



CARBON DISCLOSURE PROJECT
EDP's Response to CDP 2009



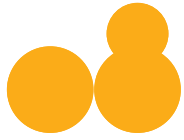


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I. GENERAL INFORMATION

The Carbon Disclosure Project (CDP) (www.cdproject.net) is an independent not-for-profit organisation which holds the largest database of corporate climate change information in the world. The data is obtained from responses to CDP's annual Information Requests, issued on behalf of institutional investors, purchasing organisations and government bodies. Since its formation in 2000, CDP has become the gold standard for carbon disclosure methodology and process, providing primary climate change data for the global marketplace. This document is EDP's response to the CDP questionnaire for 2009.

In line with our full disclosure policy, all information about EDP can be accessed at www.edp.pt. EDP strongly recommends consultation of the 2008 Annual Report and Accounts, in particular the Sustainability, Governance and Institutional Report (SGIR). This report supports many of the answers provided for the Carbon Disclosure Questionnaire. In order to help readers verify the statements being made, the pages of the report where one can find the information under scrutiny are stated. For example, (YY, SGIR) refers to page YY of the Sustainability, Governance and Institutional Report.

EDP is a European utility company based in Portugal, but also operating in Spain, Brazil, and the USA, among other countries. 2008 in summary:

Turnover	EUR 13 894,1 million
Gross Profit	EUR 4 897,2 million
Net profit	EUR 1 091,9 million
Employees	12 245
Assets	EUR 35 709 million
Equity	EUR 8 547million
Liabilities	EUR 27 162 million
ISIN	PTEDP0AM0009
SEDOL	4103596

EDP is a leading company with regard to Sustainability. It is the only Portuguese company in the Dow Jones Sustainability Index (17, 70, 71, 78, SGIR) and has been awarded silver classification by the Sustainability Asset Management Corporation (SAM) (www.sam-group.com).

Detailed information on the company's Sustainability Commitments can be found at (71, SGIR). EDP states clearly its environment policy (107, SGIR), its GHG reduction objectives (107, SGIR), its total CO₂ disclosure (107, SGIR), its biodiversity policy (www.edp.pt) and actions (109, SGIR), its corporate environmental management system (110, SGIR) and its residues economical valuation (through sales) (110, SGIR).

All data – financial, environmental and social – provided in the SGIR was externally verified and validated by KPMG (190, SGIR).

II. RISKS AND OPPORTUNITIES

2.1. Regulatory Risks

EDP's main activities are in Portugal, Spain, Brazil and the USA, and, to a smaller extent, in other countries such as Poland, Belgium, France and Romania. (28, SGIR). Different legislation applies in each country, causing different impacts on EDP's business (37-41, SGIR). The main regulations that affect us are:

- EU Emission Trading Scheme (EU-ETS);
- Power Purchase Agreements (PPA) - Renewable energy support frameworks;
- Production tax credits (PTC) - Renewable energy support frameworks;
- EU Targets on renewables – Directive 2001/77/EC and the energy-climate package;
- US targets on renewable energy - Renewable Portfolio Standards;
- National Emission Reduction Plans in Europe;
- Environmental Taxes;
- Post-Kyoto period;
- Regulation promoting energy efficiency.

Our approach has been very proactive. EDP not only complies with present legislation, but also anticipates future legislation and strives to understand and incorporate future trends. Our Regulation and Competitiveness Department, our presence in EURELECTRIC and our participation in the World Business Council for Sustainable Development (WBCSD) are all evidence of our concern with the future.

EDP's Executive Board is supported in the implementation of strategy by the Departments of its Corporate Centre (138, SGIR). In particular, the **Regulation and Competitiveness Department (DRC) (141, SGIR)** manages relations with the different supervisory bodies in the energy sector, monitors the development and implementation of new European internal market and competition directives for the electricity and natural gas sectors and studies the impact of MIBEL (Iberian Electricity Market). It also monitors legislative, regulatory and organisational changes in the energy sector that might impact upon the company's profitability.

In what regards the main European regulatory trends, EDP participates fully in **EURELECTRIC**, the European electricity sector association, which represents the common interests of the electricity industry at a pan-European level (www.eurelectric.org). EDP has a representative on

its Environmental and Sustainable Development Policy Committee, as well as in various of its working groups, subgroups and task forces, including the "Climate Change", "Environmental Protection" and "Energy Efficiency" working groups, and the "Flexibility Mechanisms" subgroup.

Furthermore, EDP is a member of the **World Business Council for Sustainable Development (www.wbcsd.org)**, a CEO-led global association of some 200 companies, which focuses exclusively on business and sustainable development. The WBCSD provides a platform for companies to explore sustainable development, to share knowledge, experiences and best practices and to advocate business positions on these issues in a range of *fora*, working with governments, non-governmental and intergovernmental organisations. The objective of EDP's participation in the Council is to gain insights concerning future trends and to start working on them today in order to achieve a competitive advantage.

2.2. Physical Risks

EDP is developing a project, known as CLIMEDP, which is entirely dedicated to identifying, describing and managing physical operational risks due to extreme events. In EDP's businesses, physical risks can interfere with **upstream factors, assets and final consumer demand**.

In what regards **upstream factors**, hydrological deficiencies may result in less hydropower production. This decrease could be exacerbated by lower than expected rises in energy prices.

Cabril hydro power plant



Higher summer temperatures can reduce thermal power plant efficiency, since the "cold" source is a few degrees higher. This becomes more critical at full-load. Higher temperatures may also increase the population's



water consumption. Frequently, this water is pumped directly from reservoirs to water supply networks and is not used to generate energy, something for which EDP is unlikely to receive compensation.

Extreme winds may cause disruption in wind power production and damage wind turbines, since the equipment has a cut-off wind speed.

EDP's main **assets** comprise thermal and renewable power plants, distribution grids, substations, offices and vehicle fleet.

Physical risks may damage EDP's assets, from momentary outage to total destruction. In hydropower plants, floods result in by-passes around the turbines and consequent losses in energy production. In addition, this water is frequently released during off-peak hours, so even if it was turbinated it would be at a lower energy price. Draughts may necessitate the maintenance of ecological water flows, which may differ from optimised planned ones, with an inherent loss of energy/revenue.

Flood in Castelo do Bode hydro power plant



In response to physical risks, EDP's hydropower plants are designed to support what is technically termed "the flood of the millennium". In addition, all plants (hydro and thermal) have emergency plans that are fully operational and address all events that might disrupt normal operation, some of which may be caused by extreme weather.

With regard to distribution grids, EDP has a long tradition in coping with adversity. Unfortunately, Portugal is periodically afflicted with either extreme forest fires or floods. EDP has operational processes in place which allow us to reduce grid downtime as much as possible. This is vitally important in a crisis situation. For example,

fires are fought with pumped water and floods sometimes also need pumps, which run mostly on electricity. These operation optimisation processes range from adequate stock planning to rapid intervention teams and allow EDP to address most extreme events that might cause destruction: forest fires, extreme winds, freezing temperatures, floods, etc. The interruption of power distribution is subject to regulation in Portugal (by ERSE - Entidade Reguladora dos Serviços Energéticos - the Portuguese Energy Services Regulator), in Spain (by CNE - Comisión Nacional de Energía - the Spanish Energy Services Regulator) and in Brazil (by ANEEL - Agência Nacional de Energia Elétrica - the Brazilian Electricity Agency) by means of the TIEPI indicator (installed power equivalent interruption time, measured annually at the medium voltage grid level). Furthermore, EDP's substations are redundant in the most important urban areas. This can reduce interruption in the event of a catastrophe.

Seia Substation



EDP's office buildings all have emergency plans. These are up-to-date and fully tested. There is also a crisis plan for the Board of Directors, drawn up during the bird flu scare.

EDP's vehicle fleet has two main groups: lease vehicles and fleet vehicles. Any damage to the former is fully covered by insurance. In contrast, damage to fleet vehicles is not insured, since it makes more economical sense to assume this cost if and when it happens.

EDP has a strategic insurance policy based on an insurers' pool that covers its main assets. It also has a fund in Luxembourg (Energia RE) that secures small losses not covered by the insurers' pool.

With regard to **final demand**, higher temperatures in the summer may increase energy consumption (due to increased use of HVAC systems). Extreme weather conditions may cause damage to consumers' homes and businesses, thus decreasing their incomes and consumption.

Concern with the physical risks affecting EDP is universal across the whole company. In Portugal and Spain, most of the thermal power plants are ISO 14001 certified, thus guaranteeing that they are equipped to cope with extreme events. Certified power is currently 68% of total installed capacity and will increase sharply in the near future after the certification of wind farms that are yet to be certified. At Energias do Brasil (EnBr), physical risks such as dam overflow have been fully identified, and implementation of ISO 14001 and OHSAS 18001 is under way.

2.3. Other Risks

EDP is also exposed to non-physical risks caused by climate change. The company has identified the following risks through its Risk Management processes:

- **Credit Risk:** client, counterparty and supplier – in case of extreme weather conditions, businesses may just vanish, losing their capacity to deliver payment, goods or services, thus reducing customers’ consumption;
- **Market Risk:** prices of electricity, fuel and derivatives (hedges) - in case of extreme weather conditions volatility can become a serious issue;
- **Operational Risk:** Information Technologies (IT), back office activities, suppliers, Human Resources (HR), design and construction, the environment (considering the environmental impact of the company) – Extreme weather conditions may cause disruption in most processes. For example, the unavailability of IT, the backbone of the business, will severely affect most processes: most will not be registered and some will not even be performed. As for HR, employees may find it impossible to attend work. Communication lines could be destroyed, preventing teleworking. Extreme weather events might damage installations, such as pipes, water-oil separators and transformers’ oil recipients, thus causing oil or other hazardous substances to leak and damage the environment.

Power transformer with oil tank



These risks are fully identified, described, subject to periodical reports and managed through a tool – the ‘Risk Portal’ – which aids operational risk management in the EDP Group. This tool is described below. Reputational risk is another factor taken into consideration for every risk identified. This is very important with regard to climate change actions and attitudes, since there is a risk that customers will develop negative perceptions of companies that do not take strong action against climate change.

Furthermore, if extreme events become frequent, the company could face political risks.

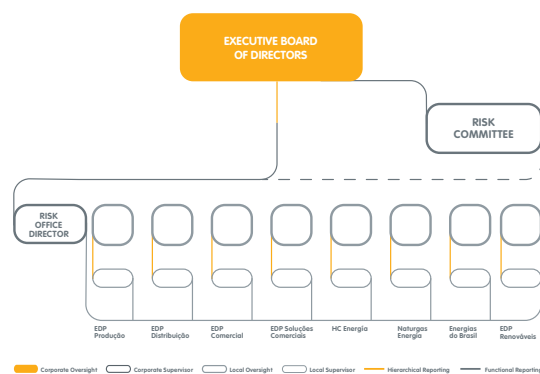
2.3.1. Risk management

The EDP Group’s activities are exposed to a certain number of risks. In order to cope with them, EDP has created a risk management structure (149-155, SGIR) based on its Corporate Policy on Enterprise-Wide Risk Management. This policy states:

- Objectives
- Principles
- Structure and Governance, identifying all company departments that play a role in risk management

Governance and control are established in the Corporate Policy on Group-Wide Risk Management stated by the Executive Board of Directors (EBD). The EBD, on behalf of the stockholders, decides on the company’s risk appetite and acceptable levels of risk exposure. In addition, the EBD delegates tasks and responsibilities, defines overall risk limits and ensures that risk management policies and procedures are observed. The EBD is supported by a group of committees, including the Risk Committee, which is chaired by the CEO and made up of: the Chief Financial Officer (CFO), the Chief Risk Officer (CRO), the Corporate Financial Department Director, the Iberian Trading Unit manager and other members of the senior management team invited upon request.

Risk Management Diagram





The main tasks of the Risk Committee are:

- To monitor key risks and risk appetite for the EDP Group;
- To approve periodic reporting standards for reports delivered by business areas or the Corporate Risk Management Office, as well as other reporting and monitoring mechanisms;
- To approve or define recommendations concerning key risks or extraordinary risk events to be submitted to the EBD for analysis and approval;
- To approve or define recommendations concerning the Group's risk policy, procedures and limits, for analysis and approval by the EBD.

At a corporate level, the Risk Management Department is responsible for independent risk control, supervision and continuous reporting on overall compliance (with established procedures and limits). It is also responsible for developing specific models and methods for risk management.

The Business Units (BU) manage their own risks within their established mandates. BU Risk Officers coordinate their activities with both BU hierarchies and the CRO, thus ensuring the alignment of Objectives, Processes, Reporting and Control.

The implementation of our Corporate Policy relies on the **Risk Portal**, a web based instrument developed internally for the consistent collection of information on relevant risks and used at EDP Group level. It enables qualitative and quantitative assessment of risks, determines their probability of occurrence, states their control levels and identifies priority actions. This tool allows the identification of key risks and further actions, such as avoidance, minimisation, transfer (insurance or hedging) and optimisation (in certain situations, EDP may find it desirable to increase risk exposure). All actions regarding a risk are registered and can be followed up using the tool. This also allows the company's compliance with its defined risk appetite to be verified.

Risk web portal



EDP's sustainability and environmental policy is fully incorporated into its overall risk management process, as evidenced by the inclusion of a specialised Corporate Governance and Sustainability Committee as part of the General Supervisory Board. The EBD is also supported by committees such as the Energy Planning Committee, Investment Committee, Environment and Sustainability Committee and Prices and Volumes Committee. For all of these, environmental issues are key factors taken into account when providing decision-making support. A complete description of the Committees' responsibilities can be found in (142, 148, SGRI).

2.3.2. Financial and Business Implications

Future CO₂ and environmental trends affect most financial and business decisions. Financial decisions concern new investments, optimal capital allocation, cash management, credit policy, and so on. All of these take into account future CO₂ and environmental trends. Since the future is rather uncertain, EDP copes with this uncertainty by modelling future scenarios. EDP's adopts a multi-dimensional approach to the task:

- Energy trends and CO₂ prices are modelled with a Price Volume model (which also models hedging strategies and optimal generation mix) by the DPE (Energy Planning Department in the Corporate Centre) (140, SGIR);
- All MIBEL commodities exhibiting volatility are modelled by MUR (Integrated Risk Model) in order to achieve a pre-established MAR (Margin at Risk) and to forecast future energy and CO₂ prices. This is performed by UNGE (Iberian Trading Unit in the Corporate Centre) (45, 142, SGIR);
- The Group's integrated Risk is evaluated by means of a Cash Flow at Risk model, which assesses the Group's capacity to cope with unexpected losses, either through its financial liquidity (the Group's capacity to satisfy short-term cash needs) or through economic value (the Group's long-term capacity to follow its business plan and create value). This is performed by the Risk Management Department (DGR) (140, SGIR).

These models are used concurrently and subjected to back-testing. Their objective is to provide the best possible forecast of the future. These models deliver crucial information that is used by bodies such as the Investment Committee when implementing the group's strategy.

Since 2008, EDP has publicly stated its annual environmental operational plan (POSA - this plan has existed for many years but has only been made public since 2008). It integrates the following factors into the business:

- Biodiversity;
- Environmental assessment;
- Environmental risk and accountability;
- Energy efficiency;
- Communication of issues regarding sustainability;
- Ethics.

POSA web portal



These concerns have been substantiated by business decisions/processes such as:

- Heavy investment in renewable energy (wind and hydro);
- CO2 emissions monitoring;
- Neutralising CO2 emissions from EBD activities and the annual EDP staff meeting;
- Investment in NOx and SO2 emissions reduction in power plants;
- Investments in Clean Development Mechanisms (CDMs) in Portugal and Brazil;
- Participation in the Clean Development Mechanism (CDM) and the voluntary "Verified Emissions Reduction"

(VER) market in Brazil;

- Energy efficiency programme ECO (94, SGIR), promoting improvements in energy end-use efficiency in all economic sectors (see www.eco.edp.pt);
- CLIMEDP Project concerning the consequences of Climate Change for EDP businesses;
- Efficient management of building energy consumption;
- Residues Management, through the sale and reduction of by-products;
- Environmental management systems, certified by ISO 14001;
- Reduction of distribution network losses through low voltage network optimisation;
- Decommissioning of older oil-fired power plants and replacement with modern and more efficient and environmentally friendly CCGTs (combined cycle gas turbines);
- Electronic invoicing.

Setúbal fueloil-fired power plant



Ribatejo CCGT





2.4. Regulatory Opportunities

EDP strongly believes that regulation is an opportunity and has already worked very hard to:

- Optimise its generation mix;
- Increase energy production from renewable sources;
- Increase the use of cleaner thermal generation processes (CCGT);
- Anticipate future fossil-fuel scarcity;
- Anticipate greenhouse gas emission constraints;
- Curb CO₂ emissions;
- Invest in CO₂ sink projects;
- Promote improvements in energy end-use efficiency;
- Promote social access to energy through its social tariff (EDP Serviço Universal).

All these activities have provided EDP with proprietary know-how and first-mover advantage, while reducing costs and improving its reputation.

Cadafaz wind farm



2.5. Physical Opportunities

Physical opportunities arise from our actions described above, as most of them lead to cost reductions, for example:

- Increasing energy production from renewable sources –
– savings on fossil fuel costs and also reducing the political risk of supply;
- Anticipating greenhouse gas emission constraints –
– saves future costs;
- Investing in CO₂ sink projects – saves future costs, since demand for these projects may increase in the future and the cost of participation may then be higher.

2.6. Other Opportunities

In a broad perspective, all the actions and processes described above allow EDP to:

- Increase its reputation and brand value;
- Reduce risk exposures;
- Achieve a competitive generation mix;
- Reduce energy and primary resources, thus increasing efficiency and reducing costs;
- Reduce waste production (avoiding possible future eco taxes);
- Reduce energy loss in distribution grids;
- Contribute to shaping the future through its participation in EU-ETS and other Kyoto mechanisms;
- Contribute to wealth redistribution through the social tariff to low-income customers;
- Attract and retain staff with the same sustainable values.

2.6.1. Maximising Opportunities

EDP invests in products and services designed to tackle climate change. This is done mainly through innovative products or processes (72, SGIR). EDP is currently investing in a number of demonstration projects, including:

- Berlengas Project – to guarantee total electricity supply from renewable sources on small islands;
- Incorporation of new technological developments into its business - EDP is currently scrutinising wave energy, multi-technology platforms (wind + photovoltaic, micro turbines and fuel cells) and solar energy (photovoltaic, thermoelectric and thermal solar);
- CO₂ capture and storage – EDP (through HC Energía) is collaborating with Spanish research institutions in order to identify possible CO₂ storage solutions;
- NANOGLOWA project – Nano-membranes against Global Warming – the objective is to capture CO₂ in fossil fuel power plants by means of nano-membranes capable of separating the gases;
- InovGrid – an intelligent distribution system that can optimise electrical energy supply and demand;

Berlengas' project



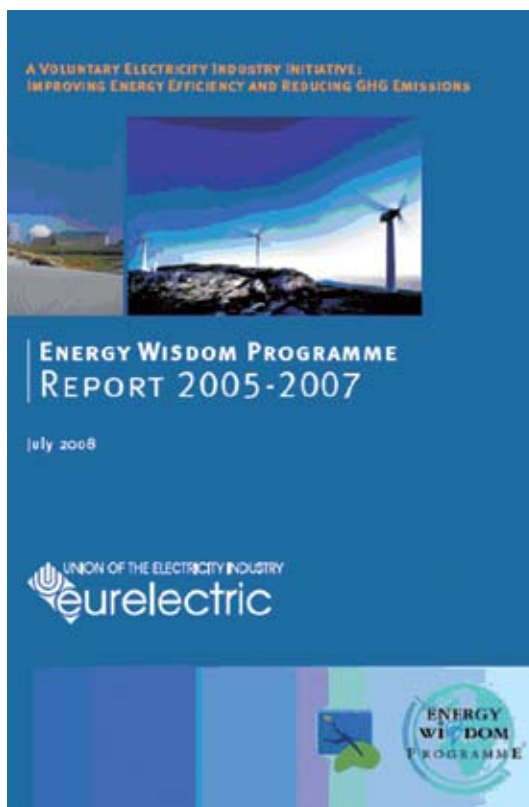
EDP has also developed alliances with:

- MIT Portugal – EDP participates in strategic management, defines programme objectives and involves some of its HR through professional masters and PhDs;
- APBA – Portuguese Business Angels association, the association that promotes Capital Venture investment in renewable energy;
- Innovation Utilities Alliance, in partnership with other utilities (RWE, ENEL, EDF, Endesa, etc.).

In 2008, EDP created a venture fund – EDP Ventures – that aims to provide the financial investment needed for innovation venture projects. Two investments were made in clean energy technologies in 2008 and an investment pipeline is already in place for 2009.

EDP has also participated, since 2005, in the Energy Wisdom Programme, a EURELECTRIC initiative in which electrical companies voluntarily report on measurable projects to improve energy efficiency and reduce GHG emissions (www.eurelectric.org/ewp).

Energy Wisdom Programme





III. GREENHOUSE GAS (GHG) EMISSIONS ACCOUNTING, EMISSIONS INTENSITY AND TRADING

3.1. Reporting Year and Boundary

This response covers the period from 2005 to 2008. EDP reports emissions from companies over which it exercises both financial and operational control, as described on pages 59-63 of the 2008 Financial Report. Methane and N₂O are not materially relevant in EDP's business and were excluded from the boundary of our report.

3.2. Methodology

Process used to calculate Scope 1 and Scope 2 GHG Emissions

EDP produces CO₂ emissions in stationary combustion (thermal power plants and gas pipeline stations) and mobile combustion, as well as SF₆ emissions due to leakage from transformers, in power generation and distribution.

EDP Scope 1 stationary combustion emissions were calculated using the methodology defined by European Directive no. 2003/87/EC. This methodology calculates emissions from fuel consumption using measured data, the emission factor and the oxidation factor. EDP's Scope 1 fleet emissions and Scope 2 emissions were calculated using the GHG protocol guidelines and EDP data. Both scopes are calculated using excel worksheets.

Each EDP power plant in Portugal reports greenhouse gas emissions using the methodology approved by APA (Agência Portuguesa do Ambiente - the Portuguese Environment Agency) for the national GHG inventories. These reports are verified by APA certified auditors.

In Spain, all EDP power plants quantify greenhouse gas emissions using EMEP-CORINAIR, an IPCC international methodology.

Calculation tools used

<http://www.ghgprotocol.org/>

Global warming potentials

EDP used data from the 4th Assessment Report of the IPCC (GWP over a 100 year time span) for SF₆ (22 800).

Emission factors

All scopes used emission factors from the GHG Protocol.

Scope 2 was calculated using the national electricity emission factors for Portugal (official value supplied by the Portuguese regulator), Spain (national average factor) and Brazil (national average factor published by the Ministry of Science and Technology).

The emission factors used for Scope 3 are stated below.

3.3. Scope 1- Direct GHG Emissions

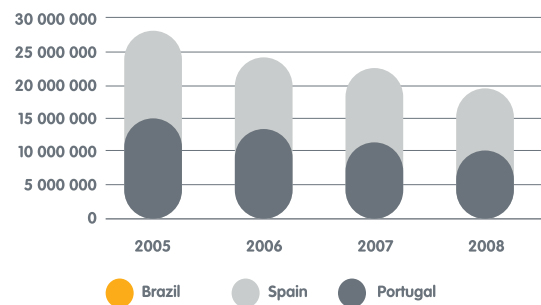
Gross overall Scope 1 GHG emissions in metric tonnes of CO₂e

Electricity and Gas Units	Unit of Analysis	2005 Financial Year	2006 Financial Year	2007 Financial Year	2008 Financial Year
Direct GHG Emissions SCOPE 1	tCO ₂ e	28 288 423	24 515 477	23 451 465	19 813 643

By country or region

Electricity and Gas Units	Unit of Analysis	2005 Financial Year	2006 Financial Year	2007 Financial Year	2008 Financial Year
Direct GHG Emissions SCOPE1/country	tCO ₂ e				
Portugal		14 900 203	12 720 848	11 027 556	10 129 500
Spain		13 379 602	11 788 467	12 417 322	9 675 371
Brazil		8 618	6 162	6 587	8 773

Direct GHG Emissions (Scope 1) tCO₂e



By business division

Electricity and Gas Units	Unit of Analysis	2005 Financial Year	2006 Financial Year	2007 Financial Year	2008 Financial Year
Direct GHG Emissions SCOPE 1/BU	tCO ₂ e				
Electricity		28 288 176	24 515 214	23 451 158	19 812 975
Gas		247	263	307	669

Breakdown of overall Scope 1 GHG emissions by gas

Electric Utility Units	Unit of Analysis	2005 Financial Year	2006 Financial Year	2007 Financial Year	2008 Financial Year
Direct GHG Emissions SCOPE 1/GAS					
	tCO _{2e}				
CO ₂	tCO _{2e}	28 283 519	24 510 977	23 449 156	19 812 676
SF ₆	tCO _{2e}	4 904	4 500	2 309	968
SF ₆	KgSF ₆	215,1	197,4	101,3	42,4

3.4. Scope 2 - Indirect GHG Emissions

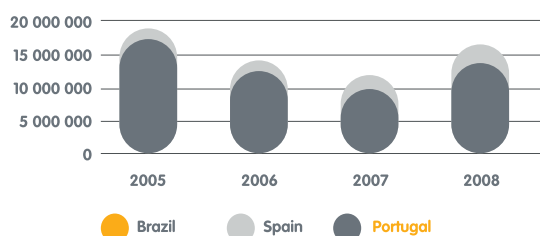
Gross overall Scope 2 GHG emissions in metric tonnes of CO_{2e}

Electric Utility Units	Unit of Analysis	2005 Financial Year	2006 Financial Year	2007 Financial Year	2008 Financial Year
Indirect GHG Emissions SCOPE 2 TOTAL					
	tCO _{2e}				
SCOPE 2		1 861 319	1 445 300	1 153 169	1 571 028

Breakdown of gross overall Scope 2 emissions by country

Electric Utility Units	Unit of Analysis	2005 Financial Year	2006 Financial Year	2007 Financial Year	2008 Financial Year
Indirect GHG Emissions SCOPE 2/Country					
	tCO _{2e}				
Portugal		1 712 665	1 295 830	998 307	1 416 723
Spain		148 156	148 989	153 822	152 910
Brazil		498	482	1 041	1 395

Indirect GHG Emissions (Scope 1) tCO_{2e}



Breakdown of overall Scope 2 emissions by business division

Electric and Gas Units	Unit of Analysis	2005 Financial Year	2006 Financial Year	2007 Financial Year	2008 Financial Year
Indirect GHG Emissions SCOPE 2/BU					
	tCO _{2e}				
Electricity - Production and distribution		1 859 250	1 443 221	1 151 154	1 568 573
Gas - Transport		148 156	148 989	2 015	2 456

3.5. Certificates associated with zero or low carbon electricity

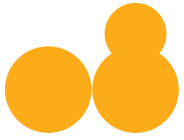
EDP participates in the RECS - Renewable Energy Certificate System with four hydropower plants: Ponte de Jugais (19,22 MW), Sabugueiro I (13,24 MW), Desterro (12,592 MW) and Vila Cova (23,4 MW). These certificates have been issued since 2003 by REN (www.ren.pt), a member of AIB -Association of Issuing Bodies.

Ponte de Jugais hydro power plant



The main objective of the REC System is to encourage the production of electrical energy from renewable sources, a RECS certificate providing a guarantee for the consumer/trader that they are supporting renewable energy production and reducing emissions.

For each MWh produced in the power plants enlisted in the RECS system, a certificate is issued which can be traded. The additional return complements the price of the electricity, rewarding the producer for having generated electricity from a renewable source.



3.6. Scope 3 - Other Indirect GHG Emissions

EDP only calculated Scope 3 figures for its operations in Portugal. Data was not available for other countries.

EDP is a carbon-intensive sector company. As a result, 92,64% of its emissions are Scope 1, 7,35% are Scope 2 and Scope 3 contributes a mere 0,009%. In Scope 3, the most significant figures are for fuel transport, business travel and employee commuting. The emissions for these activities were calculated, totalling 1 899 tCO_{2e}, of which 3 tCO_{2e} are from fuel transport, 1 209 tCO_{2e} from business travel and 686 tCO_{2e} from employee commuting.

Employee business travel

EDP Portugal employees travelled 7 846 551 km by aeroplane, which generated 939,5 tCO₂, and 269 520 km by train, which contributed another 269,52 tCO₂. [Emission factors: long-haul flights 0,110 kg CO₂/km, short-haul flights 0,180 kg CO₂/km, train 0,060 kg CO₂/km].

Company supply chain

The emissions originating from the fuel supply to our power plants in 2008, were:

- 1,660 tCO₂ from 165 992 km in marine shipping (0,01 kg CO₂/km);
- 0,022 tCO₂ from 649 km of inland shipping (0,035 kg CO₂/km);
- 1,343 tCO₂ from lorry transport (0,9226 kg CO₂/km).

Sines coal-fired power plant



Employee commuting emissions

EDP calculated employee commuting emissions based on employee surveys covering over a quarter of the employees based in Portugal. The factors were obtained from the "CO₂ mobile sheet" and "employee commuting sheet" of the GHG protocol. The emission factor for motorbikes was calculated from their fuel consumption.

Transport	Distance (km)	Emissions (t CO ₂)	Emission factor (kg CO ₂ /km) (Source: GHG protocol data)
Small auto	1 362 446	263,2	0,1932
Diesel auto	949 583	28 283 519	0,2691
Train	619 294	4 904	0,0600
Bus	536 721	215,1	0,1862
Bicycle	289 004		
Motorbike	82 572	5,9	0,0715
Underground	206 431	21,8	0,1056
Boat	82 572	2,9	0,350

3.7. Emissions Avoided through Use of Goods and Services

In 2008 in Portugal, the energy services unit of EDP Comercial implemented more than twenty projects in the areas of energy efficiency, distributed generation and multi-technical services. However, data on energy savings is not yet available.

EDP also carried out a number of projects under the PPEC – a programme managed by ERSE (Portuguese Energy Regulator) for the promotion of energy end-use efficiency. This programme is based on national tenders in which all electricity-related entities may participate. The measures approved in 2008 under the PPEC will lead to savings of around 500 GWh and avoided emissions of about 190 000 tCO₂.

Energy efficiency kits distribution



	Number of actions	Annual Energy saved (MWh)	CO ₂ avoided /year (t/year)	Lifespan (years)	Total energy avoided (MWh)	Total CO ₂ avoided (t)
PPEC 2008						
Residential						
Freezers	7 407	691,9	268,2	15	10 379	4 023
Power Strips	100 000	6 600,0	2 558,4	8	52 800	20 467
Efficient Lightning CFL	300 000	15 390,0	5 965,7	8	123 120	47 726
CFL old town	50 000	2 565,0	994,3	8	20 520	7 954
CFL social housing estates	150 000	7 695,0	2 982,9	8	61 560	23 863
Services						
CFL	30 000	4 839,0	1 875,8	3	14 517	5 627
Industry						
Variable Speed Drives	150	6 986,6	2 708,2	15	104 799	40 624
Power Factor Compensation	80	11,15 GVArh	-	12	133,8 GVArh	-
TOTAL					492 493	190 907

3.8. Carbon Dioxide Emissions from Biologically Sequestered Carbon

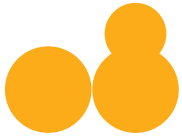
Overall emissions in metric tonnes of CO₂ from biologically sequestered carbon

	Unit of Analysis	2005	2006	2007	2008
Biomass	tCO ₂ e	1 730	1 726	1 100	987

The drop recorded between 2006 and 2007 was due to a change in the percentage control exercised by EDP in the company that owns the biomass power plants.

Mortágua biomass power plant





3.9. Emissions Intensity

From EDP's turnover in 2008 (EUR 13 894 million) and their Overall Scope 1+2 Emissions (21 384 672 tCO₂), EDP has obtained a **Financial Emissions Intensity** (emissions/turnover) of **1 539 tCO₂/EUR million**.

From EDP's energy production in 2008 (51 131 GWh) and their Overall Scope 1+2 Emissions (21 384 672 tCO₂), EDP has obtained an **Emission Factor** (emission/energy generated) of **418 tCO₂/MWh**.

Note: in the Sustainability, Governance and Institutional Report, the figure for the CO₂ emission factor differs slightly from the above, as it only takes into account stationary combustion (electric power generation).

3.10. Emissions History

Electric Utility Units	Unit of Analysis	2005 Financial Year	2006 Financial Year	2007 Financial Year	2008 Financial Year
Direct GHG Emissions SCOPE 1	tCO _{2e}	28 288 423	24 515 477	23 451 465	19 813 643
Indirect GHG Emissions SCOPE 2	tCO _{2e}	1 861 319	1 445 300	1 153 169	1 571 028
Other Emissions SCOPE 3	tCO _{2e}				1 899
TOTAL	tCO_{2e}	30 149 742	25 960 778	24 604 635	21 386 570

EDP's total emissions have been decreasing since 2005. EDP's strategy, published in 2006, pledges considerable support for more efficient and cleaner generation, namely through CCGTs and renewables (wind and hydro).

The increase in Scope 2 emissions from 2007 to 2008 is mainly due to the inclusion of more companies in the analysis, namely Naturgas, HC Energía and Energias do Brasil.

Scope 3 was not calculated before 2008.

Electric Utility Units	Unit of Analysis	2006 Financial Year	2007 Financial Year	2008 Financial Year
Annual Variation SCOPE 1	tCO _{2e}	-13%	-4%	-16%
Annual Variation SCOPE 2	tCO _{2e}	-22%	-20%	36
Annual Variation SCOPE 3	tCO _{2e}	-	-	-
TOTAL	tCO_{2e}	-14%	-5%	-13%

3.11. External Verification/Assurance

Data on Scope 1 and Scope 2 emissions were verified by KPMG, and a certificate of validation was issued (please see 190, 191, SGIR) after:

- Interviewing personnel in charge of data preparation and consolidation;
- Performing data verification on economic, environmental and social issues;
- Carrying out qualitative coherence analysis;
- Visiting operational units to confirm data and data collection processes.

Scope 1 and Scope 2 were included in the KPMG verification.

The **level of assurance** obtained was "limited assurance" and the standard against which the information was verified/assured is ISAE 3000. This (revised) standard establishes basic principles and essential procedures for all assurance engagements other than audits or reviews of historical financial information covered by ISAs and ISREs, for example, assurance engagements regarding:

- Environmental, social and sustainability reports;
- Information systems, internal control, and corporate governance processes; and
- Compliance with grant conditions, contracts and regulations.

For more information, see www.ifac.org.

3.12. Data Accuracy

Scope 1 emissions data was obtained through estimates based on fuel consumption. EDP considers 3% to be a maximum acceptable margin of error.

Scope 2 emissions data was obtained by means of conversions using the GHG Protocol conversion factors. The main foreseen source of error is the choice of an inadequate conversion factor. EDP considers 5% to be a maximum acceptable margin of error.

Scope 3 emissions data was obtained using the GHG Protocol conversion factors. In this Scope, emissions data was obtained for fuel transport, business travel and employee commuting. In the two first calculations, the main source of error could be the abovementioned conversion factor. In the third case there is another source of error, the extrapolation performed to cover the entire EDP.

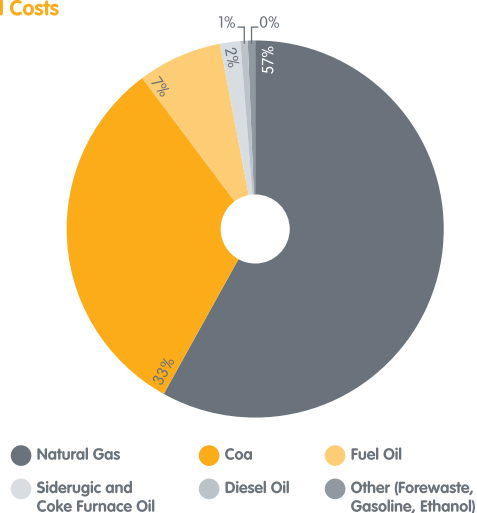
Portugal workforce (the sample used only represents 26%). For overall Scope 3 emissions, EDP considers 20% to be a maximum acceptable margin of error.

Since the Scopes are completely independent, the overall margin of error should be around 3,15%.

The last accuracy assessment reports made on a facility-by-facility basis refer to 2008 GHG emissions and have just been reported to the Competent National Authority (APA – Agência Portuguesa do Ambiente) by LRQA (Lloyds Register Quality Assurance) acting as Certified Auditor under EU-ETS (European Union Emission Trading Scheme).

Note: in Portugal and Spain, EDP reports GHG emissions under the EU-ETS, a mandatory EU-wide scheme, in accordance with Commission Decision no. 2007/589/EC. In Brazil, since it is a non-Kyoto country, GHG emissions are reported under a voluntary scheme.

Fuel Costs



Energy and Fuel Inputs

3.13. Energy and Fuel Requirements and Costs

Cost of purchased electricity

	2008
Total Cost of Electricity (EUR)	213 543 214

Cost of purchased fuel

Fuel costs (EUR)	2008
Total Fuel costs	1 257 045 232
Gasoline	1 081 647
Diesel Oil	8 904 490
Natural Gas	718 957 760
Ethanol	140 998
Coal	418 578 000
Fuel-Oil	87 864 000
Siderurgic and coke furnace gas	20 150 000
Forest waste	1 368 338

	2008
Consumption of purchased energy (MWh) (all electricity)	1 645 589

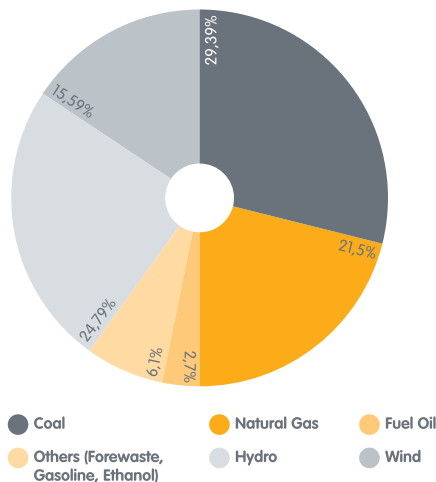
Purchased Fuel (MWh)	2008
Total Fuel costs	65 909 934
Gasoline	9 193
Diesel Oil	93 941
Natural Gas	25 050 108
Ethanol	1 643
Coal	33 728 475
Fuel-Oil	3 136 802
Siderurgic and coke furnace gas	3 701 281
Forest waste	187 906
Propane	585



Energy Output

Energy Output (Fossils) - total amount of energy generated (MWh)	2008
Coal	14 994 423
Natural Gas	11 008 237
Fuel-Oil	1 366 088
Biomass	62 097
Others (gas oil, biomass, cogeneration)	3 128 539
Total Stationary Combustion	30 559 384
Energy Output (Renewable) - total amount of energy generated, excluding Biomass (MWh)	2008
Hydro	12 654 290
Wind	7 916 878
TOTAL	20 571 168

Energy generated by fuel type



Energy Exports

Energy Exports: Fossils (MWh)	2008
Energy (MWh)	28 952 931
Percentage	94,74%

3.14. EU Emissions Trading Scheme

EDP operates and owns facilities covered by the EU Emissions Trading Scheme (EU-ETS).

Free allowances allocated for each year of Phase II

EDP Portugal and Spain (ktCO ₂)	Phase I (2005-2007)		Phase II (2008-2012)			
	2007	2008	2009	2010	2011	2012
Total free allowances (EUAs) received	25 199	18 441	20 719	21 770	19 184	18 805

Total emissions from 1 January 2008 to 31 December 2008 for facilities operated or owned by EDP was 19 783 587 tCO₂.

3.15. Emissions trading schemes, other than the EU-ETS

In Portugal and Spain, EDP only participates in EU-ETS. In Brazil, EDP participates in the voluntary carbon market. In effect, EDP sold Verified Emission Reductions (VERs) to the European market and expects to perform more transactions during the next two years. Brazil is not listed in Annex B of the Kyoto Protocol, so here EDP (through Energias do Brasil) is only developing CDM projects, without taking part in other activities described in the protocol.

Overall Compliance Strategy

EDP is currently involved in the European Trading Scheme (EU ETS). This has already entered the Kyoto period (2008-2012), with stricter requirements for utilities than in the pilot phase. The recently approved PNALE II (in Portugal) and PNA (in Spain) has allocated 30% less CO₂ allowances to EDP's generation facilities than during the pilot phase.

EDP has, since 2006, adopted a very proactive strategy to anticipate possible impacts of CO₂ costs.

In order to diversify risk and optimise the alternatives presented in the Kyoto Protocol, in 2007 EDP signed emissions reduction purchase agreements (ERPAs) resulting from CDM projects with several entities.

EDP also participates in the voluntary carbon credit market and has generated several tonnes of VERs – Verified Emission Reductions. Some of these VERs were redeemed to neutralise Group events, while the remainder were traded.

Where carbon funds are concerned, EDP is continuously monitoring and seeking new investment opportunities, always aiming to diversify its technologies and geographical locations. Furthermore, emissions credits with guaranteed delivery were also purchased on the forward market.

Purchase of carbon credits

EDP has bought carbon credits from CDM projects (there is currently a JI project under negotiation), but only for compliance purposes, not on a voluntary basis.

Of the 2 241 kt CERs acquired in 2008, 1 830 kt were bought on the market, while the remainder (411 kt) were obtained from carbon funds, CDM/JI auctions, or direct negotiations. For the coming years, all CERs are predicted to come from carbon funds, CDM/JI auctions, or direct negotiations.

CDM projects	Unit	2008	2009	2010	2012	08-12
Contracted	CER	342 791	689 766	1 166 687	1 731 977	5 119 474
Used	CER	224 169				224 169

EDP has been involved in producing and selling the following project-based carbon credits:

- PCH Paraíso: small hydropower plant located in Mato do Grosso do Sul state, Brazil;
- PCH São João: small hydropower plant located in Espírito Santo state, Brazil;
- PCH Santa Fé: small hydropower plant located in Espírito Santo state, Brazil;
- UHE Mascarenhas: repowering project aiming at increasing the energy generation of an existing hydropower plant located in Espírito Santo state, Brazil;
- Bundling for repowering Units 1, 2 and 3 of UHE Mascarenhas, repowering UHE Suíça and repowering PCH Rio Bonito - Espírito Santo state, Brazil.

These projects were developed under the CDM standard/scheme.

Santa Fé hydro power plant



Emissions reductions validation:

- PCH Paraíso validated and under initial verification;
- PCH São João under the initial verification;
- PCH Santa Fé under validation;
- UHE Mascarenhas under initial verification;
- Bundling for repowering Units 1, 2 and 3 of UHE Mascarenhas, repowering UHE Suíça and repowering PCH Rio Bonito – under validation

Annual volumes of generated/projected carbon credits:

- PCH Paraíso – 30 000 tonnes/year;
- PCH São João - 32 000 tonnes/year;
- PCH Santa Fé - 38 000 tonnes/year;
- UHE Mascarenhas – 50 000 tonnes/year;
- Units 1, 2 and 3 of UHE Mascarenhas, UHE Suíça and PCH Rio Bonito – 40 000 tonnes/year.



IV. PERFORMANCE

EDP's strategy is based on three major elements: controlled risk, increased efficiency and focused growth. These are put into action through more tangible objectives:

- To reach 7,6 GW of installed capacity in wind farms by 2010;
- To achieve 1 000 MW of additional installed capacity in hydropower plants in Portugal by 2015;
- To exceed 1 600 MW of hydropower capacity in Brazil by 2015;
- To reach 165 MW of installed capacity in solar-energy and biomass power plants by 2010;
- To double CCGT installed capacity by 2012 in comparison with 2006;
- To maintain an investment of EUR 10 million a year in R&D and innovation until 2010;
- To invest in environmental improvements to comply with acid gas and particle emission caps imposed by the European Union;
- To progressively reduce the operating hours of fuel-oil and diesel power plants in Portugal and totally decommission them by 2012;
- CO₂ management, by investing in carbon funds, undertaking CDM projects (a Kyoto Protocol mechanism) and, if necessary, purchasing additional emission licenses.

Elkhorn Valley wind farm



4.1. Reduction Plans and Goal Setting

EDP has GHG emissions and energy reduction plans and has set targets for GHG emissions, in accordance with the strategy outlined above.

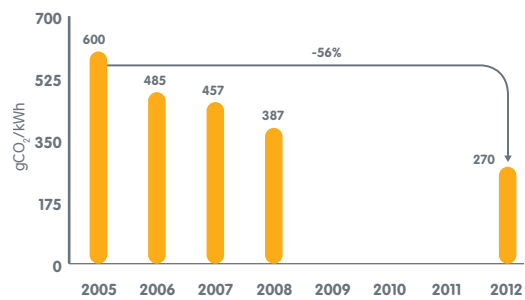
With regard to energy, EDP does not explicitly set a target, but the target is implicit in our business plan. Our objective is to use the least possible amount of primary fossil-fuel energy for electricity generation, which is in line with our huge investments in renewable energy, including hydropower plants.

For GHG emissions, the baseline year is 2005.

4.2. Emissions and energy reduction targets

EDP's strategic plan, released to the public at the EDP Investor Day (Nov 6th 2008), states that its CO₂ emission factor (EF) will be reduced by 56% by 2012 in comparison with 2005. EF will drop from 600 tCO₂/MWh in 2005 to 270 tCO₂/MWh in 2012.

EDP Group Goal for Reducing Specific CO₂ Emissions



As for the thermal efficiency of power plants, our objective is to increase this figure from 46% in 2008 to 51% in 2009. In addition, one of the renewable energy objectives for 2009 is to achieve 60% of total gross capacity. This objective has already been exceeded (61,3%) in the first quarter of 2009. These targets apply to energy production activity.

4.3. GHG emissions and energy reduction activities

Activities undertaken to reduce emissions/energy use

EDP is working to reduce carbon emissions from both the supply side and the demand side.

Supply side

EDP is strongly committed to using renewable energy sources. In addition, the company is investing in CCGTs, which is currently the cleanest and most efficient conventional thermoelectric technology.

In Portugal, EDP is building an 860 MW CCGT power plant (Lares, Figueira da Foz), which will start commercial operation in the second half of 2009. In Spain, EDP completed the second CCGT unit at Castejon power plant (408 MW) in 2008, as well as installing a new unit in Soto de Ribera power plant (432 MW). This new capacity will

improve the overall output of EDP's thermoelectric facilities, help to reduce specific CO₂ emissions in the Iberian Peninsula and also increase the company's overall thermal efficiency.

In HC Energía, EDP is planning to partially substitute coal with forestry biomass.

Castejón CCGT



Demand side

Improving energy efficiency is also a strategic issue for EDP. It can lead to financial savings while increasing sustainability. All initiatives in Portugal are implemented through the ECO Programme (www.eco.edp.pt).



The ECO Programme, launched in January 2007, aims to promote improvements in end-use energy efficiency. This integrated programme of initiatives covers all of EDP's activities in this area and aims to help and encourage consumers in different sectors to adopt more energy-efficient habits. Its most important activities include:

- Mass media campaigns: "The world is in our hands", which began in January 2007 and positioned EDP as a corporate benchmark in Portugal for disseminating and promoting energy efficiency and combating climate change;
- Creation of the ECO Website, providing a vast range of information and advice on energy efficiency (www.ecoedp.pt);
- Monitoring energy use by developing an Energy Efficiency Barometer;
- Econosco Programme, an initiative for EDP employees. The programme involves reducing electricity and water consumption in EDP's office buildings (in Portugal in the first stage), waste management and the creation of a Sustainability Ambassador – a volunteer employee who encourages sustainability measures in his/her workplace;



The ECO program has incorporated all actions approved under the End-Use Energy Efficiency Plan, PPEC, promoted by the national energy regulator ERSE (www.erse.pt). For 2008, EDP received ERSE's approval for the implementation of the following measures, representing a total funding of about EUR 5 million, i.e., 53% of the total available budget:

- Campaign to exchange incandescent light bulbs for 330 000 compact fluorescent lamps (CFLs);
- Efficient lighting in historic neighbourhoods (50 000 CFLs);
- Efficient lighting in social housing estates (150 000 CFLs);
- Cost share in the purchase of 7400 efficient refrigerators;
- Offer of 100 000 power strips to encourage reductions in stand-by consumption;
- Variable Speed Drives (VSDs) for industry and agriculture (300 VSDs);
- Installation of 80 capacitor banks for reactive power compensation in industry;
- Conference on "Optimisation of the energy efficiency use in driving force" – not tangible; energy efficiency – not tangible.
- "The environment belongs to all of us" – programme for 5th and 6th grade students about climate change and energy efficiency – not tangible.



Efficient lighting distribution



The following initiatives were implemented under PPEC 2007, with an ERSE- approved budget of about EUR 8 million, i.e., around 80% of the total budget under the tendering process:

- Campaign to exchange incandescent light bulbs for 650 000 compact fluorescent lamps;
- Promotion of efficient refrigerators (7 000 units);
- Reactive power compensation, by installing capacitor banks in industry and agriculture (260 actions);
- Variable speed drives for industry (163 actions);
- Electronic ballasts and T5 fluorescent lamps for the service sector (32 000 sets of two T5 lamps, electronic ballast and light fitting);
- "The environment belongs to all of us", involving 666 schools and 310 000 students from the 5th to the 9th grades – not tangible. This project was selected in 2008 as one of the three nominees for the Energy Globe World Award in the Youth category;
- TopTen, a website recommending the 10 appliances with the best energy and environmental performance in different categories – not tangible;
- "Business ideas" competition for university students in the area of energy efficiency – not tangible;
- EcoFamílias, a monitoring and advice programme helping 225 families to reduce their energy consumption – not tangible;
- EnergyBus, a themed bus that visited about 100 cities villages (2007-2008), providing information on electricity, energy efficiency and good practices – not tangible.

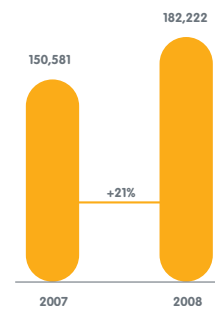
Energy Bus



The impact of these measures was only quantified for tangible actions and, given the life cycle of the intervention, was highly significant. The measures taken under PPEC 2007 and 2008 will lead to energy savings of around 1 TWh and avoid 400 000 tCO₂.

For the period 2009-2010, the PPEC initiatives proposed by EDP had an uptake rate of about 80%. These measures are expected to result in 0,93 MtCO₂ in avoided emissions and energy savings of 2,5 TWh.

Forecast of the final impact of the ECO Programme



Besides the ECO programme, EDP is developing other projects that are likely to contribute to energy and/or emissions savings:

- Reduction of network losses through intelligent network investments, both in expansion and substitution;
- Introduction of the "smart grids" concept (see INOVGRID project below);
- Promotion of micro-generation through solar thermal, solar PV or small wind turbines (see MyEnergy Programme, (www.eco.edp.pt));
- EDP vehicle emissions reduction.

InovGrid

Programa Distribuição 2010

INOGRID is a project aimed at setting up a new, intelligent electricity distribution system to meet new challenges facing the distribution grid, such as the introduction of new functions in the area of tele-management and micro-generation. The introduction of intelligence at different levels in the distribution grid, together with better interaction with customers, will improve efficiency and energy supply quality and will contribute to energy efficiency. This project will lead to a reduction in both technical and commercial losses.



MY ENERGY

MICROGERAÇÃO edp

My Energy is a new brand created by EDP to meet the challenge of improving energy efficiency through the use of micro-generation products. This programme provides customers with an initial energy audit for solar water heating or micro-generation, after which the best solution will be recommended, guaranteeing product quality, installation, after-sales service and maintenance, to take maximum advantage of the system.

In 2009 EDP Gas, a Portuguese gas supplier, drew up an Environmental Action Plan with objectives and targets to reduce energy consumption from electricity and natural gas:

- **Objective 1*:** Reduce electricity consumption by 1% (3 year average) by the end of 2009;
- Indicator 1: Average consumption of electricity 2006/7/8 x 1% (kWh);
- Planned Action 1: Communication actions including measures to rationalise the use of electricity, create signage / media with messages to raise awareness.
- **Objective 2*:** Reduce consumption of natural gas by 1% (2-year average) by the end of 2009;
- Indicator 2: Average consumption of natural gas 2006/7/8 x 1% (m3)
- Planned Action 2: Installation of shading devices on the company's office buildings (protecting windows against direct sunlight) and a solar thermal system for water heating, partly substituting natural gas.

EDP Gas new headquarters



Note* - As part of the National System for Energy Certification and Indoor Air Quality (Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings), all actions are being designed to comply with office building certification standards.



Goal evaluation

Progress as measured against emissions/energy reduction goals is assessed periodically in the:

- Annual Sustainability Report;
- Dow Jones Sustainability Index Annual Assessment;
- Quarterly Sustainability Report;
- Sustainability Information System;
- Sustainability Index.

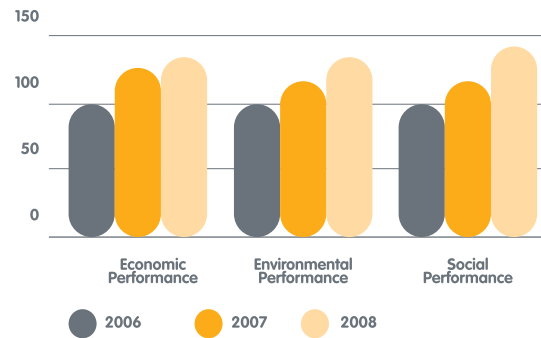
EDP uses the following key performance indicators (among others):

- CO₂ and SF₆ emissions;
- NO_x emissions;
- SO₂ emissions;
- Particulate emission;
- CO₂ specific emissions;
- NO_x specific emissions;
- SO₂ specific emissions;
- Primary Energy Consumption.

Overall sustainability performance is monitored quarterly and annually through the "EDP Sustainability Index", which integrates most of these key performance indicators. This index was developed in 2008 and has three main performance areas: economic, social and environmental. The Sustainability Index is calculated retroactively from 2006, the baseline year.

	Year 06 Baseline	Year 07	Year 08
Sustainability Index	100,0	116,1	129,0
Economic Index	100,0	122,5	127,1
Environmental Index	100,0	112,4	127,1
Social Index	100,0	113,5	131,2

EDP Sustainability Index



Goal achievement

All achievements are stated in the Sustainability, Governance and Institutional Report (SGIR). Some of the most significant savings are presented below:

	2008	2007	2006	2005	2008-2007	2008-2005
Primary energy consumption (TJ)	237 259	261 157	282 147	310 473	-9,2%	-23,6%
Electricity self-consumption	2 244 466	1 457 748	1 687 714	1 777 497	54,0%	26,3%
Electricity consumption buildings (MWh)	31 138	33,411	24 597	28 297	-6,8%	10,0%
CO ₂ emissions (10 ³ tonne)	19 783	23 422	24 484	28 255	-15,5%	-30,0%
SO ₂ emissions (10 ³ tonne)	33,99%	100,75	106,79	124,60	-66,3%	-72,7%
Nox emissions (10 ³ tonne)	33,26	52,26	59,98	72,44	-36,4%	-54,1%
Particulate (10 ³ tonne)	1,68	3,69	4,03	4,88	-54,5%	-65,6%
CO ₂ global specific emission (g/kWh)	387	457	485	600	-15,3%	-35,5%
EBITDA (EUR million)	3 154,90	2 628,30	2 305,40	2 047,50	20,0%	54,1%
Net profit (EUR million)	1 091,90	907,30	940,80	1 071,10	20,4%	1,9%

Note – The emissions data only includes stationary combustion.

There is a consistent positive trend towards improved sustainability. This can also be seen in the evolution of the Sustainability Index.

EDP's methodology consists in gathering data from its BUs and presenting consolidated figures in its quarterly and annual Sustainability Reports, using its Sustainability Index as well as monthly Scorecards and Quarterly Sustainability Balance Scorecards (since 2009).

Investments already made to achieve emissions reductions and energy savings

The investments made to achieve our emissions reductions and energy savings targets were as follows:

- 2005 – EUR 1 427 million;
- 2006 – EUR 1 457 million;
- 2007 – EUR 2 700 million;
- 2008 – EUR 3 618 million.

Total investment over the period was EUR 9 202 million.

Target planning and investment



Future investments

The implementation of the strategy will be supported by an average annual investment of EUR 3 000 million during the period 2009 to 2012, broken down as follows:

- CCGTs – Capex EUR 1 141 million, average capex €538/kW, total 2 122 MW;
- Hydro-projects under construction – Capex EUR 1 000 million (11% in 2008), doubling EDP's hydropower capacity between 2008 and 2012;
- Hydro-projects in a less advanced stage of development development – Capex EUR 1 900 million, 2000 MW in 5 to 9 years;
- Special Regime (excluding wind power) – approximately EUR 170 million (mini-hydro, biomass, waste and cogeneration) from 2009 to 2012;
- Renewable energy - investment of EUR 2 090 million in 2008.

Lares CCGT



Baixo Sabor new hydro power plant



The following predictions cover only stationary combustion in power plants:

(tCO ₂)	2008	2009	2010	2011	2012
Stationary Combustion	19 783 587	21 922 399	22 495 567	18 510 574	18 273 754

Primary energy use for the coming few years

(TJ)	2008	2009	2010	2011	2012
Total for all countries	203 418	143 894	150 036	133 372	152 013

In what regards future GHG emissions, EDP will decommission existing fuel oil power plants in Portugal, while bringing into service CCGT's (Portugal and Spain) and a new coal power plant in Brazil.

Methodology

Given estimated power generation trends, future primary energy use was estimated using current primary vs. final energy consumption in EDP's power plants, as well as production forecasts until 2012.

4.4. Planning

Future energy and CO₂ prices are modelled using a Price-Volume model (which also models hedging strategies and optimal generation). All MIBEL commodities exhibiting volatility (including CO₂) are modelled by MUR (Integrated Risk Model) in order to achieve the MAR (Margin at Risk) and to forecast future energy and CO₂ prices. The information produced from these models is used to predict operational costs and to decide on investments and Capex. The recognition of future impacts of CO₂ costs is an important driver in defining EDP's strategy.

V. GOVERNANCE

Estimate of EDP's future Scope 1 and Scope 2 emissions

5.1. Responsibility

EDP has a Board Committee responsible for climate change. The EDP Group has an Environmental Policy first articulated in 1994 and complemented in 2007 by a Biodiversity Policy. Environment and Sustainability are organised in exactly the same way, with internal management following ISO 14001:2004 guidelines.

In March 2004, EDP's Board of Directors approved the EDP Group's Principles of Sustainable Development. These principles guide the balance between the group's economic, environmental and social activities. The main principles relating to environmental sustainability are as follows:

- Value creation: increase productivity and efficiency, and reduce exposure to risks related to the economic, environmental and social impact of its activities;
- Efficient use of resources: integrate environmental and social factors in planning and decision-making processes;
- Promoting the development of cleaner and more energy efficient technologies;
- Developing means of generation based on renewable energies;
- Promoting the rational use of energy;
- Environmental protection;
- Minimising the environmental impact of all its activities;
- Participating in initiatives that contribute to the preservation of the environment;
- Extending the application of environmental criteria to the entire value chain.

As a result of EDP's sustainability policy, it is worth noting that EDP is now included in the Dow Jones Sustainability Index (since 2008), meaning that EDP is among the world's top companies working to find solutions for climate change through the use of renewable energies, future fuels, clean technologies, and energy efficiency.



5.2. Reviewing EDP's progress and status regarding climate change

EDP's progress and status regarding climate change are monitored by several means:

- Specialised Committee of the General Supervisory Board;
- Corporate Governance and Sustainability Committee;
- Sustainability Report (until 2007);
- Sustainability, Governance and Institutional Report (from 2008);
- EDP's Sustainability Index;
- EDP's Dow Jones report;
- EDP's Quarterly Sustainability balance scorecards (since 2009);
- EDP's monthly scorecards.

5.3. Communication

EDP publishes annual information on the risks and opportunities presented to the company by climate change, as well as details of its emissions and plans to reduce them, in its Sustainability Report (until 2007) or Sustainability, Governance and Institutional Report (from 2008). A description of the Regulatory framework which governs how climate change risks and opportunities are analysed can be found on page 35 of this report. Details of our carbon emissions are presented on page 106 and our plans to reduce emissions are set forth on page 107.

The reports can be viewed through the following links:

www.edp.pt, www.energiasdobrasil.com, www.h-c.es and www.edprenovaveis.com.

In addition to these reports, EDP has also voluntarily disclosed information for the Dow Jones Sustainability Index since 2004 and has participated in the EURELECTRIC Energy Wisdom Programme since 2005.



In Spain, HC Energía is a member of the Spanish Utilities Association (UNESA), which is routinely consulted by the Spanish Government when new laws and regulations are drawn up.

5.4. Public Policy

The nature of EDP's activities requires a close and continuous relationship with different policymakers, at national, European and international levels.

Generation activities depend on the demand (to be supplied) and on national or European supply security goals, diversification of supply and environmental quality. Dialogue on these issues takes place on a national or European scale, namely through statements of opinions produced in response to new regulatory proposals launched for public debate, or through our participation in organisations or events.

On the other hand, distribution activities, due to the nature of their geographical dispersion, necessitate proactive involvement in public discussions before new investment decisions are made, in order to guarantee that the expansion of electricity distribution grids takes into account the most important stakeholders (as well as the overall national interest).

Of equal importance are the regulation mechanisms governing the electricity sector. EDP maintains a constructive, collaborative relationship with the different regulators.

In Brazil, Energias do Brasil has signed the Brazilian Programme for GHG Protocol as a founding member. The Brazilian Programme for GHG Protocol aims to adjust the standards usually applied worldwide to the Brazilian situation, and intends to enable its use by companies across a range of industries.

