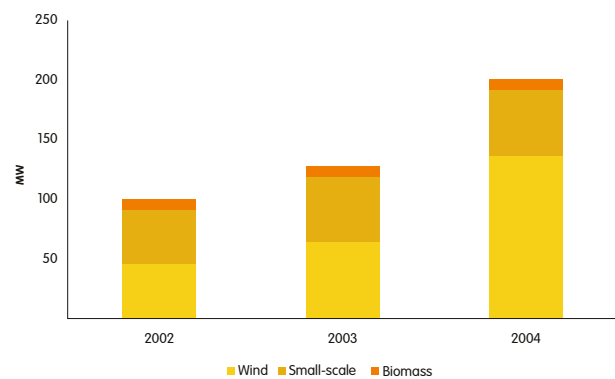


Mortágua Biomass Power Station

The annual increase in electricity generation from renewable sources is due not only to an increase in installed capacity but also to more efficient generation, as seen at the Mortágua biomass power station. From 2003 to 2004 there was a 29% increase in generation thanks to improvements in operation and maintenance, particularly in the management of the maintenance plan and the operation of the boiler.

Wind generation is clearly one of the EDP Group's main concerns, as shown by the increase in installed capacity in Portugal. The wind-power generation facilities have tripled since 2002.

Growth in EDP's renewable installed capacity in Portugal



The variation in the generation of small-scale hydroelectric power stations is related to the variation in HCF (hydroelectric capability factor). This factor, which indicates deviations in hydroelectric capability in relation to a reference period, is subject to the country's rainfall, which naturally exposes it to the resulting unpredictability. In 2004, the HCF was 0.81, which represents a decrease of around 39% compared to 2003 and naturally influenced hydroelectric generation.

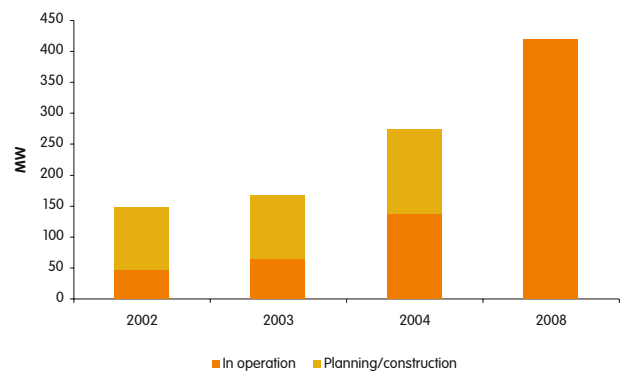
Applications for RECS - Renewable Energy Certificate System certification of the SENV (liberized market) hydroelectric power stations in the Serra da Estrela cascade system were sent to REN. This certification will allow that the energy generated by these power stations to be approved as green energy so that green certificates can be issued. These certificates can be traded in the market or passed on to customers.

**Electricity generation from renewable sources**

|                       | 2004      | 2003       | MWh<br>2002 |
|-----------------------|-----------|------------|-------------|
| <b>Portugal</b>       |           |            |             |
| Wind                  | 237,034   | 128,355    | 112,785     |
| Biomass               | 49,168    | 38,323     | 37,482      |
| Small-scale hydro     | 140,888   | 196,343    | 149,850     |
| Hydroelectric (>10MW) | 9,116,275 | 14,668,557 | 7,186,419   |
| HCF                   | 0.81      | 1.33       | 0.75        |
| <b>Spain</b>          |           |            |             |
| Wind                  | 513,622   | 483,000    | 207,000     |
| Biomass               | 15,023    | 23,000     | 23,000      |
| Small-scale hydro     | 123,451   | 100,001    | 98,000      |
| Hydroelectric (>10MW) | 730,187   | 588,971    | -           |
| <b>Brazil</b>         |           |            |             |
| Small-scale hydro     | 52,304    | 23,697     | -           |
| Hydroelectric (>10MW) | 5,825,940 | 5,362,715  | -           |

The plan to expand EDP's renewable energy facilities in Portugal is focussed essentially on wind generation. Another 151 MW are expected to go into operation by 2006. These projects are currently in the planning or licensing phase. This will enable the Company to practically double its current installed capacity. Another 12 projects are being developed at present (representing another 133 MW (1)), which will enable EDP to control a total of 420 MW of wind power by 2008.

**EDP wind power facilities in Portugal by 2008**



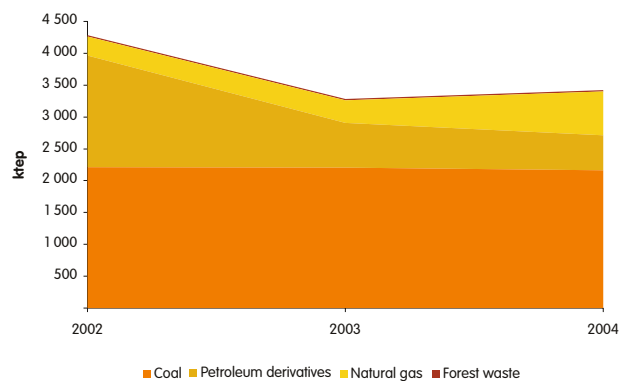
The Company is also pursuing this policy of expanding investment in wind power in Spain. In 2004, the wind farm built in Campollano, in the province of Albacete, became the largest project ever carried out at one time in Spain, with 146 wind turbines totalling 124.1 MW installed. A total of 900 MW of wind power is planned for Spain by 2007.

**2.3. Fuels**

In 2004, the first two groups at the natural-gas, combined-cycle Ribatejo Thermoelectric Power Station went on line as part of the non-binding electricity system (SENV).

The start-up of this power station is in line with EDP's focus on the diversification of fossil fuels so that it can optimise its management and achieve gains in efficiency.

**Consumption of fossil fuels at EDP thermoelectric power stations in Portugal**



**New Ribatejo Thermoelectric Power Station**

The Ribatejo Power Station is the first main Portuguese power station built from scratch to operate in the liberalised market (SENV). When it is completed in 2006, it will have a total installed capacity of 1,200 MW. This capacity will be the result of the installation of three generating groups with a capacity of 400 MW each.

The first group went into operation in February and the second in November 2004. The third, and last, is expected to go on line in 2006.

After being completed, this power station will produce the equivalent to 18% of Portugal's electricity consumption.



Given the high degree of efficiency of natural gas combined cycles, EDP plans to continue to invest in this technology. It is already developing a project to build three new groups with a capacity of 400 MW each. They are expected to go into operation in 2008, 2009 and 2011.

**2.4. Transports**

In Portugal, EDP currently owns a total of 3,216 vehicles for its core business, the electricity sector.

Vehicles fleet management has been centralised since 2003, making it possible to define and implement a series of measures to optimise their use.

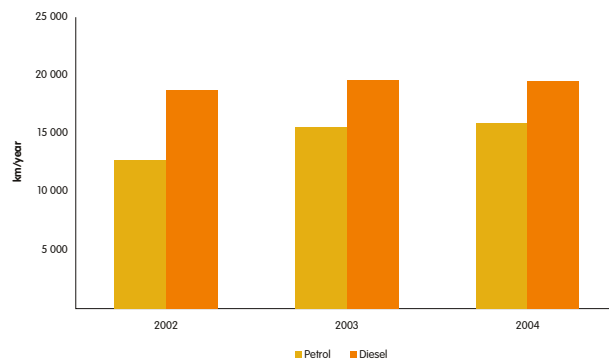
In 2004, the number of vehicles in the fleet fell by 10%. Most of the fleet consists of diesel vehicles (76% of the vehicles and 80 % of trips). About 10% less kilometres were travelled in 2004 in comparison to 2003, though total average consumption rose by around 1.5%.

Use of vehicles in EDP's fleet in Portugal<sup>(1)</sup>

|                                | 2004       | 2003       | 2002       |
|--------------------------------|------------|------------|------------|
| Total vehicles                 | 3,216      | 3,583      | 3,892      |
| Distance travelled (km)        | 59,631,906 | 66,302,975 | 65,112,426 |
| Average consumption (l /100km) | 8.87       | 8.74       | 8.74       |
| Average use (km/vehicle)       | 18,542     | 18,505     | 16,730     |

(1) Does not include Edinfor or Oni vehicles

Average kilometres travelled per vehicle by type of fuel in Portugal



In 2004, as a result of the renegotiation of the conditions for use of the Alfa Pendular and InterCidades railway services, there was a 180% increase in rail travel in the EDP Group in Portugal compared to 2003. A total of 27,895 journeys were made.

In Brazil, Bandeirante converted part of its motor fleet to natural gas, involving a total of 120 vehicles.

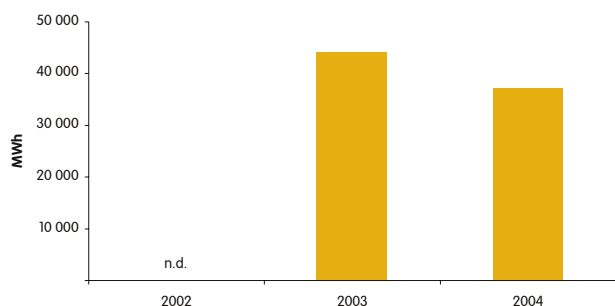
## 2.5. Consumption

### 2.5.1. Electricity

In 2004, there were a number of initiatives to optimise electricity consumption in the different EDP Group companies, including:

- The repair of the lighting systems at the Barreiro Power Station, which achieved a 65% reduction in consumption in the conduction building and 39% in the maintenance building;
- The implementation of energy efficiency measures in EDP's administrative buildings in Portugal, reducing electricity consumption by 16% compared to 2003.

Electricity consumption at EDP administrative buildings in Portugal<sup>(1)</sup>



(1) - Does not include ONI or Edinfor

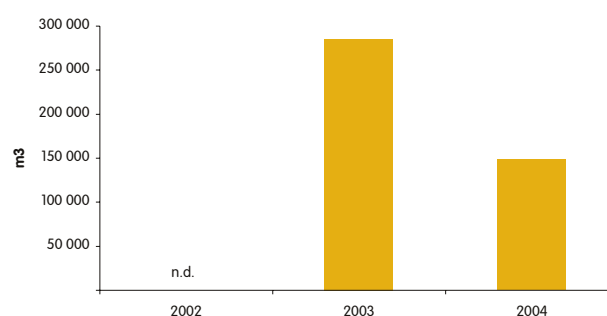
### 2.5.2. Water

Continuing the monitoring procedures required by the environmental management systems (EMS), different projects to reduce water consumption went ahead with the following results:

- At the Sines Power Station, a 20% reduction in the consumption of potable water compared to 2003 and a savings of around 20,000 m<sup>3</sup> of water thanks to improvements in the extraction of coal bottom ash;
- Reduction of approximately 0.5% in the volume of underground water used at the Barreiro Power Station;

- A 20% reduction in total water consumption at the Aboño Power Station;
- In the service sector, where measures have been implemented to rationalise space and reduce consumption, there was a highly significant reduction in water consumption (48%) compared to 2003.

Water consumption at EDP administrative buildings in Portugal<sup>(1)</sup>



(1) - Does not include ONI or Edinfor

### 2.5.3. Consumables

In 2004, steps were taken to rationalise the use of copying and printing equipment and they are expected to have resulted in economies in the use of consumables. A facilities management contract was signed for document management and resulted in an estimated economy of around EUR 23,000 a year.

As part of the EMS at the Carregado Power Station, there was a 27% reduction in paper consumption for administrative use in relation to 2003.

Since June 2004, HidroCantábrico has been using only TCF (totally chlorine-free) paper for internal use.



## 2.6. Demand slide management

A number of initiatives were implemented in the EDP Group in order to provide better service to customers and contribute to appropriate management of its electricity needs.

EDP posted consumption simulators on its website for corporate and domestic customers. Domestic customers can also access a simulation of the dual tariff and contracted power.

A project sponsored by the INESC is currently under way to study low-voltage consumption profiles by monitoring about 1,100 delivery points. The study will be public and will serve as a basis for pricing for the different players in the liberalised market and as an essential demand slide management tool.

Surveys using monitored customers were conducted at the same time as this study to ascertain whether they were receptive to REU (rational energy use) measures and VAS (value-added services) and detect the niches with the greatest potential.

The facelift that EDP was given in 2004 involved renovating 49 of the EDP Group's customer service stores. The lighting at these stores will be the subject of a candidacy for the EU Greenlight Programme. The programme's goal is a reduction in the energy used by indoor and outdoor lighting in Europe, reducing pollutant emissions and limiting global warming. Another aim is to improve working conditions and also reduce costs.

EDP continued to cooperate with QUERCUS as part of the EcoCasa Project agreement. This project works towards reducing home energy consumption and providing information on how to improve energy efficiency at home.

Motors and pumps were replaced and frequency inverters and automation systems were installed at Bandeirante, involving investments of around EUR 2.7 million. This amount will be recovered by a performance contract. The measures resulted in a saving of around 9.3 GWh a year

and a reduction in demand of about 8.6 MW at peak time.

Energul implemented energy efficiency measures in the street lighting systems of six municipalities in Mato Grosso do Sul. The project involved replacing 8,753 light bulbs, fixtures and lampposts, which resulted in an energy saving of 3.7 MWh per year.

In 2005, EDP plans to embark on a number of measures in this area. It will be publishing an energy efficiency guide and posting a section on energy efficiency and climate change on the EDP website. A road show on climate change and energy efficiency will also be travelling to schools in Portugal.



New EDP Store

**Efficient use of resources**

**Goals for 2005**

|                          |   |                         |   |
|--------------------------|---|-------------------------|---|
| Research and development | Implementation of a hydrogen fuel cell-based generation system.   | Demand slide management | Candidacy of EDP stores to the Greenlight Programme.  |
|                          | Development of an electronic system for detecting defects in overhead lines                                 |                         | Completion of consumption profile study and survey of customer receptivity to REU measures                              |
|                          | Development of a pilot system for remote detection of obstacles to overhead lines                           |                         | Measures to promote rational energy use (dedicated section on EDP website, a school road show, energy efficiency guide) |
| Renewable energies       | Construction of photovoltaic power stations in Penide and Sines with a total installed capacity of 400 kWp. | Transports              | Eight per cent reduction in cost of managing facilities and management of the EDP fleet                                 |
|                          | Construction of 900 MW of wind power in Spain by 2007 and of 284 MW in Portugal by 2008.                    |                         | Ten per cent reduction in fuel consumption of EDP fleet   |

### 3. ENVIRONMENTAL PROTECTION

- Minimize the environmental impact of all its activities
- Participate in initiatives that contribute to the preservation of the environment
- Extend the use of environmental criteria to the entire value chain

EDP has included the environmental component in its activities since the 1980s. A more attentive and a more demanding public and increasingly strict environmental laws have made environmental protection a vital issue in the long-term viability of all companies operating in this sector.

The EDP Group's environmental policy statement was published in 1994 and EDP has taken responsibility for issuing an annual report on its environmental performance since 1997.







#### **Basic principles of the EDP Group's environmental policy**

In 1994, the Board of Directors of the EDP Group adopted a Declaration on Environment Policy based on the following fundamental principles:

- To consolidate environmental assessment criteria in the Company's activities and to audit its performance;
- To examine the importance of environmental issues in generation, distribution and final use of electricity;
- To encourage rational energy usage systems;
- To increase knowledge concerning the interaction of the Company's activities with the environment;
- To promote nature conservation and cultural advancement strategies;
- To guarantee appropriate mechanisms for environmental information;
- To encourage the use of clean technologies and suitable waste-management practices;

The complete EDP Environmental Policy and Code of Good Practice are available at [www.edp.pt](http://www.edp.pt).

**Objectives established in 2004**

|                                   |  |   |  |
|-----------------------------------|--|---|--|
| Management policies and practices | Publication of HidroCantábrico's environmental policy                                      |  | This was HidroCantábrico's first step towards implementing an integrated environmental management system |
|                                   | Reorganisation of environment function at ONI  |  | The ongoing internal restructuring process delayed the completion of the reorganisation                  |
|                                   | Extending the implementation of EMS to all large-scale hidro power stations                |  | Process completed  |
| Performance                       | Implementation of a plan for monitoring effluent at the ENEGIN co-generation power station |  | Process completed  |
|                                   | Noise monitoring at Bandeirante substations  |  | In diagnostic phase with completion expected in late 2005  |
|                                   | Elimination of halon fire extinction systems   |  | Process completed only in early 2005   |

 **Achieved**       **Partially achieved**       **Not achieved**

**3.1. Climate change**

The struggle against climate change will continue to be one of EDP's main environmental challenges in the next few years.

In March 2004, the Portuguese government submitted the first draft of its National Allocation Plan for carbon dioxide emission allowances (PNALE) for 2005-2007. The electricity sector was allocated a total of 21,482,202 tonnes of carbon dioxide (CO<sub>2</sub>) a year, though how the allowances were distributed among the different power stations was not specified.

The European Commission's only approved the Portuguese PNALE in October 2004 and the final allocation of emission allowances per facility is expected in early March 2005. The EDP thermoelectric power stations in Portugal included are Sines, Ribatejo, Setúbal, Carregado, Barreiro, Tunes, Mortágua, Engin and Soporgen.

At the same time, the transposition of the Emissions Trading Directive was completed

in December and it was regulated in January 2005. The emissions trading market should start up in May 2005.

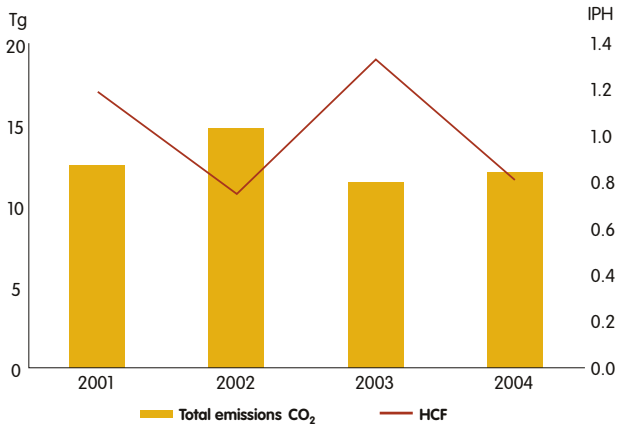
The Company continued to prepare internally for the new emissions trading market.

- The trading unit brought itself up to speed so as to be able to begin trading future CO<sub>2</sub> allowances;
- Fuel purchases now include the cost of CO<sub>2</sub> allowances associated with the quality of the fuel;
- Monitoring mechanisms and specific methods for each facility were studied aiming their adaption to the requirements of the Emissions Trading Directive;
- Trading's risk model was altered to accommodate the risk inherent in CO<sub>2</sub> allowances price fluctuations.

Also in this regard, EDP plans to make its fleet and rail journeys carbon-free in 2005. EDP assumes the emissions in its transports by investing the value corresponding to the cost of CO<sub>2</sub> emitted (at market prices) in exhausts or in CDM/JI projects.

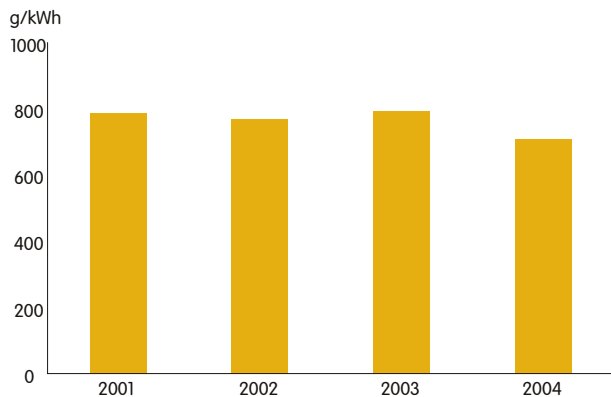
The year 2004 was a very unfavourable one in hydrological terms in Portugal. The hydroelectric capability factor was 0.81, which resulted in more intensive use of thermoelectric facilities and therefore in a slight increase of total CO<sub>2</sub> emissions compared to 2003.

EDP's total CO<sub>2</sub> emissions in Portugal



The reduction in specific CO<sub>2</sub> emissions can be explained by the start-up of the new natural gas thermoelectric power station in Ribatejo.

EDP's specific CO<sub>2</sub> emissions in Portugal



The process for measuring SF<sub>6</sub> leaks was reviewed. Today, emissions of this gas are quantified on the basis of the SF<sub>6</sub> replaced in equipment handled. In 2005, a new method will be tested and later extended to all electricity generation and distribution units Portugal, if more reliable data are obtained.

EDP's SF<sub>6</sub> emissions in Portugal and Spain

|                          | kg           |              |
|--------------------------|--------------|--------------|
|                          | 2004         | 2003         |
| <b>Portugal</b>          |              |              |
| Electricity generation   | 53.0         | 30.40        |
| Electricity distribution | 28.0         | 39.15        |
| <b>Total</b>             | <b>82.0</b>  | <b>69.55</b> |
| <b>Spain</b>             |              |              |
| Electricity generation   | 4.0          | 80.0         |
| Electricity distribution | 210.0        | n.a.         |
| <b>Total</b>             | <b>214.0</b> | <b>80</b>    |
| n.a. - not available     |              |              |

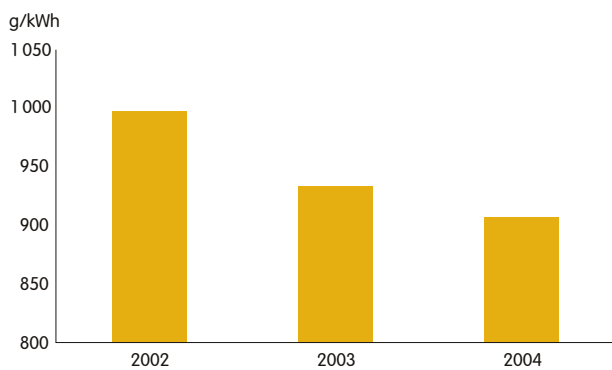
In Spain, the emission allowance allocation process was completed in January 2005. The Spanish PNALÉ has allocated an annual average emission allowance of 10.4 million tonnes of CO<sub>2</sub> for 2005-2007.

In Spain, EDP has 1,588 MW of installed thermal capacity operating on coal, a basic fuel in the Spanish energy basket, not only because of its contribution to greater diversification of fuels and therefore to a guarantee supply in Spain, but also because of its endogenous component. In order to guarantee the future of such competitive power stations as Aboño and Soto de la Ribera, EDP is awaiting a decision by the Spanish government to give the go-ahead for investments in efficiency measures and environmental improvements at these power stations in the next few years.

EDP's total CO<sub>2</sub> emissions in Spain



EDP's specific CO<sub>2</sub> emissions in Spain



The substantial reduction in specific CO<sub>2</sub> emissions in Spain reflects a significant increase in electricity generation at the Castejón natural gas combined cycle power station.

### 3.2. Management Systems

#### 3.2.1. Environmental management system

The plan to implement Environmental Management Systems (EMS) in electricity generation in Portugal has been implemented gradually. The introduction of EMS at all large-scale hydroelectric power stations was completed in 2004. At present, 2,904 MW of installed capacity in Portugal (35 %) already has ISO 14 001:1999 certification and 5,728MW have EMS already up and running. The latter will be reviewed and operating improvements will be introduced regarding future certification. An important aspect this year is that the Sines Power Station's environmental certification was renewed. The new Ribatejo Power Station also

began implementing an EMS, in accordance with ISO 14 001:2004, which should be completed in 2006.



Sines Thermoelectric Power Station

Some important steps were taken in the Engineering and Laboratory Units.

Labelec, whose accredited laboratories already have NP EN 17025 standard quality management systems, has been making every effort to obtain environmental certification in 2005. One of the strategic objectives at EDP Generation E&M was to implement an integrated quality, environment and safety management system and it obtained ISO 9001:2000 certification in 2004 for its quality management system.

With the new, much stricter version of standard 14 001 published in November 2004, all certified thermoelectric power stations have an adaptation programme that will begin in 2005.

HidroCantábrico has continued its efforts to implement an integrated management system for the whole company and, this year, the Castejón combined cycle power station received ISO 14 001:2004 certification (for the whole facility), making it the first power station in the Spanish electricity sector to do so.

In Brazil, Bandeirante began implementing an integrated environment and safety system based on standards ISO 14 001 and OHSAS 18 000.



Castejón Combined Cycle Power Station

### **3.2.2. Environmental licensing**

EDP Produção did the necessary work to obtain environmental licensing for the facilities covered by the law on Integrated Pollution Prevention and Control (Portuguese acronym PCIP). The application for environmental licensing for the Sines Power Station has been completed and the process has begun for the Setúbal Power Station.

According to the PCIP law, the remaining thermoelectric generation units will have to be licensed by 2007.

Enersul pursued the licensing programme for its facilities. In 2004, there were 29 licensed facilities and 66 in the process of obtaining licences.

### **3.2.3. Environmental accounting**

Regarding the growing importance of environment-related costs in the EDP Group, an Environmental Accounting System was initiated.

This project will be implemented in 2005 and is intended to respond to new needs for accounting control. It will contribute not only to improving the planning and control of the Company's environmental management, but also to facilitating the collection and presentation of information for mandatory reporting, such as accounting statements for the national and international markets and information requested by statistical authorities and regulatory bodies.

### **3.3. Environmental impact assessment**

The public hearing phase of the environmental impact assessment (Portuguese acronym AIA) in the Comparative Evaluation of the Baixo Sabor and Alto Cõa Facilities was completed in early March 2004. A conditionally favourable Environmental Impact Statement (Portuguese acronym DIA) was issued in June and recognised the public interest of this hydroelectric power station.

In the second half of 2004, it was begun a study of minimisation measures and monitoring plans provided for in the DIA and the fieldwork needed to obtain basic data for the project. Baixo Sabor is scheduled to go into operation in 2011.

Under the desulphurisation process to be implemented at the Sines Power Station as a result of the imposition of SO<sub>2</sub> emission limits in the new National Emissions Reduction Plan (Portuguese acronym PNRE), which is in its final approval phase, the Environmental Impact Study (Portuguese acronym EIA) was completed and sent to the Geology and Energy Directorate (Portuguese acronym DGGE) for licensing. The EIA was approved at the end of the year and the public hearing phase is planned for early 2005.

We also began the AIA process for the construction of three new natural gas combined cycle groups (400 MW each) in Sines. The draft definition of scope was submitted in October and the public hearing phase lasted from 8 November to 21 December.

Substantial investment in wind energy has associated a considerable amount of environmental impact assessment of new projects. As part of its strategy to increase the renewable component of its generation basket, EDP has adopted measures to minimise environmental impacts in all these projects, even when it is not mandatory. In 2004, a conditionally favourable EIS was obtained for all the projects assessed.

The basic environmental project continues in Brazil as part of the new Peixe Angical Dam AIA which is expected to go into operation in early 2006. This programme consists of 30 environmental measures organised in three different areas: physical environment, biotic environment and the socioeconomic sector. Forty per cent of the work had been completed by the end of 2004.

### 3.4. Atmospheric emissions

The new Portuguese Plan for Emission Reductions (Portuguese acronym PNRE) (Executive Law 178/2003), which replaces the 1996-2003 PNRE, was prepared and discussed with the competent authorities in the first half of 2004 and should be formally approved in 2005.

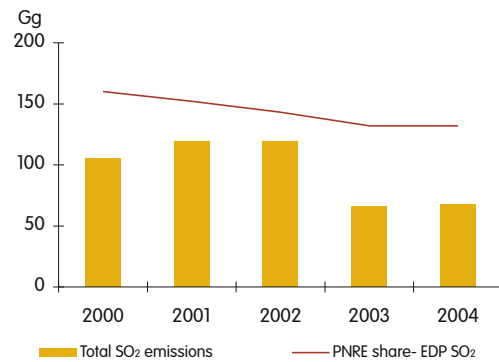
With a hydroelectric capability factor of 0.81, the thermoelectric facilities worked harder resulting in a slight increase in total SO<sub>2</sub> emissions (greater use of fuel oil power stations). Specific emissions of the three pollutants went down in relation to 2003, mainly as a result of the fact that the new Ribatejo Power station went into operation.

The reduction in total NO<sub>x</sub> emissions is due to the reinforcement of measures to reduce them.

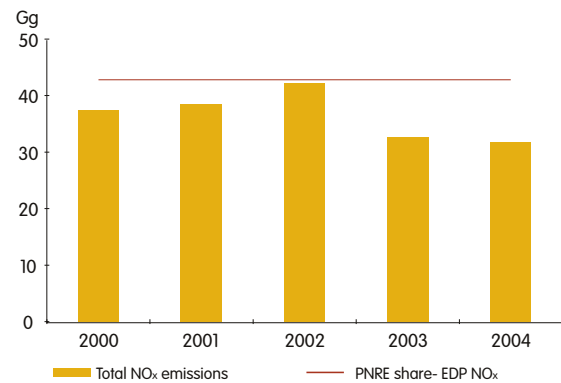
EDP has been in compliance with emissions limits, even in hidrologic unfavorable years.

In 2004, joint negotiations for the limestone-gypsum desulphurisation system to be implemented at the Sines, Aboño II and Soto III power stations were initiated. The contract for this system should be awarded in the first quarter of 2005.

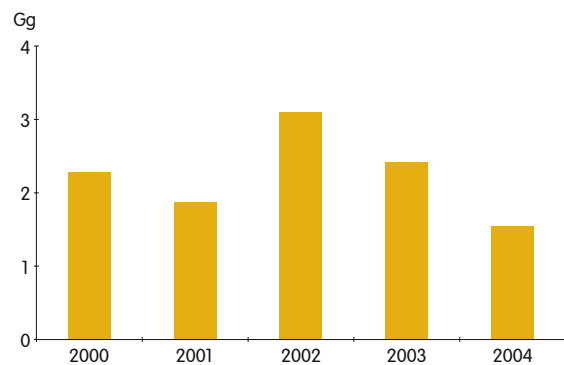
**Total SO<sub>2</sub> emissions in Portugal**



**Total NO<sub>x</sub> emissions in Portugal**



**Total particle emissions in Portugal**



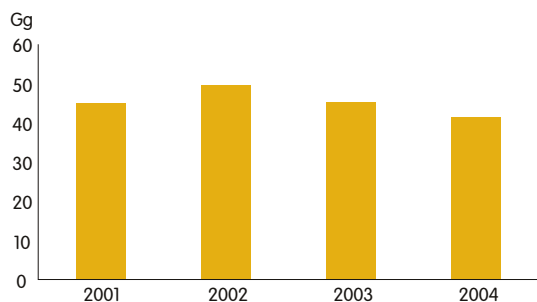


In order to adapt the Sines Power Station to the new environmental requirements, changes in the burning system in one of the four groups, for additional reduction of NO<sub>x</sub> emissions were completed. Where the reduction of SO<sub>2</sub> emissions is concerned, a project to implement a desulphurisation system is currently under way. An international call for tenders was issued with HidroCantábrico, which is in the process of environmental requalification of its Aboño and Soto Ribera power stations. The joint solution adopted was limestone-gypsum technology.

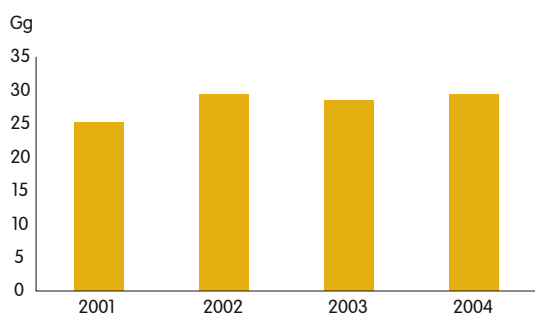
**Specific emissions of SO<sub>2</sub>, NO<sub>x</sub> and particles**

| EDP's specific emissions |      | g/kWh |      |  |
|--------------------------|------|-------|------|--|
| Portugal                 | 2004 | 2003  | 2002 |  |
| SO <sub>2</sub>          | 4.0  | 4.6   | 6.2  |  |
| NO <sub>x</sub>          | 1.9  | 2.3   | 2.2  |  |
| Particles                | 0.09 | 0.17  | 0.16 |  |
| <b>Particles</b>         |      |       |      |  |
| SO <sub>2</sub>          | 3.2  | 3.6   | 4.1  |  |
| NO <sub>x</sub>          | 2.3  | 2.2   | 2.4  |  |
| Particles                | 0.23 | 0.22  | 0.26 |  |

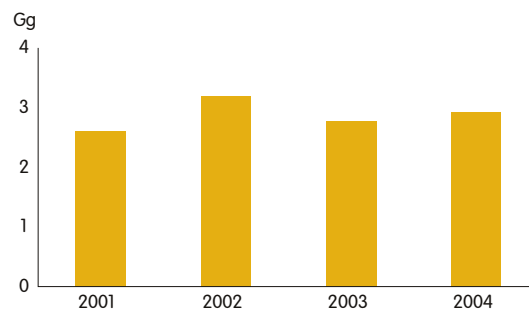
**EDP's total SO<sub>2</sub> emissions in Spain**



**EDP's total NO<sub>x</sub> emissions in Spain**



**EDP's total particle emissions in Spain**



Annual average emissions at the Spanish power stations remained under the legal limits.

The characterisation programme for minority pollutant emissions – heavy metals, volatile organic compounds, dioxins and furans – continued in 2004 and the work on defining the method to be used was completed.

The elimination or recycling of fire-fighting equipment using Halon, one of the substances responsible for depleting the ozone layer, was delayed slightly, though it should be completed in early 2005.

In Brazil, EDP sold its UTE Fafen shareholding in late 2004, and it is not possible to report on this power station.

**3.5. Water and wastewater**

The environmental impacts on water occur mainly in electricity generation and at three different levels:

- Wastewater emission
- Use of water for cooling
- Storage of water in reservoirs

The thermoelectric power stations are equipped with systems for monitoring wastewater and cooling water used, in accordance with the respective discharge licences. There were no incidents in 2004 and none of the emission limits in the licences were exceeded. The study of the cycle of biological development in the area of the Sines thermoelectric power station continued, in order to adapt the cooling system's chlorination

cycle to the environment. It was, thus, possible to extend the suspension time of the power station's chlorination station for four months.

At HidroCantábrico, the work on the new wastewater treatment station at the Aboño thermoelectric power station is under way, after suffering a slight delay in 2004.



**Aboño Thermoelectric Power Station**

In Portugal, EDP continued the monitoring of water quality in the reservoirs. This monitoring enables the detection and evaluation of any eutrophication, pollution or other alterations in the water properties that may cause damage to the dams' materials and equipment.

In 2004, it was necessary to pump air into the Vilar Reservoir to minimise eutrophication of the water.

### 3.6. Waste

The industrial waste generated during EDP's activities is collected and stored individually and sent to licensed operators for management. It is given preference to recycling processes.

In 2004, only 2% of the waste eliminated was hazardous and 51% was recovered.

New tests were conducted on the coal bottom ash in the ash and on-site landfill at the Sines Power Station so that it can soon be reused by the cement industry.

#### Industrial waste and sub-products disposal of in 2004, Portugal<sup>(1)</sup>

| tonnes                                 | 2004           | Disposal  |
|--|----------------|---|
| <b>Subproducts</b>                     |                |   |
| Re-used coal fly ash                   | 364,623        | Recovered in cement industry  |
| <b>Hazardous industrial waste</b>      |                |   |
| Fly ash and fuel oil slag              | 722            | Inertised and used in stabilising deposits of phosphogypsum   |
| Used oils                              | 508            | Reused for energy   |
| Equipment with eliminated PCB          | 0              | Incinerated at special facility   |
| Light bulbs                            | 19             | Recycled at special facility  |
| Concrete posts                         | 44,393         | Re-used in metal industry and used in construction of sections                                      |
| <b>Non-hazardous industrial waster</b> |                |   |
| Coal fly ash not re-used               | 4,908          | Deposited in Sines Power Station ash dump   |
| Coal bottom ash                        | 44,950         | Deposited in Sines Power Station  |
| Biomass ash                            | 1,869          | Reused as agricultural and fertiliser forest fertiliser and in the Production of organic fertiliser |
| Metallic waste                         | 3,555          | Recycled  |
| <b>Total waste</b>                     | <b>100,924</b> |   |

(1) The waste indicator has been changed. Waste disposal of is now reported and so it is not possible to include historical data.

All management of urban waste produced at EDP's administrative buildings was centralised in 2004. It is therefore not possible to report on the disposal of this type of waste individually.

The following initiatives were launched during the year:

- Award of a contract for the collection and disposal of batteries, provision of battery disposal bins in administrative buildings with more than 50 users and circulation of associated procedures on the Intranet;
- Award of a contract for collecting and recovering toners and ink cartridges and circulation of associated procedures on the Intranet;
- Call for tenders for the installation of eco-point recycling bins for the selective collection of paper, glass and plastics.

With regard to Sãvida, a system for collecting, transporting and incinerating hospital waste is in operation.

In Spain, there are industrial and urban waste management plans. The Aboño and Soto Ribera thermoelectric power stations utilise used oil from inside and outside the Company for energy, as substitutes for auxiliary fuels.

Slag and fly ash are the main types of waste generated and only 1% was not recovered.

In 2004, a selective urban waste collection and recovery programme was introduced at all the HidroCantábrico facilities.

**Industrial waste disposed of in 2004, Spain (1)**

| Industrial waste disposed of in 2004, Spain (1) |                |                                   |
|---|----------------|-----------------------------------|
| Tonnes  | 2004           | Disposal                          |
| <b>Hazardous industrial waste</b>               |                |                                   |
| Used oils                                       | 77             | Used for energy at HC coal plants |
| Equipment with PCB eliminated                   | 82             | Incinerated at a special facility |
| Light bulbs                                     | 1              | Recycled at a special facility    |
| <b>Non-hazardous industrial waste</b>           |                |                                   |
| Fly ash and coal slag recovered                 | 594,412        | Re-used in cement industry        |
| Coal slag not recovered                         | 3,440          | Temporary deposit                 |
| <b>Total waste</b>                              | <b>598,012</b> |                                   |

(1) In Spain recovered fly ash and coal slag are classified as waste and not sub-products as in Portugal

In Brazil, waste management is one of the companies' main environmental activities.

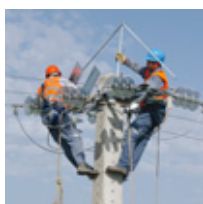
Bandeirante has developed an integrated waste management programme, adopting the 4R philosophy - Reduce, Reuse, Reprocess and Recycle. It should be implemented in 2005. Enersul will also be developing a similar programme in 2005.

ESCELSA signed two contracts for hazardous waste disposal. In 2004, it disposed of 125 tonnes of mineral oil and is continuing a process for disposing of 18 tonnes of transformers containing PCB.

**3.7. Biodiversity**

Portugal is a country with special characteristics in terms of the conservation of nature, given that 22% of its territory has nature protection status, not counting the National Ecological Reserve.

In 2004, the survey of the distribution grid (medium and high voltage) located in areas with this protection status was updated. The finding was that 13% of the grid is in these areas. In 2005, the same will be done for all generation facilities.



Installation of anti-nesting device

**Distribution grid in protected areas in 2004, Portugal**

| Distribution grid in protected areas (1) |                  |               |                  |
|--|------------------|---------------|------------------|
| AT                                       |                  | MT            |                  |
| Overhead (km)                            | Underground (km) | Overhead (km) | Underground (km) |
| 779.8                                    | 3.5              | 8 705.3       | 463.1            |

(1) Includes Natura 2000 and National Area Network

One of the most important environmental impacts of the distribution grid is on birdlife. In recent years, white storks have been nesting on the pylons, with serious consequences for both the storks and the quality of the electricity supply service. This year, under the supervision and with the support of the Instituto de Conservação da Natureza (ICN), the nests identified as potentially responsible for a deterioration in the quality of service (and high risk to the lives of the birds) were and removed anti-nesting and anti-electrocution devices installed. There were also situations in which it was decided to build special nesting posts (outside the electricity grid) as an alternative solution. The programme was divided into two phases and involved the removal of 226 nests.

At the end of the year, the first phase of the agreement between the ICN, the SPEA, Quercus and EDP Distribuição was completed. Its aim is to study measures for reconciling the electricity grids with the protection of birdlife. Corrective work began on an 82 km extension and a manual of recommendations was drawn up for the planning and construction of electricity lines in classified areas, of special importance to birdlife.

In Brazil, almost all the electricity distribution grid is overhead.

There are problems with birdlife and the companies have been installing anti-bird devices and insulating conductors in areas of greater environmental sensitivity. Enersul insulated 5 km of conductors in the Pantanal region.

Escelsa insulated cables aiming the protection of the tuft-eared marmoset (*Callithrix geoffroyi*), an endangered primate of the Atlantic Forest. In 2004, fish monitorization in the watercourses of six Escelsa hydroelectric power stations was finished. The aim was to characterise the feeding and reproductive behaviour of the local species.

### **Environmental quality promotion plans**

#### **What are they?**

Environmental quality promotion plans are forms of incentive proposed by ERSE for regulated companies to improve their environmental performance.

#### **What areas did they cover?**

These plans are applicable to EDP Distribuição as a regulated company. In 2002-2004, they covered the following environmental areas: waste management (light bulbs, concrete posts and computer hardware), compliance with noise laws, inventory and reduction of SF<sub>6</sub> leaks, protection of birdlife and integration of distribution grid infrastructure into the landscape, and environmental training.

#### **What does the future hold?**

EDP Distribuição has already had the opportunity to submit a new plan to ERSE for 2005. This new plan not only includes continuing the previous programmes but also contains new ones, such as the implementation of an environmental management system. In the first phase, there will be an environmental diagnosis.

EDP Distribuição is fully committed to these programmes and their continuation and development. It hopes to be able to use this important tool in upcoming regulatory periods.

### **3.8. Compliance**

#### **3.8.1. Incidents**

Two environmental incidents were reported in generation in Portugal, both associated with hydrochloric acid spills. They were properly removed for subsequent neutralisation.

A total of 62 incidents were reported in distribution involving oil spills in transformers. There are procedures for removing, storing and subsequently disposing of the spilt oil and associated inerts in these situations.

At Escelsa in 2004, there was an incident caused by a hydrated alcohol (fuel) spill at one of the company's facilities. The impacts caused were characterised during the year and a plan should be implemented for decontamination of the soil in 2005.

#### **3.8.2. Complaints**

Following complaints about an episode of particle emissions in 2003, the grounds for these complaints were confirmed by operating indicators. The corresponding compensation mechanisms were activated.

In 2004, there were 35 new complaints about particle emissions, but none of them were accepted as no anomalies were found in the operating indicators.

In distribution, there was a change in the procedure for receiving and referring environmental complaints, and it was not possible to quantify the number of complaints received in 2004. Nevertheless, they were all dealt with (checked and answered) and there was no resulting reparation or compensation.

### 3.8.3. Administrative offences

In Portugal, EDP is awaiting an administrative decision of seven cases of environmental offences, given that the Company contested their grounds in all of them. Four of them are related to distribution and three to generation.

In Brazil, there were two administrative cases against Escelsa for cutting down trees. Both cases are pending.

In Spain, there are three ongoing cases all regarding the Soto de Ribera Power Station. They are complaints about particle emissions, exceeding the maximum cooling water temperature and exceeding the particle emission limits. The power station is currently implementing measures to reduce these impacts, in order to avoid any violations.

#### Environmental protection Objectives for 2005

|                                   |  |             |   |
|-----------------------------------|--|-------------|---|
| Management policies and practices | Environmental certification of Labelec by standard ISO 14 001:2004   | Performance | To have the new Environmental Quality Promotion Plan approved by ERSE for the regulatory period from 2005 to 2007 |
|                                   | Environmental certification of EDP Generation E&M by standard ISO 14 001:2004                                |             | To promote a study of the use of new technologies to protect birdlife in the distribution grid                    |
|                                   | Environmental certification of the Ribatejo thermoelectric power station by standard ISO 14 001:2004 by 2006 |             | Diagnosis of potentially contaminated areas at all Bandeirante's facilities                                       |





#### 4. INTEGRITY

- Ensure the observance of ethical standards in the conduction of business
- Respect human rights in its sphere of influence
- Elaborate up specific codes of conduct

Ethics and integrity tend to be regarded more as individual moral issues than as something that is applicable to organisations like companies.

However, companies play a fundamental role in society today and have an added responsibility in terms of standards of behaviour. Ethical issues apply to all departments and hierarchical structures and ought to be ingrained in the organisation's values and mission, i.e. in its very identity.

##### Objectives established in 2004

|  |  |  |
|--|--|--|
| Code of Ethics of the EDP Group  |                     | Project developed in 2004 and to be implemented in 2005  |
|  Achieved |  Partially achieved |  Not achieved |

- Establishing and articulating the organisation's corporate values, responsibilities, obligations and ethical challenges and the way it operates;
- Guiding the conduct of its employees, facilitating their work when in doubt as to what to do or when they are feeling the pressure of decisions they have to take or implement.

The first version of the EDP Group's Code of Ethics was drawn up in 2004. Although several companies in the group have codes of conduct (Bandeirante, EDP Valor, etc.), the existence of a corporate code of ethics harmonises concepts and goods practices in our business and in relations among employees, between employees and customers and with other stakeholders.

EDP's code provides checking and support mechanisms. This was the companies can show the outside world that their commitments are really met. It was in this spirit that the Code of Ethics was approved at the Company's highest level in 2005.

#### 4.1. EDP Group's Code of Ethics

EDP works in a framework of ethical values that are reflected in its vision, mission and principles of sustainable development.

A company's fulfilment of its principles is reflected in its employees' everyday activities, in accordance not only with generally accepted ethical practices but also for reasons of openness, transparency and impartiality that more and more companies are formalising.

Drawing up a Code of Ethics makes it possible to measure behaviour internally and externally and the code becomes an important management tool by:

#### **Basic principles of the EDP Group's Code of Ethics**

- Commitment to abide by laws and regulations applicable to all the Company's activities
- An open, proactive, regulated approach
- Transparency, honesty and integrity in relations among employees, between employees and customers, suppliers, shareholders and other stakeholders
- Guaranteeing employees' safety and well-being in the work environment and promoting employee satisfaction and job fulfilment
- Promoting equal opportunities between employees and potential employees, rejecting any form of discrimination
- Recognising and applying the fundamental principles of human rights and refusing to use child or forced labour
- Prohibiting any actual or attempted enticement or influence between employees or by employees with other stakeholders
- Prohibiting private transactions within the Company
- Fostering good relations with customers, suppliers and shareholders
- Reducing the impact of the Company's activities on the environment and fostering sustainability
- Taking disciplinary action in case of violation of the Code of Ethics

The full version of the Code of Ethics is available at [www.edp.pt](http://www.edp.pt).

#### **4.2. Participation in organisations**

In 2004, EDP became a member of Global Compact, in response to the challenge from the Secretary-General of the United Nations Kofi A. Annan. As a member, EDP can now model its activities on a set of universally accepted principles, making it easier to define sustainability and draw up specific codes of conduct.

EDP also joined the World Business Council for Sustainable Development (WBCSD). The WBCSD is an association of 170 multinational companies representing 35 countries and 20 industrial sectors, united by a common commitment: sustainable development through the three pillars of economic growth, ecological balance and social progress. Its mission is to promote change in present company cultures by means of eco-efficiency, innovation and social responsibility.

### **Francisco Sánchez president of BCSD Portugal**

Following the Annual Conference of the Business Council for Sustainable Development (BCSD Portugal) in Lisbon on 24 November, EDP's Chairman, Francisco Sánchez, was unanimously elected President of BCSD Portugal for the next three years.

This appointment is very important to EDP, as a benchmark company. It is the recognition of the Company's efforts, through its chairman and peers, in circulating and publicising the principles of sustainable development and promoting cooperation between companies, government and society in this area.



EDP has been using the guidelines of the Global Reporting Initiative to draw up its environment and sustainability report since 2001. Joining a consensual, widely used reporting standard enables EDP to compare its environment and sustainability performance with that of other companies. EDP believes that its participation in this initiative is essential in adopting corporate practices and that there are clear advantages in sharing information with its different stakeholders.

In 2004, EDP became one of the 197 GRI Organizational Stakeholders and sponsored the translation into Portuguese of the GRI Guidelines and the active promotion of their use in Portuguese companies.

More information about the translation of the GRI Guidelines into Portuguese is available at: <http://www.globalreporting.org>.

### **Integrity Objectives for 2005**

Dissemination of our Code of Ethics to all employees, suppliers and other stakeholders (90% in 2005, 100% in 2006)

Voluntary compliance with the Code of Ethics by the Company's suppliers of products and services (50% in 2005, 80% in 2006 and 95% in 2007)

New version of the Company's Code of Ethics for Bandeirante and the creation of special lines for contacts and recording incidents by e-mail and telephone.



**5. DIALOGUE WITH STAKEHOLDERS**

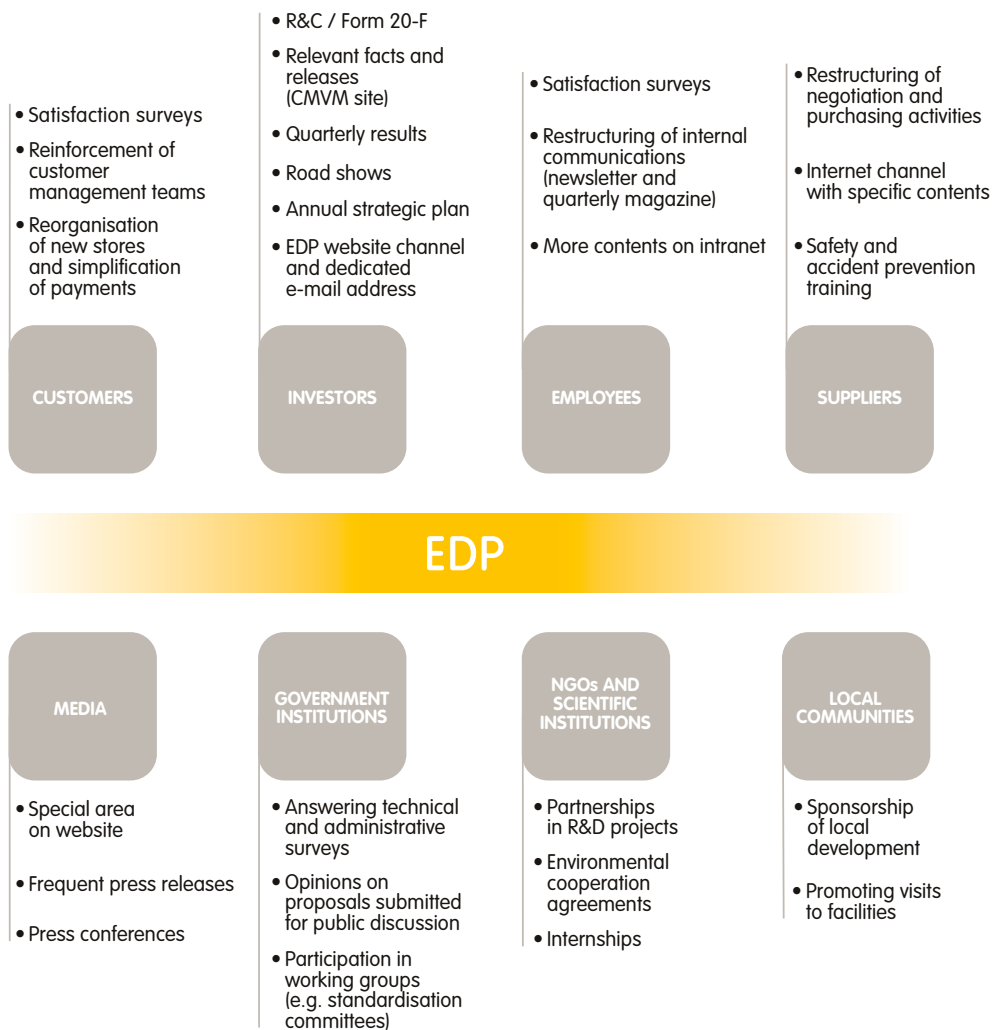
- Ensure an open, transparent and trustful relationship with the different stakeholders groups
- Establish stakeholder communication channels and integrate their concerns
- Report performance in a credible, objective way in its economical, environmental and social dimensions

EDP’s success depends largely on good relations with its different stakeholders.

Stakeholders are all agents that directly or indirectly influence or are influenced by the Company.

This year, EDP presented the market with its new corporate image, its “new EDP trademark”. This new image broke away from the Company’s strong links to its core business and is a sign of a change of attitude, marked by a symbol that is designed to revamp the Company’s culture and identity, taking on a commitment of proximity and increased trust with all its stakeholders.

**Relationship with main EDP stakeholders**



As part of this commitment, in 2003, EDP decided to develop a regular satisfaction monitoring system in the Company. This contributed considerably to the establishment of a quality management system based on measurable indicators and capable of sustainably guiding improvements. The model implemented relies on three main axes:

- External customer satisfaction;
- Internal customer satisfaction;
- Employees satisfaction.

### 5.1. Customers

EDP exists for its customers. Internal adaptation to change with the liberalisation of the electricity market has focussed mainly on adopting customer-oriented practices and culture, whether the customers belong to the Group or not.

Under the quality management system implemented in 2004, the results of external customer satisfaction evaluations cannot be compared with those of previous years, as a new methodology, Leadership 21, was adopted. With this methodology, the different types of customers can be surveyed more regularly.

### The new EDP trademark

In July 2004, EDP came out with a new image. More than just a change, the new trademark is a more visible side of EDP's customer orientation.

The choice of the new trademark was based on three essential principles:

Simplicity - of products, language and problem-solving;

Comfort - in customer assistance and services provided, greater comfort and shorter waiting times;

Social responsibility - in the responsible exercise of citizenship, respect for the environment, corporate ethics and sponsorship of society initiatives.

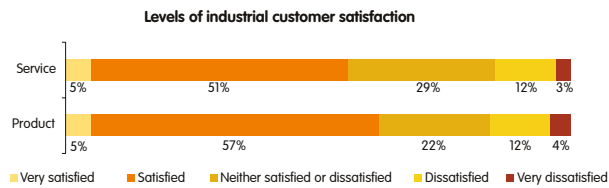
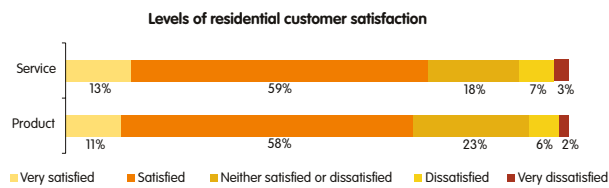


### Objectives established in 2004

|   |  |   |
|---|--|---|
| Evaluation of EDP Group employee satisfaction |  | A survey of 9,500 company employees (in the electricity sector) was conducted for the first time in Portugal. |
| Second EDP meeting                            |  | This included all the electricity companies in Portugal.  |

Acheived    Partially achieved    Not achieved

**Domestic and industrial customer satisfaction, Portugal**



The results of the surveys were highly satisfactory and served as a basis for work on ongoing improvements in the Company’s products and services.

**The best customer service centre in the country**

EDP won the fourth Call Center (Utilities) Trophy, an initiative organised by the International Faculty for Executives (IFE), in partnership with the IZO System, at EXPO CALL CENTER & CRM SOLUTIONS, which took place in Lisbon in November.

Some of the evaluation criteria for the award were courteousness, friendliness, treatment of the call, single-call problem-solving and operators’ knowledge.



The enlargement of our customer management teams in the corporate sector and the extension of the customer-service network for the domestic segment also helped to further improve customer relations. We also expanded the contents and functions available on the EDP website and informed several local authorities.

**5.2. Shareholders**

EDP’s corporate structure includes an Investor Relations Office, which is responsible for maintaining appropriate institutional and informative contact with EDP’s shareholders, financial analysts and potential investors.

This office is responsible for ensuring that the Company’s communications do not discriminate against the different entities involved in the financial market and that the contents of the information are clear and objective.

The Company’s communication policy abides by CMVM regulations and best practices in company governance of the market in this regard. This ensures that EDP’s management is transparent and that the information it provides is credible, so as to foster and strengthen the trust of shareholders, strategic partners, employees, customers, creditors and the general public.

### João Talone voted CEO of the year

The Chairman of EDP's Executive Committee, João Talone, was awarded the prize for best CEO in Investor Relations, by the jury of the Investor Relations Awards 2004.

This award, promoted by Deloitte, *Semanário Económico* and *Diário Económico*, is designed to contribute to the recognition of companies setting the best example in relations with their investors and shareholders.

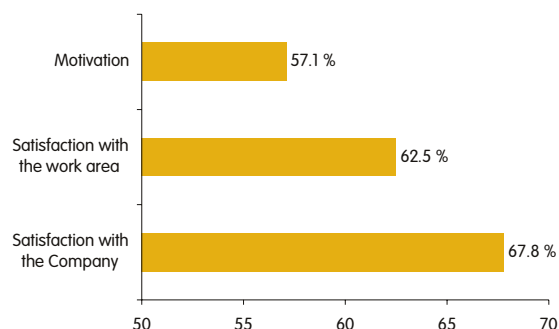
The candidates for the award are nominated by financial analysts, company managers, stockbrokers and market makers, pension fund and investment fund managers, market relations officers and journalists. They are invited to nominate companies and personalities that they think deserve recognition for the way they conduct their investor relations.



### 5.3. Employees

Under the new quality management system introduced in 2004, all EDP employees in Portugal (electricity sector) answered a satisfaction survey based on three main issues: satisfaction with the Company, satisfaction with the work area and motivation.

EDP employee satisfaction and motivation index



This was the Company's first major satisfaction survey for some years and it was designed to serve as a benchmark for future surveys. The results obtained were satisfactory and helped not only with management decision-making, but also as matters for reflection and subjects for inclusion in training programmes.

Internal communication continues to be an excellent way for the Company to circulate information to its employees. In 2004, the existing media were reorganised, making them more comprehensive and informative. More attention was focussed on media for employees without computer access (e.g. the monthly newsletter + *Energias*) and the new quarterly magazine *Energias*, with more in-depth articles on subjects of interest to the Company and the market.

One of the most important of the Company's communication initiatives was the launch of a pilot project called "Open Communication Areas", giving the Company's departments the opportunity to get to know each other, share knowledge and develop possible synergies. At these meetings, teams are introduced and there are informal discussions on subjects of interest to both sides.

The Second EDP Meeting was held, lasting three days and bringing together the about 9,000 or so employees in the EDP Group's electricity sector in Portugal.



Second EDP Meeting

#### 5.4. Suppliers

In 2004, the Group began restructuring and concentrating its negotiations and purchasing activities in Portugal. The aim is to improve planning and negotiation services and standardisation of specifications and learn more about EDP's suppliers. This restructuring will enable the Company to benefit from better, longer framework agreements and its suppliers will have the guarantee of more standardised and closer behaviour, further improving relations between the parties.

A number of specific initiatives were undertaken with EDP's suppliers in 2004:

- Regular meetings to promote the "Safety Passport", with a view to generalising basic safety skills;
- Introduction of new procedures for qualifying suppliers;
- First steps in the preparation of a specific Code of Ethics for relations with suppliers;
- Preparation of specifications for a services portal to optimise interaction with suppliers.

#### 5.5. Government and scientific institutions and local communities

EDP has special relationships with several government institutions, such as the Geology and Energy Department (DGGE) and Energy Services Regulator (ERSE), in the field of establishing regulations to which EDP Distribuição is subject.

EDP is intent on cooperating with scientific and corporate institutions when it comes to innovation and bringing companies closer to academia. EDP is an active participant in a vast number of national and international initiatives, such as:

- COTEC Portugal - Associação Empresarial para a Inovação aims at making companies in Portugal more competitive by developing and disseminating innovation culture and practices. EDP is a member of COTEC, has representatives in the association's managing bodies and sits on the General Council;
- ADISEGI - Associação para o Desenvolvimento do Instituto Superior de Estatística e Gestão de Informação, of which EDP is a founder and a member of its governing bodies. This association is responsible for organising, managing and implementing the Development Course Programme and plays a vital role as a link between the academic and professional worlds;
- INDEG / ISCTE - Instituto para o Desenvolvimento da Gestão Empresarial at ISCTE, of which EDP is a member, with representatives in its governing bodies. This institute is classified as an organisation in the public interest and promotes the development of skills and the specialised, human and vocational training of managers and directors working in management;
- MIT-CEEPR - the MIT Center for Energy and Environmental Policy Research, of which EDP is an associate member and makes an annual financial contribution. The CEEPR sponsors the careful, objective research done at MIT (Massachusetts Institute of Technology) into energy and environmental policies.

Its research is aimed at issues of public interest and corporate issues and essentially helps solve the problems on faced by industry and government;

EDP also maintains a number of partnerships with research groups at institutions of higher education in the area of technological development and sponsorship of university students. In 2004, EDP accepted 100 interns.

In 2004, EDP developed a plan to increase communication with its main stakeholders, especially its relations with environmental NGOs. The plan should be fully implemented by 2006.

**Dialogue with stakeholders  
Objectives for 2005**

New EDP Portal with easier access to IT services for employees, suppliers and customers

Conducting external customer satisfaction surveys every quarter

Conducting employee satisfaction surveys every six months

Auditing suppliers with environmental impacts

Plan for communication on the environment and sustainability 2005-2006

**6. HUMAN CAPITAL MANAGEMENT**

- Reinforce management systems to ensure health, safety and well-being of workers
- Promote the development of individual skills and reward excellence and merit
- Reject abusive and discriminatory practices

The EDP Group’s human resource policy is designed to guarantee its employees’ satisfaction, aligning their work with the group’s goals so that each one feels part of a living, participative organisation.

**Basic principles of EDP’s human resource policy**

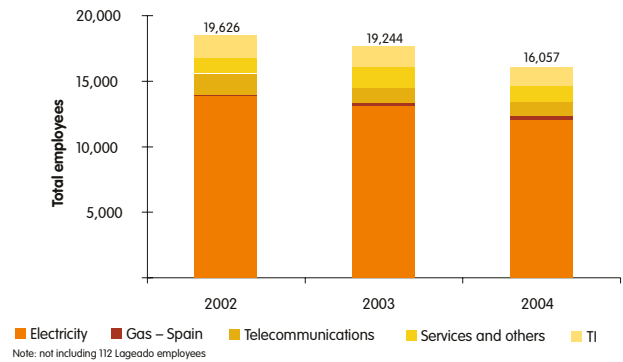
EDP’s human resource policy focuses on three main aspects:

- Developing skills and knowledge of the business;
- Rejuvenating the workforce;
- Invigorating and renewing the corporate culture.

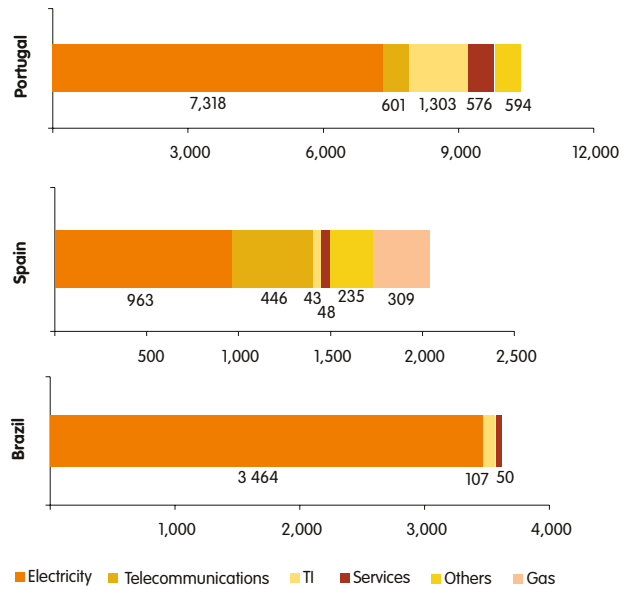
**6.1. Employment**

At present, EDP has 16,057 employees in Portugal, Spain and Brazil. The electricity sector is still the Group’s main activity and this is reflected in the distribution of its human resources.

**Number of employees by EDP Group business area**



**EDP Group employees by business area**



**Objectives established in 2004**

|   |  |   |
|---|--|---|
| Downsizing of 1,200 employees in Portugal by the end of 2004  |  | A total of 1,624 employees were downsized, exceeding expectations |
| OHSAS 18001 certification of CPPE generation centres by the end of 2004   |  | 83% of the installed capacity in Portugal was certified           |
| Ongoing extension of the Qualification Certificate and Safety Passport to all EDP’s service providers in Portugal |  | Under way. Project expected to end in 2005                        |

Achieved    Partially achieved    Not achieved

We continued negotiations to downsize a total of 1,200 employees as part of the Restructuring Plan begun in 2003 with a view to adjusting the Company's needs to the new liberalised market. At the end of 2004, our goals had been widely exceeded, with a reduction of 1,624 employees.

Associated with this plan, EDP implemented an individual reemployment programme giving training for employees to create their own jobs or to guarantee an active retirement. The programme also includes monitoring so that the Company can assess the path chosen by each of these employees.

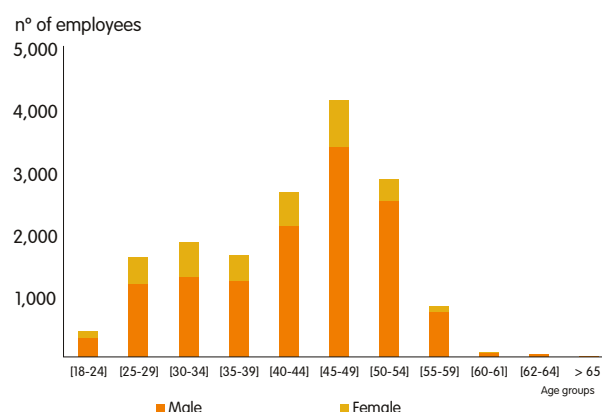
Job stability at EDP is very high and temporary contracts are few. In 2004 they corresponded to 3% of all EDP Group employment, with Portugal maintaining 3%, while the figure was 4% in Spain.

Turnover in Portugal (1) is also very low and was 2.3% (excluding all retirements) and 3% (excluding only early retirements). These figures are, however, higher than those for 2003 due to the downsizing this year.

In the electricity sector in Portugal, the average employee age is still close to 45. The figure goes down to 43 when extended to all the employees in the EDP Group. Under its rejuvenation policy, there were 129 admissions in Portugal in 2004, with an average age of 31.

There were 8,801 spontaneous job applications via the EDP website, which was 20% more than in 2003. This goes to demonstrate EDP's image as a company of reference.

Age structure of EDP Group employees



Male employees represented 80% of the Company's total workforce. However, if we restrict our analysis to the service sector, 54% of all employees are female. Some 7% of senior management positions are held by women. The scope of the information reported has been enlarged to the consolidated EDP Group and so the data are not comparable to those for 2003.

EDP operates in a traditionally male-dominated sector, which is naturally reflected in admissions that follow the market trend. Nevertheless, of the 129 new admissions to the Company's payroll, 29% are female, which may be indicative of a slight trend towards balance in the long run.

EDP actively encourages its employees to participate in the management of the Company, far beyond legal requirements in Portugal. Two-monthly meetings are held with the workers' committees and the Chairman of the Executive Committee, where they discuss not only current management issues but also the Company's future policies. Extraordinary meetings are held whenever one of the parties requests. The Company also provided facilities and time during working hours for workers' meetings. In Portugal, 66% of the Company's employees are union members, while the percentage is slightly lower in Brazil, at 63%. There were 1,054 hours of strikes in 2004, which is substantially fewer than in 2003 (3,526 hours). This reduction was due to the fact that 2003 was a year of greater social instability in the country, with national strikes.

(1) Excluding ONI



An agreement was signed with the trade unions in Spain in 2004 to regulate relations until 2006. In it, the Company recognises its obligation to contribute towards creating and maintaining stable, good quality employment.

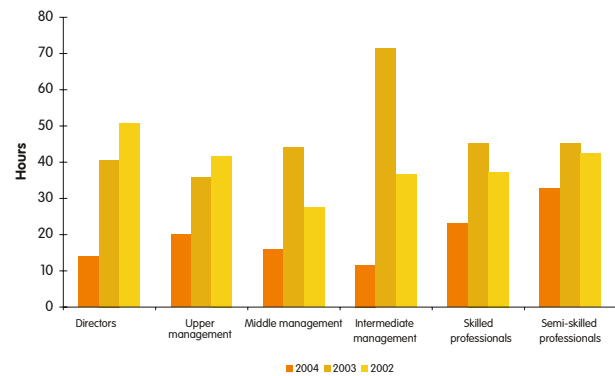
### 6.2. Training

By increasing training and management of its intellectual capital, EDP hopes to improve employee satisfaction, raising their motivation and making them better prepared for change. The training plan in 2004 increased focused on safety, information systems and technical skills in the distribution grids.

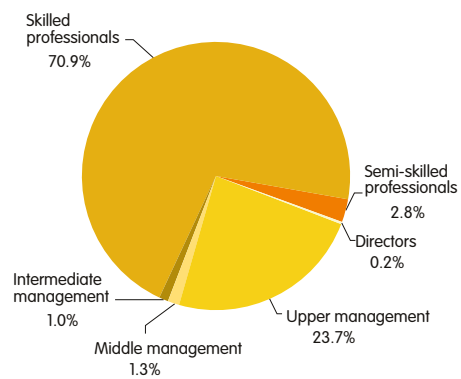
A training platform was set up in 2004 and, in 2005, it will be possible to align training with the needs created by the Group's strategy by means of a skill development plan and support for change.

The total number of hours of training obliging employees to leave their workplace went down to 103,780 (26% fewer than in 2003), while there was a significant increase of about one-third in the number of employees covered (4,686 in 2004). As a result, the average number of hours went down from 44 in 2003, to 22.2 in 2004. There was considerable focus on on-the-job training in 2004, using e-learning platforms, mainly for training in safety and accident prevention and information systems, where it is difficult to quantify the number of hours. Considering training as a whole, a total of 6,605 employees is estimated to have been covered.

Average training time by professional category<sup>(2)</sup>



Training time by professional category<sup>(1)</sup>



### 6.3. Health and safety

In Portugal, EDP provides its employees who are covered by the Collective Labour Agreement with medical assistance and medications, through Sãvida. For other employees, we implemented a new package of medical and social benefits in 2004 (EDP Flex), in which a flexible component adjustable to each employee's individual requirements is clearly one of the plan's main attractions.

The benefits given to the Company's employees in this area result in the prevention of illness and the minimisation of its effect and obviously contribute significantly to improving the Group's productivity by reducing absenteeism. In 2004, there was a 1.5% reduction in the group's overall absentee rate, which was 5.52%, compared to 2003. At the same time, there was a 4% decrease in absenteeism due to illness for total absenteeism in 2004.

(1) Only the electricity sector in Portugal  
 (2) As shown in social balance sheet

#### Initiatives launched in 2004

- Special anti-smoking clinic in Oporto, Coimbra and Lisbon;
- Introduction of the EDP Desporto e Manutenção Física award for sport and fitness as a way of raising awareness of physical activity as a healthy way of creating personal resistance to illness.

#### 6.4. Safety and accident prevention

Good safety practices are an added factor of competitiveness for the Company. Good practices bring good results. Accident prevention reduces the number and severity of industrial accidents and occupational diseases, thus reducing the Company's costs and, above all, improving all employees' working environment and conditions.

In compliance with the commitments set forth in its Safety Policy Statement, which was revised and republished in 2004, EDP is intent on constantly seeking to improve safety and quality standards in line with its goals of "Zero Accidents, no injuries".

#### Main principles of the EDP Group's safety policy

The basic goal of the EDP Group's safety policy is to improve safety conditions and keep the Company at the cutting edge of occupational accident prevention by applying the following principles:

- Guaranteeing a safe, healthy working environment;
- Providing training on the risks inherent in all employees' activities;
- Protecting facilities and equipment and guaranteeing appropriate safety conditions;
- Minimising any risks to people and the environment posed by its activities;
- Taking safety as an integral part of the quality of the group companies' products and services;
- Guaranteeing that no situation or service emergency endangers anyone's life.

In the electricity sector's activities in Portugal, we have set the goal of providing the Company with a safety and health management system, with OHSAS 18001:1999 as a reference, which is very close to the International Labour Organisation's ILO-OHS 2001 recommendation.

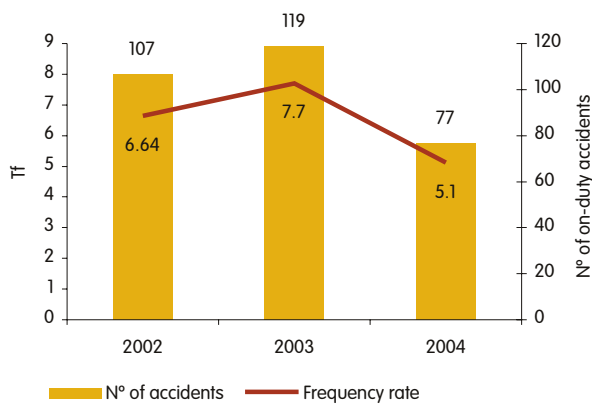
In late 2004, all EDP's generation centres were certified in safety, health and hygiene on the basis of this standard and all the goals set at the beginning of the process were achieved.

On-duty work accidents involving EDP employees in Portugal in 2004 went down considerably (down 35% from 2003), returning to the trend of previous years. Unfortunately, however, there were two fatal accidents.

**Human capital management  
 Objectives for 2005**

- Implementation of a new model for evaluating and managing EDP employee performance in Portugal, including individual development plans
- New health and well-being initiatives: diet and anti-stress techniques
- Extending the Qualification Certificate and Safety Passport to all EDP's service providers in Portugal
- Providing all the Company's administrative buildings in Portugal with emergency plans and conducting drills at every building with more than two stories (over a period of two years)

**Total on-duty accidents and frequency rate at EDP in Portugal<sup>(1)</sup>**



## 7. PROMOTION OF ACCESS TO ELECTRICITY ENERGY

- Promote reliable and generalised access to electricity energy
- Adopt a transparent and socially fair price policy
- Develop means of electricity generation with appropriate quality at minimum cost

Electricity is an essential good and a factor of economic development, reducing social exclusion and improving people's quality of life. This places specific responsibilities on the shoulders of companies in the electricity sector, responsibilities that are traditionally public service obligations.

For EDP today, "promoting access to electricity" basically means providing a reliable, good-quality service and it is only in certain regions (like Brazil) that it includes extending grids to areas without electricity. It is also EDP's responsibility to institute social support policies giving access to electricity to the more disadvantaged strata of the population.

### 7.1. Public service obligations

Directive 2003/54/EC of the European Parliament and Council of 26 June 2003, which lays down common rules for the internal electricity market, stipulates that Member States must impose public service obligations on electricity companies with regard to security, including the security, regularity, quality and price of supplies.

The National Electricity System (Portuguese acronym SEN) consists of the Public Electricity Sector (Portuguese acronym SEP) and the Independent Electricity Sector (Portuguese acronym SEI). The SEI includes the Non-Binding Electricity System (Portuguese acronym SENV), organised on a market basis. The SEP, as a public service, is responsible for satisfying electricity consumers' needs, abiding by the standards of quality of service laid down in Service Quality Regulations (Portuguese acronym RQS), approved by Energy Services Regulator (Portuguese acronym ERSE).

Sellers are subject to public service obligations and also to universal service obligations. For this purpose, a "seller of last resort" is appointed as the entity responsible for selling at a regulated price, for as long as the price exists.

Sellers of last resort are obliged to guarantee the electricity supply to non-bound customers, if their seller fails to do so, or to other customers whenever there is no other seller willing to do so. In other words, they are obliged to ensure that all customers are supplied at reasonable, transparent, non-discriminatory prices, safely and with quality. So far, the functions of seller of last resort have been carried out by EDP-Distribuição de Energia, S.A.

### 7.2. Promotion of access to electricity

The electrification of the country is complete. Thanks to EDP's huge efforts in the 1980s, we can safely say that practically all homes in Portugal have electricity. Only a negligible percentage of the population in isolated areas or very small, inaccessible settlements does not yet have electricity. These areas have been electrified little by little.

**Electricity reaches Viana do Castelo villages**

At the end of the year, EDP Distribuição completed the electrification of Bosgalinhas, Gorbelas and Junqueira, three hamlets in the Serra da Peneda mountains.

The electrification of these hamlets was particularly difficult because of the rough terrain but reached 51 homes and involved the construction of a total of 6.4 km of low and medium voltage overhead lines and three transforming stations.

This project was part of the 2003 Overall Minho Works Plan and involved an investment of EUR 400,000.

In Brazil, access to electricity involves connected low-voltage consumer units of up to 50 kW, sometimes requiring the extension or improvement of the grid, at no cost to the customer.

In 2004, as part of this programme, Escelsa served a total of 8,921 new customers, 5,214 in urban areas and 3,707 in rural areas. Bandeirante joined the Luz para Todos (Electricity for All) Programme, a joint federal government initiative with the state government and distributors. The goal of the programme is to create universal access to electricity in all rural properties in the Company's concession area. Installation will be free of charge for all homes with less than 50kW of power.

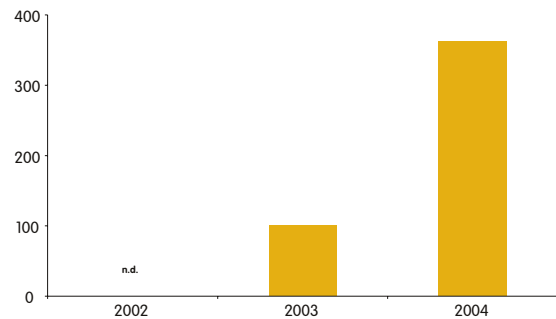
Under the same programme, Enersul served 4,014 customers in 2004 and expects to serve 7,500 in 2005 and 7,826 by 2008, which will mean an investment of EUR 55 million.

**7.2.1 Customers with special needs**

Also under Directive 2003/54/CE of the European Parliament and Council, Member States must take appropriate measures to protect vulnerable customers, such as those helping to prevent power cuts.

As part of its support for customers with special needs, in 2004 EDP has 362 such customers in Portugal, substantially more than in 2003.

Customers with special needs in Portugal

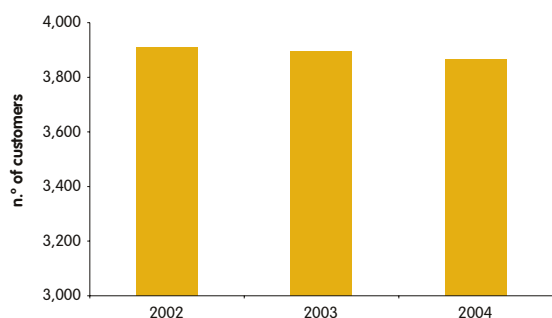


Brazil also has concerns of this nature. In 2004, Enersul continued to register domestic and business customers with users of electrically powered life-support equipment with limited autonomy. If customers are registered, they can be warned in advance of any scheduled electricity cut.

**7.2.2. Social prices**

The ERSE Tariff Regulations state, "Social prices are for consumption in permanent residences even if someone runs a small business there with a contracted power of up to 2.3 kVA for an annual consumption of no more than 400 kWh". The electricity system bears the cost of these customers' consumption to be able to offer them a better price.

**Customers with social prices in Portugal**



In 2004, a total of 3,865 customers benefited from social prices. The figure has remained more or less constant over the years.

In Brazil, customer support initiatives for the disadvantaged also include regularisation of clandestine connections for low-income families. This year, Bandeirante regularised 1,000 clandestine connections in the Anita Garibaldi estate in Guarulhos. In association with this initiative, the company added measures to promote efficient use of electricity.

**7.3. Quality of service**

The Service Quality Regulations (RQS) establish a set of minimum quality standards and sanctions for violating them, with appropriate mechanisms for action and monitoring.

As a regulated operator, EDP guarantees the highest standards of quality of service to customers, endeavouring to meet the technical and commercial service requirements established by the regulator.

**7.3.1. Technical service**

EDP's technical service quality indicators for 2004 in Portugal show a substantial improvement when compared with 2003.

**Technical service quality indicators**

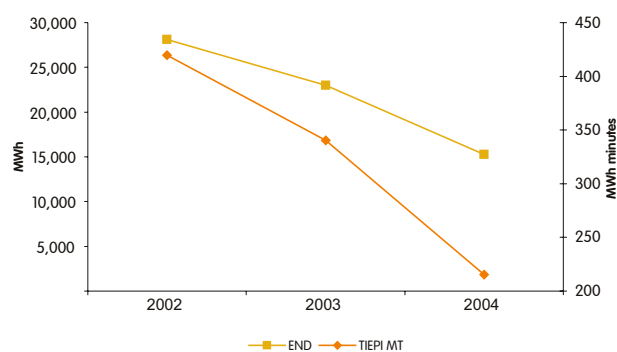
EDP technical service quality indicators in Portugal

|                    | 2004   | 2003   | 2002   | Var. % |
|--------------------|--------|--------|--------|--------|
| TIEPI MT (minutes) | 215    | 341    | 420    | -37%   |
| END (MWh)          | 15,263 | 22,986 | 28,098 | -34%   |
| SAIFI MT (nº)      | 4.5    | 7.0    | 9.0    | -36%   |
| SAIDI MT (min.)    | 310    | 490    | 596    | -37%   |
| SAIFI BT (nº)      | 4.0    | 6.2    | 7.6    | -35%   |
| SAIDI BT (min.)    | 268    | 448    | 520    | -40%   |

Note: Definition of indicators available in the glossary

These results were possible thanks to the reinforcement of the grids in more deprived areas, the construction of new substations, the installation and renovation of remote control in the MV grid, the installation of automatic equipment and the provision of information systems to speed up restoration of service.

**Technical service quality indicators in the distribution grid, 2004, Portugal**



Note: Definition of indicators available in the glossary

The average annual outage time (Portuguese acronym TIEPI) is particularly noteworthy, as it was 37% lower in 2004 than in 2003. This was particularly due to reductions in outages due to causes related to material and equipment and a reduction in interruptions for unknown causes.

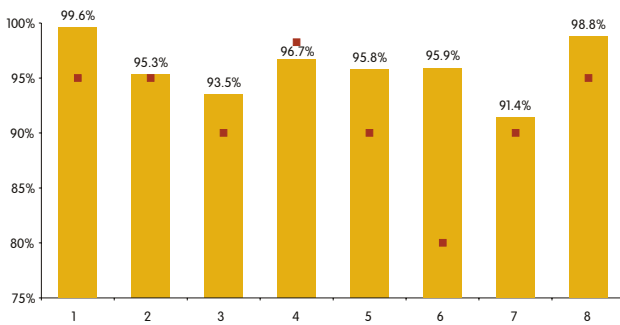
The indicators for the System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) in MV and LV have been falling. There as a ~35% reduction in the SAIFI, an 80-minute decrease in the SAIDI MV and a 220-minute decrease for SAIDI LV, compared to 2003, in Portugal.

**7.3.2. Commercial service**

In 2004, as a result of EDP’s human and financial efforts to face the reality of the new energy market, there was a sustained increase in the quality of the service provided to customers and in response speed and capacity.

Our efforts towards improvement can be seen in all the indicators and their effect is visible in our compliance with the RQS. An additional effort is only required in annual meter readings. This indicator has, however, improved, as fulfilment has gone from 95% in 2003 to 97% in 2004, i.e. 1% below the target set by the RQS.

**General commercial service quality indicators in Portugal**



1. Budget: line and reach: LV (up to 20 working days)
2. Execution of line and reach: LV (up to 20 working days)
3. Hook-up to the LV network (up to 2 working days)
4. Meter reading: (at least one reading per customer: LV)
5. Service at shop: (up to a 20-minute wait)
6. Telephone centre service: (up to 60-sec. wait)
7. Request: written information (up to 15 working days)
8. Complaints: response (up to 15 working days)

In the case of the meter reading indicator (96.7%), our calculations do not include vacation households. An adjustment to the result obtained would lead to a figure for the indicator of no less than 98% (figure of standard).

In Spain, our policy has also focussed on the quality of the service provided to customers. The average annual outage time (TIEPI) at the end of 2004 was only 68 minutes, the lowest ever in HC’s history. The excellence of the quality of service provided to customers enabled HidroCantábrico to carry out proactive management of customer loyalty for both regulated and liberalised customers, while selectively prospecting for new customers.

**Promotion of access to electricity  
 Objectives for 2005**

To electrify 7,978 new customers under the Luz para Todos programme involving an investment of EUR 9 million by Enersul

To monitor external customer satisfaction every quarter

To continue to implement the Luz para Todos programme at ENERSUL, with the electrification of 7,500 rural homes and 4,760 urban homes

To continue to implement the Luz para Todos programme at Bandeirante, extended access to electricity to 6,800 rural properties by 2006

## 8. SUPPORT FOR SOCIAL DEVELOPMENT

- Support social and cultural promotion initiatives, based on transparent assessment of importance to the community
- Promot technology transfer to developing countries

EDP has a long tradition of sponsoring social, cultural, sports and educational initiatives. This is the Company's way of recognising the importance the society to which it belongs and contributing to activities that would find it hard to survive without some kind of support.

The key to this type of commitment to the community is decentralisation.

Sponsorship of local communities' initiatives is common practice in all the Group's companies, helping projects outside the main cities and contributing to the formation of new audiences. The main criteria for evaluating projects are:

- Their intrinsic quality;
- Infeasibility without sponsorship;
- Promotion of access to high-quality performances and works for geographically disadvantaged populations;
- Social, cultural and regional involvement of all age groups;
- Incentive to the appearance of new values;

- Initiatives aimed at training for young people.

### 8.1. Fundação EDP

On 13 December, the Fundação EDP was set up. This foundation will be working in three main areas:

- Culture: defending cultural heritage, particularly art, music and ballet to help construct a national identity in this field;
- Social development: committing to solidarity with all disadvantaged and vulnerable members of society, such as the disabled and the socially excluded and local community support initiatives;
- Education: revamping and enriching the Electricity Museum and promoting and publicising historical research and surveys of the heritage of the national electricity system.

Within its remit, in 2005, the Foundation plans to continue the restoration of the Tagus Power Station building, which houses the Electricity Museum and to enrich the exhibits.

#### Objectives established in 2004

Systematisation and analysis of all EDP Group sponsorships



Currently consolidating the amounts granted by ONI, Spain and Brazil

Achieved

Partially achieved

Not achieved



#### **EDP sole patron of Casa de Serralves**

EDP has signed an agreement with Fundação de Serralves making it the sole patron of the Serralves' big annual exhibition, where EDP's art collection will be exhibited together with works by the EDP.Arte award winners.

This agreement also involves the joint development of a programme to raise EDP employees' awareness of contemporary art, as a factor of cultural development and an incentive to be creative.

#### **8.2. Fundación HidroCantábrico**

HidroCantábrico's foundation was set up in 1996. Its most important activities are sponsorships in the areas of education, environment, sport and culture. It naturally focuses on the regions in which it operates.

In 2004, it sponsored the following initiatives, among others:

- Funding for restocking the rivers of Asturias with salmon and protection of the Asturias bear;
- Illumination of historical heritage and restoration of cultural heritage;
- Collaboration with NGOs doing social work, such as the Red Cross and Caritas.

#### **8.3. Community support Initiatives**

Following its principles of patronage of the arts and other sponsorships, the Company focused on sport and culture, which represented 75% of its sponsorship in 2004.

In sports, marathons and the Bicycle Tour of Portugal are highly popular events. EDP has sponsored the Lisbon Half Marathon since 1996 and has taken over sponsorship of the Tour of Portugal for three years.



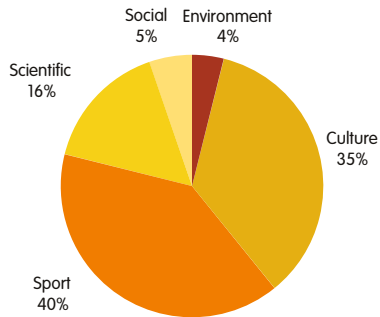
**Lisbon Half Marathon sponsored by EDP**

Where culture is concerned, EDP has been the sole patron of the Companhia Nacional de Bailado ballet company since 1999 and also sponsors the Youth Symphonic Orchestra and the EDP Arte award.



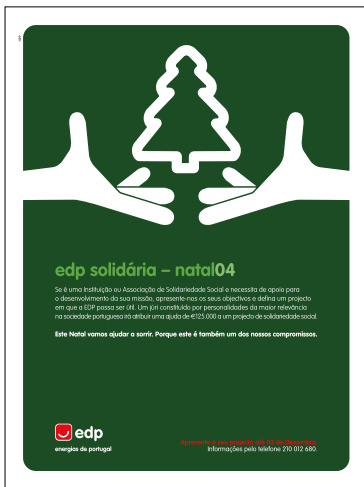
**Companhia Nacional de Bailado - National Ballet Company**

Distribution of sponsorship and patronage in 2004, Portugal<sup>(1)</sup>



(1) Does not include Edinfor and ONI

In 2004, the Company extended its sponsorship to the social sphere with EDP Solidária, an innovative project reflecting EDP's commitment to sponsor institutions that work in the field to help disadvantaged people.



### EDP Solidária 04

The aim of the initiative was to contribute to the implementation of a social development project.

EDP's innovative idea was to enable all eligible entities to apply by widely publicising the initiative in the media.

The eligibility criteria were as follows:

- It had to be a lasting project: (1) purchase of equipment, land, a building, vehicles or (2) construction of a building or similar projects;
- It had to be a project that would bring substantial benefits or was urgently needed and not one with only marginal or complementary benefits or as an improvement;
- EDP's participation would have to be decisive;
- The institution or association had to be independent from the central, regional or local public administration.

Casa João Cidade - Comunidade Sócio-Terapêutica de Montemor-o-Novo won the prize with a plan to build a centre for therapeutic and occupational care to rehabilitate the disabled and integrate them into society.

The EUR 125,000 award will make the project possible.

In the telecommunications sector, ONI signed an agreement with Centro Social e Paroquial da Paróquia do Cristo Rei in Algés with a view to sponsoring 120 deprived children and 30 young people attending free-time centres. Under the agreement, ONI employees work as volunteers for about one hour a week. The aim is for them to help these young people with their studies and homework. ONI continued to sponsor the printing of a weekly newspaper in Braille in 2004.

Initiatives in Brazil focussed on culture, education and health.

Bandeirante has a volunteer programme encouraging its employees to participate in initiatives that help to improve the quality of life of the population that the company serves.

Bandeirante won the Top Social Award in 2004. It is awarded by the Associação dos Dirigentes de Vendas e Marketing in Brazil for the company's Bandeirante Comunidade Educação project as part of the company's social responsibility.

In 2004, Enersul implemented the project "ENERSUL na Comunidade" ("ENERSUL in the Community"), which involves organising events in 16 poor neighbourhoods in Espírito Santo, Mato Grosso do Sul. The events are designed to prevent electricity wastage and adjust electricity bills to its customers' purchasing power.

#### 8.4. Support of developing countries

Since the 1970s, EDP has cooperated substantially with the electricity companies in Portuguese-speaking African countries, implementing projects and providing services aimed essentially at transferring technology and know-how.

In 2004, the Company's activities focussed on Angola. The initiatives in which most knowledge was transferred were as follows:

- Expert assistance at the Centro de Formação de Quadros do Sector Eléctrico de Angola training centre, concentrating on organisation, teacher training and the teaching of specialised courses;
- Expert assistance at the SADC Technical Unit, for the regional planning of generation centres, manager training and permanent consultancy to the management of the electricity sector;
- Consultancy to the Planning, Study and Statistics Office of the Ministry of Energy and Water in the areas of tariff studies and sectoral statistics;
- Design and implementation of structural safety at three hydroelectric facilities, including organising their operation and providing technical training of the engineers working there.

In Mozambique and Cape Verde, EDP organised internships and vocational training in the distribution grids.

#### Sponsorship of social development Objectives for 2005

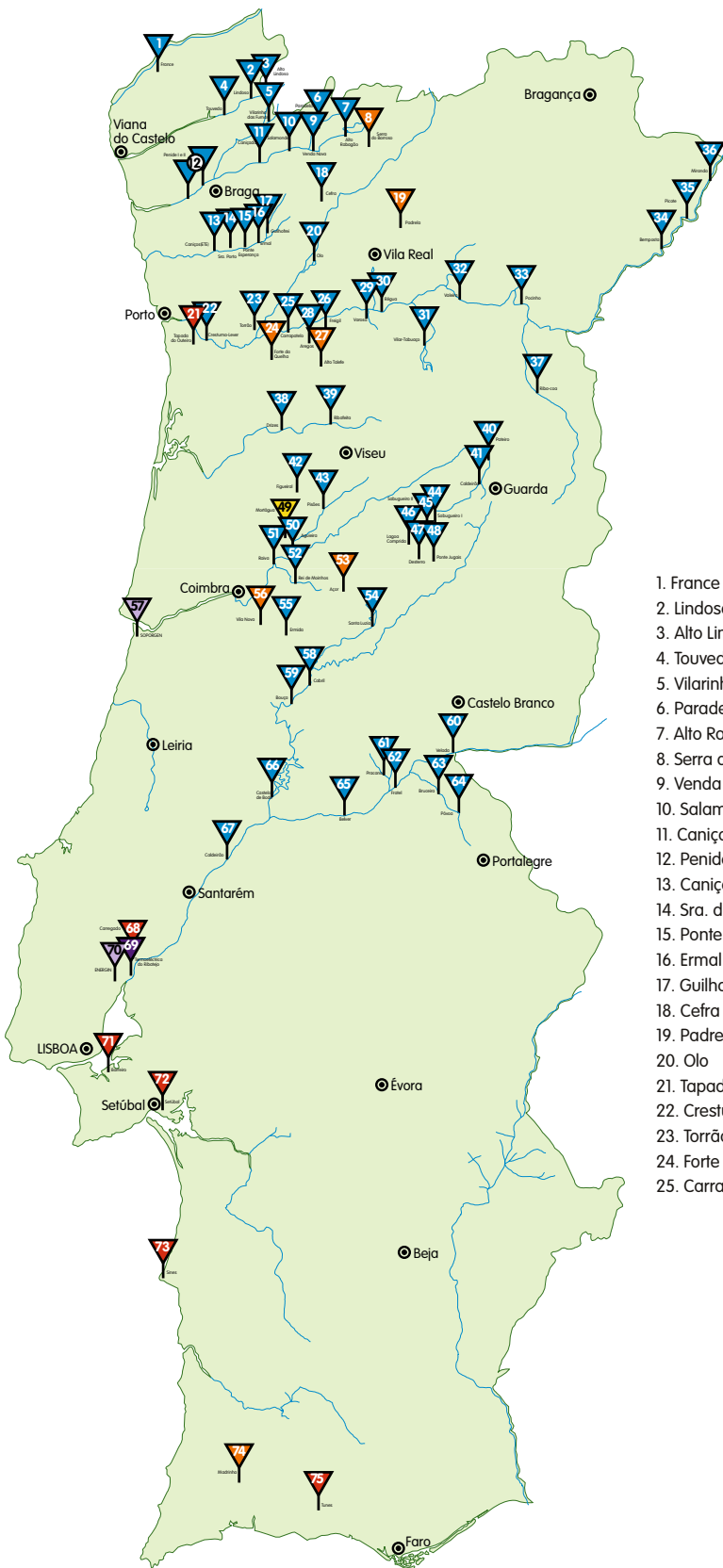
|   |
|---|
| To publish the EDP Group's sponsorship and patronage policy |
| To continue to give the EDP Arte Award                      |
| To continue the EDP Solidária initiative                    |
| To double the 2005 budget for sponsoring social initiatives |









# Appendices - Facility Files

|                                  |    |
|----------------------------------|----|
| FACILITY FILES                   |    |
| EDP Group facilities in Portugal | 70 |
| EDP Group facilities in Spain    | 77 |
| EDP Group facilities in Brazil   | 78 |

Annual Report • Sustainability Report  
**EDP Group facilities in Portugal**



- |                         |                    |                                |
|-------------------------|--------------------|--------------------------------|
| 1. France               | 26. Freigil        | 51. Raiva                      |
| 2. Lindoso              | 27. Alto Talefe    | 52. Rei de Moinhos             |
| 3. Alto Lindoso         | 28. Aregos         | 53. Açor                       |
| 4. Touvedo              | 29. Varosa         | 54. Santa Luzia                |
| 5. Vilarinho das Furnas | 30. Rêgua          | 55. Ermida                     |
| 6. Paradela             | 31. Vilar-Tabuaço  | 56. Vila Nova                  |
| 7. Alto Rabagão         | 32. Valeira        | 57. Soporgem                   |
| 8. Serra do Barroso     | 33. Pocinho        | 58. Cabril                     |
| 9. Venda Nova           | 34. Bemposta       | 59. Bouça                      |
| 10. Salamonde           | 35. Picote         | 60. Velada                     |
| 11. Caniçada            | 36. Miranda        | 61. Pracana                    |
| 12. Penide I e II       | 37. Riba-coa       | 62. Fratel                     |
| 13. Caniços             | 38. Drizes         | 63. Bruceira                   |
| 14. Sra. do Porto       | 39. Ribafeita      | 64. Póvoa                      |
| 15. Ponte Esperança     | 40. Pateiro        | 65. Belver                     |
| 16. Ermal               | 41. Caldeirão      | 66. Castelo de Bode            |
| 17. Guilhofrei          | 42. Figueiral      | 67. Caldeirão                  |
| 18. Cefra               | 43. Pisões         | 68. Carregado                  |
| 19. Padrela             | 44. Sabugueiro I   | 69. Termoelectrica do Ribatejo |
| 20. Olo                 | 45. Sabugueiro II  | 70. Energin                    |
| 21. Tapada do Outeiro   | 46. Lagoa Comprida | 71. Barreiro                   |
| 22. Crestuma-Lever      | 47. Desterro       | 72. Setúbal                    |
| 23. Torrão              | 48. Ponte Jugais   | 73. Sines                      |
| 24. Forte da Quelha     | 49. Mortágua       | 74. Madrinha                   |
| 25. Carrapatelo         | 50. Aguireira      | 75. Tunes                      |

-  Hydroelectric
-  Thermoelectric
-  Wind farms
-  Biomass power station
-  Co-generation and natural gas power stations
-  Natural gas combined cycle power stations

Annual Report • Sustainability Report  
Thermoelectric Plants in Portugal

THERMOELECTRIC PLANTS IN PORTUGAL

CHARACTERISTICS

|                                 | Carregado   | Setúbal   | Sines   | Barreiro  | Tunes               | Ribatejo  | Mortágua  |
|---------------------------------|---|---|---|---|---------------------|---|---|
| Type of power plant             | Steam turbine   | Steam turbine   | Steam turbine   | Steam turbine                                       | Gas turbine         | Combined cycle  | Steam turbine   |
| Installed capacity (MW)         | 710   | 946   | 1 192   | 56  | 197                 | 784   | 9   |
| Gas treatment                   | Electrostatic precipitators                                   | Electrostatic precipitators                                   | Electrostatic precipitators                                   | None  | None                | None  | Electrostatic precipitator  |
| Combustion modifications        | None  | None  | Low NO <sub>x</sub> burners<br>in all groups                  | None  | None                | None  | None  |
| Cooling system                  | Open cooling<br>water circuit                                 | Open cooling<br>water circuit                                 | Open cooling<br>water circuit                                 | Open cooling<br>water circuit                       | Atmospheric cooling | Closed cooling<br>water circuit   |   |
| wastewater Treatment            | Physico-chemical:<br>coagulation/flocculation/<br>decantation | Physico-chemical:<br>coagulation/flocculation/<br>decantation | Physico-chemical:<br>coagulation/flocculation/<br>decantation | Physico-chemical:<br>neutralisation/<br>decantation | None                | Physico-chemical:<br>separation of oil,<br>neutralisation of chemical<br>effluent and treatment<br>of domestic wastewater | Physico-chemical:<br>separation of oils<br>and treatment of<br>wastewater |
| Environmental Management System | ISO 14 001<br>Dec. 2000                                       | ISO 14 001<br>Oct. 1999                                       | ISO 14 001<br>Sept. 2001                                      | ISO 14 001<br>Nov. 2000                             | None                | ISO 14 001<br>(being implemented)   | None  |

OPERATING DATA

|   | Carregado  | Setúbal                                | Sines                                   | Barreiro                                   | Tunes                                   | Ribatejo                              | Mortágua                             |                                       |
|---|--|--|---|--|---|---------------------------------------|--------------------------------------|---------------------------------------|
| Gross electricity generation (MWh)            | 369 488  | 1 833 462                              | 10 114 039                              | 228 447                                    | 5 421                                   | 3 503 005                             | 54 427                               |                                       |
| Net electricity generation (MWh)              | 326 813  | 1 689 208                              | 9 529 612                               | 200 451                                    | 5 244                                   | 3 418 755                             | 49 419                               |                                       |
| Steam generation (TJ)                         | n.a.   | n.a.                                   | n.a.                                    | 1 579                                      | n.a.                                    | n.a.                                  | n.a.                                 |                                       |
| Fuel consumption                              | Fuel oil (t)<br>Diesel (t)<br>Coal (t)<br>Natural gas (Nm <sup>3</sup> x 10 <sup>3</sup> )<br>Forest waste (t) (3) | 30 424<br>n.a.<br>n.a.<br>n.a.<br>n.a. | 420 264<br>n.a.<br>n.a.<br>n.a.<br>n.a. | 4 646<br>n.a.<br>3 534 969<br>n.a.<br>n.a. | 102 573<br>n.a.<br>n.a.<br>n.a.<br>n.a. | n.a.<br>2 059<br>n.a.<br>n.a.<br>n.a. | n.a.<br>n.a.<br>n.a.<br>n.a.<br>n.a. | n.a.<br>n.a.<br>n.a.<br>791<br>95 694 |
| Gross water consumption (m <sup>3</sup> ) (4) | 291 600  | 565 976                                | 1 636 494                               | 608 832                                    | n.a.                                    | 338 145                               | 273 699                              |                                       |
| Cooling water (m <sup>3</sup> )               | 140 400 000  | 324 711 900                            | 1 220 868 000                           | 46 249 377                                 | n.a.                                    | 4 448 339                             | n.d.                                 |                                       |

ENVIRONMENTAL DATA

ATMOSPHERIC EMISSIONS (5)

|                      | Carregado | Setúbal | Sines | Barreiro | Tunes | Ribatejo | Mortágua |
|----------------------|-----------|---------|-------|----------|-------|----------|----------|
| SO <sub>2</sub> (kt) | 0.60      | 7.60    | 57.40 | 1.7      | 0.01  | n.a.     | 0.00     |
| NO <sub>x</sub> (kt) | 0.70      | 4.90    | 23.80 | 1.2      | 0.01  | 0.60     | 0.13     |
| CO <sub>2</sub> (kt) | 237       | 1317    | 8494  | 325      | 5     | 1240     |          |
| Particles (kt)       | 0.03      | 0.23    | 1.20  | 0.1      | n.a.  | n.a.     | 37x10E-6 |

WASTEWATER

|   | Carregado | Setúbal | Sines     | Barreiro | Tunes | Ribatejo  | Mortágua |
|---|-----------|---------|-----------|----------|-------|-----------|----------|
| Annual average concentration                |           |         |           |          |       |           |          |
| CBO (mg/l)                                  | 2.8       | 11.0    | 1.6       | 3.0      | n.a.  | 2.7       | 2.4      |
| COD (mg/l)                                  | 14.5      | 49.4    | 9.6       | 10.0     | 10.3  | 22.7      | 15.2     |
| Suspended solids (mg/l)                     | 15.4      | 13.5    | 9.5       | 9.9      | 2.3   | n.a.      | 13.1     |
| Nitrates (mg/l)                             | n.a.      | 0.485   | n.a.      | 0.014    | n.a.  | n.a.      | n.d.     |
| Phosphates (mg/l)                           | 0.000     | 0.015   | 0         | 0.002    | n.a.  | n.a.      | n.d.     |
| Iron (mg/l)                                 | n.a.      | 0.485   | 0.114     | 0.530    | n.a.  | n.a.      | n.a.     |
| Copper (mg/l)                               | n.a.      | 0.015   | 0.005     | 0.008    | n.a.  | n.a.      | n.a.     |
| Zinc (mg/l)                                 | n.a.      | 0.148   | 0.440     | 0.068    | n.a.  | n.a.      | n.a.     |
| Nickel (mg/l)                               | n.a.      | 0.154   | 0.028     | 0.058    | n.a.  | n.a.      | n.a.     |
| Vanadium (mg/l)                             | 0.512     | 0.876   | 0.042     | 0.200    | n.a.  | n.a.      | n.a.     |
| Chromium (mg/l)                             | n.a.      | 0.005   | 0.003     | 0.006    | n.a.  | n.a.      | n.a.     |
| Oils and fats (mg/l)                        | 0.237     | 0.867   | 0.142     | 0.195    | 0.300 | 0.232     | 0.110    |
| Hydrocarbons (mg/l)                         | 0.196     | 0.525   | 0.106     | 0.129    | 0.195 | 0.124     | 0.070    |
| Wastewater steam (m <sup>3</sup> )          | 1 637 550 | 209 574 | 1 048 552 | 151 945  | n.d.  | 1 092 262 | 4 125.5  |
| % wastewater sent<br>to municipal collector |           | 0       | 0         | 0        | 0     | 0         | 0        |

WASTE

|                                    | Carregado | Setúbal | Sines    | Barreiro | Tunes | Ribatejo | Mortágua |
|------------------------------------|-----------|---------|----------|----------|-------|----------|----------|
| Unrecovered coal fly ash (t)       | n.a.      | n.a.    | 4 907.8  | n.a.     | n.a.  | n.a.     | n.a.     |
| Coal slag (t)                      | n.a.      | n.a.    | 44 949.5 | n.a.     | n.a.  | n.a.     | n.a.     |
| Fuel oil fly ash and slag (t)      | 86.1      | 620.7   | n.a.     | 15.0     | n.a.  | n.a.     | n.a.     |
| Biomass ash (t)                    | n.a.      | n.a.    | n.a.     | n.a.     | n.a.  | n.a.     | 6 577.0  |
| Used oils (t)                      | 25.0      | 47.8    | 54.6     | 3.3      | 0.0   | 0.0      | 0.5      |
| Metal waste (t)                    | 91.2      | 75.2    | 365.0    | 34.5     | 0.9   | 0.0      | 19.2     |
| Equipment with PCB disposed of (t) | 0.0       | 0.0     | 0.0      | 0.0      | 0.0   | 0.0      | 0.0      |

SUB-PRODUCTS

|                            | Carregado | Setúbal | Sines     | Barreiro | Tunes | Ribatejo | Mortágua |
|----------------------------|-----------|---------|-----------|----------|-------|----------|----------|
| Coal fly ash recovered (t) | -         | -       | 364 622.6 | -        | -     | -        | -        |

n.a. - not applicable  
n.d. - not available

(1) Includes forest waste, pine and eucalyptus bark and other types of biomass.

(2) Total water consumed at the facility.

(3) Total SO<sub>2</sub> emissions calculated on the basis of fuel characteristics; NO<sub>x</sub> and particle emissions calculated on the basis of monitoring; CO<sub>2</sub> emissions calculated on the basis of the fuel characteristics for coal and of emission factors for other fuels.



**GAS CO-GENERATION PLANTS IN PORTUGAL**

**CHARACTERISTICS**

|                                 | <b>Soporgen</b> | <b>Energim</b>              |
|---------------------------------|-----------------|-----------------------------|
| Type of power plant             |                 | Co-generation Co-generation |
| Installed capacity (MW)         | 67              | 43.7                        |
| Gas treatment                   | n.a.            | n.a.                        |
| Wastewater treatment            | (1)             | Separation oils/water       |
| Environmental Management System | None            | None                        |

**OPERATING DATA**

|  | <b>Soporgen</b> | <b>Energim</b> |
|--|-----------------|----------------|
| Gross electricity generation (MWh) (2)                       | 426 510         | 244 012        |
| Net electricity generation (MWh) (2)                         | 418 388         | 237 322        |
| Steam generation (TJ)  | 1 782           | 2 167          |
| Natural gas consumption (Nm <sup>3</sup> x 10 <sup>3</sup> ) | 110 076         | 88 294         |
| Gross water consumption (m <sup>3</sup> )                    | 789 719         | 480 074        |
| Cooling water (m <sup>3</sup> )                              | 33 731          | 124 023        |

**ENVIRONMENTAL DATA**

**ATMOSPHERIC EMISSIONS (3)**

|                      | <b>Soporgen</b> | <b>Energim</b> |
|----------------------|-----------------|----------------|
| SO <sub>2</sub> (kt) | n.a.            | n.a.           |
| NO <sub>x</sub> (kt) | 0.235           | 0.116          |
| CO <sub>2</sub> (kt) | 239             | 193            |
| Particles (kt)       | 0.002           | 0.002          |

**WASTEWATER**

|   | <b>Soporgen (4)</b> | <b>Energim</b> |
|---|---------------------|----------------|
| Oils and fats (mg/l)                        | n.a.                | n.a.           |
| Hydrocarbons (mg/l)                         | 0.235               | 0.116          |
| Wastewater steam (m <sup>3</sup> )          | 239                 | 193            |
| % of wastewater sent to municipal collector | 0.002               | 0.002          |

**WASTE**

|                                   | <b>Soporgen (5)</b> | <b>Energim</b> |
|-----------------------------------|---------------------|----------------|
| Used oils (t)                     | 0.0                 | 2.41           |
| Metal waste (t)                   | 0.0                 | 0.0            |
| Equipment with PCB eliminated (t) | 0.0                 | 0.0            |

n.a. - not applicable

(1) Effluent goes to the SOPORCEL treatment station.

(2) Includes supply of electricity to industrial customers and EDP grid.

(3) Total SO<sub>2</sub> emissions calculated on the basis of the characteristics of the fuel; NO<sub>x</sub> and particle emissions calculated on the basis of monitoring and CO<sub>2</sub> emissions calculated on the basis of the emission factor.

(4) Effluent from SOPORGEN treated at SOPORCEL ETAR.

(5) SOPORGEN's waste is declared and managed by SOPORCEL.

Annual Report • Sustainability Report  
**Binding Hydroelectric Plants in Portugal**

**BINDING HYDROELECTRIC PLANTS IN PORTUGAL**

**CHARACTERISTICS OF FACILITIES**

|              |                      | <b>Flooded area (ha)</b> | <b>Usable capacity of reservoir (hm3)</b> | <b>Installed Capacity (MW)</b> | <b>Environmental management system</b> |
|--------------|----------------------|--------------------------|---|--------------------------------|--|
| Cávado-Lima  | Alto Lindoso         | 1 050                    | 347.9                                     | 630                            | Implemented                            |
|              | Touvedo              | 172                      | 4.5                                       | 22                             | Implemented                            |
|              | Alto Rabagão         | 2 212                    | 550.7                                     | 68                             | Implemented                            |
|              | Vila Nova/Venda Nova | 391                      | 92.1                                      | 90                             | Implemented                            |
|              | Vila Nova/Paradela   | 380                      | 158.2                                     | 54                             | Implemented                            |
|              | Salamonde            | 237                      | 55.0                                      | 42                             | Implemented                            |
|              | Vilarinho das Furnas | 344                      | 69.7                                      | 125                            | Implemented                            |
|              | Cançada              | 579                      | 144.4                                     | 62                             | Implemented                            |
| Douro        | Miranda              | 122                      | 6.4                                       | 369                            | Implemented                            |
|              | Picote               | 244                      | 13.4                                      | 195                            | Implemented                            |
|              | Bemposta             | 405                      | 20.0                                      | 240                            | Implemented                            |
|              | Pocinho              | 829                      | 12.0                                      | 186                            | Implemented                            |
|              | Valeira              | 795                      | 13.0                                      | 240                            | Implemented                            |
|              | Vilar-Tabuaço        | 670                      | 95.5                                      | 58                             | Implemented                            |
|              | Rêgua                | 850                      | 12.0                                      | 180                            | Implemented                            |
|              | Carrapatelo          | 952                      | 15.6                                      | 201                            | Implemented                            |
|              | Torrão               | 650                      | 77.9                                      | 140                            | Implemented                            |
|              | Crestuma-Lever       | 1 298                    | 22.1                                      | 117                            | Implemented                            |
| Tejo-Mondego | Caldeirão            | 66                       | 3.5                                       | 40                             | Implemented                            |
|              | Agueira              | 1 930                    | 216.0                                     | 336                            | Implemented                            |
|              | Raiva                | 230                      | 12.0                                      | 24                             | Implemented                            |
|              | Cabril               | 1 965                    | 615.0                                     | 108                            | Implemented                            |
|              | Bouçã                | 500                      | 7.9                                       | 44                             | Implemented                            |
|              | Castelo do Bode      | 3 480                    | 902.5                                     | 159                            | Implemented                            |
|              | Praçana              | 550                      | 95.6                                      | 41                             | Implemented                            |
| Fratel       | 750                  | 21.0                     | 132                                       | Implemented                    |  |

**OPERATING DATA**

|                                  | <b>Cávado-Lima</b> | <b>Douro</b> | <b>Tejo-Mondego</b> |
|----------------------------------|--------------------|--------------|---------------------|
| Net electricity generation (MWh) | 1 776 074          | 5 540 867    | 1 401 278           |

**ENVIRONMENTAL DATA**

**WASTE**

|                                   | <b>Cávado-Lima</b> | <b>Douro</b> | <b>Tejo-Mondego</b> |
|-----------------------------------|--------------------|--------------|---------------------|
| Used oils (t)                     | 9.4                | 63.1         | 111.1               |
| Metal waste (t)                   | 141.5              | 36.0         | 189.9               |
| Equipment with PCB eliminated (t) | 0.00               | 0.00         | 0.00                |

Annual Report • Sustainability Report  
**Non-Binding Hydroelectric Plants in Portugal**

**NON-BINDING HYDROELECTRIC PLANTS IN PORTUGAL**

**CHARACTERISTICS OF FACILITIES**

|        |                    | Flooded area (ha) | Usable capacity of reservoir (hm <sup>3</sup> ) | Installed Capacity (MW) | Environmental management system |
|--------|--------------------|-------------------|---|-------------------------|---------------------------------|
| North  | Lindoso            | -                 | 0.2   | 44.1                    | None                            |
|        | Ermal              | -                 | 21.2  | 11.2                    | Implemented                     |
|        | Varosa (Chocalho)  | 69.6              | 12.9  | 25.0                    | Being prepared                  |
|        | France             | 5                 | 0.1   | 7.0                     | Being prepared                  |
|        | Penide I e II      | 69                | 0.5   | 4.9                     | Implemented                     |
|        | Guilhofrei         | 163               | 20.4  | 4.0                     | Implemented                     |
|        | Ponte da Esperança | -                 | 21.2  | 2.8                     | Implemented                     |
|        | Senhora do Porto   | 23                | 1.1   | 8.8                     | Implemented                     |
|        | Cefra              | 0.5               | 0.1   | 1.1                     | Implemented                     |
|        | Freigil            | 3,3               | 0.1   | 4.6                     | Being prepared                  |
|        | Aregos             | -                 | -   | 3.1                     | Being prepared                  |
|        | Caniços (ETE)      | -                 | -   | 0.9                     | None                            |
|        | Labruja            | -                 | -   | 0.9                     | Being prepared                  |
| Centre | Sabugueiro I       | 240               | 15  | 12.8                    | Implemented                     |
|        | Desterro           | 1.6               | -   | 13.2                    | Implemented                     |
|        | Ponte de Jugais    | -                 | -   | 20.3                    | Implemented                     |
|        | Vila Cova          | -                 | -   | 23.4                    | Implemented                     |
|        | Santa Luzia        | 246               | 50.5  | 24.4                    | None                            |
|        | Sabugueiro II      | 64.6              | 5.1   | 10.0                    | Implemented                     |
|        | Riba-Côa           | 5.6               | -   | 0.1                     | None                            |
|        | Pateiro            | 0.3               | -   | 0.3                     | None                            |
|        | Ribafeita          | 2                 | 0.1   | 0.9                     | None                            |
|        | Drizes             | 3                 | 0.2   | 0.2                     | None                            |
|        | Pisões             | -                 | -   | 0.1                     | None                            |
|        | Figueiral          | 0.5               | -   | 0.2                     | None                            |
|        | Rei de Moinhos     | 2.5               | -   | 0.8                     | None                            |
|        | Ermida             | -                 | -   | 0.4                     | None                            |
|        | Lagoa Comprida     | -                 | -   | 0.6                     | Being prepared                  |
| Tagus  | Belver             | 28.6              | 7.5   | 80.7                    | None                            |
|        | Póvoa              | 23.6              | 19.7  | 0.7                     | None                            |
|        | Bruceira           | 11                | 4.1   | 1.6                     | None                            |
|        | Velada             | 1                 | 0.4   | 1.9                     | None                            |
|        | Caldeirão          | -                 | -   | 0.2                     | None                            |

**OPERATING DATA**

|                                  | North   | Centre  | Tagus   |
|----------------------------------|---------|---------|---------|
| Net electricity generation (MWh) | 164 990 | 174 865 | 199 091 |

**ENVIRONMENTAL DATA**

**WASTE**

|                                   | North | Centre | Tagus |
|-----------------------------------|-------|--------|-------|
| Used oils (t)                     | 0.0   | 0.0    | 0.0   |
| Metal waste (t)                   | 0.0   | 0.0    | 0.0   |
| Equipment with PCB eliminated (t) | 0.0   | 0.0    | 0.0   |

WIND FARMS IN PORTUGAL

CHARACTERISTIC OF FACILITIES

| Farm             | Location                                | Implementation Area (ha) | Number of turbines | Installed capacity (MW) |
|------------------|---|--------------------------|--------------------|-------------------------|
| Fonte da Mesa    | Serra Meadas (Lamego/Resende)           | 305                      | 17                 | 10.2                    |
| Pena Suar        | Serra Marão (Amarante/Vila Real)        | 205                      | 20                 | 10                      |
| Cabeço da Rainha | Serra Alvelos (Oleiros/Sertã)           | 80                       | 17                 | 16.2                    |
| Cadafaz          | Serra Lousã (Góis)                      | 60                       | 17                 | 10.2                    |
| Serra do Barroso | Serra Barroso (Boiças)                  | 300                      | 9                  | 18                      |
| Vilanova         | Vila Nova (Miranda do Corvo)            | 60                       | 10                 | 20                      |
| Padrela          | Serra da Padrela (Vila Pouca de Aguiar) | 30                       | 5                  | 7.5                     |
| Fonte da Quelha  | Serra do Montemuro (Cinfães)            | 90                       | 8                  | 12                      |
| Alto Talefe      | Serra do Montemuro (Cinfães)            | 120                      | 8                  | 12                      |
| Açor             | Serra do Açor (Arganil)                 | 90                       | 10                 | 20                      |

OPERATING DATA

|                                    | Fonte da Mesa | Pena Suar | Cabeço da Rainha | Cadafaz | Serra do Barroso | Vilanova | Padrela | Fonte da Quelha | Alto Talefe | Açor  |
|------------------------------------|---------------|-----------|------------------|---------|------------------|----------|---------|-----------------|-------------|-------|
| Gross electricity generation (MWh) | n.d.          | n.d.      | n.d.             | n.d.    | n.d.             | n.d.     | n.d.    | n.d.            | n.d.        | n.d.  |
| Net electricity generation (MWh)   | 21 588        | 25 897    | 43 914           | 28 173  | 39 533           | 21.956   | 11.469  | 18.450          | 20.710      | 5.343 |

ENVIRONMENTAL DATA

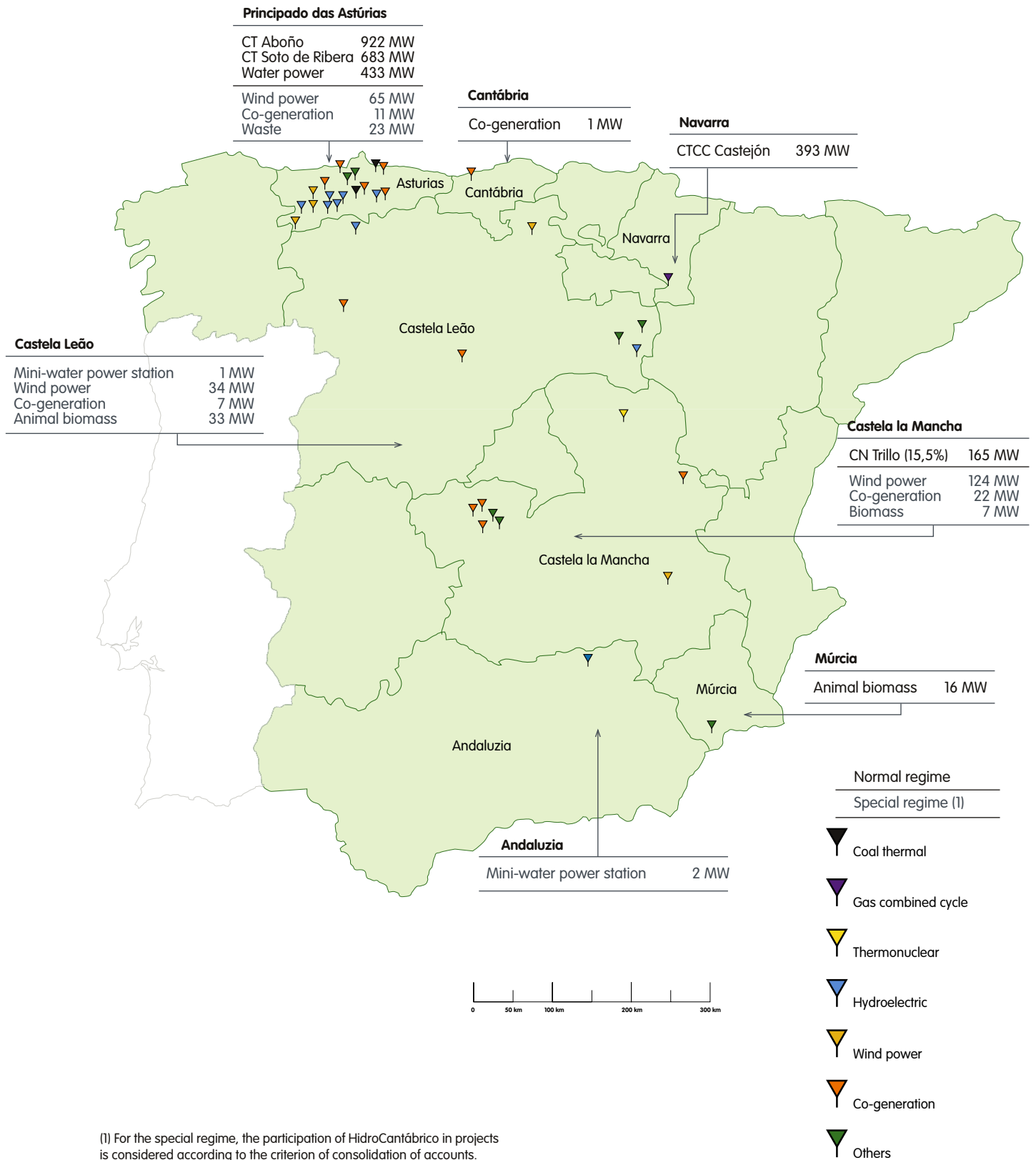
| WASTE           | Fonte da Mesa | Pena Suar | Cabeço da Rainha | Cadafaz | Serra do Barroso | Vilanova | Padrela | Fonte da Quelha | Alto Talefe | Açor |
|-----------------|---------------|-----------|------------------|---------|------------------|----------|---------|-----------------|-------------|------|
| Used oils (l)   | 1.6           | 0.0       | 0.1              | 0.1     | 0.0              | 0.00     | 0.00    | 0.00            | 0.00        | 0.00 |
| Metal waste (l) | 0.6           | 0.1       | 0.0              | 0.0     | 0.0              | 0.00     | 0.00    | 0.00            | 0.00        | 0.00 |

n.d. - not available

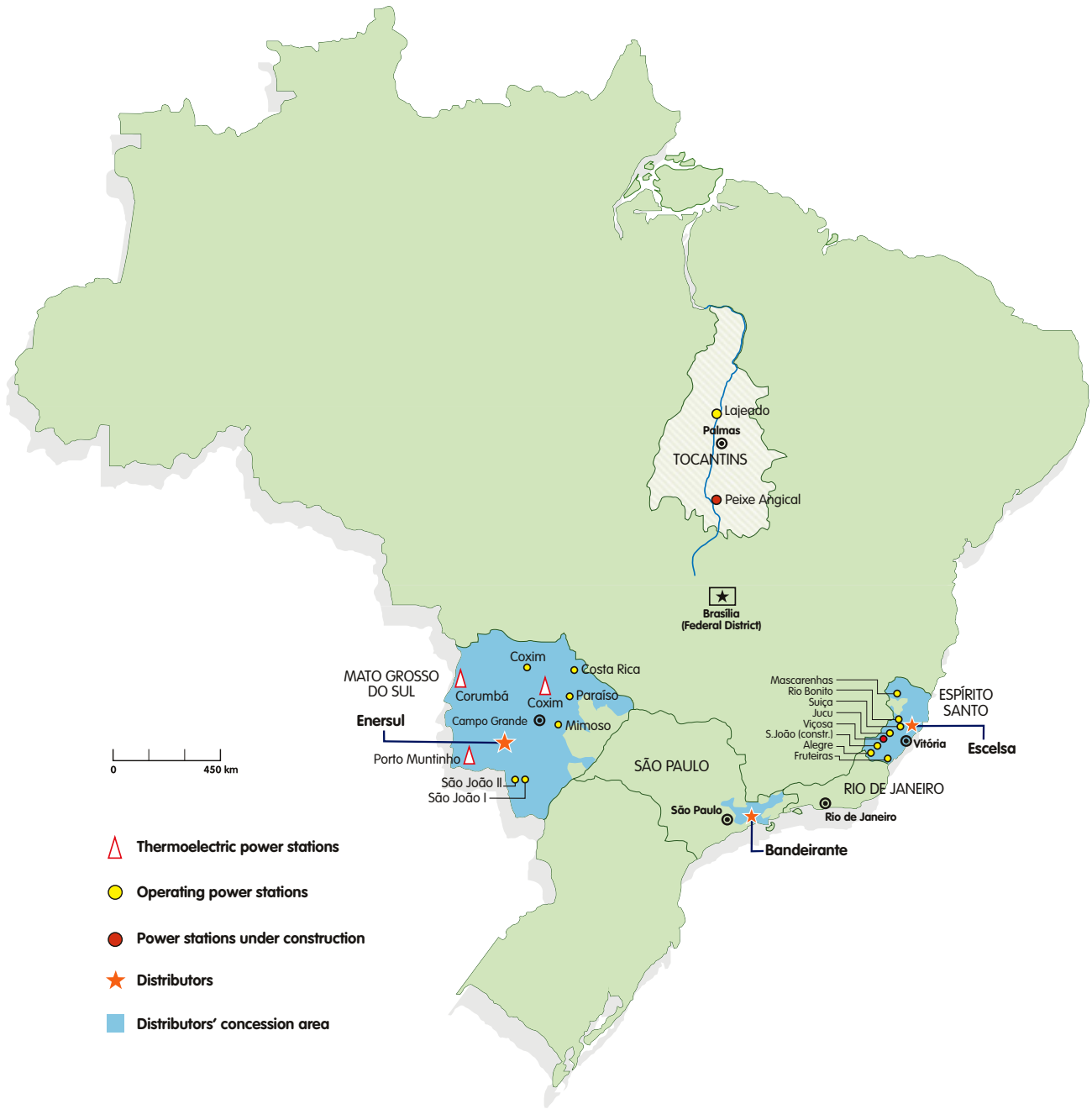
**DISTRIBUTION NETWORK IN PORTUGAL**

| <b>CHARACTERISTICS</b>                                   |               |
|--|---------------|
| <b>Substations</b>                                       |               |
| Nº   | 382           |
| Installed capacity (MVA)                                 | 13 885        |
| Nº of transformers                                       | 668           |
| <b>Transforming stations</b>                             |               |
| Nº   | 54 751        |
| Installed capacity (MVA)                                 | 15 586        |
| <b>Overhead lines</b>                                    |               |
| HV (km)  | 7 480         |
| MV (km)  | 54 072        |
| LV (km)  | 99 255        |
| <b>Underground lines (km)</b>                            |               |
| HV (km)  | 361           |
| MV (km)  | 12 338        |
| LV (km)  | 25 535        |
| <b>Meters</b>  |               |
| HV and MV  | 23 031        |
| ELV and LV   | 6 036 766     |
| <b>OPERATING DATA</b>                                    |               |
| <b>ELECTRICITY BALANCE (GWh)</b>                         |               |
| Electricity delivered to distribution network            | <b>44 808</b> |
| Own consumption  | 86            |
| Losses   | 3 456         |
| % Losses (1)   | 8.6%          |
| <b>Total sales of electricity</b>                        |               |
| <b>Sales to EDP customers</b>                            | <b>38 876</b> |
| VHV  | 1 222         |
| HV   | 4 335         |
| MV   | 10 826        |
| SLV  | 3 166         |
| LXX  | 18 109        |
| PL   | 1 218         |
| <b>Sales to other customers</b>                          | <b>2 381</b>  |
| VHV  | -             |
| HV   | 24            |
| MV   | 2 343         |
| SLV  | 14            |
| (1) Excludes losses in extremely high voltage (EHV) grid |               |
| <b>ENVIRONMENTAL DATA</b>                                |               |
| <b>WASTE</b>   |               |
| Used oils (t)  | 188.67        |
| Metal waste (t)  | 2593.05       |
| Street light bulbs (t)                                   | 14.44         |
| Equipment with PCB eliminated (t)                        | 0             |





(1) For the special regime, the participation of HidroCantábrico in projects is considered according to the criterion of consolidation of accounts.



# Annual Report • Sustainability Report

## Hidrocantábrico's Thermolectric Plants

### HIDROCANTÁBRICO'S THERMOELECTRIC PLANTS

#### CHARACTERISTICS

|                                 | Aboño                       | Soto de Ribeira   | Castejón  |
|---------------------------------|-----------------------------|---|---|
| Type of power plant             | Gas turbine                 | Gas turbine   | Combined cycle  |
| Installed capacity (MW)         | 916.2                       | 671.6   | 392.6   |
| Gas treatment                   | Electrostatic precipitators | Electrostatic precipitators   | n.a.  |
| Changes in combustion           | Low NOx burners             | None  | Low NOx burners   |
| Treatment of effluent           | None                        | Physico-chemical: coagulation/flocculation/decantation/neutralisation | Physico-chemical: water/oil separator and neutralisation system |
| Environmental Management System | Being implemented           | Being implemented   | UNE/EN/ISO 14001:2004   |

#### OPERATING DATA

|  | Aboño       | Soto de Ribeira | Castejón  |
|--|-------------|-----------------|-----------|
| Gross electricity generation (MWh)                     | 7 011 244   | 3 932 142       | 2 026 523 |
| Net electricity generation (MWh)                       | 6 643 800   | 3 711 911       | 1 961 077 |
| Fuel consumption                                       |             |                 |           |
| Fuel oil (t)   | 712         | 12 671          | n.a.      |
| Diesel (t)   | 472         | 1 050           | n.a.      |
| Coal (t)   | 2 086 430   | 1 663 627       | n.a.      |
| Natural gas (Nm <sup>3</sup> x 10 <sup>3</sup> )       | n.a.        | n.a.            | 343 623   |
| Blast furnace gas (Nm <sup>3</sup> x 10 <sup>3</sup> ) | 150 834     | n.a.            | n.a.      |
| Coke gas (Nm <sup>3</sup> x 10 <sup>3</sup> )          | 150 834     | n.a.            | n.a.      |
| Raw water consumption (m <sup>3</sup> )                | n.d.        | 88 212 039      | 3 675 114 |
| Potable water consumption (m <sup>3</sup> )            | 715 904     | 6 229           | 2 712     |
| Cooling water (m <sup>3</sup> )                        | 573 336 000 | 87 984 319      | 94 542    |

#### ENVIRONMENTAL DATA

##### ATMOSPHERIC EMISSIONS

|                      | Aboño   | Soto de Ribeira | Castejón |
|----------------------|---------|-----------------|----------|
| SO <sub>2</sub> (kt) | 23.56   | 17.96           | 0.00     |
| NO <sub>x</sub> (kt) | 17.38   | 11.80           | 0.25     |
| CO <sub>2</sub> (kt) | 7529.75 | 3593.99         | 718.09   |
| Particles (kt)       | 1.97    | 0.96            | 0.0      |

##### WASTEWATER

|  | Aboño | Effluents | Soto de Ribeira | Rain water | Castejón |
|--|-------|-----------|-----------------|------------|----------|
| Volume of effluent treated (m <sup>3</sup> ) | n.d.  | 671 284   |                 | 71 028     | 73 028   |
| Suspended solids (mg/l)                      | n.d.  | 5.43      |                 | 10.63      | 20.75    |
| Iron (mg/l Fe)                               | n.d.  | <0.1      |                 | <0.10      | 0.50     |
| Copper (mg/l Cu)                             | n.d.  | <0.08     |                 | <0.08      | n.d.     |
| Zinc (mg/l Zn)                               | n.d.  | 0.02      |                 | 0.02       | 0.01     |
| Nickel (mg/l Ni)                             | n.d.  | <0.14     |                 | <0.14      | n.d.     |
| Aluminium (mg/l)                             | n.d.  | 0.18      |                 | 0.35       | 0.13     |
| Vanadium (mg/l V)                            | n.d.  | n.d.      |                 | n.d.       | n.d.     |
| Chromium (mg/l Cr)                           | n.d.  | <0.16     |                 | <0.16      | n.d.     |
| Oils and fats (mg/l)                         | n.d.  | 4.08      |                 | 0.35       | 0.04     |

##### WASTE

|                                   | Aboño     | Soto de Ribeira | Castejón |
|-----------------------------------|-----------|-----------------|----------|
| Coal fly ash and slag (t)         | 268 122.2 | 329 730.0       | 0        |
| Used oils (t)                     | 7.5       | 22.2            | 0.2      |
| Equipment with PCB eliminated (t) | 0         | 0               | 0        |

n.a. - not applicable

n.d. - not available



Annual Report • Sustainability Report  
**Hidrocantábrico's Hydroelectric Plants**

**HIDROCANTÁBRICO'S HYDROELECTRIC PLANTS**

**CHARACTERISTICS OF FACILITIES AND OPERATING DATA**

| Facility  | Water course | Operating since   | N° of groups | Maximum power (MW) | Net generation (MWh) |
|-----------|--------------|-------------------|--------------|--------------------|----------------------|
| La Malva  | Somiedo      | 1917(2) e 1924(2) | 4            | 9.1                |                      |
| Riera     | Somiedo      | 1946(2) e 1956(1) | 3            | 7.8                |                      |
| Miranda   | Pigüeña      | 1962              | 4            | 64.8               |                      |
| Proaza    | Trubia       | 1968              | 2            | 48.0               |                      |
| Priañes   | Nora         | 1952(2) e 1967(1) | 3            | 18.5               |                      |
| Tanes     | Nalón        | 1978              | 2            | 245 (pumping)      |                      |
| Salime HC | Navia        | 1954              | 4            | 79.0               |                      |
| La Barca  | Narcea       | 1967(2) e 1974(1) | 3            | 56.1               |                      |
| Florida   | Narcea       | 1952(2) e 1960(1) | 3            | 7.6                |                      |

**ENVIRONMENTAL DATA**

| WASTE     |               |                                   |
|-----------|---------------|-----------------------------------|
| Facility  | Used oils (t) | Equipment with PCB eliminated (t) |
| La Malva  | 0.76          | 0.0                               |
| Riera     | 0.67          | 0.0                               |
| Miranda   | 0.44          | 0.0                               |
| Proaza    | 0.02          | 0.0                               |
| Priañes   | 6.11          | 0.0                               |
| Tanes     | 4.68          | 0.0                               |
| Salime HC | -             | 0.0                               |
| La Barca  | 1.20          | 0.0                               |
| Florida   | 0.35          | 0.0                               |

## HIDROCANTÁBRICO'S DISTRIBUTION NETWORK

---

### CHARACTERISTICS OF NETWORK

---

#### Substations

|                          |       |
|--------------------------|-------|
| Nº                       | 44    |
| Installed capacity (VHV) | 5 616 |
| Nº of transformers       | 95    |

#### Transforming stations

|                          |       |
|--------------------------|-------|
| Nº                       | 5 601 |
| Installed capacity (VHV) | 1 479 |

#### Overhead lines

|         |        |
|---------|--------|
| HV (km) | 1 366  |
| MV (km) | 4 496  |
| LV (km) | 11 259 |

#### Underground lines (km)

|         |       |
|---------|-------|
| HV (km) | 12    |
| MV (km) | 875   |
| LV (km) | 1 564 |

---

### OPERATING DATA

---

#### ELECTRICITY BALANCE (GWh)

##### Electricity delivered to distribution network

|                 |       |
|-----------------|-------|
| Own consumption |       |
| Losses          | 398   |
| % Losses        | 4.43% |

##### Total sales of electricity

##### Sales at full price **7 599**

|    |       |
|----|-------|
| HV | 5 408 |
| MV | 82    |
| LV | 2 109 |

##### Sales at access price **1 403**

|    |     |
|----|-----|
| HV | 283 |
| MV | 975 |
| LV | 145 |

Note: LV < 1kV ; MV is between 1kV e 36 kV; AT > 36kV

---

### ENVIRONMENTAL DATA

---

#### WASTE

|                                   |       |
|-----------------------------------|-------|
| Used oils (t)                     | 32.67 |
| Equipment with PCB eliminated (t) | 82.20 |

---

**THERMOELECTRIC PLANTS IN BRAZIL**

**CHARACTERISTICS OF PLANTS AND OPERATING DATA**

| Company                          |  | Enersul     |               |             |
|----------------------------------|--|-------------|---------------|-------------|
| Central                          | Coxim  | Corumbá     | Porto Murinho |             |
| Type of power plant              |  | Gas turbine | Gas turbine   | Gas turbine |
| Installed capacity (MW)          | 3  | 6           | 3.75          |             |
| Fuel                             |  | 26 058      | 255 435       |             |
|                                  | Diesel (l)                                       |             |               |             |
|                                  | Natural gas (Nm <sup>3</sup> x 10 <sup>3</sup> ) | n.a.        | n.a.          |             |
| Net electricity generation (MWh) | 29.5   | 60.7        | 10 497.4      |             |

**ENVIRONMENTAL DATA**

**ATMOSPHERIC EMISSIONS**

|                      | Coxim | Corumbá | Porto Murinho |
|----------------------|-------|---------|---------------|
| SO <sub>2</sub> (kt) | n.d.  | n.d.    | n.d.          |
| NO <sub>x</sub> (kt) | n.d.  | n.d.    | n.d.          |
| CO <sub>2</sub> (kt) | n.d.  | n.d.    | n.d.          |
| Particles (kt)       | n.d.  | n.d.    | n.d.          |

**WASTEWATER**

**WASTE**

|                                   | Coxim | Corumbá | Porto Murinho |
|-----------------------------------|-------|---------|---------------|
| Used oils (t)                     | 0     | 0       | 7128          |
| Metal waste (t)                   | 0     | 0       | 0             |
| Equipment with PCB eliminated (t) | n.a.  | n.a.    | n.a.          |

Annual Report • Sustainability Report  
Hydroelectric Plants in Brazil

HYDROELECTRIC PLANTS IN BRAZIL

CHARACTERISTICS OF FACILITIES AND OPERATING DATA

|           |                 | Water course         | Flooded area (ha) | Usable capacity of reservoir (hm3) | Installed capacity (MW) | Net generation (MWh) |
|-----------|-----------------|----------------------|-------------------|------------------------------------|-------------------------|----------------------|
| Investco  | Lajeado         | Tocantins            | 63 000            | 298                                | 902.5                   | 4 456 503            |
| Enerpeixe | Peixe Angelical | Tocantins            | 29 400            | 140                                | 452                     | (in construction)    |
| Enersul   | Coxim           | Salto                | -                 | -                                  | -                       | 2 959                |
|           | Mimoso          | Pardo                | 1 520             | 70                                 | 30                      | 183 013              |
|           | São João I      | São João             | -                 | -                                  | 1                       | 2 031                |
|           | São João II     | São João             | -                 | -                                  | 1                       | 2 937                |
|           | Costa Rica      | Sucuriú              | 31                | -                                  | 17                      | 84 556               |
| Escelsa   | Paraíso         | Paraíso              | 121               | 6                                  | 22                      | 86 234               |
|           | Alegre          | Ribeirão Alegre      | 0.09              | 0.00                               | 1.97                    | 5 957                |
|           | Jucu            | Jucu                 | 1.59              | 0.01                               | 4.39                    | 22 163               |
|           | Fruteiras       | Fruteiras            | 0.21              | 0.00                               | 7.91                    | 8 234                |
|           | Rio Bonito      | Sta Maria da Vitória | 200.21            | 13.58                              | 15.00                   | 71 394               |
|           | Suiça           | Sta Maria da Vitória | 9.81              | 0.43                               | 30.06                   | 160 220              |
|           | Mascarenhas     | Doce                 | 419.4             | 18.7                               | 131.0                   | 784 020              |
|           | Viçosa          | Castelo              | 3.54              | 0.03                               | 4.50                    | 8 023                |

ENVIRONMENTAL DATA

WASTE

|          |             | Used oils (t) | Metal waste (t) | Equipment with PCB eliminated (t) |
|----------|-------------|---------------|-----------------|-----------------------------------|
| Investco | Lajeado     | (1)           | (1)             | (1)                               |
| Enersul  | Coxim       | 0.016         | 0.0             | n.a.                              |
|          | Mimoso      | 0.160         | 0.0             | n.a.                              |
|          | São João I  | 0.016         | 0.0             | n.a.                              |
|          | São João II | 0.016         | 0.0             | n.a.                              |
|          | Costa Rica  | 0.032         | 0.0             | n.a.                              |
| Escelsa  | Alegre      | 0.000         | 0.0             | n.a.                              |
|          | Jucu        | 0.200         | 0.0             | n.a.                              |
|          | Fruteiras   | 0.450         | 0.0             | n.a.                              |
|          | Rio Bonito  | 0.200         | 0.0             | n.a.                              |
|          | Suiça       | 1.000         | 0.0             | n.a.                              |
|          | Mascarenhas | 2.000         | 0.2             | n.a.                              |
|          | Viçosa      | 8.050         | 7.8             | n.a.                              |

(1) The Lajeado plant is not under EDP management. Its controller is Grupo Rede.

# Glossary and abbreviations

|                                 |    |
|---------------------------------|----|
| GLOSSARY AND ABBREVIATIONS      | 86 |
| INDICATORS AND CRITERIA ADOPTED | 89 |

## **GLOSSARY AND ABBREVIATIONS**

**ACT** - Collective bargaining agreement.

**AIA** - Environmental impact assessment.

**Ash** - Solid waste from burning fuel originating from mineral impurities contained in it. It may also contain unburned fuel. Fine-grained fly ash is blown out by the combustion gases. Coarse-grained slag accumulates at the bottom of the combustion chamber.

**BCSD Portugal** - Business Council for Sustainable Development – a non-profit-making business association set up to transpose to Portugal the WBCSD guidelines for publicising its principles of sustainable development.

**CCDR** - Coordination and Regional Development Committee

**CDM** - Clean Development Mechanism – a mechanism set up by the Kyoto Protocol allowing Annex I countries to fund projects for the reduction of CO<sub>2</sub>eq. emissions non-Annex I countries in exchange for tradable emissions reduction certificates in the same proportion.

**CO<sub>2</sub> - carbon dioxide** - a colourless, odourless gas making up part of the air. In addition to natural sources, sources of human origin include the burning of fossil fuels, different industrial processes and changes in soil use. Although it does not affect human health directly, it is a greenhouse gas that contributes to the potential for global warming.

**Co-generation power station** - Power station where the steam produced is turbined to generate electricity and then used for heating in industrial activities.

**Combined cycle** - Electricity generation facility consisting of a gas turbine whose exhaust gases feed a heat recovery unit that generates steam to operate a second turbine.

**Cooling water used** - Volume of water taken every year for use in the primary circuit cooling system of the Company's thermoelectric power stations.

**DGGE** - Geology and Energy Directorate.

**Environmental Impact Study (EIA)** - All the technical documents and studies drawn up by the promoter of a project. It includes, among other information, the identification and assessment of probable positive and negative impacts that the project may have on the environment and any measures to prevent, minimise or compensate for expected negative impacts.

**Environmental Management System (SGA)** - It is part of a global management system and includes the organisational structure, planning of activities, responsibilities, practices, procedures, processes and resources needed to develop, implement, review and maintain an environmental policy.

**ERSE** - Energy Services Regulator.

**FCUL** - Lisbon University Faculty of Science.

**Global Compact (GC)** - An initiative sponsored by the Secretary-General of the United Nations, Kofi Annan, to promote human rights, employment and the environment.

**GRI - Global Reporting Initiative** - An independent global institution that develops worldwide reporting guidelines that help companies in drawing up reports on their economic, environmental and social performance.

**Greenlight Programme** - A voluntary initiative promoted by the European Commission to reduce energy consumption by indoor and outdoor lighting, thus reducing pollutant emissions and limiting global warming.

**Hydroelectric capability factor (IPH)** - An indicator quantifying deviations from the total amount of electricity produced hydroelectrically over a certain period in relation to that which would have been produced in average hydrological conditions.

**ICN** - Nature Conservation Institute.

**INESC** - Institute of Systems and Computer Engineering.

**ISCTE** - School of Corporate and Work Sciences.

**ISO 14 000 standards** - A set of international standards issued by the International Organization for Standardization for environmental management systems

**IST** - Higher Technical Institute

**JI - Joint implementation** - A mechanism established by the Kyoto Protocol allowing an Annex I country to fund projects in another Annex I country in exchange for tradable CO<sub>2eq</sub> emissions reduction units.

**NO<sub>x</sub> - Nitrogen oxides** - Gases consisting of one nitrogen atom and a variable number of oxygen atoms. They are air pollutants formed by nitrogen oxidation at high temperatures and one of the causes of photochemical smog and acid rain.

**Occupational accident** - An accident occurring at the workplace during working hours resulting directly or indirectly in physical injury, functional impairment or disease which results in death or a reduction in the ability to work or earn. Occupational accidents include on-duty accidents and those occurring on the way to or from work.

**OHSAS 18 001 standards** - Occupational Health and Safety Assessment Series standards for the certification of safety and hygiene management systems.

**Particles** - An air pollutant consisting of fine material suspended in the air

**PCB - Polychlorobiphenyls** - A group of enduring, toxic, synthetic chemical compounds. Until their manufacture was banned in the late 1970s, they were widely used as insulating fluid in the electricity industry worldwide.

**PCIP** - Integrated Pollution Prevention and Control.

**PNAC** - National Climate Change Plan.

**PNALE** - National Plan for the Allocation of Emission Allowances.

**PNRE** - National Emission Reduction Plan.

**PPQA** - Environmental Quality Promotion Plan.

**Quality of service** - Extent to which an electricity supply conforms to contract clauses over a certain period of time, measured against benchmark indicators.

**RQS** - Service Quality Regulations establishing the minimum standards of technical and commercial quality for the service provided by companies in the Public Service Electricity System (SEP).

**SAIDI - System Average Interruption Duration Index** - A technical service quality indicator, the quotient of the sum of the durations of outages at delivery points over a certain period by the total number of delivery points over the same period.

**SAIFI - System Average Interruption Frequency Index** - A technical service quality indicator, the quotient of the total number of interruptions at delivery points, over a certain period by the total number of delivery points over the same period.

**SEI** - Independent electricity system consisting of the SENV and special regime generation.

**SEN** - National electricity system consisting of the SEP and SEI.

**SENV** - Non-binding electricity system consisting of non-bound producers, non-bound distributors and non-bound customers.

**SEP** - Public service electricity system consisting of bound producers, the RNT (national transmission network) concessionaire, bound distributors and SEP customers.

**SF<sub>6</sub> - Sulphur hexafluoride** - A greenhouse gas with a potential for global warming of 23,900.

**SO<sub>2</sub> - Sulphur dioxide** - An atmospheric pollutant emitted by natural and human reprocesses, the burning of fossil fuels and a number of industrial processes. It is one of the substances responsible for acid rain.



**SPEA** - Portuguese Bird Society.

**SRG** - Special regime generation, consisting of mini-hydroelectric generation (up to 10MW), renewable energies and waste, co-generation and low voltage generation.

**Stakeholder** - Any agent who directly or indirectly influences or is influenced by the Company.

**TIEPI - Annual average outage time (in minutes)**

- This is a technical indicator of quality of service. It is the quotient between the sum of the product of the installed capacity at public and private service transforming stations by outage time of these stations and the sum of the installed capacities of all the public and private service transforming stations in the distribution grid.

**UE - Undistributed energy** - A technical indicator of quality of service, representing the estimated amount of undistributed energy at the delivery points of bound distributors due to outages over a certain period of time (normally one calendar year).

**WBCSD** - World Business Council for Sustainable Development, an organisation of companies set up to catalyse change towards sustainable development and foster eco-efficiency, innovation and social responsibility in companies.

## INDICATORS AND CRITERIA ADOPTED

**Absentee rate** - Ratio between the total hours missed and the total (theoretic) hours worked according to the employment audit.

**Biomass** - Non-fossil organic material of biological origin partially useable as a source of energy. The biomass used at the Mortágua power stations includes forest waste and pine and eucalyptus bark.

**Emissions into inland and estuary water** - Total emissions of treated effluent into rivers and estuaries, excluding cooling water.

**Emissions into the sea** - Total emissions of treated effluent into the sea, excluding cooling water.

**Frequency index (FI)** - Number of accidents with sick leave per million hours worked.

**Fuel consumption** - Annual total amount of fossil fuels and biomass used in electricity generation at all the Company's facilities.

**Gross electricity generation** - Total electricity measured on leaving all the main generators at the power stations, therefore including energy absorbed by the power stations' auxiliary services and losses from main transformers.

**Hazardous waste** - Annual sum disposed of in terms of hazardous waste that is dangerous to health or the environment, defined in accordance with the European Waste List approved by Ministerial Order 209/2004 of 3 March. It does not include waste resulting from service activities.

**Net electricity generation** - Total electricity transmitted to the grid from gross generation after subtracting consumption used in its generation by the power stations' auxiliary services and at the main transformers.

**Non-hazardous waste** - Annual sum of quantities of non-hazardous waste disposed of, defined in accordance with the European Waste List approved by Ministerial Order 209/2004 of 3 March. It does not include waste resulting from service activities.

**On-duty accidents** - Any occupational accident occurring while working for the Company (at the workplace or during working hours) resulting in sick leave or death.

**Recovered waste (%)** - Ratio between the total waste recovered and the total waste disposed of. It does not include waste resulting from service activities.

**Specific atmospheric emissions** - The ratio between total atmospheric emissions and total gross thermal generation of all EDP's thermoelectric power stations.

**Steam generation** - All steam produced at EDP co-generation power stations and sold to industrial customers.

**Total primary energy consumption** - Annual total amount of fossil fuels and biomass used at all the Company's thermal generation facilities, calculated on the basis of the average net calorific value (NCV) weighted on the basis of volume used for each type of fuel. At co-generation power stations, the NCV is an annual average of daily consumption.

**Total atmospheric emissions** - Emissions resulting from the operations of the main and auxiliary groups. For coal, CO<sub>2</sub> is calculated solely on the basis of the carbon content. For the other fuels, it is calculated on the basis of standard emission factors and on the NCV (net calorific value). In conventional thermal generation, NO<sub>x</sub> and particles are calculated on the basis of continuous monitoring data and fuel consumption. SO<sub>2</sub> is calculated on the basis of the fuel's sulphur content. In co-generation and biomass, all emissions, with the exception of CO<sub>2</sub>, are calculated on the basis of six-monthly campaigns and the number of hours of operation.

**Total consumption of power stations** - Quantity of electricity used by all the Company's electricity generation facilities and needed for them to operate normally. It includes all services associated with generation (consumption by auxiliary services, synchronic compensation and pumping) and those not associated.

**Total sub-product sold** - Total product resulting from the operation of the thermal power stations that is not disposed of as waste but sold as raw material for other industrial activities.

**Turnover** - Ratio between average number of employees admitted to and leaving the Company and the total number of employees.

**Waste disposal** - Annual total amount of waste disposed of or recovered by a licensed operator at all EDP industrial facilities. It does not include waste generated by service activities.

**Water consumption in electricity generation** - Annual total amount of water used at thermal generation facilities, including total volumes of raw water (for processes) and drinking water (for consumption not directly linked to generation).



# Certification Document





To the board of Directors of  
EDP – Energias de Portugal, S.A.

PricewaterhouseCoopers  
& Associados - Sociedade de  
Revisores Oficiais de Contas, Lda.  
Avenida da Liberdade, 245 - 8º A  
1269 - 034 Lisboa  
Portugal  
Tel +351 21319 70 00  
Fax +351 21316 11 12

**Independent assurance report**  
of the key indicators in respect of the 2004 sustainability report

**Introduction**

In accordance with your request, we performed an independent assurance of the key indicators of the sustainability report with respect to the year ended December 31, 2004. Such performance information includes the operational, environmental and social indicators for Portugal, shown in pages 20 and 21. These indicators were verified against the assessment criteria found in pages 89 and 90 of the sustainability report.

**Responsibility**

EDP's Board of Directors is responsible for the presented information, the assessment criteria, and for the systems and processes to collect, aggregate, validate and report such performance information. Our responsibility is to conclude on the adequacy of the performance information, based upon our independent assurance standards.

**Scope**

Our procedures were planned and executed using the International Standard on Assurance Engagements (ISAE) 3000, in order to obtain a moderate level of assurance on the adequacy of both the performance information and the underlying processes and systems.

Our procedures were as follows: (i) identify the existence of internal management procedures leading to the implementation of operational, environmental and social policies. (ii) testing the processes and systems efficiency in respect to collect, aggregate, validate and report the operational, environmental and social performance information. (iii) confirming that given operational units follow the instructions to collect, aggregate, validate and report the operational, environmental and social performance information. (iv) executing some procedures, using a sampling technique, in order to validate the operational, environmental and social information reported.



**Conclusions**

Based on our work described in this report, nothing has come to our attention that causes us to believe that the systems and processes in respect to collect, aggregate, validate and report the operational, environmental and social performance information of the EDP Group in Portugal and for the twelve month period ended December 31, 2004, are not effective in order that, the performance information referred to above, is not presented adequately, in all material respects, against the assessment criteria found in pages 89 and 90 of the sustainability report.

Lisbon, March 14, 2005

*PriceWaterhouseCoopers, S.A., Lda.*

Represented by:

*Jorge Manuel Santos Costa*

Jorge Manuel Santos Costa, R.O.C.







[www.edp.pt](http://www.edp.pt)