ENVIRONMENTAL PROTECTION AND SOCIAL RESPONSIBILITY: VALUES WE EMBRACE WITH OUR BEST ENERGY

'02 | ER

Environmental Report
Environment and Society

EDP
Electricidade de Portugal, S.A.

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ENVIRONMENTAL POLICY

Basic Principles of the EDP Board of Directors declaration on environmental policy

Considering electric energy is a crucial factor for the development and improvement of the quality of life;

Recognising that the activities associated with electricity generation, transmission and distribution can produce adverse environmental effects;

In the incessant quest for a proper balance between its essential function and the safeguarding of environmental values;

EDP adopts the following principles:

- To consolidate environmental assessment criteria in the company's activities and to audit its performance;
- To examine the importance of the environmental issues in generation, transmission, 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.

1994

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FOR SUSTAINABILITY REPORTS

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C – CORE INDICATOR
A – ADDITIONAL INDICATOR
N.A.V. – NOT APPLICABLE

(1) AVAILABILITY LEVEL FOR EACH REPORTING ELEMENT AND PERFORMANCE INDICATOR IS BASED ON EDP'S INTERNAL JUDGMENT.

BECAUSE
WE HAVE
MUCH
TO SAY

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Environmental Report
Environment and Society

EDP
Electricidade de Portugal, S.A.

"THE WIND, IN PASSING THE SUMMITS OF MOUNTAINS, BECOMES SWIFT AND DENSE, AND AS IT BLOWS PAST THEM BECOMES THIN AND SLOW, LIKE WATER THAT FLOWS FROM A NARROW CHANNEL INTO THE WIDE SEA."

IN LEONARDO DA VINCI'S NOTEBOOK (1452-1519)

EDP's 2002 Environmental Report – Environment and Society, is illustrated with themes from our wind farms. It invites the reader to look over the various stages of construction work and to get to know the steps we take to minimise impact on the surrounding environment.

Portugal has a long-lasting tradition of using wind energy, namely for milling grain. Today, the use of wind farms for electricity generation is, along with hydroelectric generation, a cornerstone of any strategy to make rational use of our native energy resources.

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MESSAGE FROM THE CHAIRMAN

Having published five editions of EDP's Environmental Report, we feel it is time to analyse the work carried out so far.

With the first three editions we gained experience with this type of document, which was new to us, and tried to supply more and more information about our environmental performance in the Portuguese electricity sector. With the 2001 report we began to use the Global Reporting Initiative (GRI) guidelines and were happy to see our efforts recognised when we were awarded the prize for Best Portuguese Environmental Report, by the Council of Statutory Auditors, as part of the European Sustainability Reporting Awards.

This is a distinction we are obviously proud of and which gives us added responsibilities. This is why, this year, we begin a new stage, two features of which are especially important. One is our first approach to sustainability reporting, with information on social and economic matters. The other is the widening of the report's scope to cover the EDP Group's international activities, with information on the environmental performance of our electricity business in Spain and Brazil.

This decision is in line with EDP's global strategy, a strategy based on the development of the Group's activities in the Iberian energy sector and the consolidation of its interests in Brazil. We followed this strategy throughout 2002, a year which demanded intense effort in keeping up with the evolving regulation related to climate change, both on a national and international level.

The start up of the European emissions trading scheme, due in 2005, will introduce a new variable into the electricity business, which will be essential to the success of the sector's companies in the medium term. These are issues affecting the present and the future, which we have incorporated into our management plans and growth options.

We are aware of our responsibilities and of the challenges we face and we want to carry on being a benchmark company in the markets in which we operate. The information provided in this report reflects that commitment.

Internal efforts are now focused on improving our methods of data collection and processing, aiming to have the report audited by an independent external body at some time in the near future. As this report includes ever more precise and transparent information, we would like it and our Annual Report to be complementary but integrated communication documents that offer our different stakeholders all the information they need on the environmental, social and economic dimensions of our business.

We have come a long way, but there is still further to go in terms of communication and, above all, in terms of shares. Shares in which economic growth, environmental protection and social cohesion are properly integrated. This is what we strive for, with the aim of creating value for our shareholders in a sustainable way. We hope this report is a reflection of exactly that.

Francisco de la Fuente Sánchez
Chairman

‘1| ORGANISATION, STRATEGY AND MANAGEMENT

MAKING USE
OF WIND ENERGY
TO POWER WINDMILLS
AND BOATS IS PART
OF OUR TRADITION.

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[ORGANISATION, STRATEGY AND MANAGEMENT

CAD simulation.

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1.1 PROFILE

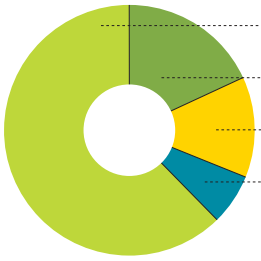
[THE EDP GROUP

EDP – Electricidade de Portugal, S.A. is the largest electricity company in Portugal, focusing on electricity generation, distribution and sales, both in the regulated and liberalised segments of the market.

We are an important operator in the Brazilian electricity sector, in electricity distribution and marketing and, more recently, also in generation. We have interests in Spain, through Hidrocantábrico, the fourth-largest Spanish electricity company, of which EDP has management control. We also have stakes in electricity companies in Cape Verde, Macau and Guatemala.

In Portugal, we also operate in the fixed-line telecommunications and information technology sectors and provide laboratorial and engineering services.

Turnover by Business Area



62% [ELECTRICITY IN PORTUGAL

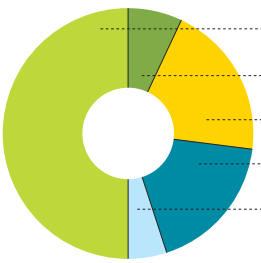
18% [ELECTRICITY AND GAS IN SPAIN

13% [ELECTRICITY IN BRAZIL

7% [TELECOMUNICATIONS AND INFORMATION TECHNOLOGY

EDP Group Consolidated: € 6 386,5 million

Employees by Business Area



50% [ELECTRICITY IN PORTUGAL

7% [ELECTRICITY AND GAS IN SPAIN

20% [ELECTRICITY IN BRAZIL

18% [TELECOMUNICATIONS AND INFORMATION TECHNOLOGY

5% [OTHER BUSINESS

Total: 18 455 (taking into account 100% of companies controled in spain and brazil)

Key Operating Data

	2002	2001
Electricity in Portugal		
Number of employees	9 106	9 382
Maximum installed capacity (MW)	7 654	7 609
Electricity sales - Generation (GWh)	25 513	28 268
Electricity sales – Distribution and marketing (GWh)	36 905	36 024
Number of customers	5 665 005	5 541 418
Electricity in Spain (*)		
Number of employees	1 357	1 336
Maximum installed capacity (MW)	3 204	3 204
Electricity sales - Generation (GWh)	13 308	11 921
Electricity sales - Distribution and marketing (GWh)	15 936	13 369
Number of customers	551 356	539 060
Electricity in Brazil (*)		
Number of employees	3 691	3 901
Maximum installed capacity (MW)	903	850
Electricity sales - Distribution and marketing (GWh)	21 811	22 458
Number of customers	2 848 120	2 747 430
Telecommunications and Information Technology		
Number of employees	3 300	3 270
Numbers of registered telephone lines (Thousands)	506	488
Voice telephony traffic (Millions of minutes)	1 651	1 189

(*) Taking into account 100% ownership

In 2002 our power plants generated around 60% of the electricity consumed in Portugal. We distributed electricity to 5,6 million customers in the public system and to 350 of the 430 clients operating in the non-binding system. Through Hidrocantábrico, we have half a million electricity customers and about 135 000 gas customers in Spain. In Brazil the three distribution companies we control serve over 2,5 million customers in several regions of the country.

We continued to boost our generation capacity in 2002. In Portugal, construction began on Barroso wind farm (12 MW) and on Ribatejo natural gas combined cycle power plant (2 units, 392 MW each). Both units will begin operating under the non-binding system from 2004. Energin cogeneration plant (43 MW) also began operation.

In Brazil, operations began at Lajeado hydroelectric power plant (902 MW) and Fafen cogeneration plant (133 MW). Construction of Peixe Angical hydroelectric project (452 MW) began in 2002 and is due to end by 2006.

In Spain, Hidrocantábrico began commercial operation of the natural gas combined cycle power plant in Castejón (400 MW).

[EDP GROUP'S SIMPLIFIED ORGANISATION STRUCTURE

ACTIVITIES COVERED BY THIS REPORT

[THIS REPORT

After five years of publishing environmental reports, this is EDP's first effort of sustainability reporting. The last environmental report, covering 2001, was published in July 2002.

In 2001, we began the progressive adoption of *Global Reporting Initiative* (GRI) guidelines. In 2002 we are taking further steps in that direction including:

- Information relating to the company's social performance. This year we only include internal human resources data;
- New economic indicators to meet GRI requirements on company disclosure of financial performance;
- Widening of the scope of the report to include performance on the Brazilian and Spanish electricity sectors. In these markets we now provide information on all companies we control.

Still, not all requirements have been met. Some performance indicators, mainly in the social and economic areas, are not yet available. Furthermore, information on the Brazilian and Spanish markets is not as detailed as the information on the Portuguese electricity sector. Therefore we have decided to present it under separate headings, rather than consolidating the data as we have in other cases.

The information published in this report covers EDP's electricity sector activities in 2002 within the three main markets in which we operate: Portugal, Brazil and Spain. These markets currently represent 93% of the Group's turnover and all of the generation and distribution activities of the companies we control. These companies are shown in the EDP organisation structure diagram and represent the major environmental, social and economic impact of our activities.

EDP ENVIRONMENTAL REPORT: A WORK IN PROGRESS

1997 - Publication of the first EDP Environmental Report.
1999 - Publication restarted with a report containing data for 1998 and 1999.
2000 - More detailed and quantified information.
2001 - Simultaneous publication with EDP's Annual Report.
Adoption of Global Reporting Initiative (GRI) guidelines.
Prize for best Portuguese Environmental Report, awarded by Council of Statutory Auditors, as part of the Portuguese edition of the European Sustainability Awards.
2002 - Inclusion of social and economic performance indicators.
Widening of the report's scope to the Group's electricity sector activities in Brazil and Spain.

Fonte da Mesa – Simulation using real images.

All internal social performance indicators refer only to employees under the Collective Employee Agreement, which represent 98% of the electricity sector and 74% of the total number of employees in Portugal.

Internally, we are improving our information gathering and reporting procedures, so that, in the near future, we may have our report audited by an external independent body.

Our aim is to make this report a complement to EDP's Annual Report, which contains detailed information on the company's economic and financial performance. Both documents are available at **www.edp.pt**, where further information about EDP and contact details are also available.

WIND FARMS ARE NORMALLY BUILT ON MOUNTAIN CRESTS, IN PLACES WITH HIGH WIND POTENTIAL. SMALL VILLAGES ARE A CONSIDERABLE DISTANCE AWAY, IN SHELTERED VALLEYS.

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1.2
VISION AND STRATEGY

Our aim is to be a benchmark company on the markets in wich we operate. Our primary goal is to create value for shareholders, whilst respecting social unity and environmental protection, which are inseparable from sustainable growth.

We operate in a sector that is vital to people's quality of life and to economic and social development. We take on our social and environmental responsibilities in a proactive way to meet the needs and expectations of our costumers and other stakeholders.

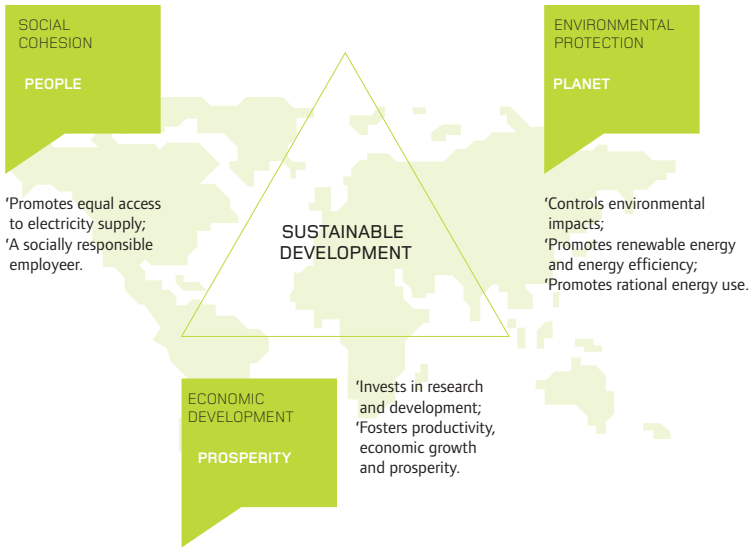
EDP is a member of EURELECTRIC - Union of the European Electricity Industry and takes an active part in its Environment and Sustainable Development Committee and respective working groups. EURELECTRIC, along with the most-representative organisations of the electricity sector in the United States and Japan drew up a joint statement, which was presented at the World Summit on Sustainable Development in August 2002, in Johannesburg.

WHEN INSTALLING THE WIND TURBINES, WE TAKE CARE TO PRESERVE ROCK FORMATIONS. THESE ELEMENTS ARE OF GREAT IMPORTANCE IN TERMS OF LANDSCAPE AND ECOLOGY.

Pena Suar – Surrounding area, Serra do Marão.

JOINT STATEMENT BY THE ELECTRICITY INDUSTRY AT THE WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT – JOHANNESBURG 2002

The following electricity sector organisations:
EURELECTRIC - Union of the European Electricity Industry;
FEPOC – Federation of Electric Power Companies (Japan);
EEI – Edison Electric Institute (United States of America).
Have approved the following common stance:
"The electricity industry states its common goal of providing a reliable, affordable and environmentally responsible supply of electricity to meet the quality of life aspirations of every nation's citizens."
These organisations also state the decisive role their activities play in meeting the goals of sustainable development: environmental protection, social unity, and economic prosperity.



[ECONOMY

EDP's mission is to create value for its shareholders. We develop our activities according to the following strategic guidelines:

- To maintain leadership in the Portuguese electricity sector;
- To became a significant player in the future Iberian Electricity Market;
- To rationalize international activities, merging resources and management skills in the Brazilian electricity market;

In 2002 we took important steps torwards these goals: acquiring a 40% stake in Hidrocantábrico; completing the first stage of business reorganisation in Brazil, by merging stakes into sub-holding company EDP Brasil and gaining control of distribution companies Escelsa and Enersul; reorganising activities in the telecommunications and information technology sector, focusing on the fixed-line telephony business and selling assets in Oniway, thus abandoning plans to launch Portugal's fourth mobile telecommunications company.

We also began two group-wide projects, aiming to reduce operating costs and improve economic performance: EDP Valor – a subsidiary responsible for various support services, with the ultimate goal of centralising supply, logistics and administrative services – and the Company's Efficiency Programme, responsible for identifying and implementing operating cost-cutting measures and synergies across the Group.

[ENVIRONMENT

EDP's environmental strategy is based on the principles outlined in our Environmental Policy. Consideration of environmental factors is currently standard practice in the decision-making process at every management level.

Our strategic guidelines aim to address society's growing concerns on environmental issues, while taking advantage of new regulatory opportunities and energy technologies through:

- Systematic monitoring of environmental aspects of our activities, complying with legal obligations and promoting the implementation and certification of Environmental Management Systems according to international standards;
- Maximising efficiency and reducing the environmental impact of electricity generation and distribution facilities;
- Investment in renewable energy, especially hydro and wind energy;
- Evaluation of risks and opportunities associated with climate change, namely the use of flexibility mechanisms such as the future European emissions trading scheme;
- Support of Demand Side Management programmes to promote efficient use of electricity;
- Participation in R&D projects involving cleaner and more efficient energy technology;

- Open relationship with stakeholders, supplying information about our environmental performance on a regular basis;

The construction of Ribatejo natural gas combined cycle power plant, boosting the capacity at the Venda Nova hydroelectric power plant, and plans to expand wind power capacity, are some examples of the company's determination to pursue an environmental sustainability strategy.

[SOCIETY

EDP is an ambitious company in terms of knowledge and know-how, promoting a strong corporate culture built upon the basic principles of our Human Resources Policy:

- Develop skills and knowledge of the business;
- Rejuvenate the workforce;
- Stimulate and renew corporate culture.

We are well aware of the importance safety plays in responsible management, especially in an industrial sector such as ours. In 2002 we revised our Safety Policy, and continued to strive to keep the company at the forefront of work accident prevention, in line with the following guidelines:

- Guarantee a safe and healthy work environment;
- Promote training and awareness on the risks related to our activities;
- Protect facilities and equipment, guaranteeing adequate safety conditions;
- Minimise risks to people and the environment;
- Guarantee that safety is an integral part of the quality of services and products in all the companies in the Group;
- Guarantee that no situation or urgency puts anybody's life at risk.

In 2002, 201 new employees were taken on as permanent staff. This, along with professional internships at our facilities, is an example of our pursuant strategy to develop human resources. Implementing certificate programmes for safety, such as the Safety Passport, aims to consolidate adequate risk management practices and work-related accidents prevention performance.

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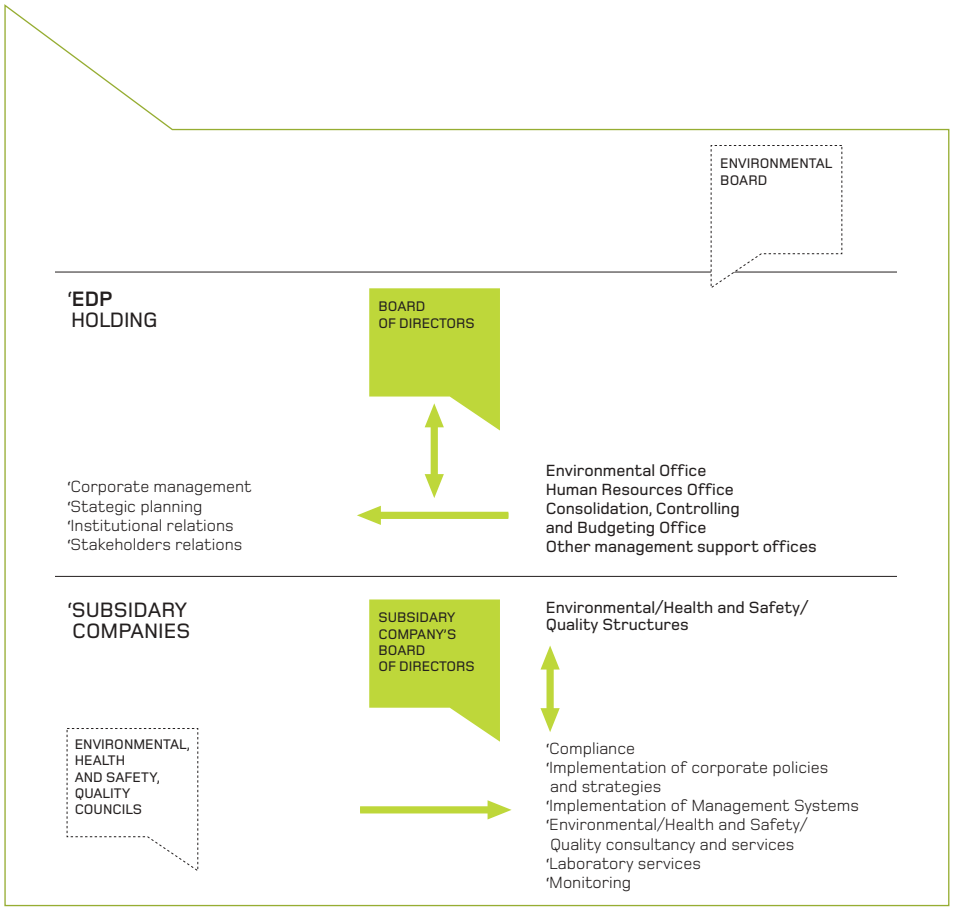
1.3
CORPORATE GOVERNANCE

[GOVERNANCE STRUCTURE

EDP's activities are organised on a corporate group basis, with central corporate services, which have group-level coordination duties and give direct support to EDP Holding Board of Directors. Management and governance are ruled by statutory and legal guidelines, as well as by internal regulations approved by the Board of Directors. Being a listed company, EDP strictly follows all rules set out by the Portuguese stock market regulator (Portuguese acronym CMVM).



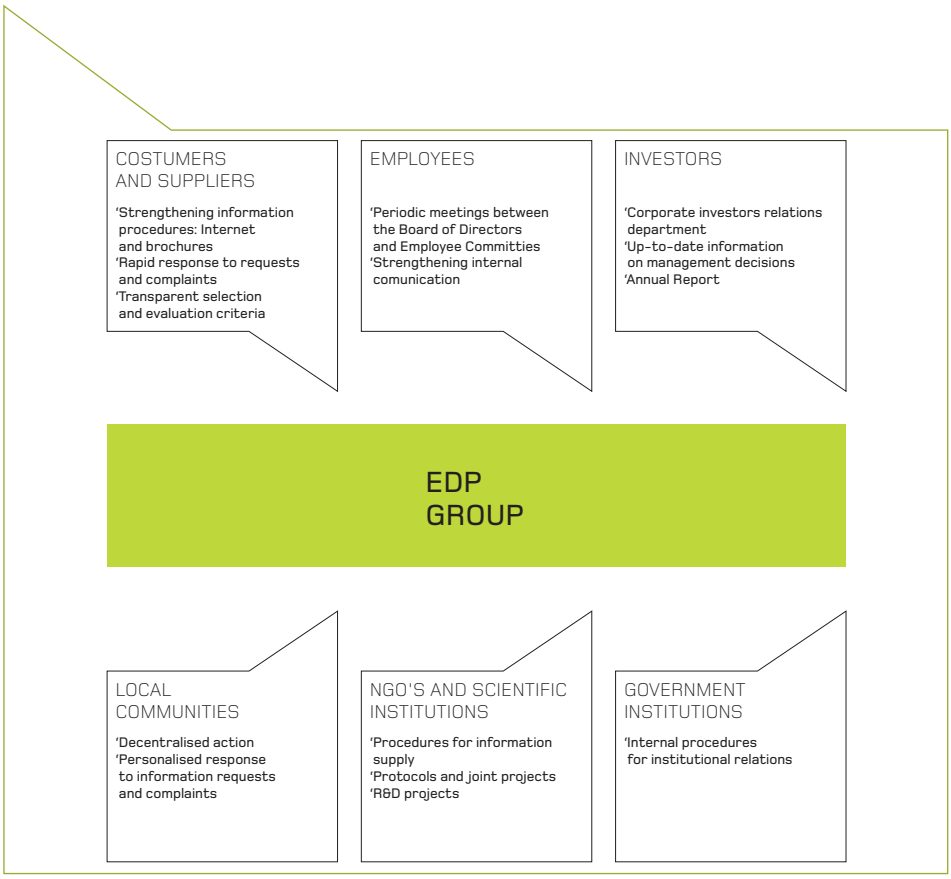
Cadafaz – Building access roads.

Both at Holding and subsidiary level, a specific framework guarantees the adequate management of the environmental, social, and economic aspects of our activities. Trough the Holding structure we guarantee an integrated corporate vision; trough each company's structures we ensure performance. There are also environmental, quality and safety councils and committees that work alongside the management of each company. These bodies advise each Board on the definition of specific strategic guidelines.

[STAKEHOLDER ENGAGEMENT

At EDP we believe that an honest and transparent relationship with the people and organisations that we interact with is an essential competitive feature. This is why we work to identify our main stakeholder groups and their interests and promote internal procedures to meet their informational needs.

Public relations and communication departments, both at the Holding company and subsidiaries, therefore play an important role, inside and outside the company.



EMPLOYEES

EDP offers its employees a range of important social benefits, including medical and medication assistance, retirement package, several subsidies and support for working students. We also have a department that deals with workplace medical support, which periodically checks employees' medical status and provides support in health and safety issues.

Within EDP Group there are several Employee Committees, which meet regularly with the management. 83% of our workforce belongs to a labour union.

EDP is committed to strengthening internal communication, thus consolidating a strong corporate culture. In 2002 our internal communication media were restructured. EDPonto, the company's intranet, has become one of the main tools for disclosing information of technical, management and general interest.

EDPonto – EDP'S INTRANET

In 2002 EDPonto underwent significant changes, including:

- Use by new companies within the Group, namely EDP Valor;
- Access to a growing number of employees, namely at international companies;
- Improvement in information exchange between companies;
- Strengthening communication between users and coordinating teams, including improvement suggestions.

CUSTOMERS AND SUPPLIERS

EDP's distribution company, EDP Distribuição, has a commercial area with specific structures designed to meet the needs of different customer groups. Contacts via our Internet site are growing steadily, with the number of visits to our Online Store on the raise. The Internet site also offers information on safety procedures for working with electricity.

Through EDP Energia, we offer personalised energy solutions in the liberalised segment of the market. By the end of 2002, we supplied electricity to 80% of the total number of customers operating in this area.

The new Service Quality Regulation (Portuguese acronym RQS) was put into practice in 2002, setting new quality standards for our electricity distribution activities, which, if not met, give customers the right to compensation. Measures implemented in 2002 allowed EDP to improve compliance with the new RQS rules.

We are aware that there are certain areas of the country where, under certain conditions, existing infrastructure does not provide the desired reliability and security of supply. We are striving to change this situation and consistently make it part of the improvement plans we set out every year.

Cadafaz - wind turbines configuration.

The relationship with our suppliers follows clear, transparent and non-discriminatory procedures that meet the requirements of Portuguese and EU laws.

Whenever necessary, outside employees working in our facilities go through specific safety, quality, and environmental protection training sessions. In electricity generation activities, the acquisition of goods and services is centralised and suppliers undergo pre-qualification and performance evaluation procedures, which include specific criteria on environmental performance. We are currently analysing a process whereby environmental criteria will be included in the qualification and evaluation of electricity distribution suppliers, adapted to the Portuguese market.

With the creation of EDP Valor, we have begun to centralise part of the acquisition of goods and services. Environmental issues are part of the qualification process, tender documents, and supplier performance evaluation. Evaluation of adequate environmental procedures is also carried out. In 2003, EDP Valor is expected to centralise all goods and services acquisitions linked to EDP's generation and distribution activities.

EDP CAR FLEET

In 2002, EDP Valor took on the responsibility of managing the various car fleets within EDP Group. With this new procedure, we expect to optimise fleet maintenance costs through more rational use of the available resources.

Centralising this service made consolidating information easier, namely data on fuel consumption, which after analysis will allow us to undertake optimisation measures.

The fleet is currently made up of diesel and unleaded petrol vehicles, with 66% made up of the former. EDP also has seven electrical vehicles, used for courier services.

Fuel Consumption in the Car Fleet of the EDP Group(1)

	No. of vehicles	Litres
Gasoline	1 329	1 249 777
Diesel fuel	2 562	4 372 952
LPG	1	244
Electrical	7	-
Total	3 899	5 622 973

(1) In Portugal. Does not include Edinfor.

INVESTORS

EDP has a Corporate Investor Relations Office that deals specifically with information requests from shareholders, analysts, investors and stock market regulators for the markets where EDP is listed.

Through this structure we maintain a communication flow with institutional investors and financial analysts, supplying all the necessary information.

GOVERNMENT INSTITUTIONS, SCIENTIFIC INSTITUTIONS AND LOCAL COMMUNITIES

We believe there is substantial technical and scientific knowledge potential at universities and other research institutions, which could greatly contribute to the improvement of our processes and skills. In recognition of this, we have been promoting protocols and joint research projects in various areas.

EDP is an institutional partner in SINESBIOAR 2002-2004 project, a multidisciplinary tool for evaluation and management of air quality in the region of Sines, Portugal. The project is led by a Portuguese university and has received financial support from the EU as well as from relevant local industries.

The relationship between EDP and local authorities is of particular interest to us. Whenever possible we promote a close relationship between EDP's local management and such authorities, thus trying to meet their needs more quickly. EDP's Internet site has an area specifically dedicated to local authorities.

In the same way, the relationship between EDP and local communities is not centralized, but rather achieved by local staff, backed up by the company's communication officials.

SUPPORT TO LOCAL COMMUNITIES AND AUTHORITIES

Some highlights in 2002:

- Montalegre Municipal Council - Temporary operation shutdown at Vila Nova hydro power plant, to allow inspection of the pillars of Cávado River bridge;
- Terras de Bouro Municipal Council - Cutback in the amount of water drawn from Caniçada reservoir, to allow for recreational use in the Summer;
- Carregado Grammar and Middle School - Participation in Eco-School Week, with lectures on electricity production and the environment:
- Voluntary Firefighters of Amares and Vila da Ponte Local Council - Vehicle donation;
- Almeirim, Ílhavo and Ovar Municipal Councils - Collaboration on European Car Free Day by borrowing electrical vehicles, namely bicycles.

SPONSORSHIP AND ARTS PATRONAGE

EDP believes that values such as social progress, welfare of the population, preservation of the environment and culture are essential to society's sustainable development. These are the values that make up EDP's arts patronage and sponsorship policy through which we have supported social, cultural, artistic and sport events, including:

- EDP. Arte Award;
- Exclusive sponsorship of the Portuguese National Ballet Company 2002-2005;
- Sponsorship of the Symphonic Youth Orchestra - Young Music Concerts 2002 season and End-of-Year Concert;
- Serralves Foundation – Museum of Contemporary Art;
- Lisbon Half-Marathon;
- Casa do Gaiato orphanage and pianist Maria João Pires school project, in Belgais

MARIA JOÃO PIRES SCHOOL PROJECT IN BELGAIS

Located in Beira Baixa region, close to Castelo Branco, the Belgais Centre for the Study of Arts, decided to re-open the grammar school in Granja. This is an innovative educational project where the national curriculum is taught in a creative way and artistic expression is encouraged.

In 2002 EDP supported this project by rebuilding the school facilities, which were very rundown.

At Christmas, the Belgais Children's Choir received a donation from EDP that gave up traditional Christmas gifts in favour of these children.

EDP.ARTE AWARD

EDP has promoted the EDP.Arte Awards since 2000. They are considered to be some of the most prestigious arts prizes in Portugal.

The awards – three annual categories of Drawing, Painting and New Artists, and one biannual category, the EDP Grand Prize – have stimulated and recognised the work of Portuguese artists, both by uncovering new talents and by distinguishing renowned artists.

In its international activities, EDP uses these same principles in local communities relationship and social support providing. This is particularly important for developing countries like Brazil.

Our Brazilian distribution companies run a number of social support programmes, which are particularly relevant to the communities they serve.

DISTRIBUTION IN BRAZIL – A RELEVANT SOCIAL ROLE

Among the social programmes developed by EDP's distribution companies in Brazil, some highlights from 2002 include:

- Support to 16 200 disadvantaged grammar school students from the State of S. Paulo;
- Donation of second-hand equipment to charitable institutions;
- Participation in dengue fever and poliomyelitis vaccination campaigns;
- Awareness campaigns for sensible electricity use and safety precautions for rural electricity systems and regularisation of illegal installations.

Special care was taken to minimise the social and economic impacts on communities affected by the construction of hydroelectric power plants. The construction of the Lajeado hydroelectric scheme involved the re-housing of around 1100 families. A special programme was created where housing, land, and technical agricultural assistance was provided. Agreements were also established with local government and municipalities, and financial support was given to build schools, hospitals and health centres.

SUPPORT TO THE INDIGENOUS COMMUNITY IN LAJEADO

Among the support programmes for neighbouring communities of the Lajeado Hydroelectric project, a special mention is due to the Indigenous Xerente Programme.

This programme was developed together with the Brazilian National Indian Foundation and 34 indigenous villages benefited from it.

Specific social and economic programmes were developed, completely in keeping with the Xerente Indian culture. Ethnic and environmental diagnostic processes were followed to create a profile of the community and to pinpoint its needs.

Cabeço da Rainha – Installing wind turbine tower.

'02 ER

1.4 OVERARCHING POLICIES AND MANAGEMENT SYSTEMS

In 2002 EDP started implementing a series of structured programs to improve its performance and increase competitiveness, in view of the liberalisation of the electricity sector and the creation of the Iberian Electricity Market. EDP's Efficiency Programme, a priority in terms of achieving the Group's strategic objectives and the Integrated People Management Programme (Portuguese acronym GIP) are two examples of EDP programmes that are detailed in our Annual Report.

[ENVIRONMENTAL MANAGEMENT

Environmental Management Systems were put in place within EDP's generation activities in accordance with the ISO 14 001 Standard. The next step will be to register EDP's ISO 14001 certified thermal power plants with EMAS (Eco-Management and Audit Scheme).

System support management and procedure manuals are being created for Douro hydroelectric generation centre, which is made up of 10 hydroelectric power plants along the River Douro, the conclusion of which is due in 2003. In 2003 this programme is expected to extend to Cávado-Lima and Tejo-Mondego hydroelectric generation centres. At small-scale hydroelectric plants, Environmental Management Systems began to be implemented at Penide-Cefra and Serra da Estrela power plants. This process will be finished in 2003.

In 2002, certified power plants contributed to 70% of the total amount of electricity generated by EDP in Portugal.

EDP Distribuição began implementing the Environmental Quality Promotion Plan 2002-2004, which was presented to the Portuguese electricity sector regulator (Portuguese acronym ERSE) under the current Tariff Regulation. This Plan is devised as a structured action plan, in-line with the environmental protection measures already carried out by EDP Distribuição.

In service providing activities, EDP Produção EM (Engineering and Maintenance) started implementing an Integrated Quality, Environment and Safety Management System in line with international standards. Quality certification is expected to be granted in 2003, and the progressive integration of Environment and Safety to be completed in 2005. Implementing an integrated system will allow us to take advantage of synergies and resource flexibility, offering a stronger commitment to our customers.

EDP DISTRIBUIÇÃO ENVIRONMENTAL QUALITY PROMOTION PLAN 2002-2004

The current Tariff Regulation allows binding electricity distribution companies to present costs related to environmental protection that have been approved beforehand, to be used in calculating tariffs.

In December 2001, EDP Distribuição presented its 2002-2004 Environmental Quality Promotion Plan to the electricity sector regulator ERSE.

After talks with ERSE the plan was approved in July 2002 and implementation began.

The plan includes a set of 10 programmes, totalling € 25 327 thousand covering various areas such as waste management, landscape integration of distribution network infrastructures and minimising the effect of overhead lines on bird life.

[HEALTH AND SAFETY MANAGEMENT

In 2002 work started on implementing Occupational Health and Safety Management Systems in accordance with OHSAS 18 001 Standard at three facilities: two thermal power plants and one hydroelectric generating centre. The first external audits were performed by Lloyds Quality Register and EDP expects to obtain certification in 2003. This structured health and safety management system will in the future be extended to other activities within the company.

In terms of workplace safety training and certification, various activities were developed in 2002:

- Training and awareness sessions to some 2 300 employees;
- Publication of the Electrical Safety Manual and creation of the corresponding e-learning platform;
- Creation of two certification mechanisms: Certificate of Qualification and Safety Passport.

SAFETY PASSPORT

What is it?
It's a certificate issued by an institution recognised by EDP, stating that the employee has acquired, through specific training, a series of basic safety skills.
The Safety Passport will initially be strongly recommended in 2003 and will be mandatory in 2005.
Who is it for?
It's for contractor employees that perform construction, maintenance and demolition work for the EDP Group.
What is its for?
The aim is to strengthen safety requirements on work performed by contractors. We want to guarantee that as the employee enters a facility or starts to perform a certain job, he will be able to identify the risks involved and take the necessary measures to protect him or herself from those risks.

[RESEARCH AND DEVELOPMENT

New electricity generation technologies, using renewable resources and emitting fewer pollutants, and improvement in the efficiency of conventional thermal cycles, are some of the areas of our R&D projects.

In 2002 we lunched two new electricity and heat generation technology projects using fuel cells and micro-turbines.

EDP teamed up with a group of companies and organisations within the Portuguese science and technology sector to promote the Renewable Energies Endogenise and Develop Project (Portuguese acronym EDEN). The aim of this project is to create a national technological platform for the Hydrogen Society, developing technologies in generation, distribution, storage and use of hydrogen for electricity generation, through the use of fuel cells. As part of this project, a 200 kW generating unit is due to be installed at EDP's Electricity Museum in Lisbon, as well as a smaller unit (5 kW) on the campus of the School of Engineering of Oporto University.

A micro-generation demonstration project also got underway. The aim was to gain experience in distributed electricity generation technologies and evaluate its impact on the low voltage distribution network. The project, which EDP's generation and distribution areas were involved in, included the installation of a 30 kW gas micro-turbine, electric and thermal performance tests and evaluation of the impact on the low voltage distribution network and the environment. A viability study and pre-specification analysis was carried out on the system and its experimental stage is expected to be developed in 2003.

In 2002 the foundations were laid for the Wave Energy Centre, an international research centre, of which EDP will be part. This is an important project, which will bring Portugal into the development efforts of wave-energy technology for electricity production.

Developments in the OREMA Project - Integrated Efficiency and Environmental Optimisation of Thermoelectrical Power Plants, which began in 2001 and is co-financed by the EU, include the creation of diagnostic modules for optimising combustion efficiency and reducing pollutant emissions at two generating units of Carregado power plant. Results from this project and its conclusion are due in 2003.

[ENVIRONMENTAL CONSULTANCY AND SERVICES

EDP Produção EM has a strong experience in environmental consultancy and services, centred on Environmental Impact Studies and support services to electricity-sector-related activities, namely hydro, thermal and wind-powered generation. Work in 2002 performed outside of the EDP Group includes:

- Analysing flue gas emissions in medium and large scale combustion facilities;
- Environmental Impact Studies of two geothermal power plants in Azores and several wind farms;
- Environmental Impact Studies of high voltage power lines in Morocco;
- Environmental noise monitoring campaigns.

Labelec is an EDP Group company focusing on laboratory services for electricity generation, transmission and distribution activities, including electric and magnetic fields monitoring. The Water Laboratory, accredited by the Portuguese Quality Institute in accordance with the ISO 17 025 Standard, carried out a comprehensive water analysis campaign of hydro reservoirs and bathing water, at the request of various organisations.

AIR QUALITY LABORATORY IN GUIMARÃES

At the request of the Guimarães Municipal Council, Labelec's mobile laboratory was placed in the historic city centre, as part of European Car Free Day. The aim was to evaluate the influence of car traffic on air quality in urban centers.

The campaign took place between the 13th and 23rd of September 2002 and information was logged both on normal traffic periods and on traffic free periods, on the 21st and 22nd, from 8 am to 7.30 pm.

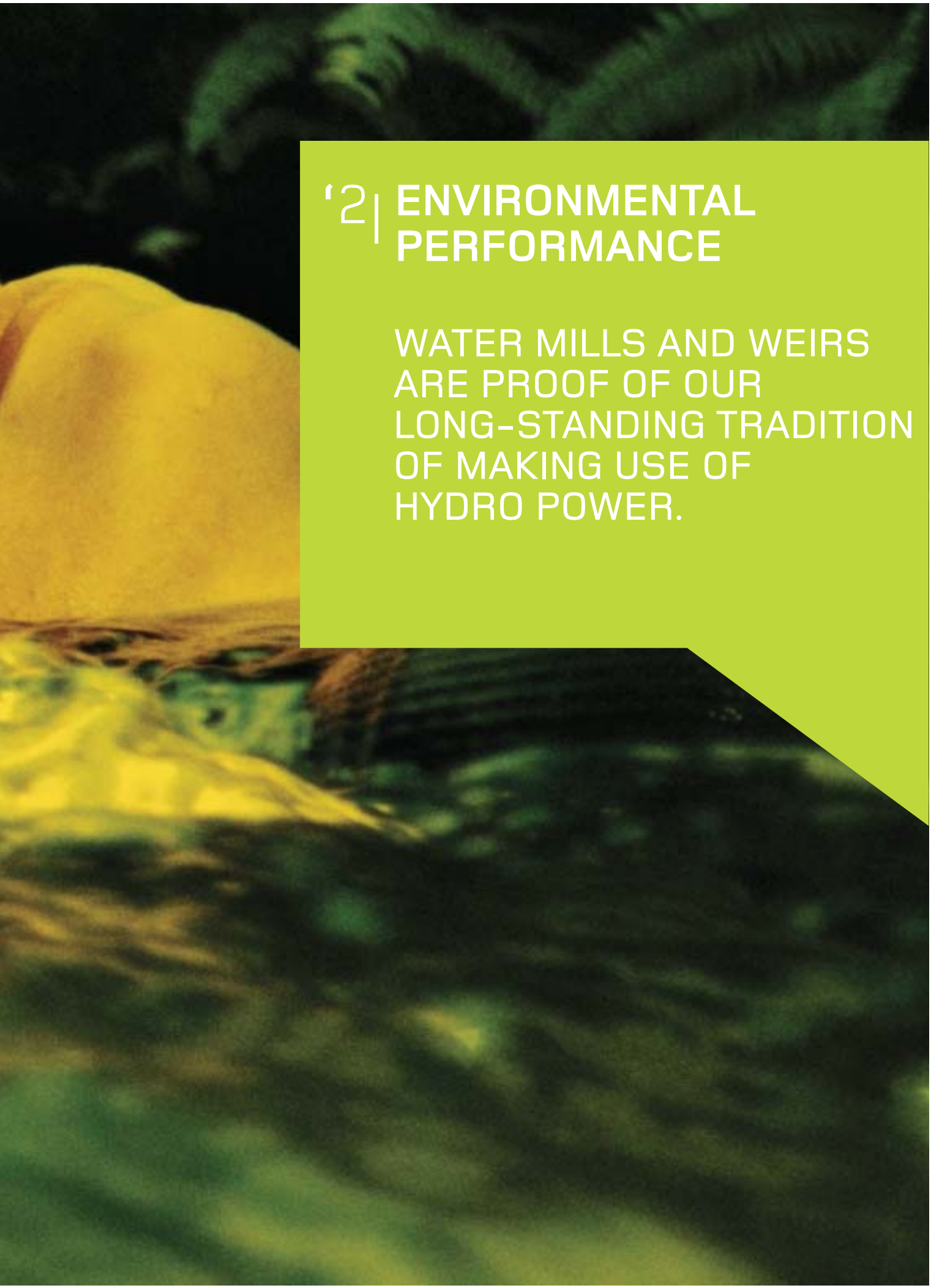
The laboratory analysed the levels of nitrogen oxide, carbon monoxide, sulphur dioxide, volatile organic compounds (benzene, toluene, ethyl benzene and xylene), breathable suspended particles, ozone particles, and registered weather conditions.

LASER TECHNOLOGY FOR SF_6 LEAK DETECTION

In 2002 Labelec acquired new equipment for SF_6 leak detection. This system, based on laser technology, detects leaks at substations and equipment that use this gas for insulation, with no need to put the equipment off service.

At the end of the year a trial run was performed using the new technology for EDP Distribuição, at Serra do Pilar substation.

Barroso – Preservation of rock formations.

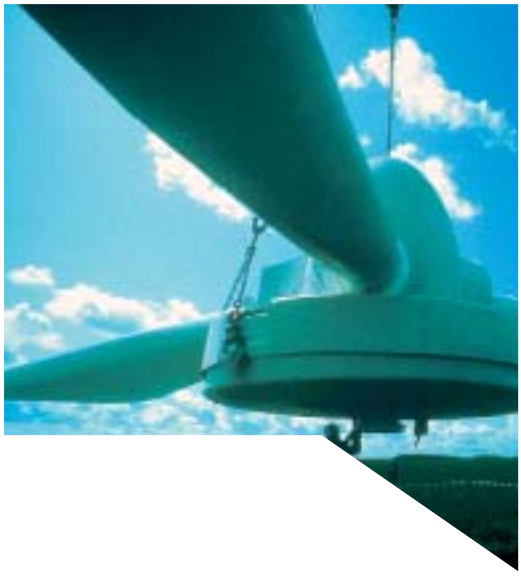


'21 ENVIRONMENTAL PERFORMANCE

WATER MILLS AND WEIRS ARE PROOF OF OUR LONG-STANDING TRADITION OF MAKING USE OF HYDRO POWER.

INDEX

[ENVIRONMENTAL PERFORMANCE



Fonte da Mesa – Installing wind turbine.

'02|ER

2.1 ACTIVITIES IN PORTUGAL

[CLIMATE CHANGE

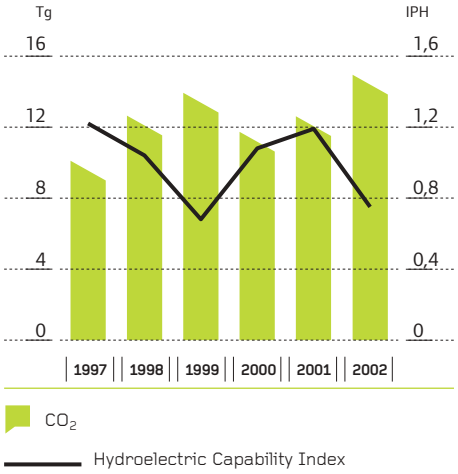
In 2002 we actively took part in the first stage of public talks of the National Programme for Climate Change (Portuguese acronym PNAC). This document will define sector specific greenhouse gas emissions (GHG) reduction efforts in Portugal. This is one of the determining factors in EDP's level of competition, not only in Portugal, but also in the future Iberian Electricity Market.

Throughout the year we closely followed negotiations on the proposed Directive on emissions trading. The ability to efficiently take part in the future GHG emissions market and to participate in Clean Development Mechanisms (CDM) is fundamental in determining the success of electricity companies, in the medium term.

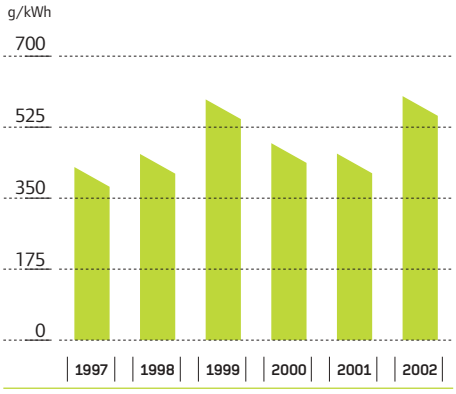
The launch of the European emissions trading scheme, planned for 2005, will present a new business opportunity, which we plan to be in command of from the start. We had this in mind when, in 2001, we launched PGETS Project - Portuguese Greenhouse Gases and Emissions Trading, the first national level emissions trading simulation, in which Portuguese companies from various industrial sectors participated. The experiment ended in 2002, with very positive results in terms of experience gained by the participants in using this type of mechanism.

2002 saw a low Hydroelectric Capability Index (HCI), and as a result carbon dioxide emissions increased due to the more intensive use of our thermal generation capacity.

Total CO_2 Emissions and Hydroelectric Capability Index



Specific CO_2 Emissions for EDP Generating Units



In 2002 we began to prepare a systematic inventory of sulphur hexafluoride (SF_6) emissions. SF_6 is a GHG with a high global warming potential, widely used as an isolator in electricity distribution and transmission network equipment. Although it's used in closed systems, it's important to minimise leakage levels and to guarantee that when the equipment reaches its end of life, no gas is released into the atmosphere.

At generation facilities, we have listed all equipment using SF_6 and its respective leakage levels. A similar procedure began at the distribution network, which, taking into account the large number of units involved, will only be finished by the end of 2003.

THE ENERGY GENERATED ANNUALLY AT EDP'S FOUR WIND FARMS IS EQUIVALENT TO THE ELECTRICITY CONSUMPTION OF A TOWN WITH A POPULATION OF SOME 60 000 PEOPLE.

[RENEWABLE ENERGY AND ENERGY EFFICIENCY

RENEWABLE ENERGY

In 2002 electricity generation from renewable sources, including large-scale hydroelectric power plants, made up 29% of the total electricity produced by EDP. 2002 was a dry year, which led to a sharp drop in hydroelectric generation and contributed to significantly less renewable energy usage than in 2001.

However, wind-powered generation increased (+25%) due to a higher contribution from Cadafaz and Cabeço da Rainha wind farms, as did biomass generation (+103%) due to technical enhancements that boosted availability of Mortágua power plant. In 2002, Enernova produced around 27% of the total wind-powered generation in Portugal.

Electricity Generation from Renewable Sources

MWh

	2002	2001	2000
Wind	112 785	90 570	70 131
Biomass	37 482	18 476	4 718
Hydro (≤ 10 MW)	149 850	189 231	146 451
Hydro (>10 MW)	7 186 419	13 208 167	10 700 653
HCI	**0,76**	**1,19**	**1,08**

EDP's target is to install 119 MW in wind farms by 2004. In 2002, construction work began on the new Barroso wind farm and on the upgrading of installed capacity of Cabeço da Rainha wind farm, a total of 18 MW.

We are also investing in small-scale hydroelectric power plants, including increasing the availability of existing facilities. We are building a new project in Serra da Estrela mountain range – the Lagoa Comprida hydroelectric scheme (0,6 MW) projected to start operating in 2003.

COGENERATION

EDP continues to expand its activities in combined heat and power plants, seeking efficient energy solutions for industrial costumers. In 2002 a second cogeneration power plant began operation, Energin power plant (43 MW), a project developed in association with Solvay.

Electricity generation at cogeneration power plants has been increasing, and is expected to level off by the end of 2003, when the optimisation work will be finish. In 2002 cogeneration represented 3,3% of our total electricity generation.

Electricity and Steam Generation in Cogeneration Power Plants

	2002	2001	2000
Maximum installed capacity (MW)	167	123	123
Net electricity generation (MWh)(*)	838 517	632 917	179 252
Steam generation (TJ)	5 204	3 331	2 566

(*) Includes electricity supplied to industrial costumers and to EDP network

DEMAND SIDE MANAGEMENT

We continue to promote rational energy use, distributing brochures and posting specific content on our Internet site. In 2002, both forms of communication improved.

We also developed a series of awareness campaigns on the subject, including:

- EDP Award, which, every three years, distinguishes industrial companies for adopting rational energy use methods;
- Protocols with research and educational institutions to develop studies in automation, energy management and efficient electricity solutions for the domestic sector;
- Awareness sessions on rational energy use, particularly in schools.

We also continued negotiations with ERSE, aiming to reach an agreement on the Demand Side Management Plan 2002-2004 presented in December 2001 on the basis of the current Tariff Regulation. However, it hadn't been possible to reach an agreement by the end of the year.

[AIR EMISSIONS

In 2002 discussion started on the National Emissions Ceilings Programme, following recent EU Directives on Large Combustion Plants and National Emissions Ceilings. EDP actively participated in the discussion of this programme, which will define acid emission ceilings for various industrial sectors and will substitute the current National Programme for Emission Reduction from Large Combustion Plants (Portuguese acronym PNRE), which EDP will employ until the end of 2003.

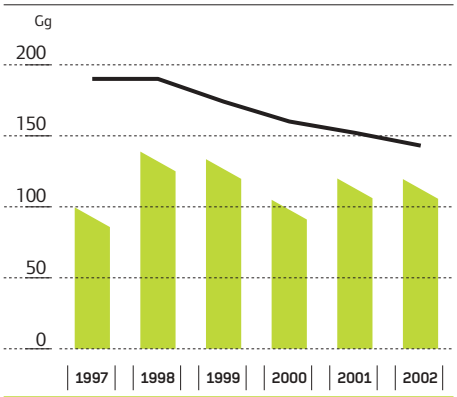
So as to comply with SO_2 and NO_x emission limits set in the forthcoming legislation, we started a series of technical and economic evaluation studies on the introduction of flue gas desulphurisation and nitrogen oxide reduction technologies at Sines coal fired power plant.

In 2002, total emissions of the main pollutants rose slightly due to more intensive use of thermal power plants. Despite this, recorded emissions remained bellow the limit set by PNRE.

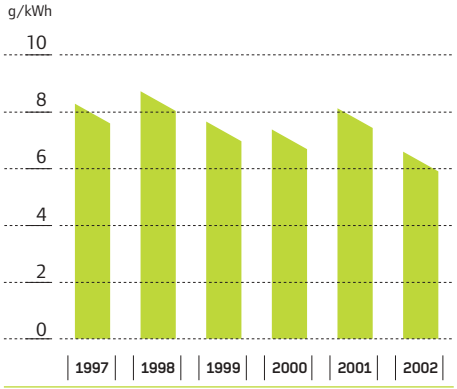
The sulphur content of consumed fuels was lower than last year, which resulted in lower specific SO_2 emissions. EDP started acquiring fuel oil with maximum 1% sulphur content, which will be mandatory from January 2003. Changing our coal suppliers led to a decrease in the average sulphur content from 0,8% to 0,57%.

However, using this type of coal had a negative impact on the performance of the electrostatic precipitators at Sines power plant, which resulted in a slight rise in the particulate emission levels,

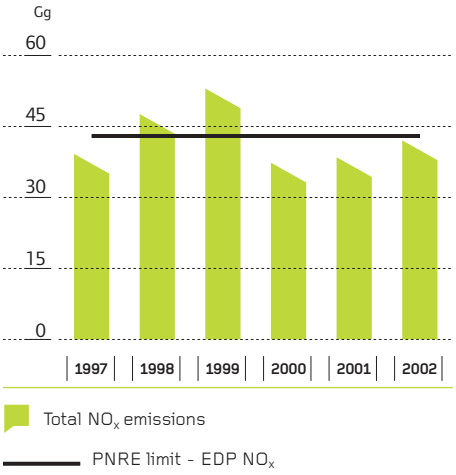
Total SO_2 Emissions



Specific SO_2 Emissions from Thermal Power Plants

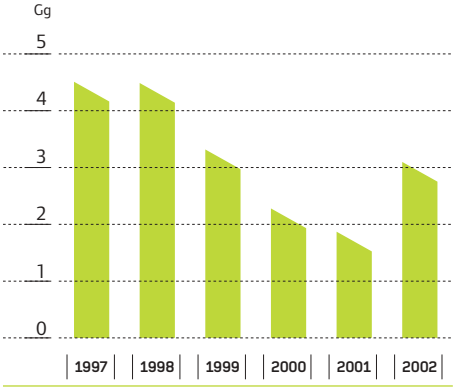


Total NO_x Emissions

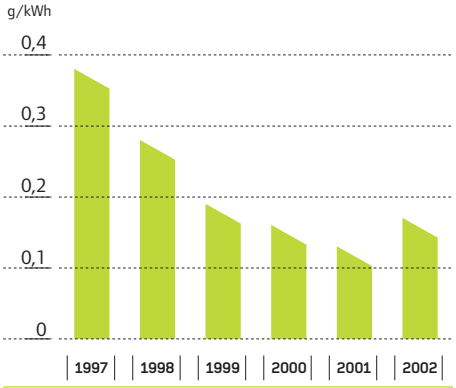


Specific NO_x Emissions from Thermal Power Plants

Total Particulate Emissions



Specific Particulate Emissions from Thermal Power Plants



Since 1999 EDP has also been measuring the emission levels of other pollutants (heavy metals, volatile organic compounds, dioxins and furans). Results show that emission levels are under the reference values for these types of facilities.

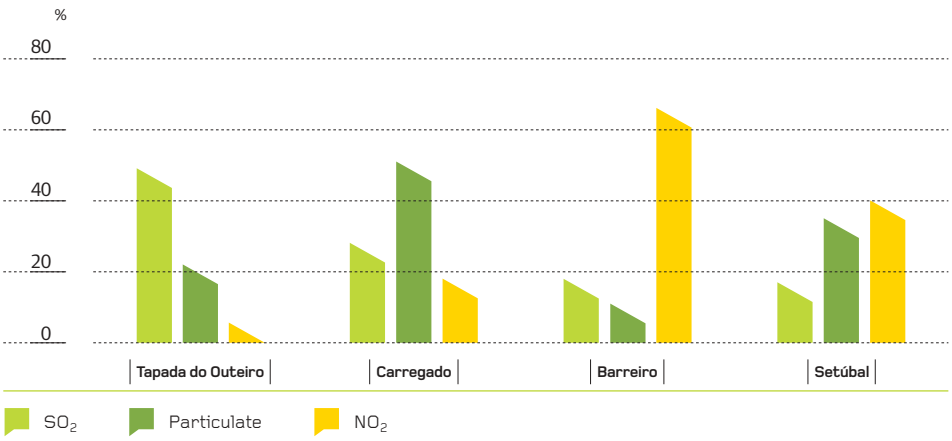
[AIR QUALITY

In 2002 we started optimising the air quality monitoring networks at Barreiro and Setúbal thermal power plants. The location of several stations was changed and measuring equipment and software substituted. The aim is to guarantee reliability and improve the availability of measurements.

Carregado power plant network will also see major changes in 2003, in order to monitor also the new Ribatejo thermal power plant area.

2002 Air Quality Index figures show that our power plants have low levels of atmospheric impact on their respective locations.

Maximum of the Air Quality Index by Monitoring Network



Note: Air quality monitiring around Sines thermal power plant is of local environmental authorities responsability.

[HYDRO RESOURCES

RESERVOIR WATER MONITORING

As part of the reservoir water monitoring programme, a total 28 Portuguese reservoirs were monitored in 2002: 18 large hydroelectric power plants and 10 small-scale hydroelectric facilities. Overall, monitoring covered 70% of the total hydroelectric installed capacity.

The first months of 2002 were quite dry, which deteriorated reservoir water quality in the summer. Analysis revealed, however, no abnormal values. The bigger problem continues to be Crestuma-Lever reservoir, due to the high nutrient level in Douro River. However, eutrophication phenomena were not recorded, as this is a run-of-river power plant were the water is retained only for a short period.

Fonte da Mesa – Installing wind turbine.

WASTEWATER AND COOLING WATER MONITORING

Results from the thermal power plant wastewater monitoring programme showed pollutant levels much lower than the limit values set by Portuguese law and by the facilities licensing conditions. Monitoring programmes include a series of continuous and periodic analysis of pre-defined parameters, the results of which are sent to public authorities. The use of water in thermal power plants cooling systems is also monitored. During the year, residual chlorine and toxicity tests showed no toxicity for local species.

At Sines power plant, which uses water from the Atlantic Ocean, biological studies continued to optimise the chlorination process. This allowed for the suspension of the chlorination process during the winter months, with good thermal efficiency results and obvious environmental benefits.

RATIONAL WATER USE

Water consumption in EDP's thermal power plants saw a 9% increase in 2002, as the need to use these plants intensified.

However, specific consumption, expressed in m^3/MWh, saw a 25% decrease, due to more efficient consumption associated with the regular use of thermal units and with the introduction of technical and operational improvements in water circuits and purges recovery.

Green areas and gardens have been remodelled, both in terms of dimension and of plant species. This, together with a more efficient irrigation system, allowed for a 50% reduction in water used for this purpose.

CONTAMINATION OF HYDRO RESOURCES

Thermal power plants have strict prevention and emergency response action plans in case of fuel spills. Over the past few years fuel oil decanting equipment at shipping decks were improved and oil retention and recovery devices were acquired. Two of our oil-fired power plants– Barreiro and Setúbal – are located on the Tejo and Sado River estuaries, respectively, areas that are classified in the Ramsar Convention as important international wetlands.

[BIODIVERSITY AND LANDSCAPE

EDP Distribuição, as part of its Environmental Quality Promotion Programme 2002-2004, has compiled a set of criteria to integrate new electrical facilities into the landscape. This will allow for:

- Opting for underground cables in historical areas, perimeters of classified monuments, and nature conservation areas;
- Redefining distribution line routings in nature conservation areas;
- Establishing, together with national and local authorities, specific criteria to integrate electrical facilities into the landscape, such as the use of traditional materials or methods of reducing the occupied area.

These actions also include restoring and repairing of transforming stations owned by EDP Distribuição and currently deactivated. The plan is to work on 10 transforming stations per year.

Another specific programme was created to identify bird life sensitive areas in the distribution network. This programme led to a protocol, to be finalized in 2003, with the Nature Conservation Institute, the Portuguese Society for the Study of Birds and environmental ONG Quercus. The protocol includes research to identify the migratory patterns of classified species, such as Bonelli's eagle and the bittern, and to identify areas where there is greater impact on bird life. In such areas, various measures will be implemented in order to limit and monitor environmental impact.

Also in 2002 digital maps of the Portuguese nature conservation areas were completed and integrated on EDP Distribuição's Technical Information System (Portuguese acronym SIT). Planning teams can now identify, at an initial stage, the environmentally sensitive areas and define line routings together with local environmental authorities.

A biophysical monitoring study of the Ave River between Guilhofrei and Senhora do Porto hydro plants was performed in order to optimise downstream water flows.

MONITORING BIRD LIFE AT CADAFAZ WIND FARM

A Monitoring Programme involving 21 bird species at Cadafaz Wind Farm is under way, following the previous Environmental Impact and Assessment.

The Programme is to last three years, the first before operation begins. The monitored area includes the wind farm, as well as a control area with similar characteristics.

The most recent report, already under operating conditions, showed no increase in the mortality rate nor impact on local species, compared to the control area.

Fonte da Mesa.

[WASTE

In 2002, 98% of the coal fly ash produced by our power plants was recovered and used in the cement industry. Selling this material, considered a by-product, generated income of more than € 4,5 million.

Industrial waste such as used oils and metal scrap continues to be recovered by licensed waste management contractors.

Waste for which there is no viable recovery solution is disposed of by specialised waste treatment contractors. This is the case with polychlorinated biphenyl (PCB) equipment, which is incinerated in a special unit outside the country. In 2002 we disposed of 51 tonnes of PCB equipment and residues, and removed from service another 16 tonnes. Our PCB disposal programme will allow for proper treatment of all equipment before the deadline set by Portuguese and EU law (2010). By the end of 2002, over 80% of our PCB equipment had been treated.

Fly ash and bottom ash from oil-fired power plants, formerly landfilled at Sines power plant special landfill site, is now sent to a special unit, where, after undergoing an inertization process, it is used to stabilize phosphogypsum deposits.

Also in 2002 we found a proper solution for used light bulbs from continental Portugal's public lighting network, the maintenance of which is performed by EDP Distribuição. A licensed contractor now collects and recycles the used light bulbs. Throughout 2002 a total of 55 tonnes, in storage from previous years, has been recycled and procedures were established to maintain these operation in the future.

At Mortágua biomass power station it was not yet possible to guarantee a selective recovery system for fly ash and bottom ash from burning forest waste, which would go directly to forest and farming fertilizing. All the ash collected in 2002 was used in organic fertilizer prodiction.

By-products and Main Categories of Industrial Waste

	TOTAL PRODUCED (t)			FINAL DESTINATION IN 2002
	2002	2001	2000	
By-Products				
Recovered coal fly ash	372 976	304 112	339 099	Recovery in cement industry
Waste				
Unrecovered coal fly ash	5 843	12 043	10 462	On-site deposition
Coal bottom ash	41 310	28 745	31 833	On-site deposition
Fuel-oil fly and bottom ash	4 115	2 907	2 435	Inertizaton followed by stabilization of phosphogypsum deposits
Biomass ash	3 944	904	1 320	Recovery in the production of organic fertilizers
Used oil	245	317	482	Energy recovery
Metal scrap	2 078	4 391	3 298	Recycling
PCB containing equipment (*)	51	34	35	Incineration in special facility
Light bulbs	55	n.av.	n.av.	Recycling in special facility
TOTAL WASTE	**57 641**	**49 341**	**49 865**	
% Recovery	**11%**	**11%**	**10%**	

(*) Total amount disposed of in 2002 under authorised manager contract.

The urban waste recovery programme, launched in 2000 at thermal power plants, extended in 2002 to a number of distribution network warehouses. Paper and cardboard, mostly from packaging, is now selectively collected and sent to recycling operators. A total of 97 tonnes of solid urban waste was recycled in 2002.

THE NOISE PRODUCED
BY A WIND FARM IS,
AT A DISTANCE OF 400 METRES,
SIMILAR TO THAT FOUND
IN A LIBRARY.

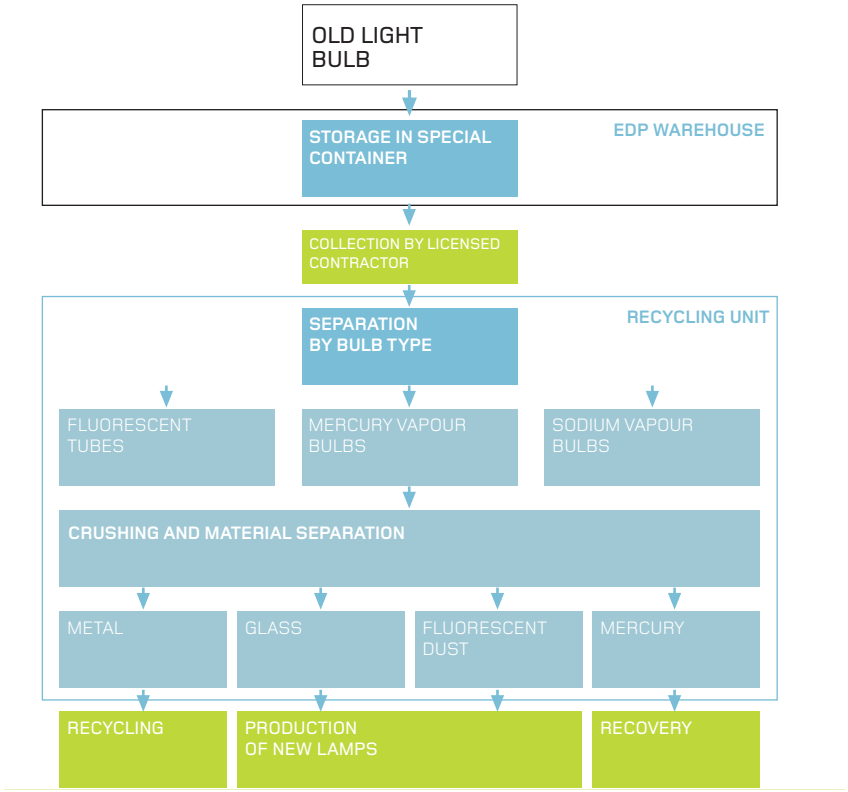
Cadafaz – Flora studies in the construction area.

OLD LIGHT BULBS TURN INTO NEW ONES

EDP is responsible for public lighting network maintenance throughout continental Portugal. Every year about 350 000 light bulbs are replaced (around 20 tonnes).

These are mostly mercury and sodium vapour bulbs, as well as some fluorescent tubes used for indoor lighting. They have different mercury contents, and as such its waste is potentially dangerous to human health and the environment.

From 2002 on these lamps are collected in special containers and shipped to a special recycling unit in Germany.



[NOISE

Following new Portuguese legislation on noise pollution, we have started new environmental noise monitoring and control procedures in the areas surrounding our electricity generating and distribution facilities.

At EDP Produção, noise level monitoring campaigns started around Setúbal, Barreiro and Energin thermal power plants. Monitoring was also performed at Ponte da Esperança hydroelectric power plant and the results showed the efficiency of the sound-proofing measures taken the previous year.

At Barreiro thermal power plant silencers were installed on some equipment seeking to curb the noise associated with the power station's start-up operations.

In distribution activities, as facilities are spread over a wide area and often near residential areas, we chose to set out a specific programme to systematically evaluate noise levels in substations and transforming stations, as part of our Environmental Quality Promotion Plan 2002-2004. The programme includes the environmental noise characterization of facilities located in the most sensitive areas, the definition of potential corrective measures, and the application of monitoring plans.

In 2002 we detected some facilities with noise levels above legislation limits. Noise-abatement measures were enforced, including sound-proofing systems in two substations.

[ELECTROMAGNETIC FIELDS

In 2002 EDP continued to supply information on the possible adverse health effects of prolonged exposure to electric and magnetic fields caused by the generation, transmission, distribution and use of electricity. This information is based on up-to-date data from renowned institutions such as the World Health Organisation and the European Commission. Whenever necessary we perform on-site field level measurements.

During the year, four monitoring campaigns were performed at third party request and our internal monitoring programme continued. The results, in areas of population long term exposure, are clearly below the limits set in the Recommendation from the Council of the European Union, both for magnetic and electric fields.

We continue to closely monitor all developments on this issue, through the participation in international working groups, namely within EURELECTRIC and CIGRÊ, and to take part in public information meetings on the subject.

Obtaining reliable scientific data on this subject is of extreme importance. In 2002 we funded the International EMF Project, coordinated by the World Health Organisation, which is due to end in 2006.

Pena Suar – wind turbine.

[ENVIRONMENTAL IMPACT ASSESSMENT

At the end of the year we concluded and submitted to the licensing authority the Comparative Environmental Impact Study of Baixo Sabor and Alto Côa Hydroelectric Power Schemes. These are two alternative projects with installed capacities of 170 and 280 MW, respectively. Both facilities are located in the North of Portugal and, together with electricity generation, will play a significant role as strategic water reserves and in the regulation of the flow of the Douro River. Their construction will make a decisive contribution to achieving the national target of 39% of electricity production from renewable sources by 2010. In 2003 the Environmental Impact Assessment process will take place and a decision will be made on the construction of one of the facilities.

In 2002 the Environmental Impact Assessment processes for the wind farms at Açor and Cinfães were carried out. The former was subject to a negative decision by the environmental authorities, and the project was subsequently altered. The second project was approved. Environmental Impact Studies were also carried out for the remodelling of Drizes hydroelectric power plant in Serra da Estrela and Madrinha Wind Farm (9 MW), located in the Monchique mountains.

After the environmental assessment process is concluded, it is important to guarantee compliance with its recommendations. To this end, environmental monitoring plans are drawn up for the supervising of minimization and mitigation measures, both in the construction and operation phases. In 2002 environmental monitoring plans were performed for those projects under construction and for operational facilities. This is the case with the monitoring of bird life in the wind farms at Cabeço da Rainha and Cadafaz.

ENVIRONMENTAL INSPECTION IN WIND FARM CONSTRUCTION

The new wind farm at Serra do Barroso and the upgrading of installed capacity of Cabeço da Rainha wind farm are two of EDPs wind energy projects currently under construction.
Environmental inspection has been carried out since the beginning of construction work and will end with landscape recovery of the sites.

Inspections on the implementation of the foreseen mitigation measures are carried out in the construction area and its immediate surroundings:

- Predefined areas for circulation, dumping, and provisional accumulation of waste;
- Ban on on-site equipment maintenance and night-time operation;
- Ground decompacting as soon as temporary structures are removed.

In the final phase, we proceed with hydroseeding, whose development is monitored for the first year of operation.

[COMPLIANCE

In 2002 three environmental incidents were recorded, all related to fuel oil spills during liquid fuel supply operations of thermal power plants. These situations were immediately controlled by spill containing measures and decontamination of the areas, thus avoiding environmental damage.

During the year two legal administrative actions were held against EDP for non-compliance with environmental legislation. We await a decision on both. These situations are related to waste management and with the cutting of trees in areas of public water domain. The environmental authorities also carried out inspections at several thermal power plants, whose reports had not been published by the end of the year.

A total of 32 environmental related complaints were received. The majority (21) were solved by providing adequate information. The remainder led to corrective measures or to the use of indemnity insurance. Complaints were related to particulate emissions from thermal power plants and substation and transforming station noise near residential areas. We also recorded an increase in requests for information about electromagnetic fields.

In electricity generation, procedures are already in place for forwarding and replying to environmental complaints. In 2002 specific procedures were also adopted for the electricity distribution business. Environmental related complaints are now dealt with by environmental structures and receive a reply in writing.

STEEL TOWERS ARE PAINTED WHITE OR A LIGHT GREY, COLOURS THAT ADAPT WELL TO THE FREQUENT CHANGES IN TONE OF THE SKY IN PORTUGUESE CLIMATE. MATTE PAINTS ARE USED TO AVOID GLARE THAT MIGHT DISTURB BIRD LIFE.

Pena Suar.

'02|ER

2.2 INTERNATIONAL ACTIVITIES

[BRAZIL

In 2002 we reorganised our business in Brazil by placing all our stakes in Brazilian companies under sub-holding EDP Brasil. EDP Brasil is currently responsible for the integrated management of our electricity generation, distribution, commercialisation and service activities in that market.

EDP Brasil develops its businesses in line with the principles of the EDP Group's Environmental Policy. The generation and distribution companies it controls are responsible for implementing measures necessary to comply with Brazilian legal and operational standards.

GENERATION

EDP Brasil's electricity generation business is centred on hydropower. The largest operating facility is Lajeado hydroelectric power plant (902 MW), in which EDP has a 14% stake and operational management. Distribution companies Escelsa and Enersul also run a group of small-scale hydroelectric power plants. Thermal generation is limited to Fafen natural gas cogeneration plant.

Electricity Generation Facilities in Brazil

Facility	Installed Capacity (MW)	Generation in 2002	
		Electricity (GWh)	Steam (GJ)
Hydroelectric power plants			
Lajeado	903	2 535	-
Escelsa's facilities	195 (7 facilities)	1 066	-
Enersul's facilities	48 (5 facilities)	118	-
Cogeneration power plants			
Fafen	135	190	377

Environmental concerns are focused on the prevention and mitigation of hydroelectric plants' impact on biodiversity. Facilities are subject to an environmental licensing process and have a set of Basic Environmental Programmes (Portuguese acronym PBA). These programmes set the mitigation measures for the various types of environmental impacts, both during construction and operation.

Lajeado power plant, in full operation since November 2002, gave us important experience in implementing PBAs, as it was one of the first facilities built in Brazil in line with the new environmental legislation.

LAJEADO HYDROELECTRIC POWER PLANT– BASIC ENVIRONMENTAL PROGRAMMES

The 34 PBAs of Lajeado hydroelectric power plant, on the Tocantins River, make up the largest set of environmental protection measures ever to be taken on such facility in Brazil.
These measures include:

- Continuous monitoring of reservoir water quality;
- Data collection and intensive monitoring of flora, fauna and fish life, leading to significant increase in knowledge about local habitats;
- Building of a fish ladder, made up of a 1 000-metre canal, allowing fish to swim upstream to their spawning grounds.

Specialized teams were brought in to rescue fauna in the area covered by the reservoir, which helped reduce the loss of animal lives that usually occurs during the reservoir filling stage.

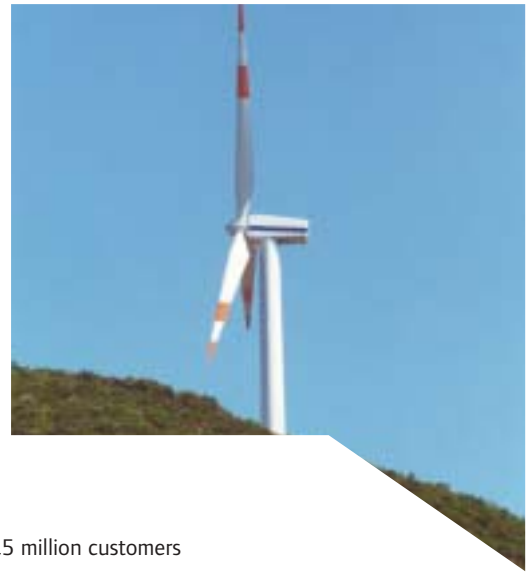
Regional historical and archaeological information was recorded and artifacts collected, with the support of the Archaeology Museum of the University of São Paulo.

For more information visit **www.investco.com.br**

Another large-scale hydroelectric project is Peixe Angical hydroelectric power plant (452 MW), in which EDP Brasil has a 95% stake. Construction began in 2002, on the Tocantins River, and the project also includes a large number of environmental protection and monitoring measures.

Hydroelectric power plants held by Escelsa and Enersul, have Reservoir Management Plans comprising the replanting of ciliary woods, fish protection measures, quantitative and qualitative monitoring of water resources and environmental education programmes.

Fafen cogeneration plant uses the infrastructure of the Camaraçi Petrochemical Complex, in the state of Bahia, including its sewage treatment plant and air quality monitoring network. Plant equipment guarantees low-level emissions of atmospheric pollutants. In 2002 the average flue gas NO_X concentration was 45 ppm.



Fonte da Mesa – Air flight signaling.

DISTRIBUTION

Through Bandeirante, Escelsa and Enersul, we distribute electricity to more than 2,5 million customers in Brazil.

Distribution Business in Brazil

	Nº. of Customers	Electricity Sales (GWh)	Nº Substations	High Voltage Network (km)	Medium/Low Voltage Network (km)
Bandeirante	1 297 170	11 833	42	866	23 630
Escelsa	954 381	6 952	68	3 000	7 601
Enersul	596 569	3 025	86	4 832	31 952

Waste is managed according to its classification under Brazilian environmental law. Non-dangerous industrial waste is stored in intermediate deposits and sold to recycling operators. Hazardous waste, including PCB equipment, is stored in special deposits and disposed of by specialized contractors. In 2002 EDP Brasil removed 36 tonnes of PCB from its distribution network.

We have recently begun to monitor noise levels around our distribution facilities. Where such levels were found too high, we took sound-proofing measures, including the confinement of transformers.

Continued efforts have been made to reduce energy losses in distribution networks, including correction of charge levels and reactive power, and conductor standardisation. In 2002 Enersul renewed its Permanent Electrical Energy Loss Prevention Team, which trained inspection staff, bought new inspection and measurement equipment and remapped the public lighting system in 22 municipal areas.

Also in 2002 Escelsa continued efforts to increase voltage levels at medium voltage distribution substations, with the aim of reducing losses and improving the quality of supply to its customers.

[SPAIN

EDP holds operational control of Hidrocantábrico, the fourth largest operator in the Spanish electricity market. Its interests include electricity generation and distribution, gas distribution, telecommunications, and specialised technical consulting. More detailed information is available at **www.h-c.es**.

GENERATION

Hidrocantábrico's Electricity Generation Facilities

Facility	Installed capacity (MW)	Generation in 2002 (GWh)
Hydroelectric plants		
Hydroelectric plants	427 (9 facilities)	771
Thermal plants		
Coal-fired	1574 (2 plants)	10 997
Natural gas combined cycle	400	328
Trillo nuclear power plant (15,5% owned by Hidrocantábrico)	1 066 (165)	1 212

In 2002 *Hidrocantábrico Generación's* coal-fired thermal units maintained high operation levels, thus reflecting the reduction in availability of hydroelectric power in Spain during the period.

The average annual emission levels remained below the legal limits. The use of low sulphur content fuels led to global specific emissions of 4,26 g/kWh for SO_2, 2,52 g/kWh for NO_x , and 0,27 g/kWh for particulates, levels similar to those registered in 2001. Total emissions increased due to greater use of thermal power plants during the year.

Engineering work began for the adaptation of thermal power plants to the new environmental requirements introduced by the new EU Large Combustion Plant Directive. To reach such targets it will be necessary to introduce desulphurisation units and low NO_x burners in some of *Hidrocantábrico Generación's* thermal power plants in Astúrias.

Values recorded at thermal power plants' air quality monitoring stations were below the limit-values set by Spanish law. Monitoring network improvement programmes continued with equipment adaptation and replacement, in order to improve data quality. The first stage of a project to improve communication and processing of information also began. This will bring together into a single centre the management of the monitoring networks of Aboño and Soto de Ribera power plants.

Industrial and urban waste management activities continued, including minimisation and recycling plans. Coal fly and bottom ash, were, in 2002, totally re-used as raw material in the cement industry. Used oils continued to be burnt for energy recovery in Hidrocantábrico's coal-fired power plants.

As part of the Environmental Improvement Plan of Aboño thermal power plant, work began on the construction of the new wastewater treatment plant. This project, together with the refurbishment of existing wastewater treatment facilities is due to be finished in 2003. In September operations began at Castejón new natural gas combined cycle power plant. Preliminary atmospheric emissions measurements show levels well bellow those set by the new European legislation.

Fonte da Mesa – Aerogenerator.

DISTRIBUTION

Hidrocantábrico's Electricity Distribution Business

Nº of Customers	Distribution (GWh)		High Voltage Lines (km)	Medium/Low Voltage Lines (km)
	Electricity	Gas		
550 831	8 326	1 777	116	16 215 (overhead) 1 825 (underground)

At *Hidrocantábrico Distribución Eléctrica* removal and disposal of PCB containing equipment continued. A total of 47 tonnes was removed in 2002 and disposed of by authorised Spanish contractors. The target is to completely remove this type of equipment by the end of 2004, six years before the deadline set by European law.

Environmental evaluation work for new power lines was carried out, together with measures to limit the impact of these structures, especially plans to change overhead lines for underground cables.

‘3| SOCIAL AND ECONOMIC PERFORMANCE

MAKING USE OF FOREST WASTE FOR ELECTRICITY GENERATION REDUCES THE DANGER OF FIRE IN THE SUMMER.

INDEX

[SOCIAL AND ECONOMIC PERFORMANCE

Pena Suar - Integrating the substation building into de landscape.

'02|ER

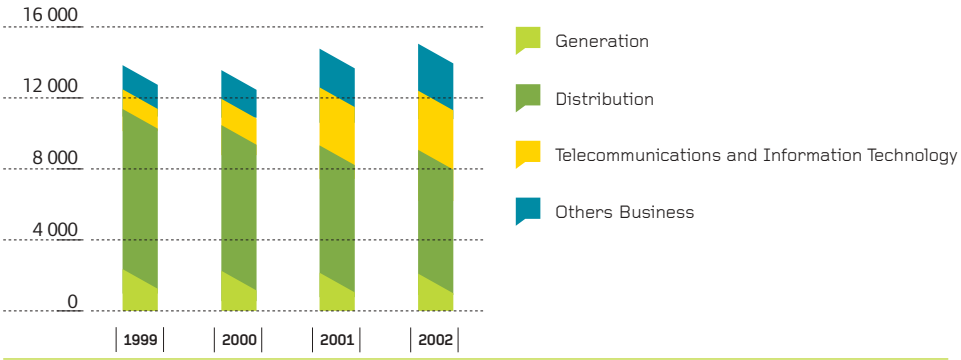
3.1 SOCIAL PERFORMANCE

[EMPLOYMENT

Recently EDP has been expanding its activities into new business areas in Portugal, namely information technology and telecommunications, which adds to the total number employees.

While cutting back on the number of permanent staff in the electricity business, mostly in distribution, the "new economy" sector saw a sharp increase in employee numbers in 2001 and stabilised in 2002.

Number of Employees in Portugal by Business Area



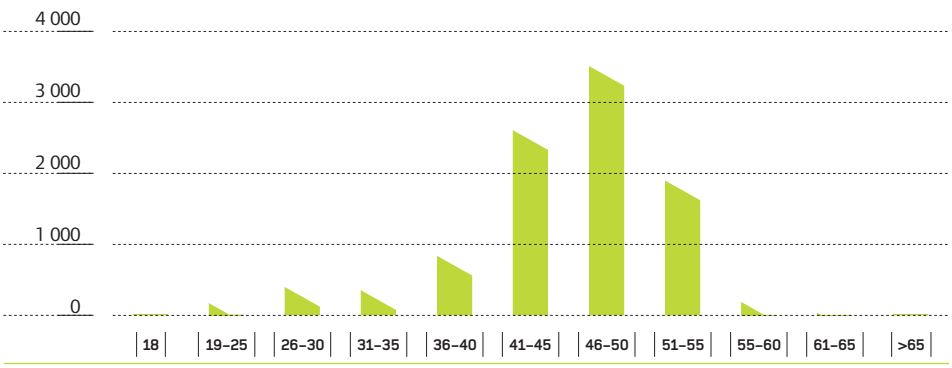
In EDP's core business, employee age average is 45. 63% of the employees are between 40 and 50 years old.

In an effort to rejuvenate its workforce, EDP promotes a series of training sessions for younger employees. With the motto "Youth for a new strategy", we participated in jobshops organised by various universities, and established protocols for graduate students internship programmes. Direct contact with universities has attracted many of the best students, contributing to the strengthening of our internal skills.

In 2002 a total of 201 employees became permanent staff, and 49 new contracts were created. Most new employees are under 30 years of age.

Our Internet site received 6 306 spontaneous applications, which reflects EDP's image as a benchmark company within Portugal.

Employee Age Groups



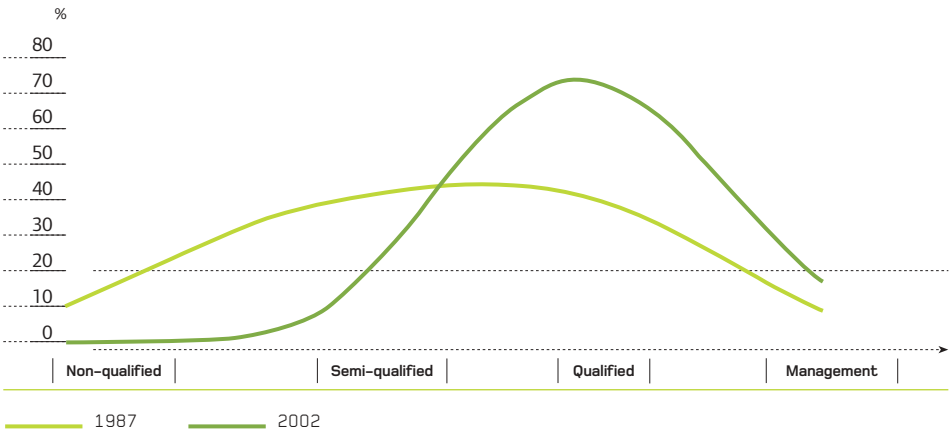
The company's employee turnover was 1.7%, excluding retirements (2.1% excluding only early retirements). These figures, quite low for the sector, show our ability to retain our human resources.

[TRAINING

In accordance with our Human Resources Policy, EDP has been working on training sessions to develop employees' skills, an important productivity factor.

As of 2002 there were no longer unqualified employees on our permanent staff. There was also a consistent rise in qualification levels.

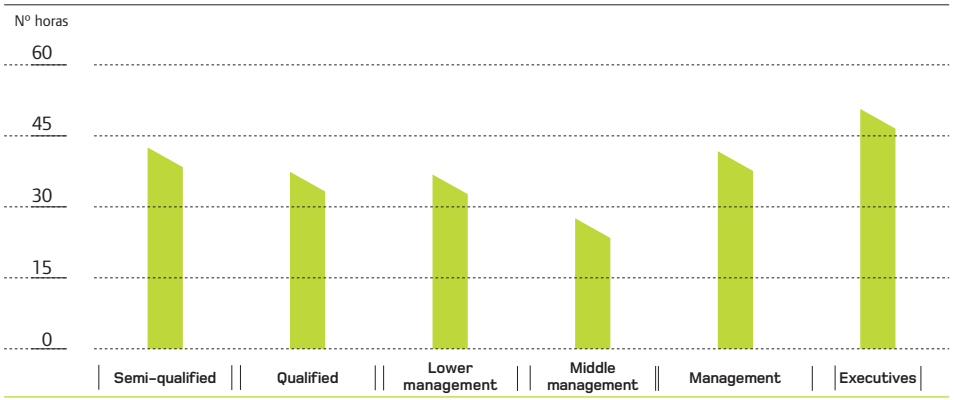
Progress in Professional Qualifications of Permanent Staff



Every year a training programme is defined to meet each of the Group's company needs. These programmes focus on strengthening technical and management skills, adapting employees to new working tools and training employees for new positions.

In 2002, the average training time was 38,2 hours per employee. Investment in training increased, both for employees with fewer qualifications, and for management positions, fundamental to EDP's strategy and to our efficient performance in a progressively more competitive market. In 2002 direct training costs came to € 3,1 million.

Average Training Time



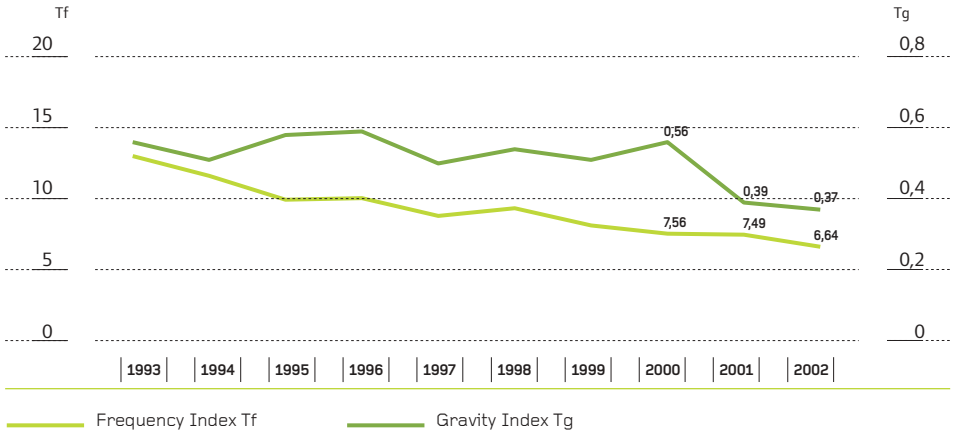
[HEALTH AND SAFETY

Improving safety and workplace conditions for all workers, both internal and external contractors staff, is essential to EDP's strategy. We are also set on minimising the risks to third parties that may arise from our operations.

Continuous strengthening of safety measures in operational activities led to a steady decrease in the number of work-related accidents over the last decade. This effort also lowered the frequency and gravity indexes. Despite this progress, there were two work-related deaths in 2002.

Total Work-Related Accidents per 1 000 Employees

Work-Related Accidents Frequency and Gravity Indexes



WHENEVER POSSIBLE, SUBSTATIONS AND CONTROL CENTRES ARE BUILT IN TUCKED AWAY AREAS, ACCORDING TO ARCHITECTURAL SOLUTIONS THAT BETTER INTEGRATE THE INFRASTRUCTURES INTO THE LANDSCAPE.

Pena Suar - Integrating the substation building into de landscape.

'02 | ER

3.2 ECONOMIC PERFORMANCE

In 2002 EDP Group turnover stood at € 6 386,5 million, 13% over last year's.

However, net income decreased: from € 451 million in 2001 to € 335 million in 2002. This was mainly due to electricity tariffs revision in Portugal, which affected the financial results of EDP Distribuição, and to the discontinuing of activities in the mobile phone business. Our Brazilian distribution companies were also negatively affected by the change in consumption patterns resulting from the 2001 electricity rationing programme, and by the depreciation of the Brazilian real. However, the fourth quarter of 2002 saw signs of recovery, which should continue into 2003.

Main Economic and Financial Data

Euro thousand

	2002	2001	2000
Turnover	6 386 508	5 650 374	4 388 911
Operating income	648 704	673 332	676 131
Net income	335 216	450 795	548 973
Operating capital expenditure (1)	1 479 976	1 359 572	699 220
Financial investment	1 103 353	479 737	1 546 863
Net total assets	18 125 190	16 233 093	14 886 931
Shareholder's funds	5 494 182	6 096 758	6 204 730
Interest-bearing debt	7 994 076	5 799 124	5 012 368
Stock market capitalisation	4 770 000	7 320 000	10 560 000
Earnings per share (Euros)	0,112	0,150	0,183
Pay Out Ratio (2)	80,5%	75,2%	76,3%

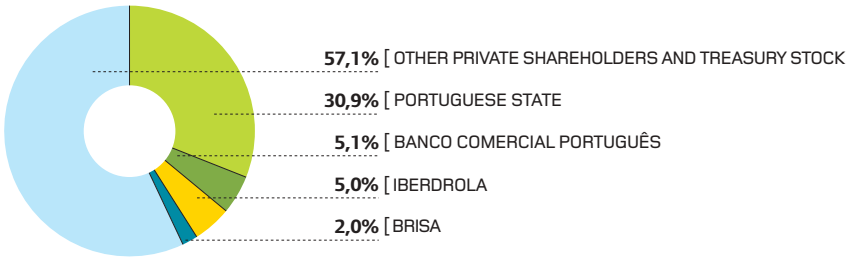
(1) 100% of operating capital expenditure made by the consolidated companies
(2) Dividend distributed the previous year / Previous year net income

We want to create value for our shareholders, as well as for our other stakeholders: employees, suppliers and the community.

[SHAREHOLDERS

EDP started a re-privatising process in 1997. Private shareholders currently hold around 70% of the company capital.

Simplified Shareholders Structure

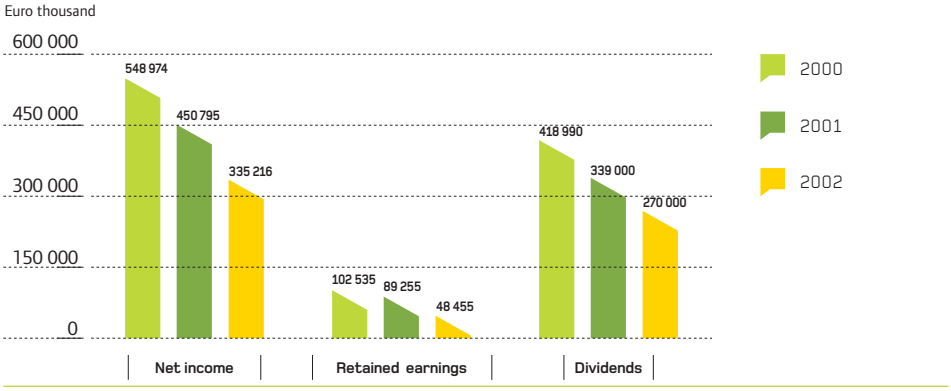


EDP is listed on Euronext Lisbon, New York Stock Exchange and is also traded in London. By the end of 2002, we made up about 14% of PSI-20, Portugal's principal stock market index.

In 2002 an average of 5 million shares were traded per day, which makes EDP one of the most liquid stocks in the Portuguese market. However, 2002 saw a steep drop in the value of the main global indexes, also affecting EDP, which lost 35% of its value.

Our dividend distribution policy is to pay our shareholders a significant part of the value we create every year, whenever conditions within the company and in the market allow. The portion of net income set aside to pay dividends has been in excess of 65% ever since our shares were listed.

Net Income, Retained Earnings and Dividends



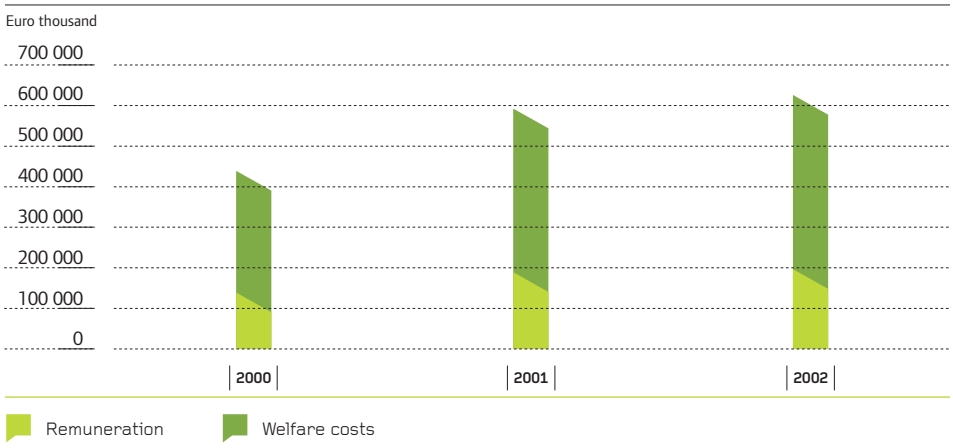
[EMPLOYEES

Companies controlled by EDP have over 18 000 permanent staff in Portugal, Spain and Brazil.

EDP offers a comprehensive package of social benefits, including retirement and health benefits, not only to employees, but also to retired employees and pensioners.

In 2002 EDP spent € 624, 8 million on personnel costs, 5% over 2001 figures. A significant percentage went to social benefits.

Personnel Costs



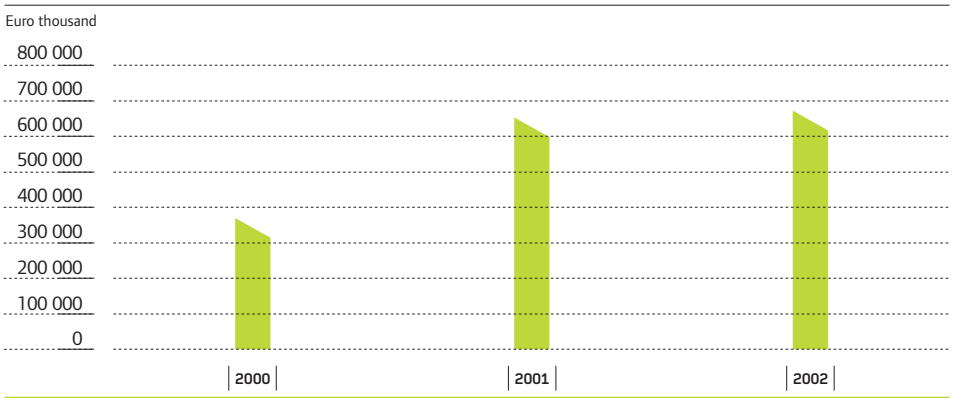
According to EDP statutes, part of EDP's net profit is distributed to employees and to Board members, following criteria defined annually.

[SUPPLIERS

Operating investments rose in 2002. This figure reflects investments in new electricity generation facilities and in distribution network improvement in Portugal, investments in telecommunications, and the accounting of 40% of investments made by Hidrocantábrico, which finished the construction of a new natural gas combined cycle in 2002.

In 2002 EDP spent € 675,2 million on outside suppliers and services.

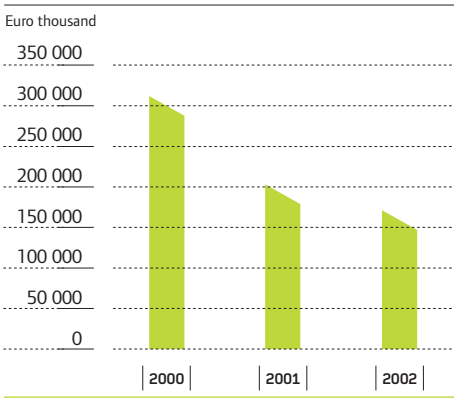
Outside Suppliers and Services



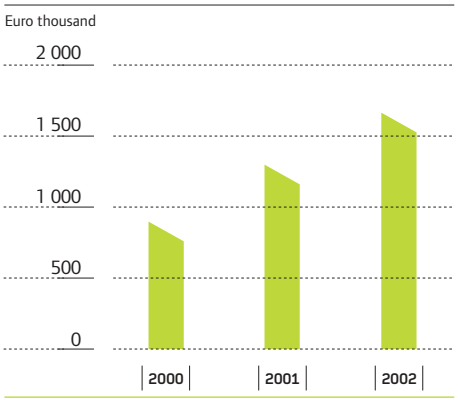
[COMMUNITY

We also want the community to benefit from the profit made in our business; not only through the fulfilment of our tax obligations, but also by supporting relevant projects of a cultural, social and educational nature.

Income tax

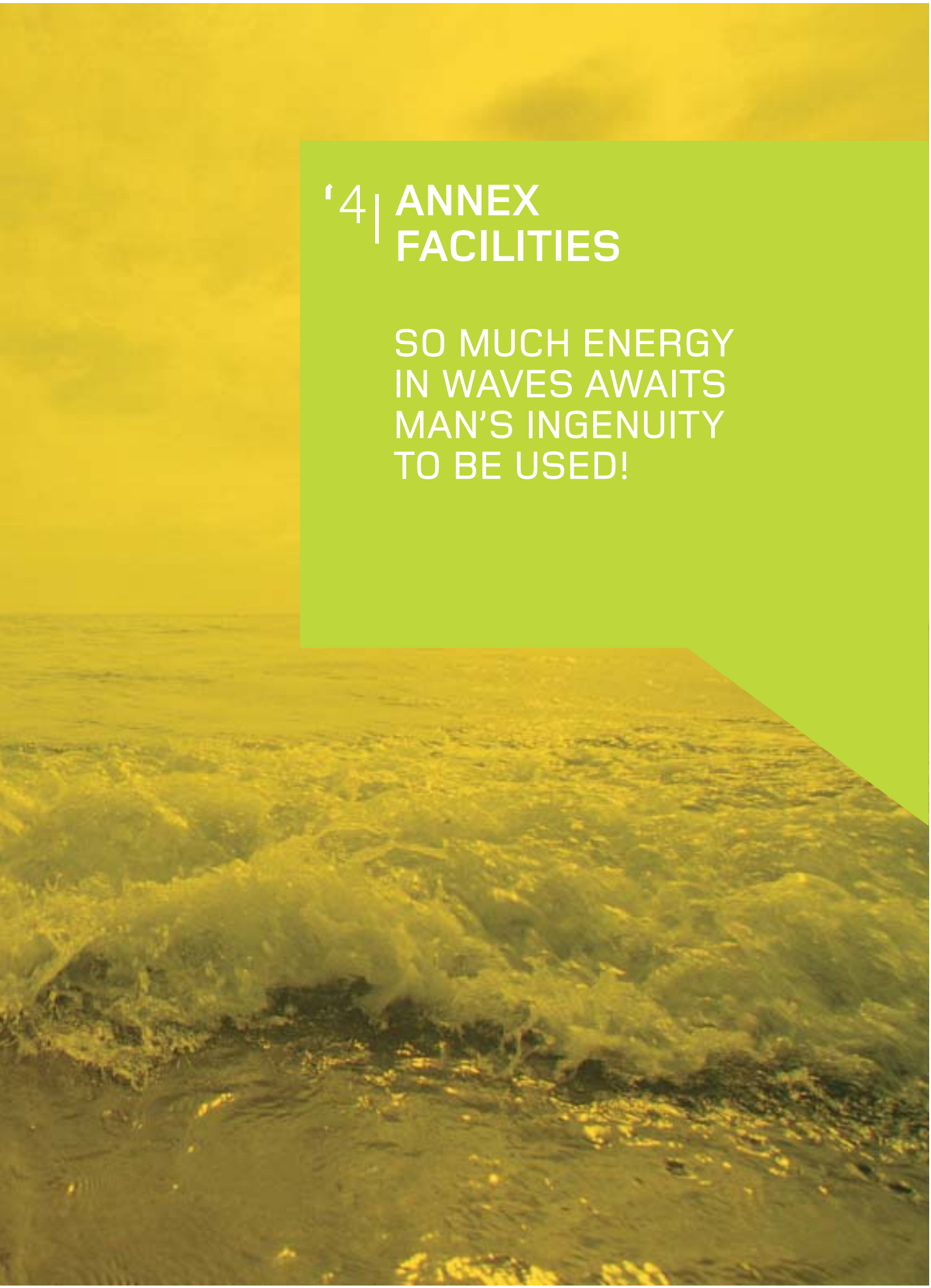


Donations



Pena Suar – Vegetation recovery.

WHEN CONSTRUCTION WORK IS FINISHED, FERTILIZED SOIL IS LAID DOWN. HYDROSEEDING WITH LOCAL SPECIES RAPIDLY RETURNS THE LANDSCAPE TO ITS NATURAL STATE.



'4| ANNEX FACILITIES

SO MUCH ENERGY IN WAVES AWAITS MAN'S INGENUITY TO BE USED!

'02|ER

4.1

EDP ELECTRICITY GENERATION PLANTS IN OPERATION IN PORTUGAL AT 31. 12. 2002

INDEX

[ANNEX - FACILITIES

LEGEND

- HYDROELECTRIC POWER PLANTS ≤ 10Mw
- HYDROELECTRIC POWER PLANTS > 10Mw
- WIND FARMS
- BIOMASS POWER PLANT
- THERMAL POWER PLANTS
- GAS FIRED COGENERATION POWER PLANTS

4.2

THERMAL POWER PLANTS

Barreiro thermoelectric power plant.

CHARACTERISTICS

	TAPADA DO OUTEIRO (1)	CARREGADO	BARREIRO (2)	SETÚBAL	SINES	ALTO MIRA	TUNES	MORTÁGUA
Type of power plant	Steam turbine	Steam turbine	Steam turbine	Steam turbine	Steam turbine	Gas turbine	Gas turbine	Steam turbine
Installed capacity (MW)	47	710	56	946	1 192	132	197	9
Gas treatment	Electrostatic precipitators	Electrostatics precipitators	-	Electrostatic precipitators	Electrostatic precipitators	-	-	Electrostatic precipitators
Combustion modifications	-	-	-	-	Low-NOx burners in all generating units	-	-	-
Wastewater treatment	Physical/chemical: coagulation/flotation /sedimentation	Physical/chemical: coagulation/flotation /sedimentation	Physical/chemical: neutralisation /sedimentation	Physical/chemical: coagulation/flotation /sedimentation	Physical/chemical: coagulation/flotation sedimentation	-	-	-
ISO 14001 Environmental Certification	-	√ Dec. 2000	√ Nov. 2000	√ Oct. 1999	√ Sept. 2001	-	-	-

OPERATIONAL DATA

Net electricity generation (MWh)	44 461	2 408 282	249 029	5 190 710	9 531 715	- 689	13 498	37 482
Steam generation (TJ)	n.a.	n.a.	1 546	n.a.	n.a.	n.a.	n.a.	n.a.
Fuel consumption								
Fuel oil (t)	13 548	455 811	110 791	1 227 532	6 061	n.a.	n.a.	n.a.
Diesel (t)	n.a.	n.a.	n.a.	n.a.	n.a.	240	6 009	n.a.
Coal (t)	n.a.	n.a.	n.a.	n.a.	3 513 814	n.a.	n.a.	n.a.
Natural Gas ($Nm^3 x\ 10^3$)	n.a.	150 075	n.a.	n.a.	n.a.	n.a.	n.a.	814
Forest Waste **(3)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	71 172
Gross water consumption (m^3) **(4)**	42 344	674 015	542 246	693 361	1 959 411	n.a.	n.a.	91 471
Cooling water consumption (m^3)	8 045 928	587 286 326	43 194 978	775 036 800	1 200 204 000	n.a.	n.a.	79 709

ENVIRONMENTAL DATA

ATMOSPHERIC EMISSIONS								
SO_2 (kt)	0,23	18,61	3,71	56,47	40,43	0,00	0,02	0,00
NO_x (kt)	0,07	4,88	1,34	14,08	21,40	0,00	0,02	0,10
CO_2 (kt)	42,22	1767,28	345,3	3825,81	8531,41	0,64	16,04	n.a.
Particulates (kt)	0,02	0,31	0,24	0,86	1,63	n.a.	n.a.	0,03
WASTEWATER								
Waste stream (m^3/year)	6 675	70 078	153 441	325 009	936 660	n.a.	n.a.	n.av.
Suspended solids (mg/l)	16,22	9,51	17,63	19,22	44,56	n.a.	n.a.	n.av.
Iron (mg/l Fe)	0,11	0,40	0,35	0,12	0,04	n.a.	n.a.	n.av.
Copper (mg/l Cu)	0,01	0,01	0,01	0,01	0,00	n.a.	n.a.	n.av.
Zinc (mg/l Zn)	0,06	0,04	0,07	0,08	0,04	n.a.	n.a.	n.av.
Nickel (mg/l Ni)	0,06	0,06	0,35	0,13	0,15	n.a.	n.a.	n.av.
Vanadium (mg/l V)	0,07	1,47	0,23	1,54	0,04	n.a.	n.a.	n.av.
Chromium (mg/l Cr)	0,01	0,00	0,01	0,00	0,00	n.a.	n.a.	n.av.
Oils and fats (mg/l)	n.av.	n.av.	0,31	0,23	0,10	n.a.	n.a.	n.av.
Hydrocarbons (mg/l)	0,13	n.av.	0,17	0,14	0,07	n.a.	n.a.	n.av.
WASTE								
Non-recovered coal fly ash (t)	n.a.	n.a.	n.a.	n.a.	5 843,4	n.a.	n.a.	n.a.
Coal bottom ash (t)	n.a.	n.a.	n.a.	n.a.	41 310,0	n.a.	n.a.	n.a.
Fuel oil fly and bottom ash (t)	10,2	1 852,2	5,5	2 247,1	n.a.	n.a.	n.a.	n.a.
Biomass ash (t) **(5)**	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3 944,0
Used oils (t)	0,2	21,4	12,2	27,6	34,7	0,0	3,6	1,3
Metal scrap (t)	19,2	139,1	48,2	38,9	283,8	0,0	2,5	37,1
PCB containing equipment (t)	0,0	0,0	0,0	50,8	0,3	0,0	0,0	n.a.
BY-PRODUCTS								
Recovered coal fly ash (t)	n.a.	n.a.	n.a.	n.a.	372 976	n.a.	n.a.	

n.a. - Not applicable **n.av.** - Not available
(1) The de-activation of the plant's last group, due in 2002, was delayed until the end of 2004. **(2)** Barreiro power plant also generates steam for industrial customers. **(3)** Includes forest waste, pine and eucalyptus bark and other types of biomass.
(4) Total water consumed in the facility minus consumption from the public network **(5)** Includes fly and bottom ash from the burning of forest waste collected together.

4.3

GAS FIRED COGENERATION POWER PLANTS

Soporgen cogeneration plant.

CHARACTERISTICS

	SOPORGEN	ENERGIN
Type of power plant	Combined cycle	Combined cycle
Installed capacity (MW)	67	43,7
Gas treatment	n.a.	n.a.
Wastewater treatment	(1)	water-oil separation
ISO 14001 Environmental certification	-	-

ACTIVITY DATA

Net electricity generation (MWh) **(2)**	410 097	179 392
Steam generation (TJ)	1 799	1 859
Fuel consumption		
Natural Gas ($Nm^3 \times 10^3$)	108 961	67 043
Gross water consumption (m^3) **(3)**	221 136	774 960
Cooling water consumption (m^3) **(4)**	52 473	n.av.

ENVIRONMENTAL DATA

ATMOSPHERIC EMISSIONS		
SO_2 (kt)	n.a.	n.a.
NO_x (kt)	0,10	0,06
CO_2 (kt)	256,3	159,19
Particulates (kt)	0,004	0,003
WASTEWATER		
Waste stream (m^3/year)	**(5)**	n.av.
Suspended solids (mg/l)	**(5)**	n.av.
Iron (mg/l Fe)	**(5)**	n.av.
Copper (mg/l Cu)	**(5)**	n.av.
Zinc (mg/l Zn)	**(5)**	n.av.
Nickel (mg/l Ni)	**(5)**	n.av.
Vanadium (mg/l V)	**(5)**	n.av.
Chromium (mg/l Cr)	**(5)**	n.av.
Oils and fats (mg/l)	**(5)**	n.av.
Hydrocarbons (mg/l)	**(5)**	n.av.
WASTE		
Used oils (t)	**(6)**	0,02
Metal scrap (t)	**(6)**	0,0
Equipamento com PCB eliminado (t)	**(6)**	0,0

n.a. - Not applicable **n.av.** - Not available.
(1) Liquid waste is sent to the SOPORCEL treatment plant
(2) Includes electricity supply to industrial clients and to EDP network.
(3) Total water consumed in the facility minus consumption from the public network. **(4)** Closed-circuit system. Water used to make up for losses.
(5) Waste water is treated at the SOPORCEL sewage treatment plant. **(6)** SOPORGEN's waste is stated and managed by SOPORCEL.

4.4

HYDROELECTRIC POWER PLANTS IN THE BINDING SYSTEM

Vilarinho das Furnas hydroelectric power plant.

CHARACTERISTICS

	FACILITY	FLOODED AREA (ha)	RESERVOIR USEFULL CAPACITY (hm^3)	INSTALLED CAPACITY (MW)	ISO 14 001 ENVIRONMENTAL CERTIFICATION
CÁVADO-LIMA	Alto Lindoso	1 072	347,9	630	Under assessement
	Touvedo	172	4,5	22	Under assessement
	Alto Rabagão	2 212	550,1	68	Under assessement
	Vila Nova/Venda Nova	391	92,1	90	Under assessement
	Vila Nova/Paradela	380	158,2	54	Under assessement
	Salamonde	242	55,0	42	Under assessement
	Vilarinho das Furnas	344	69,7	125	Under assessement
	Caniçada	689	144,4	62	Under assessement
DOURO	Miranda	122	6,7	369	Under assessement
	Picote	244	13,4	195	Under assessement
	Bemposta	405	20,0	240	Under assessement
	Pocinho	829	12,2	186	Under assessement
	Valeira	795	13,0	240	Under assessement
	Vilar-Tabuaço	670	95,5	58	Under assessement
	Régua	850	12,0	180	Under assessement
	Carrapatelo	952	13,8	201	Under assessement
	Torrão	650	58,5	140	Under assessement
	Crestuma-Lever	1 298	22,3	117	Under assessement
TEJO - MONDEGO	Caldeirão	66	3,5	40	Under assessement
	Agueira	2 000	216,0	336	Under assessement
	Raiva	230	12,0	24	Under assessement
	Cabril	1 965	615,0	108	Under assessement
	Bouçã	500	7,9	44	Under assessement
	Castelo do Bode	3 480	902,5	159	Under assessement
	Pracana	547	95,6	41	Under assessement
	Fratel	750	21,0	132	Under assessement

ACTIVITY DATA

	CÁVADO-LIMA	DOURO	TEJO-MONDEGO
Net electricity generation (MWh)	1 604 522	3 795 457	1 363 712

ENVIRONMENTAL DATA

WASTE			
Used oils (t)	0,0	27,3	19,3
Metal scrap (t)	39,5	0,0	24,2
PCB containing equipment (t)	0,0	0,0	0,0

Varosa hydroelectric power plant.

4.5

HYDROELECTRIC POWER PLANTS IN THE NON–BINDING SYSTEM

CHARACTERISTICS OF POWER PLANTS

	FACILITY	FLOODED AREA (ha)	RESERVOIR USEFULL CAPACITY (hm^3)	INSTALLED CAPACITY (MW)	ISO 14 001 ENVIRONMENTAL CERTIFICATION
NORTH	Lindoso	-	0,2	44,1	-
	Ermal	-	21,2	11,2	Under assessement
	Varosa (Chocalho)	69,6	12,9	25,0	-
	France	5	0,1	7,0	-
	Penide I e II	69	0,5	4,9	Under assessement
	Guilhofrei	163	20,4	4,0	Under assessement
	Ponte da Esperança	-	21,2	2,8	Under assessement
	Senhora do Porto	23	1,1	8,8	Under assessement
	Cefra	0,5	0,1	1,1	Under assessement
	Freigil	3,3	0,1	4,6	-
	Aregos	-	-	3,1	-
	Caniços (ETE)	-	-	0,9	-
CENTRE	Sabugueiro I	240	15	12,8	Under assessement
	Desterro	1,6	-	13,2	Under assessement
	Ponte de Jugais	-	-	20,3	Under assessement
	Vila Cova	-	-	23,4	Under assessement
	Santa Luzia	246	50,5	24,4	-
	Sabugeiro II	64,6	5,1	10,0	-
	Riba-Côa	5,6	-	0,1	-
	Pateiro	0,3	-	0,3	-
	Ribafeita	2	0,1	0,9	-
	Drizes	3	0,2	0,2	-
	Pisões	-	-	0,1	-
	Figueiral	0,5	-	0,2	-
	Rei de Moinhos	2,5	-	0,8	-
	Ermida	-	-	0,4	-
TAGUS	Belver	28,6	7,5	80,7	-
	Pôvoa	23,6	19,7	0,7	-
	Bruceira	11	4,1	1,6	-
	Velada	1	0,4	1,9	-
	Caldeirão	-	-	0,2	-

ACTIVITY DATA

	NORTH	CENTRE	TAGUS
Net electricity generation (MWh)	189 811	264 226	118 542

ENVIRONMENTAL DATA

WASTE			
Used oils (t)	3,6	0,0	7,4
Metal scrap (t)	0,0	0,0	0,0
PCB containing equipment (t)	0,0	0,0	0,0

4.6
WIND FARMS

Fonte da Mesa wind farm.

CHARACTERISTICS

FACILITY	LOCATION	IMPLANTATION AREA (ha)	NO. OF GENERATORS	INSTALLED CAPACITY (MW)
FONTE DA MESA	Serra Meadas (Lamego/Resende)	305	17	10,2
PENA SUAR	Serra Marão (Amarante/V. Real)	205	20	10,0
CABEÇO DA RAINHA	Serra Alvelos (Oleiros/Sertã)	80	17	10,2
CADAFAZ	Serra Lousã (Góis)	60	17	10,2

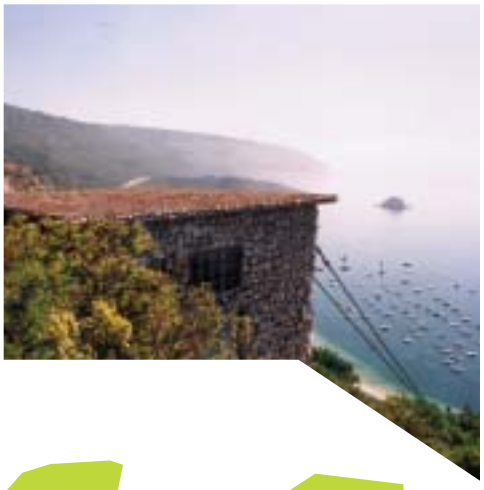
ACTIVITY DATA

	FONTE DA MESA	PENA SUAR	CABEÇO DA RAINHA	CADAFAZ
Net electricity generation (MWh)	23 738	26 589	30 515	31 943

ENVIRONMENTAL DATA

WASTE				
Used oil (t)	0,7	0,0	0,0	0,0
Metal scrap (t)	0,0	0,0	0,0	0,0

4.7 DISTRIBUTION NETWORK



Serra da Arrábida – transforming station.

CHARACTERISTICS

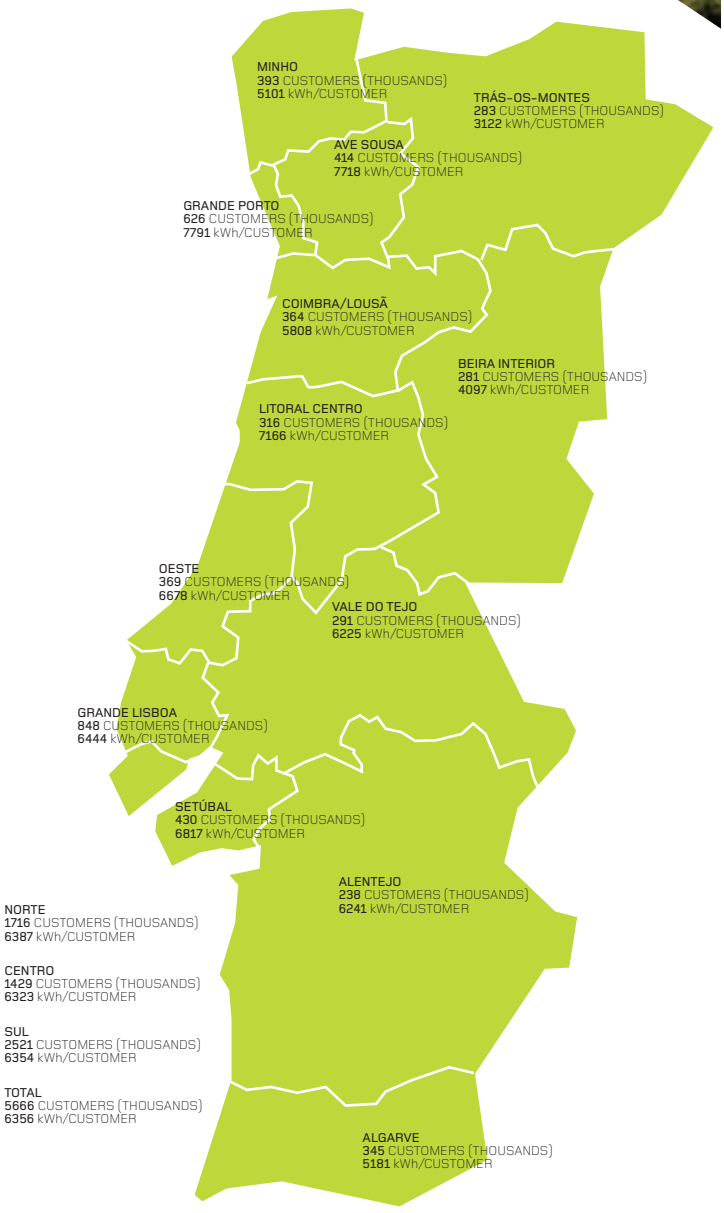
SUBSTATIONS	
nº	375
Installed capacity (MVA)	13 205
No. of transformers	663
TRANSFORMING STATIONS	
nº	50 649
Installed capacity (MVA)	14 093
OVERHEAD LINES	
High Voltage (km)	7 097
Medium Voltage (km)	50 900
Low Voltage (km)	95 925
UNDERGROUND LINES (km)	
High Voltage (km)	357
Medium Voltage (km)	10 806
Low Voltage (km)	23 693

ACTIVITY DATA

ENERGY BALANCE (GWh)	
Electricity delivered to distribution network	39 940
Own consumption	46
Losses	2 989
% Losses	7,5%
Total electricity sales	36 905
Sales to binding system	35 947
Sales to non-binding system	958

ENVIRONMENTAL DATA

WASTE	
Used oils (t)	85,4
Metal scrap (t)	1 445,2
Light bulbs (t)	55,1
PCB containing equipment (t)	0,0



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5.0
GLOSSARY AND ACRONYMS

"WIND – NOUN. MOVING AIR, ESPECIALLY WHEN IT MOVES STRONGLY OR QUICKLY IN A CURRENT."

In Longman Dictionary of Contemporary English.

Accident Frequency Index – Portuguese acronym Tf. Quantifies the number of work-related accidents per million hours worked.

Accident Gravity Index - Portuguese acronym Tg. Number of days lost per 1 000 hours worked. Does not include permanent disability or the allocation of 6 000 days for each accident resulting in death.

Air Quality Index - Highest value, as a percentage, of each air pollutant limit-value set by applicable legislation.

Ash - Solid waste from the burning of fuel, derived from mineral impurities contained therein. May also include unburnt fuel. Fly ash is a fine-grain ash contained in combustion gases. Bottom ash is a thick-grain ash accumulating on the bottom of the combustion chamber.

Biomass - Non-fossilised organic material of biological origin, which can be partially used as an energy resource.

Carbon dioxide (CO_2) - Colourless and odourless gas, a natural constituent of atmospheric air. Besides its natural sources, human-origin sources include the burning of fossil fuels and various industrial processes. Although it does not have a direct effect on human health, it is a greenhouse gas, contributing to global warming.

CIGRÉ - (*Conceil International des Grands Réseaux Électriques*) - French acronym for International Council on Large Electric Systems.

CMVM (Comissão do Mercado de Valores Mobiliários) - Portuguese acronym for the Portuguese stock market regulator.

Cogeneration - Facility where the energy released by a fuel is partially used for the production of electricity. Also known as combined heat and power.

Combined cycle - Electricity generation facility composed of a gas turbine whose exhaust gases feed a heat recovery unit, which in turn generates steam for setting into action a second turbine.

Electromagnetic fields - Non-ionizing radiation between 0 and 300 GHz, which includes static fields, fields with extremely low frequencies and radio-frequency fields,including microwaves.

Environmental Impact Study - A series of technical documents and studies drawn up by the entity submitting a project. Includes, among other information, the identification and assessment of probable effects (positive and negative) that the project may have on the environment and the measures taken to avoid, minimise or compensate for the expected negative effects.

Environmental Management System - Part of an overall management system. Includes the organisational structure, planning of activities, responsibilities, practices, procedures, processes and resources required for the development, implementation, review and maintenance of an Environmental Policy.

ERSE - (Entidade Reguladora dos Serviços Energéticos) - Portuguese acronym for the Portuguese energy sector regulator.

Eutrophication - Process of excessive enrichment in nutrients in a body of water. The uncontrolled growth of algae and aquatic plants and their subsequent decomposition drastically reduces the levels of oxygen dissolved in the water and leads to the disappearance of other life forms.

Global Warming Potential - Index that allows greenhouse gases global warming effect to be compared, using carbon dioxide as a reference CO2 (GWP=1).

Greenhouse gases - Gases present in Earth's atmosphere, which absorb and reemit infrared radiation. They are the result of natural processes and human action.

Hertz (Hz) - Unit of frequency. 1 Hertz is the frequency of a periodic phenomenon with a periodic time of 1 second.

Hydroelectric Capability Index (HCI) - Indicator that quantifies the deviation of the total value of electrical energy produced by means of hydro resources over a given period relative to that which would have been produced in a period of average hydrological conditions.

ISO 14 000 Standards - Set of International Standards on Environmental Management Systems issued by the International Organisation for Standardisation.

Kyoto Protocol - Document adopted by all parties to the United Nations Framework Convention on Climate Change at the Kyoto conference in Japan in December 1997. It lays down targets for the differentiated reduction in emissions of a number of greenhouse gases for the period of 2008-2012, for the countries listed in Annex B (developed countries).

CDM - Clean Development Mechanism.

Net Electricity Generation - Total electricity generated minus the electricity used in the generation processes, namely by auxiliary services in power plants and transforming stations.

Nitrogen Oxides (NO_x) - Gases composed of a nitrogen atom and a variable number of oxygen atoms. Atmospheric pollutants formed by the oxidation of nitrogen at high temperature.
One of the agents responsible for photochemical fog and acid deposition.

Particulates - Atmospheric pollutant composed of finely separated material suspended in the air.

PNRE - Portuguese acronym for National Programme for Emission Reduction.

Polychlorinated Biphenyls (PCB) - Group of toxic and persistent chemical compounds of synthetic origin. Up until their manufacture was banned in the late 1970's, they were used worldwide as insulation fluid in the electricity industry.

Sulphur dioxide (SO_2) - Atmospheric pollutant emitted by natural and human processes, such as the burning of fossil fuels and various industrial practices. One of the agents responsible for acid rain.

Sulphur hexafluoride (SF_6) - Greenhouse gas with a GWP of 23 900.

Turnover Index - Ratio of the average number of employees that enter and leave permanent positions at a company against the total number of permanent employees.

Watt (W) - Unit of power. 1 Watt is the power of an energy system in which 1 Joule of energy is uniformly transformed for 1 second.

Watt Hour (Wh) - Unit of electricity produced or consumed. 1 Watt hour is the energy needed for the functioning of electrical equipment of 1 Watt power, during one hour.

Work-related accident - Accident that occurs in the workplace and during working hours directly or indirectly resulting in bodily injury, functional disorder or in a disease that results in death or reduces the person's capacity to work or earn money.

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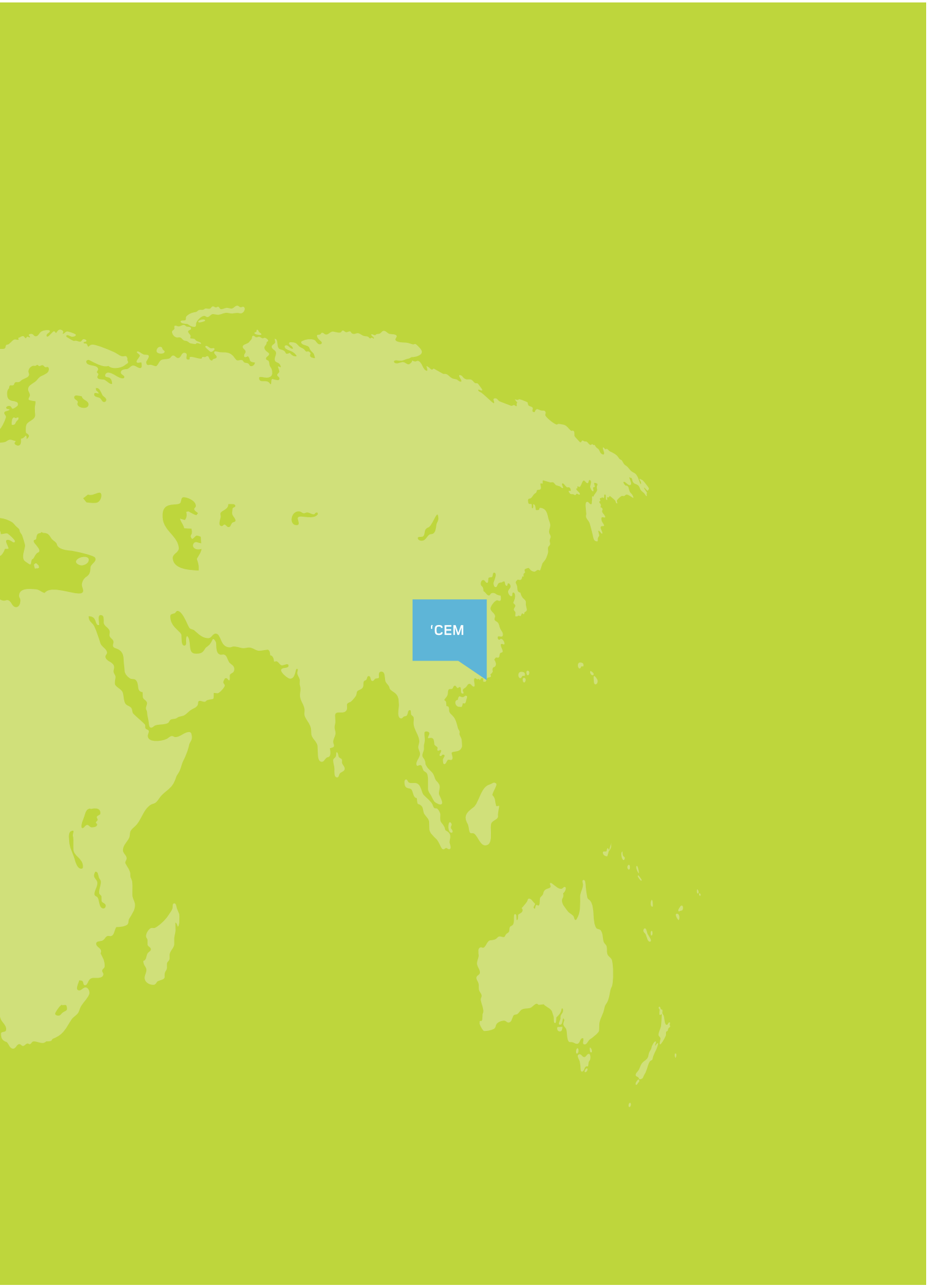
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