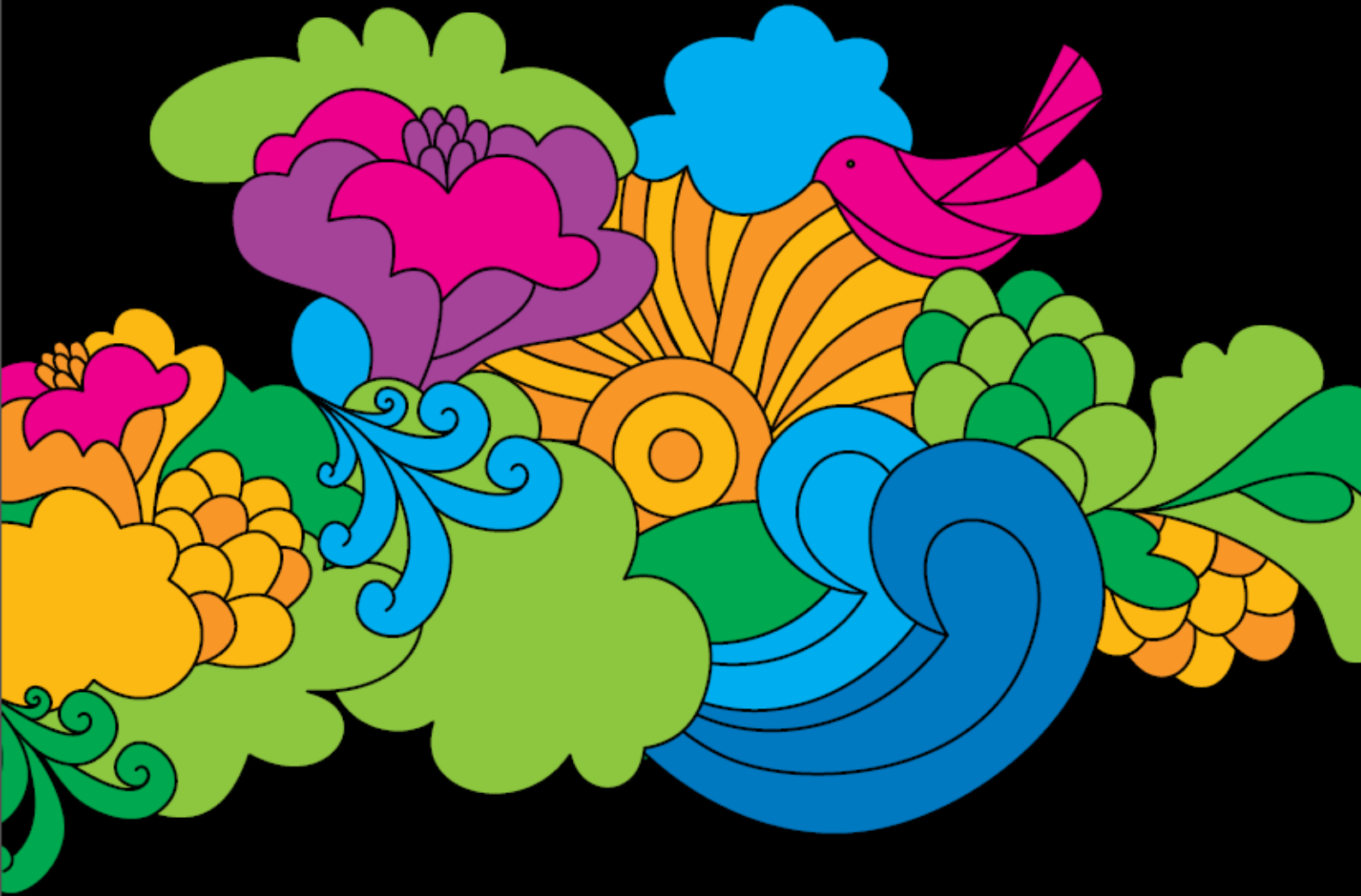




**Carbon Disclosure Project**  
**EDP's Response to CDP 2010**



## Carbon Disclosure Project

### EDP's Response to CDP 2010

**The Carbon Disclosure Project (CDP)** ([www.cdproject.net](http://www.cdproject.net)) is an independent not-for-profit organization 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 organizations 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.

Following our full disclosure policy, all information about EDP can be accessed in [www.edp.pt](http://www.edp.pt). We strongly recommend the consultation of our 2009 Annual Report.

EDP is a European utility company, based in Portugal but also present in Spain, Brazil, USA, and seven other countries. 2009 in short figures:

Turnover	EUR 12,198.2 Million
Gross Profit	EUR 5,105 Million
Net profit	EUR 1,023.8 Million
Employees	12,096
Assets	EUR 40,262 Million
Equity	EUR 7,291 Million
Liabilities	EUR 30,283 Million
ISIN	PTEDP0AM0009
SEDOL	4103596

# Carbon Disclosure Project

## EDP's Response to CDP 2010

### GOVERNANCE

#### 1. GROUP AND INDIVIDUAL RESPONSIBILITY

##### 1.1. Where is the highest level of responsibility for climate change within your company?

In EDP, the ultimate responsibility for Climate Change is delegated in the CEO and in the Board. In order to succeed in this mission, the CEO is assisted by the board, namely the responsible for Environment and Sustainability and the responsible for the Production. The responsible for Environment and Sustainability is in charge of all the CO<sub>2</sub> reduction in the demand side and in the non-production activities. The responsible for the Production is in charge of the CO<sub>2</sub> reduction in the production activities.

The board presented EDP's strategic plan on the investors' day in 2008, which stated, amongst other information, that the CO<sub>2</sub> emission factor (EF) will be reduced in 56% by 2012 in comparison with 2005 emissions. This strategy was fully supported by the General Supervisory Board and by the shareholders in their annual meeting.

On the 20th May 2010, EDP committed itself to a more ambitious target: to reduce in 2020 by 70% EF, in comparison to 2008, EF will drop from 400 t CO<sub>2</sub>/MWh, in 2008, to 120 t CO<sub>2</sub>/MWh, in 2020.

#### IF IT IS AT BOARD COMMITTEE OR OTHER EXECUTIVE BODY LEVEL:

##### 1.2. What is the mechanism by which the board committee or other executive body reviews the company's progress and status regarding climate change?

EDP's progress and status regarding climate change are monitored in several ways:

- EDP's monthly score cards;
- EDP's Quarterly Sustainability balance scorecards (to be regularly provided to the board in 2010);
- EDP's Quarterly Results Report;
- Corporate Governance and Sustainability Committee (Specialized Committee of the General Supervisory Board) (meets six times a year);
- Corporate Governance and Sustainability Board (includes external entities);
- Sustainability Report (from 1997 till 2007);
- Sustainability, Governance and Institutional Report (since 2008 it was integrated in a single report);
- EDP's Sustainability Index (quarterly and annually since 2008);
- EDP's Dow Jones report (annual).

### INDIVIDUAL PERFORMANCE

##### 1.3. Do you provide incentives for the management of climate change issues, including the attainment of greenhouse gas (GHG) targets?

Yes.

Who is entitled to benefit from those incentives?	The type of incentives
Chief Executive Officer (CEO)	Monetary reward
Board/Executive board	Monetary reward
Environment/sustainability managers	Monetary reward
Business unit managers	Monetary reward

The staff entitled to these incentives is:

- The CEO;
- The board;
- The Sustainability and Environment Director;
- All employees included in the KPI evaluation process, in which EDP's climate change progress is evaluated in the section of corporate performance indicators. The employees included in this performance evaluation system work in EDP's corporate centre S.A. (holding) and belong to the companies' top management.

# Carbon Disclosure Project

## EDP's Response to CDP 2010

### RISK AND OPPORTUNITIES

#### 2. PROCESS TO IDENTIFY RISKS AND OPPORTUNITIES

##### 2.1. Describe your company's process for identifying significant risks and/or opportunities from climate change and assessing the degree to which they could affect your business, including the financial implications.

EDP Group's there is a risk management structure based on our Corporate Policy on Enterprise-Wide Risk Management, stating: Objectives, Principles, Structure and Governance, identifying all company departments that have a role in risk management.

Governance and control are established in our Group-Wide Risk Management Corporate Policy stated by the Executive Board of Directors (EBD). The EBD decides about the company's risk appetite and the acceptable level of risk exposure, also, it delegates tasks and responsibilities, defines the overall risk limits and ensures that risk management policies and procedures are observed. The EBD is supported by a group of committees, amongst them the Risk Committee, chaired by the CEO, composed by: CFO, CRO, Corporate Financial Department Director, Iberian Trading Unit manager, Energy Planning Department Director and other senior management members who are invited upon agenda request. The main tasks of the Risk Committee are: Monitor key risks and risk appetite of EDP Group; Approve other reporting and monitoring mechanisms; Approve or define recommendations concerning key risks or extraordinary risk events; Approve or define recommendations concerning the Group risk policy, procedures and limits.

At a corporate level, the Risk Management Department (RMD) is responsible for independent risk control, supervision and continuously report on overall compliance (with the established procedures and limits), as well as, developing specific models and methods for risk management.

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

The implementation of our Corporate Policy has, as backbone, the Risk Homepage, a web instrument, developed internally for the consistent collection of information on each relevant risks, used at the EDP Group level. It provides data with a qualitative and quantitative assessment of risks. All actions regarding a risk are registered and can be followed up on the tool.

Each BU has also the responsibility of managing the opportunities (risk upside).

In EDP, the Risk management process is applied to all geographies, to all BU's and to all levels.

The frequency of the risk analysis/reviews is adjusted to the risk, e.g. the Group's Iberian integrated wholesale position, including CO<sub>2</sub>, is monitored on a daily basis by UNGE (Energy Management Business Unit).

The Corporate RMD periodically reviews risks, the ones in the portal and specific ones.

The process is usually leaded by Corporate RMD in straight cooperation with the companies Risk Officers and appointed personnel. When needed, EDP out sources consulting services to recognized Companies or Universities.

The ultimate responsibility of risks management is of the CEO.

The outputs of the corporate risk management process are used firstly as key inputs in the company management, and secondly as strategic information for investors.

In EDP, the Business Risk is the most important one, followed by the Market, Operational and Credit Risks. This is a typical situation for the utilities sector. In 2009, EDP saw its share value increase more favorably, when compared to the DJ Euro Stoxx Utilities index. EDP expects this advantage to tend to reduce in the future, due to the replacement in the short/medium term of power plants protected by the CMEC mechanisms [Costs of Maintenance of Contractual Equilibrium], by plants in the liberalized electricity market, and also due to EDP's largest natural exposure to foreign exchange risk caused by growth of business outside the euro area.

The current and anticipated significant risks/opportunities for EDP are: TRANSVERSAL RISK MANAGEMENT (Environmental risk, Climate Change Risk, Investment risk, Financial risk, Operational risk, Credit risk, Regulatory risk); ELECTRICITY GENERATION AND ENERGY MANAGEMENT (Iberian integrated wholesale position risk, Electricity price risk, Fuel price and CO<sub>2</sub> risk); MARKET SUPPLY (Electricity price risk, Volume risk, Commercial quality operational risk); SUPPLY OF LAST RESORT (Supply quality operational risk); ELECTRICITY DISTRIBUTION (Technical service quality and losses, Grid operational risk).

All risks are evaluated, e.g. for energy market EDP calculates P@R (Profit at Risk) the main price and volume risk indicator. The P@R calculated in 2009 annual report (for 2010) was EUR 37M.

EDP manages extreme weather risks through adaptation measure, such as: protection walls in power plants exposed to river flow; in a new power plant, the equipments were placed at a superior height, in a seaside thermal power plant subjected to algae explosive growth in the cooling source, algae cleaning systems were placed; in hydro power plants, floodgates circuits were duplicated and diesel emergency groups were placed, etc.

The costs of these actions are evaluated, e.g. the algae cleaning systems cost around EUR 1.5M.

#### 3. REGULATORY RISKS

##### 3.1. Do current and/or anticipated regulatory requirements related to climate change present significant risks to your company?

Yes.

##### 3.2. What are the current and/or anticipated significant regulatory risks related to climate change and their associated countries/regions and timescales?

The main regulations related to climate change that impact in EDP's global activities are:

- UNFCCC (United Nations Framework Convention on Climate Change) Kyoto Protocol;
- EU Council Decision n. 2002/358/CE of April 25;
- EU Directive n. 2003/87/CE – Creating the EU-ETS ;

# Carbon Disclosure Project

## EDP's Response to CDP 2010

- The IPCC Directive (Integrated Pollution Prevention and Control) of the European Parliament and Council, 2008;
- EU Climate Change and Energy Package of 2008 – the 20-20-20 Objectives for 2020, to cut greenhouse gas emissions by 20%, to establish a 20% share of renewable energy and to improve energy efficiency by 20%;
- EU Directive 2009/29/CE updates the European regulation concerning Emissions trading (modifies EU Directive 2003/87/CE);
- The Copenhagen Agreement that recognizes the scientific case for keeping temperature rises below 2°C;
- The Renewable Directive (2009/28/EC) that requires member countries to produce a pre-agreed proportion of energy consumption from renewable sources such that the EU as a whole shall obtain at least 20% of total energy from renewable by 2020;
- Phase III EU-ETS Revised Directive (COD/2008/0013).

### Iberian Peninsula

#### Main regulations in Portugal:

- 2004 – 31st July – Approval of PNAC 2004 (Programa Nacional para as Alterações Climáticas / Portuguese National Climate Change Programme) – Minister's Council Resolution n. 119/2004;
- 2006 – Approval of PNAC 2006 – Minister's Council Resolution n. 104/2006;
- 2008 – 4th January – Approval of PNALE (Programa Nacional de Atribuição de licenças de Emissão/ National Emissions Allocation Programme) and Carbon Fund creation;
- 2009 – Decree-Law 154/2009 – Transposes the EU Directive n. 2004/101/CE;
- 2010 – Minister's Council Resolution 24/2010 – Approves the national climate change adaptation strategy;
- 2010 – Minister's Council Resolution 29/2010 – Approves the national climate strategy for energy, setting 2020 targets for renewable energy;
- 2010 – Decree-Law n.º 30/2010 – Establishes that from 2012 on the EU-ETS will include the aviation sector, and from 2013 on will include more gases such as perfluorocarbons and nitrogen oxide.

#### Main regulations in Spain:

- 2004 – Royal Decree 1866/2004 (6-sep). Approval of PNADE 2005-2007 (Plan Nacional de Asignación de Derechos de Emisión/Spanish National Plan Assigning Allowances);
- 2005 – Law 1/2005 (9-mar). Emissions Trading Scheme regulation (Directive 2003/87/CE);
- 2005 – Royal Decree 1264/2005 (21-Oct). National registry of emission allowances;
- 2006 – Royal Decree 1315/2006 (4-Nov). Carbon emission monitoring plan and reporting;
- 2006 – Royal Decree 1370/2006 (24-Nov). PNADE 2008-2012;
- 2007 – Royal Decree 1031/2007 (20-Jul). Use of credits coming from flexibility mechanisms of Kyoto Protocol;

- 2007 – Spanish-Climate Change and Clean Energy Strategy. Horizon 2007-2012-2020, Plan of Urgent Measures and the 2008-2012 E4 Action Plan.

In Iberia, EDP owns oil, coal and gas power plants. Any regulation regarding CO<sub>2</sub> can cause an increase in CO<sub>2</sub> and power generation prices, as well as the reduction of the security of supply, leading to limited use of fossil fuel plants and diminished revenues. In Brazil, EDP is constructing a coal power plant to support dry seasons, but will be free of CO<sub>2</sub> costs. In the Spanish case, climate change regulations that hinder the usage of endogenous coal may also cause social unrest.

Environmental laws and regulations could also further constrain the location of industrial facilities in areas prone to suffer from climate changes and increased floods, flash floods, hurricanes and other extreme winds, etc.

Regulated last resort electricity supplier could also suffer from any regulations enforcing social tariffs that may not allow to fully recovering prevention or mitigation costs.

In 2009, in Brazil the law 12.187 instituted the National Policy for climate change (reduction targets for 2020). S. Paulo State has also set up its climate change law 13.798 09/11/2009, that will come into force after 2011 (reduction targets of 20% for 2020, 2005 being the baseline). Both laws are being regulated. It's likely that in the short, medium run these regulatory guidelines will enforce mitigation actions and emission's taxation, increasing production costs and creating commercial barriers.

The energy sector represents 16% of all Brazilian emissions, data from the GEE inventory. This might force the sector to adopt emission cuts for thermal power plants. Currently, EDP in Brazil has only hydro power plants, so it has a competitive advantage facing future CO<sub>2</sub> regulations.

EDP Renováveis (EDPR) is dedicated to the development and exploitation of renewable energy assets (mainly wind farms). These are CO<sub>2</sub> free, thus EDPR is the accomplishment of an opportunity due to new regulations.

### **3.3. Describe the ways in which the identified risks/opportunities affect or could affect your business and your value chain.**

In Europe (Iberian Peninsula), EDP owns thermal power plants fuelled by oil, coal and gas. Any regulation aimed at CO<sub>2</sub> emissions and permits reduction can cause an increase in CO<sub>2</sub> and power generation prices, as well as a reduction in security supply, leading to limited use of fossil fuel powered generation plants and diminished revenues.

In Brazil, EDP is constructing a coal power plant to support dry seasons, but will be free of CO<sub>2</sub> costs, as stated in its contract. In the Spanish case, climate change regulations that hinder the usage of endogenous coal may also cause social unrest.

Environmental laws and regulations can also constrain the location of power plants and distribution and/or transmission grids, by soil usage limitations in areas prone to suffer from climate changes and increased floods, flash floods, hurricanes and other extreme winds, etc. This could be the case anywhere in the world, but even more so in Europe, where environmental regulations and liabilities are often more strict than in other EDP geographies.

Regulated last resort electricity supplier, could also suffer from any regulations enforcing social tariffs that may not allow to fully recovering prevention or mitigation costs. Also, suppliers and consumers may suffer from a rise in market electricity prices, resulting from renewable power

# Carbon Disclosure Project

## EDP's Response to CDP 2010

price being fixed at a higher price than traditional fossil fuel based technologies and paid for by non-social tariff consumers alone.

More frequent and/or intense weather phenomena can decrease power plant availability and render impossible the fulfillment of regulatory and/or legal levels of quality and quantity of service, especially regarding distribution grids KPIs, thus impacting on the energy delivered to consumers, which might impair the company's reputation.

In 2009, in Brazil, regulatory issues regarding climate change were at their maximum. The law 12.187 of 28/12/2009 instituted the National Policy for climate change, establishing reduction targets for 2020, between 36.1% and 38.9% having 2005 as a baseline. The S. Paulo State has also set up its climate change politics law 13.798 09/11/2009 that will come into force after 2011, establishing reduction targets of 20% for 2020, having 2005 as a baseline. Both laws are being regulated, which means that private sector targets are being established and GHE will very shortly be subject to monitoring.

It is most likely that in the short, medium run these regulatory guidelines will cause mitigation actions, emission's taxation thus increasing production costs and creating commercial barriers.

The energy sector represents 16% of all Brazilian emissions, data from the GEE inventory carried out by the Brazilian Minister of Science and Technology in November 2009. This substantial figure might force the sector to adopt emission cuts for thermal power plants. As an example, since 2009, discussions are taking place about emission reduction measures to be adopted by thermal power plants.

Currently EDP in Brazil has only hydro power plants, so it has a competitive advantage facing future CO<sub>2</sub> regulations.

The regulators and investors crescent focus on clean technologies may, in the future, impact financially on investments. EDP's activities, generation and distribution, must be prepared to reduce their emissions. This will only be achieved through a committed investment in research and technology innovation.

EDP Renováveis is dedicated to the development and exploitation of renewable energy assets (mainly wind farms). This form of electricity production is CO<sub>2</sub> free, thus although the company is subjected to regulations earlier mentioned (Global), it is the accomplishment of an opportunity originated by new regulations.

### 3.4. Are there financial implications associated with the identified risks/opportunities? Please describe them.

Yes. Any regulation aimed at CO<sub>2</sub> emissions and permits reduction can cause an increase in CO<sub>2</sub> and power generation prices, as well as reduction of the security of supply, leading to limited use of fossil fuel powered generation plants and decrease in cash flow. Any regulation aimed at CO<sub>2</sub> emissions and permits reduction is an opportunity to EDP Renováveis since its production is CO<sub>2</sub> free, thus increase assets return.

### 3.5. Describe any actions the company has taken or plans to take to manage or adapt to the risks that have been identified, including the cost of those actions.

In Portugal, there is a Regulation and Competition Department, dedicated to all regulation issues. In Spain, there is a Regulation and Institutional Relationship Department. In EDP there is a Market Analysis & Regulation

Department. These manage the relation with the different supervisory bodies of the energy sector. They also monitor the development and implementation of new European internal market and competition directives for electricity and natural gas sectors and study the impact of MIBEL (Iberian Electricity Market). They also monitor legislative, regulatory and organizational changes in the energy sector.

EDP participates in EURELECTRIC, the European electricity sector association. EDP is represented, amongst others, in the Environmental and Sustainable Development Policy Committee and in some of its various working groups, subgroups and task forces, namely the Working Groups "Climate Change", "Environmental Protection" and "Energy Efficiency", and the subgroup "Flexibility Mechanisms".

In Brazil, there is a Regulatory issues Department that, in coordination with the Energy planning Department and with the Energetic Risks Department, follows up all regulatory issues while managing the relation with the different supervisory bodies of the energy sector.

The EDP's operations in Brazil are subjected to municipal, state and national laws. In the pre COP-15 period, EDP has enrolled several international and national position papers, such as the Copenhagen communicate, led by the Cambridge University and the CEBDS (Brazilian Council for Sustainable Development) letter sent off to the Brazilian Government. Due to its proactivity and best practices, EDP received Prêmio Época award, which goes to the top ten most active companies in climate change issues.

EDP is also a member of the World Business Council for Sustainable Development, aiming to achieve an insight about what the future trends might be, and to start working on them today, hence anticipating risks and gaining a competitive advantage.

Examples of interactions with regulators authorities:

- Feb 2008: the Portuguese minister of innovation and Economy has asked EDP for an opinion about the Decree-law that regulates cogeneration and transposes into Portuguese legislation the European Parliament and European Council 2004/8/CE Directive. Answered 25th Feb 2008;
- Nov 2008: The Portuguese Energy and Geology Governmental Department requested comments on the proposal for revision of transmission grid regulation that establishes the grid exploration conditions for high, medium and low voltage, as well as the relations between grid operators and electrical production owners, Answered 12th Dec 2008.

## 4. PHYSICAL RISKS

### 4.1. Do current and/or anticipated physical impacts of climate change present significant risks to your company?

Yes.

### 4.2. What are the current and/or anticipated significant risks/opportunities and their associated countries/regions and timescales?

The current and/or anticipated significant physical risks/ opportunities are:

- Decrease in rainfall, affects more Portugal and Brazil;
- Higher temperatures, all geographies;

# Carbon Disclosure Project

## EDP's Response to CDP 2010

- Abnormal precipitation, all geographies;
- Droughts, all geographies;
- Extremely strong winds, all geographies;
- Pronounced sea agitation at seashore;
- Frequent and intense storms with lightning, all geographies;
- Varying atmospheric pressure, Portugal and Spain;
- Snow/ice, all geographies;
- Unexpected rivers' overflow Portugal and Brazil;
- Atmospheric discharges all geographies;
- Forest Fires all geographies;
- Earth landslides all geographies.

Although the frequency of these risks varies through the years they do not have a defined time frame.

The hydro generation is an important component of our generation assets, especially in Portugal and Brazil. Any climate change implicating a decrease in rainfall results in less hydropower generation. This decrease may not be balanced by higher energy prices.

Higher temperatures result in increased population's water consumption. When this water is pumped directly from the Group's reservoirs to water supply networks, such volumes do not generate energy and it's likely that the company won't be compensated for this. Likewise, droughts may imply extra reservoir water expenditure in activities such as irrigation and maintenance of ecological flows, with inherent loss of energy/revenue, when these water flows are not turbinated or when they are released during off-peak hours (lower energy prices).

Higher temperatures can also disturb power plant normal operation, because the cooling source's temperature is already outside of its legally admissible values before its use at the power plant.

Events, such as abnormal precipitation, droughts, extremely strong winds, pronounced sea agitation at seashore and sudden increases in algae coming in from the sea, can be accentuated by climate changes and have caused known business interruptions at both thermal and hydro power plants. Extreme precipitation can also cause inundations, dam overflow and landslides.

Under extreme winds, wind farms shut down, for safety purposes. The increased frequency of wind speeds above wind turbine automatic shut-down could have an effect on the turbine's wear, thereby increasing maintenance costs and/or reducing life span.

Episodic events of particularly frequent and intense storms with lightning can be very damaging to electrical grids, wind turbines and any weather exposed electrical device in general, thus having an impact to consider, should the frequency of such storms increase due to climate changes.

Under a varying atmospheric pressure, the operation of natural gas pipelines, such as the ones EDP has in Portugal and Spain, can become more demanding, since safety controls are particularly sensitive to pressure, increasing the risk of preventive shut-down and, over time, increased wear of pipelines and valves, increasing operation and maintenance costs and/or reducing life span.

Extreme weather conditions are taken into consideration in natural gas pipelines project. Examples: river crossing using oriented drills thus

avoiding the river overflow area, pipelines in ring shape allowing pipeline interruptions such as works without stopping the supply.

In electricity distribution, extreme weather can cause major incidents. In order to assess its influence, an incident database was created in Portugal and some conclusions were already drawn about predictable future risks. The extreme weather phenomena more likely to occur are: cold/hot waves, extreme winds, snow/ice, unexpected rivers' overflow, atmospheric discharges, fires and earth landslides. All of these can cause supply interruptions, economic and image company costs, the fall of electric lines, the impossibility of power plants to connect to the grid and sell their production, etc.

Extreme weather conditions may also imply partial or total loss of telecommunications, impacting the IT resources, hindering communication and the execution of many services, namely at the level of the relationship with customers. Likewise, natural disasters can also cause a partial or total loss of installations like data centers and network dispatch centers. Consequently, climate changes that would render such events more frequent or intense could pose an increased physical risk to the Business. Redundancy and multiple locations are used to mitigate this risk.

### 4.3. Describe the ways in which the identified risks/opportunities affect or could affect your business and your value chain.

The hydro generation is an important component of our generation assets, especially in Portugal and Brazil. Any climate change implicating a decrease in rainfall results in less hydropower generation. This decrease may not be balanced by higher energy prices.

Higher temperatures result in increased population's water consumption. When this water is pumped directly from the Group's reservoirs to water supply networks, such volumes do not generate energy and it's likely that the company won't be compensated for this. Likewise, droughts may imply extra reservoir water expenditure in activities such as irrigation and maintenance of ecological flows, with inherent loss of energy/revenue, when these water flows are not turbinated or when they are released during off-peak hours (lower energy prices).

Higher temperatures can also disturb power plant normal operation, because the cooling source's temperature is already outside of its legally admissible values before its use at the power plant.

Events, such as abnormal precipitation, droughts, extremely strong winds, pronounced sea agitation at seashore and sudden increases in algae coming in from the sea, can be accentuated by climate changes and have caused known business interruptions at both thermal and hydro power plants. Extreme precipitation can also cause inundations, dam overflow and landslides.

Under extreme winds, wind farms shut down, for safety purposes. The increased frequency of wind speeds above wind turbine automatic shut-down could have an effect on the turbine's wear, thereby increasing maintenance costs and/or reducing life span.

Episodic events of particularly frequent and intense storms with lightning can be very damaging to electrical grids, wind turbines and any weather exposed electrical device in general, thus having an impact to consider, should the frequency of such storms increase due to climate changes.

Under a varying atmospheric pressure, the operation of natural gas pipelines, such as the ones EDP has in Portugal and Spain, can become

# Carbon Disclosure Project

## EDP's Response to CDP 2010

more demanding, since safety controls are particularly sensitive to pressure, increasing the risk of preventive shut-down and, over time, increased wear of pipelines and valves, increasing operation and maintenance costs and/or reducing life span.

Extreme weather conditions are taken into consideration in natural gas pipelines project. Examples: river crossing using oriented drills thus avoiding the river overflow area, pipelines in ring shape allowing pipeline interruptions such as works without stopping the supply.

In electricity distribution, extreme weather can cause major incidents. In order to assess its influence, an incident database was created in Portugal and some conclusions were already drawn about predictable future risks. The extreme weather phenomena more likely to occur are: cold/hot waves, extreme winds, snow/ice, unexpected rivers' overflow, atmospheric discharges, fires and earth landslides. All of these can cause supply interruptions, economic and image company costs, the fall of electric lines, the impossibility of power plants to connect to the grid and sell their production, etc.

Extreme weather conditions may also imply partial or total loss of telecommunications, impacting the IT resources, hindering communication and the execution of many services, namely at the level of the relationship with customers. Likewise, natural disasters can also cause a partial or total loss of installations like data centers and network dispatch centers. Consequently, climate changes that would render such events more frequent or intense could pose an increased physical risk to the Business. Redundancy and multiple locations are used to mitigate this risk.

#### 4.4. Are there financial implications associated with the identified risks/opportunities? Please describe them.

Yes, EDP manages extreme weather risks through adaptation measures. Examples of adaptation measures are: in a power plant exposed to river overflow protection walls were constructed, in a new power plant the equipments were placed at a superior height, in a seaside power plant subjected to algae explosive growth in the cooling source algae cleaning systems were placed, in hydro power plants the floodgates circuits were duplicated, in hydro power plants diesel emergency groups were placed, etc.

The costs of these actions are evaluated, per example:

- The algae cleaning systems did cost around EUR 1.5 Million;
- The extreme weather event in the north-western of Lisbon and its costs were approximately EUR 5.5 Million.

#### 4.5. In the case of risks: describe any actions the company has taken or plans to take to manage or adapt to the risks that have been identified, including the cost of those actions.

In what regards distribution grids, EDP has operational processes that allow reducing as much as possible the grid downtime. These processes go from adequate stock planning to rapid intervention teams. Currently, EDP has as physical grid risk management procedures:

- Access to meteorological previsions;
- Civil protection dedicated communication channel;

- Annual detailed equipment maintenance plan (including lines clearout areas);
- Companies emergency plans;
- Periodical grid operators training;
- "All risks" Insurance;
- Management of SF6 equipments;
- Civil responsibility insurance.

In Brazil, the electrical system is all connected so EDP is exposed to other utilities failures if they occur. Nevertheless all grid assets must comply with a heavy regulation thus increasing its performance. As in other geographies, grid issues are followed by the national regulator.

In Brazil, EDP developed SITRaios to deal with the grid physical risks. This system automatically detects thunder storms that usually precede grid shutdowns, allowing real time intervention in the prevention of future grid shutdowns. The SITRaios project is an investment of approximately 850 KEUR.

Also EDP is developing a geo-referenced platform that will allow the assessment of any event's severity and help define operation, maintenance or engineering actions. Additionally, EDP has created a Climate Change Forum with EDP's managers and external climate change specialists addressing Climate Change risk and opportunities analysis.

The concern with the physical risks affecting EDP is transversal throughout the company. In Portugal and Spain, most of the thermal power plants - 66% of total maximum net installed capacity - are ISO 14001 certified, thus guaranteeing that they are ready to deal with extreme events. In EDP in Brazil, physical risks such as dam overflow are fully identified, and EDP has most of its assets certified by ISO 14001 and OHSAS 18001.

In response to physical risks, EDP's hydropower plants are designed to support what is technically named "the flood of the millennium". Also all plants have emergency plans that are fully operational and address all events that might disrupt normal operation, some of them being caused by extreme weather.

The interruption on the power distribution is one of the issues regulated in Portugal (by ERSE Portuguese Energy Services Regulator), in Spain (by CNE Spanish Energy Services Regulator) and in Brazil (by ANEEL Brazilian Electricity Agency) through 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 presence of a catastrophe.

Physical risks to assets and losses due to extreme weather are mostly covered by a range of insurances for the Group's assets in operation, so the maximum physical risk cost incurred is mostly transferred out of the EDP Group (except for partial revenue losses). EDP has also a strategic captive insurance policy based on an insurers' pool that covers the main assets. Also it has a fund in Luxembourg (Energia RE) that secures the small losses not covered by the insurers' pool.



# Carbon Disclosure Project

## EDP's Response to CDP 2010

### 5. OTHER RISKS

#### 5.1. Does climate change present other significant risks – current and/or anticipated – for your company? What are the current and/or anticipated significant risks/opportunities and their associated countries/regions and timescales?

Yes. The current and/or anticipated significant risks/opportunities are:

- Operations in dam's reservoirs, in successive flood situations in Portugal and Brazil and during winter;
- Personnel risk related to climate changes in all geographies, case of death, illness or injuries, this risk is a permanent one;
- Market risks caused by energy sector instability due to consumer demand volatility;
- EDP's consumers being subjected to Climate Change Regulations, all geographies, in the near future between 5 and 15 years.

#### 5.2. Describe the ways in which the identified risks/opportunities affect or could affect your business and your value chain.

The operations in dam's reservoirs, in successive flood situations, are not always well understood by some stakeholders, such as environmental ONG. This may affect the company's reputation. This risk factor is more important in Portugal, where five new hydraulic power plants are being constructed (Bemposta II, Alqueva II, Baixo Sabor, Venda Nova III e Ribeiradio-Ermida) and five are under legal licensing process (Alvito, Foz-Tua, Fridão, Paradela II and Salamonde II).

There is also a personnel risk related to climate changes, both directly, through death or illness in the event of extreme weather conditions (ex: heat waves, cold waves, hurricanes, bush fires, etc), and indirectly, through epidemics and facilitated disease spreading (ex: after floods), or chaos and disorder (ex: inability to reach working place or leave their home). However, since EDP operates mainly in Europe, USA and Brazil, where resilience to such problems is generally considered to be good, the probability of occurrence of this risk can be considered small. Also EDP's activities are so geographically spread one can say we have a natural hedge: the probability of extreme weather occurring simultaneously in Europe, USA and Brazil is very low.

In addition, EDP might be subjected to market risks caused by energy sector instability due to consumer demand volatility or industrial consumption diminution or changes in sector tariffs.

There is also the risk of our consumers being subjected to Climate Change Regulations. In order to cope with the latter, companies may be forced into extra costs, falling into difficult economic situations, thus causing a significant reduction of EDP's consumers.

In addition, personnel risks are covered by proper and mandatory insurances worldwide, thus reducing incurred costs.

#### 5.3. Are there financial implications associated with the identified risks/opportunities? Please describe them.

Yes. All the risks above mentioned impact directly on the company indirectly cash-flow. Per example, if consumers are subjected to Climate

Change Regulations and they cannot cope with it, they can default on EDP, thus reducing the cash flow.

The personnel risk related to climate change is partially covered by insurance.

#### 5.4. In the case of risks: describe any actions the company has taken or plans to take to manage or adapt to the risks that have been identified, including the cost of those actions.

The actions taken are:

- Personnel risk related to climate changes – Emergency and Crisis Plans
- Market risks caused by energy sector instability due to consumer demand volatility
- EDP's consumers being subjected to Climate Change Regulations – efficiency projects (page 18) such as eCube cooling systems, a system placed inside the cooling chamber that regulates internal temperature avoiding recurrent motor starts, in 2009 the energy consumption avoided with this action was 1,140,501,600 KWh, CO<sub>2</sub> emissions avoided 688,283,620 kg; Project, CFLs, Efficient lightning, in 2009 Energy consumption avoided 37,337,508 KWh, Astronomical watches, Energy consumption avoided 114,685,200 KWh, Astronomical watches are power controllers that are regulated by daytime, this allows for huge savings in public illumination.

### 6. REGULATORY OPPORTUNITIES

#### 6.1. Do current and/or anticipated regulatory requirements related to climate change present significant opportunities for your company?

Yes.

#### 6.2. What are the current and/or anticipated significant risks/opportunities and their associated countries/regions and timescales?

The current and/or anticipated significant risks/ opportunities are:

- EDP is already working on CO<sub>2</sub> emissions substantial reduction, thus gaining a competitive advantage, by 2020 the EF will be 70% less than it was in 2008, all geographies;
- EDP is already optimizing its generation mix, increasing renewables and switching from coal and fuel oil to CCGT by 2020 the EF will be 70% less than it was in 2008, all geographies;
- EDP has implemented six CDMs in Brazil and has four more waiting for approval. The CDMs have a first period of seven years;
- Feed-in tariffs mechanisms, long term agreements, remuneration schemes tax benefits or remuneration schemes can be opportunities, all geographies;
- Regulated activities (distribution and last resource supply);
- Wind offshore production regulation in Europe.

# Carbon Disclosure Project

## EDP's Response to CDP 2010

### 6.3. Describe the ways in which the identified risks/opportunities affect or could affect your business and your value chain.

EDP's strategic plan, issued on the investor day in 2008, stated that CO<sub>2</sub> emission factor (EF) will be reduced in 56% by 2012 in comparison with 2005 emissions. EF will drop from 600 tCO<sub>2</sub>/MWh in 2005 to 270 tCO<sub>2</sub>/MWh in 2012. In 2009, EDP committed itself to a more ambitious target, to reduce in 2020 by 70% EF, in comparison with 2008. EF will drop from 400 tCO<sub>2</sub>/MWh in 2008 to 120 tCO<sub>2</sub>/MWh in 2020. This strategy allowed EDP to prepare to environmental regulations that may arise. This was achieved through an optimization in the generation mix, increasing energy production through renewable sources and switching from coal and fuel oil to CCGT.

EDP's proactive attitude, accounting and reducing its GHG emissions exposure is a competitive advantage since it is more prepared to deal with future regulation than others.

EDP has also implemented six CDMs and has four more waiting for approval in Brazil.

In what regards opportunities, special tax benefits or remuneration schemes can be of a major importance for renewable energies and smart grid technologies development. These benefits are more important in countries in which renewables are under a strong legislative support, through feed-in tariffs mechanisms, long term agreements, remuneration schemes, etc. EDP's assets under these circumstances are in Portugal, Spain, France, Belgium, Poland, Romania, United Kingdom, USA, and Brazil.

Opportunities may arise also in regulated activities (distribution and last resource supply) where costs may be recognized, if proven the necessity to invest more in assets in order to guarantee service quality levels, while selling electricity at a fixed price.

Wind offshore production regulation in Europe will most probably give EDP new opportunities. EDP has since January 2010 the permission to develop (with sea energy) 1.3 GW of offshore wind turbines in Scotland.

### 6.4. Are there financial implications associated with the identified risks/opportunities? Please describe them.

Yes. The CDMs in Brazil provide EDP with additional revenue.

The investment in offshore production will, most probably, generate a positive cash flow when the farms come into operation.

### 6.5. In the case of opportunities: describe any actions the company has taken or plans to take to exploit the opportunities that have been identified, including the investment needed to take those actions.

To fulfill the strategic plan, EDP in 2009:

- Invested 832 Million Euro in Production in the Iberian Peninsula;
- Invested 260 Million Euro in Brazil;
- Invested 1.7 Billion Euro in Wind Energy;
- Invested 2.2 Billion Euro in renewals (not including Wind Energy).

EDP has been also switching (new plants) from coal and fuel to CCGT.

## 7. PHYSICAL OPPORTUNITIES

### 7.1. Do current and/or anticipated physical impacts of climate change present significant opportunities for your company?

Yes.

### 7.2. What are the current and/or anticipated significant risks/opportunities and their associated countries/regions and timescales?

EDP has identified physical opportunities that may provide future stable cash flows:

- Reversible hydro power plants, Portugal, most of them will be built till 2020 and will be in operation for more than 40 years;
- Higher temperatures during summer and mild temperatures in winter, all geographies;
- Increased electricity or gas consumption due to higher temperatures, all geographies;
- The need for more resilient materials and more advanced technologies, all geographies.

### 7.3. Describe the ways in which the identified risks/opportunities affect or could affect your business and your value chain.

EDP has identified physical opportunities that may provide future stable cash flows. One of major importance is reversible hydro power plants, which is one of the current main investment strategies of EDP in Portugal, allowing hydro generation in drought situations, besides allowing the storage of electricity wind generated. The Sabor dam, under construction, will allow water storage for consumption and electricity generation enough for Portugal total independency for the electricity consumption in peak hours for 30 days. The reversible hydro power plants also play a strategic role in wind energy because it allows off peak wind energy storage and sale in peak hours, creating a positive cash flow. Sabor is a 170 MW hydro power plant and will cost 491 million Euro.

Higher temperatures during summer and mild temperatures in winter may lead to increased electricity and/or gas sales in these periods as a result of intensive use of HVAC equipments.

The challenges posed to utilities may also promote newer and more resilient technologies in the market (ex: conductors for HV lines and cables that can bear higher temperatures with lower losses) and eventually lower the cost of both new and existing technologies by scale effect, e.g.: underground HV cables.

Reversible hydro power plants allows hydro generation in drought situations besides allowing the storage of electricity wind generated. The Sabor dam, under construction, will allow water storage for consumption and electricity generation enough for Portugal total independency for the electricity consumption in peak hours for 30 days. The PSHP also plays a strategic role in wind energy because it allows off peak wind energy storage and sale in peak hours, creating a positive cash flow. Sabor is a 170 Mw hydro power plant and will cost 491 million Euro.

Increased electricity or gas consumption due to higher temperatures during summer and lower temperatures in winter increase EDP's sales and can generate an increase in cash flow.

# Carbon Disclosure Project

## EDP's Response to CDP 2010

The challenges posed to utilities may also promote newer and more resilient technologies in the market (ex: conductors for HV lines and cables that can bear higher temperatures with lower losses) and eventually lower the cost of both new and existing technologies by scale effect, e.g.: underground HV cables.

### 7.4. Are there financial implications associated with the identified risks/opportunities? Please describe them.

Yes. The financial implications are:

- Extra cash flow revenues from sales due to increased electricity or gas consumption due to higher temperatures during summer and lower temperatures in winter;
- Extra cash flow revenue from the reversible hydro power plants, allows off peak wind energy storage, and its sale in peak hours.

### 7.5. In the case of opportunities: describe any actions the company has taken or plans to take to exploit the opportunities that have been identified, including the investment needed to take those actions.

In the case of reversible hydro power plants, EDP is constructing the Sabor dam that will allow water storage for consumption and electricity generation enough for Portugal total independency for the electricity consumption in peak hours for 30 days.

## 8. OTHER OPPORTUNITIES

### 8.1. Does climate change present other significant opportunities – current and/or anticipated – for your company?

Yes.

### 8.2. What are the current and/or anticipated significant risks/opportunities and their associated countries/regions and timescales?

Current and/or anticipated significant risks/ opportunities

- Strong push to reduce CO<sub>2</sub>, all geographies, timeframe 2020 and 2050;
- Sustainable energy, hydro, all geographies, building timeframe till 2020;
- Sustainable energy wind, all geographies;
- Electric mobility all geographies, estimated fleet for Portugal by 2020 160,000 vehicles;
- Smart grids all geographies;
- Energy Efficiency all geographies;
- Renewable Energy Certificates, Europe;
- Asset diversification all geographies;
- Geographical diversification all geographies.

### 8.3. Describe the ways in which the identified risks/opportunities affect or could affect your business and your value chain.

EDP is investing heavily and steadily on sustainable power production in all its geographies: Spain, Portugal, EUA, Brazil, France, Italy, Romania, Belgium, etc. A clear climate change framework pushing for more sustainable alternatives can improve its reputation. The need to further reduce carbon emissions may also push for major changes in the transport industry making a strong case for electric mobility and smart grids, a technological revolution at the forefront of which stands EDP, namely in Europe, through the Inovgrid project.

The InovGrid Project is now in demonstration phase. Under this project, 70 million Euros will be invested in smart grids and in 200 thousand energy boxes. With this project EDP will address three main drivers from the electrical sector: energy remote management, microgeneration and smart grids. The project is now in demonstration in Évora where it was implemented in 31,300 consumers' homes. Success in these 31,300 consumers will allow EDP to opt for a full rollout to the remaining 9 million consumers in Portugal, Spain and Brazil. To quantify the expected impact of this project we have also set our goals in terms of Key Performance Indicators, to be assessed at the main site in Évora after 2013.

The project is aligned with the current European 20-20-20 goals and aims to demonstrate a full featured implementation of the smart Grid concept and show how to harness its potential to increase the share of small and medium size green Energy Sources. It will do so by enlisting the active participation of consumers and small producers, including them as relevant market-shaping forces.

Furthermore, the threat of climate change clearly showed to stakeholders that the electricity sector is, among the most important primary energy consuming sectors worldwide, the one that can adapt and convert to cleaner sustainable technologies the fastest and the best. It also supports other sector in "cleaning up", this is the case for the transport sector that is starting to adapt to non-fossil fuel powered technologies such as the electric vehicle. Since September 2008 EDP has a net of experimental electric vehicle battery charging points.

Energy efficiency is also a key issue for EDP that created EDP Serviços de Energia, a company focused in energy efficiency services and projects. Although most of the energy efficiency projects have a positive NPV, the main issues are technological or know-how barriers. So EDP works mostly on EPCs (Energy Performance Contracts), in which EDP finances the project and guarantees its performance.

Other opportunity in which EDP is working on is RECs - Renewable Energy Certificates. These are produced using renewable energy, are voluntary and must be certified by an independent auditor. Currently, EDP has 68.4 MW with RECs and this figure will most probably triple in the near future.

EDP's business is perhaps its greatest opportunity. Its assets are geographically spread in Europe, North America and South America. In some countries its electricity business is fully integrated (except transmission) - Portugal, Spain and Brazil. The geographical diversification allows for a better management of extreme weather events as well as currency risks. Being an integrated electricity business, as well as a gas distributor and renewables producer, it creates a natural hedge among carbon and non-carbon electric generation, thus protecting the company against regulatory and market risks.

# Carbon Disclosure Project

## EDP's Response to CDP 2010

### 8.4. Are there financial implications associated with the identified risks/opportunities? Please describe them.

Yes. EDP's investments in 2010 will be (investor's day 20 May 2010):

- Wind: EUR 2,130 million;
- Hydro: EUR 450 million;
- Inovgrid: EUR 15 million.

### 8.5. In the case of opportunities: describe any actions the company has taken or plans to take to exploit the opportunities that have been identified, including the investment needed to take those actions.

EDP is investing heavily and steadily on sustainable power production in all its geographies: Spain, Portugal, EJA, Brazil, France, Italy, Romania, Belgium, etc. A clear climate change framework pushing for more sustainable alternatives can improve its reputation. The need to further reduce carbon emissions may also push for major changes in the transport industry making a strong case for electric mobility and smart grids, a technological revolution at the forefront of which stands EDP, namely in Europe, through the Inovgrid project.

The InovGrid Project is now in demonstration phase. Under this project 70 million Euro will be invested in smart grids and in 200 thousand energy boxes. With this project EDP will address three main drivers from the electrical sector: energy remote management, microgeneration and smart grids. The project is now in demonstration in Évora where it will be implemented in 31,300 consumers homes. Success in this these 31,300 consumers will allow EDP to opt for a full rollout to the remaining 6 million consumers in Portugal and 3 million in Spain and Brazil. To quantify the expected impact of this project we have also set our goals in terms of KPI's, to be assessed at the main site in Évora after 2013.

The project is aligned with the current European 20-20-20 goals and aims to demonstrate a full featured implementation of the smart Grid concept and show how to harness its potential to increase the share of small and medium size green Energy Sources. It will do so by enlisting the active participation of consumers and small producers, including them as relevant market-shaping forces.

Furthermore, the threat of climate change clearly showed to stakeholders that the electricity sector is, among the most important primary energy consuming sectors worldwide, the one that can adapt and convert to cleaner sustainable technologies the fastest and best. It also support other sector in "cleaning up", this is the case for the transport sector that is starting to adapt to non-fossil fuel powered technologies such as the electric vehicle. Since September 2008 EDP has a net of experimental electric vehicle supply points.

Energy efficiency is also a key issue for EDP that created EDP Serviços de Energia, a company focused in energy efficiency services and projects. Although most of the energy efficiency projects have a positive NPV, the main issues are technological or know-how barriers. So EDP works mostly on EPCs (Energy Performance Contracts), in which EDPs finances the project and guarantees its performance.

Other opportunity in which EDP is working on is RECs - Renewable Energy Certificates. These are produced using renewable energy, are voluntary and must be certified by an independent auditor. Nowadays EDP has 68.4 MW with RECs and this figure will most probably triplicate in the near future.

EDP's business is perhaps its greatest opportunity. Its assets are geographically spread in Europe, North America and South America. In some countries its electricity business is fully integrated, Portugal, Spain and Brazil. The geographical diversification allow for a better management of extreme weather events as well as currency risks. Being an integrated electricity business as well as a gas distributor and renewals producer creates a natural hedge among carbon and non-carbon electric generation, thus protecting the company against regulatory and market risks.

EDP's heavy investment in wind energy changes its value chain, decreasing its carbon intensity.

The InovGrid will allow a more efficient use of the grid and in the future, when it will be rolled out to 9 million consumers in Portugal, Spain and Brazil, it will permit a better electric supply management.

Energy efficiency can also have an impact in EDP's value chain since it can delay investments in new generation plants.

EDP's investments in 2010 will be (investor's day 20 May 2010):

- Wind: EUR 2,130 million;
- Hydro: EUR 450 million;
- Inovgrid: EUR 15 million.

# Carbon Disclosure Project

## EDP's Response to CDP 2010

### STRATEGY

#### 9. STRATEGY

##### 9.1. Please describe how your overall group business strategy links with actions taken on risks and opportunities (identified in questions 3 to 8), including any emissions reduction targets or achievements, public policy engagement and external communications.

EDP's strategic plan, issued on the investor day in 2008, stated that CO<sub>2</sub> emission factor (EF) will be reduced in 56% by 2012 in comparison with 2005 emissions. EF will drop from 600 tCO<sub>2</sub>/MWh in 2005 to 270 tCO<sub>2</sub>/MWh in 2012. In 2009, EDP committed itself to a more ambitious target, to reduce in 2020 by 70% EF, in comparison to 2008, EF will drop from 400 tCO<sub>2</sub>/MWh in 2008 to 120 tCO<sub>2</sub>/MWh in 2020. The actions described in sections 3-8 fully support this strategy:

- The investment in wind power helps the CO<sub>2</sub> intensity reduction;
- The switch from coal and fuel to CCGT also helps the CO<sub>2</sub> intensity reduction;
- The construction of pumped storage hydro power plants;
- The investment in smart grids;
- The investment in innovative efficiency projects.

In 2009, the renewable installed capacity was 60.7%, and the renewable energy was 50.5% of total production.

EDP's strategy is based in three pillars: controlled risk, superior efficiency and focused growth. Controlled risk addresses many types of risk: Business, Market, Operational and Credit Risks. Climate risk is addressed within the Operational risks, namely through an on-going project ClimEDP in which adaptation is the main objective.

The Emission factor has been reducing for some years now:

- In 2006 was 490 tCO<sub>2</sub>/MWh;
- In 2007 was 460 tCO<sub>2</sub>/MWh;
- In 2008 was 400 tCO<sub>2</sub>/MWh;
- In 2009 was 360 tCO<sub>2</sub>/MWh;

Public policy engagement in (Climate change) regulation:

In Portugal, EDP has a Regulation and Competitiveness Department, dedicated to all regulation issues. In Spain, HC Energia has a Regulación y Relaciones Institucionales Department (Regulation and Institutional Relationship Department). In EDPR, there is a Market Analysis & Regulation Department. These Departments manage the relation with the different supervisory bodies of the energy sector. They also monitor the development and implementation of new European internal market and competition directives for electricity and natural gas sectors and study the impact of MIBEL (Iberian Electricity Market). They also monitor legislative, regulatory and organizational changes in the energy sector that might impact the company's profitability.

In what regards the main European regulatory trends, EDP participates in EURELECTRIC, the European electricity sector association, which represents the common interests of the electricity industry at pan-European level ([www.eurelectric.org](http://www.eurelectric.org)). EDP is represented, amongst others, in the Environmental and Sustainable Development Policy Committee and in some of its various working groups, subgroups and task

forces, namely the Working Groups "Climate Change", "Environmental Protection" and "Energy Efficiency", and the subgroup "Flexibility Mechanisms".

In Brazil, there is a "Área de Assuntos Regulatórios" (Regulatory issues Department) which, in coordination with the Energy planning Department and with the Energetic Risks Department, follows up all regulatory issues while managing the relation with the different supervisory bodies of the energy sector.

Furthermore, EDP is a member of the World Business Council for Sustainable Development ([www.wbcsd.org](http://www.wbcsd.org)), a CEO-led, global association of some 200 companies dealing exclusively with business and sustainable development. The WBCSD provides a platform for companies to explore sustainable development, share knowledge, experiences and best practices and to advocate business positions on these issues in a variety of fora, working with governments, non-governmental and intergovernmental organizations. The objective of EDP's participation on the Forum is to achieve an insight about what the future trends might be and to start working on them today, hence gaining a competitive advantage.

EDP's communications about a climate change include:

- EDP's annual report;
- Energy Wisdom Programme brochure, edited in 2010 (Energy wisdom programme is a voluntary electricity industry initiative sponsored by Eurelectric, that aims to reduce CO<sub>2</sub> emissions and improve efficiency);
- EDP's internet site in [www.edp.pt](http://www.edp.pt) (EDP's site), regarding Climate Change (Main page: [www.edp.pt/sustainability/environment/climate\\_change](http://www.edp.pt/sustainability/environment/climate_change)), Emissions Reduction ([www.edp.pt/sustainability/environment/climate\\_change/reducing\\_emissions](http://www.edp.pt/sustainability/environment/climate_change/reducing_emissions)), Emissions reduction within the Business: ([www.edp.pt/sustainability/environment/climate\\_change/reducing\\_emissions/reducing\\_emissions\\_within\\_the\\_business](http://www.edp.pt/sustainability/environment/climate_change/reducing_emissions/reducing_emissions_within_the_business)), Emissions Reduction through External Measures ([www.edp.pt/sustainability/environment/climate\\_change/reducing\\_emissions/emissions\\_reduction\\_through\\_external\\_measures](http://www.edp.pt/sustainability/environment/climate_change/reducing_emissions/emissions_reduction_through_external_measures)), Carbon Disclosure ([www.edp.pt/sustainability/environment/climate\\_change/carbon\\_disclosure](http://www.edp.pt/sustainability/environment/climate_change/carbon_disclosure))

### TARGETS

#### 9.2. Do you have a current emissions reduction target?

Yes.

Target Type	Value of the target	Unit	Base Year	Emissions in base year (metric tonnes CO <sub>2</sub> -e)	Target year	GHGs and GHG sources to which the target applies
GHG Emission reduction	270	tCO <sub>2</sub> /MWh	2005	600	2012	CO <sub>2</sub>
GHG Emission reduction	120	tCO <sub>2</sub> /MWh	2008	400	2020	CO <sub>2</sub>

# Carbon Disclosure Project

## EDP's Response to CDP 2010

### EMISSION REDUCTION ACTIVITIES

9.3. Please use the table below to describe your company's actions to reduce its GHG emissions.

Actions	Achieved or anticipated annual energy savings (if relevant)	Achieved or anticipated annual emission reductions	Investment made or planned to enable actions (if relevant)
Investment in renewable wind energy	In 2009 the production of wind energy, 11 GWh	avoided 6,122 tons CO <sub>2</sub>	1.8 billion euros in 2009 (Investment pipeline)
Investment in hydro power plants – example Alqueva II coming into operation in Dec 2011	In a typical year will produce approximately 369 GWh	Will avoid annually 23,5422 tons CO <sub>2</sub>	Total investment to build Alqueva II – EUR 171 M
Investment in hydro power plants – example Baixo Sabor coming into operation in Dec 2014	In a typical year will produce approximately 476 GWh	Will avoid annually 303,688 tons CO <sub>2</sub>	Total investment to build Baixo Sabor - EUR 491 M
Fleet replacement in Brazil	Gasoline consumed in 2008: 16,979 GJ In 2009 – 15,635 GJ	From 2008 to 2009 15% reduction in GEE due to gasoline	
Programme of internal awareness to reductions of: electrical energy water and paper		From 2008 to 2009 1% reduction in GEE	

9.4. Please provide any other information you consider necessary to describe your emission reduction activities.

EDP is building 1.7 GW of new hydro capacity in Portugal, with a Capex of 1,500 million Euros. In March 2010, 300 million Euros were already invested.

EDP Renováveis has delivered at an annual average of 1.4 GW per year.

EDP is investing in smart grids, with a total investment of 15 million Euros (31,300 smart meters installed; integration of IT systems; setting up communications infrastructures, remote network control systems).

In Brazil, EDP is investing in 500 MW of small and medium hydro plants and 240 MW of wind farms.

EDP also invests in innovation, trying to develop future clean energy production technologies. In 2009, EDP Group spent around EUR 31 million on R&D+i activities (estimated values for Portugal). Innovation addresses the following strategic areas:

- Renewable energies (offshore: wind and wave; solar);
- Electrical Mobility;
- Energy Efficiency;
- New electricity distribution technologies (smart grids and micro grids);
- Energy production (clean generation and CO<sub>2</sub> capture and storage);
- Added Value Markets and Services – marketing;
- Information Technologies – business “webization”.

Some innovation projects/initiatives in the strategic areas listed below are worth highlighting.

#### Renewable Energies:

- Windfloat – demonstration of deep-sea offshore wind technology, using floating platforms. This project is backed by the Innovation Support Fund (EUR 3 million).
- Acquisition of the Aguçadoura site (Portugal) – licensed site composed of a 4MVA substation and a 5km underwater electric cable, for offshore wave energy technology demonstration projects.
- Photovoltaic energy demonstration projects - participation in two demonstration projects in Portugal:
  - 1) Using dye sensitized solar cells;
  - 2) Using high concentration photovoltaic's in a more centralized approach.

An agreement was also signed with Estradas de Portugal, with a view to taking advantage of the road infrastructure to integrate renewable energy solutions, in particular photovoltaic energy.

#### Electrical Mobility:

- Wattdrive Project – development of a pilot project for recharging electric vehicles in Lisbon, opening the first network of 6 recharging points for public use;
- CITYELEC Project – one of the most important initiatives in the field of electrical mobility in Spain, seeking sustainable solutions in the urban environment (supported by the Ministry of Science and Innovation);
- Living Car Project – obtaining data for the Asturias region on the behavior of electric vehicles under real driving conditions, as well as on the infrastructure required for recharging (supported by PCTI - the Science, Technology and Innovation Plan).

EDP has also taken part in international working groups (such as Grid 4 Vehicle) and in the working group organized by the Portuguese government to help develop sustainable electric mobility in Portugal.

# Carbon Disclosure Project

## EDP's Response to CDP 2010

### Microgeneration and Electricity Grids of the Future:

- InovGrid – project to transform the existing electricity distribution system into an intelligent system, based on telemanagement of energy and supported by an infrastructure that can respond to the needs arising from energy efficiency, remote management, distributed generation and microgeneration;
- REDES 2025 Project – major Spanish smart grids project forming part of the FUTURED platform (Spanish Technology Platform for Electricity Grids of the Future). EDP leads the subproject on storing electrical energy using redox flow battery technology (supported by the Ministry of Science and Innovation);
- CENIT-DENISE Project – HC Energia is participating in the Preventive Maintenance working group. In 2009, laboratory tests were performed to locate partial discharges from underground cables (supported by CDTI);
- Micro-cogeneration Project – launch of a project on microcogeneration systems in houses, using gas boilers with Stirling and internal combustion engines (supported by PCTI);
- CTEYE Project – development of a remote control device for transformer stations, with an algorithm to detect faults in low tension grids. Project run by HC Energia in cooperation with AC&A (ISASTUR Group) and the University of Oviedo, and subsidized by PCTI.

There was a focus on consolidating relations with the two investments made through EDP VENTURES in clean energy technology funds in the USA and the UK in order to gain access to a portfolio of innovative technologies and create growth options for EDP. EDP Ventures is a Venture Capital Fund created in 2008 to focus on investments in clean technologies for solar and offshore (wind and wave) generation, intelligent grids, energy efficiency and electrical mobility. In parallel, efforts began on generating a deal flow conducive to the fund's first direct investments, scheduled for 2010.

In 2009 EDP did offset the airplane travel of the Executive board.

### ENGAGEMENT WITH POLICY MAKERS

#### **9.5. Do you engage with policy makers on possible responses to climate change including taxation, regulation and carbon trading? Please describe.**

Yes, EDP does engage with policy makers.

EDP is sometimes requested by policy makers and other authorities to give its views on the mentioned issues.

Moreover, EDP also engages in responding to public consultations by policy makers and other authorities on these matters, so that they can make informed decisions.

Finally, whenever EDP detects the need or convenience of raising issues and proposing solutions or actions to policy makers, it proactively does so.

In Portugal, there is a Regulation and Competition Department, dedicated to all regulation issues. In Spain there is a Regulación y Relaciones Institucionales Department (Regulation and Institutional Relationship Department). In EDPR there is a Market Analysis & Regulation Department. These Departments manage the relation with the different supervisory bodies of the energy sector. They also monitor the development and implementation of new European internal market and competition directives for electricity and natural gas sectors and study the impact of MIBEL

(Iberian Electricity Market). They also monitor legislative, regulatory and organizational changes in the energy sector that might impact the company's profitability.

In what regards the main European regulatory trends, EDP participates in EURELECTRIC, the European electricity sector association, which represents the common interests of the electricity industry at pan-European level ([www.eurelectric.org](http://www.eurelectric.org)). EDP is represented, amongst others, in the Environmental and Sustainable Development Policy Committee and in some of its various working groups, subgroups and task forces, namely the Working Groups "Climate Change", "Environmental Protection" and "Energy Efficiency", and the subgroup "Flexibility Mechanisms".

In Brazil there is a "Área de Assuntos Regulatórios" (Regulatory issues Department) that, in coordination with the Energy planning Department and with the Energetic Risks Department, follows up all regulatory issues while managing the relation with the different supervisory bodies of the energy sector.

Furthermore, EDP is a member of the World Business Council for Sustainable Development ([www.wbcsd.org](http://www.wbcsd.org)), a CEO-led, global association of some 200 companies dealing exclusively with business and sustainable development. The WBCSD provides a platform for companies to explore sustainable development, share knowledge, experiences and best practices and to advocate business positions on these issues in a variety of fora, working with governments, non-governmental and intergovernmental organizations. The objective of EDP's participation on the Forum is to achieve an insight about what the future trends might be and to start working on them today, hence anticipating risks and gaining a competitive advantage.

As an example of how EDP works with regulators authorities:

- In February 2008 the Portuguese minister of innovation and Economy has asked EDP for an opinion about the Decree-law that regulates cogeneration and transposes into Portuguese legislation the European Parliament and European Council 2004/8/CE Directive. Answered on the 25<sup>th</sup> February 2008.
- In September 2008, The Portuguese Energy and Geology Governmental Department requested comments on the Decree-law that establishes actions aiming the electric supply guarantee and infrastructure investment, transposing into Portuguese legislation the European Parliament and European Council 2005/89/CE Directive. Answered on the September 12<sup>th</sup> 2008.
- In November 2008, The Portuguese Energy and Geology Governmental Department requested comments on the proposal for revision of transmission grid regulation that establishes the grid exploration conditions for high, medium and low voltage, as well as the relations amongst grid operators and electrical production owners, Answered on the 12<sup>th</sup> December 2008.
- In June 2009, The Portuguese Regulation entity requested comments on the proposal for revision of Electric sector commercial relations regulation. Answered on the 7<sup>th</sup> July 2009.

# Carbon Disclosure Project

EDP's Response to CDP 2010

## GHG EMISSIONS ACCOUNTING, ENERGY AND FUEL USE, AND TRADING

### 10. REPORTING BOUNDARY

#### 10.1. Please indicate the category that describes the company, entities, or group for which Scope 1 and Scope 2 GHG emissions are reported.

EDP reports emissions from companies in which it exercises both financial and operational control.

#### 10.2. Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions within this boundary which are not included in your disclosure?

Methane and N<sub>2</sub>O are not materially relevant in EDP business and were excluded from our reporting boundary.

Source	Scope	Explain why the source is excluded
Methane	Scope 3	not materially relevant
N <sub>2</sub> O	Scope 1	not materially relevant

### 11. METHODOLOGY

#### 11.1. Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions and/or describe the procedure you have used.

EDP produces CO<sub>2</sub> emissions in stationary combustion (thermal power plants and gas pipeline stations) and mobile combustion, as well as SF6 emissions due to leakages of transformers, in power generation and distribution.

EDP Scope 1 stationary combustion emissions were calculated using the methodology defined by the European Directive no. 2003/87/CE. This methodology calculates CO<sub>2</sub> emissions from fuel consumption using measured data, emission factor and 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 in 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 GHG national inventories. These reports are verified by APA certified auditors.

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

#### 11.2. Please also provide the names of and links to any calculation tools used.

- European Directive no. 2003/87/CE
- GHG protocol <http://www.ghgprotocol.org/>

- In Portugal, methodology approved by APA (Agência Portuguesa do Ambiente, the Portuguese Environment Agency- [www.apambiente.pt](http://www.apambiente.pt))
- In Spain, EMEP-CORINAIR an IPCC international methodology.

#### 11.3. Please give the global warming potentials you have applied and their origin.

Gas	Reference	GWP
SF6	the 4 <sup>th</sup> Assessment Report of the IPCC; GWP over a 100 year time span	22,800

#### 11.4. Please give the emission factors you have applied and their origin.

Fuel/material	Emission factor		Reference
	Number	Unit	
For Trains in Spain	26	gCO <sub>2</sub> /t/km	RENFE's Report (GRI A+ and is audited by AENOR)
For trucks in Spain	128	gCO <sub>2</sub> /t/km	RENFE's Report (GRI A+ and is audited by AENOR)
Airplane	110	gCO <sub>2</sub> /t/km	GHG Protocol Mobile emissions based on distance
Train	60	gCO <sub>2</sub> /t/km	GHG Protocol Mobile emissions based on distance
Marine Shipping	10	gCO <sub>2</sub> /t/km	GHG Protocol Mobile emissions based on distance
Inland shipping	35	gCO <sub>2</sub> /t/km	GHG Protocol Mobile emissions based on distance
Diesel heavy truck	923	gCO <sub>2</sub> /t/km	GHG Protocol Mobile emissions based on distance
Small gas	193	gCO <sub>2</sub> /t/km	GHG Protocol Mobile emissions based on distance
Diesel auto	269	gCO <sub>2</sub> /t/km	GHG Protocol Mobile emissions based on distance
Bus diesel	186	gCO <sub>2</sub> /t/km	GHG Protocol Mobile emissions based on distance
Motor Bike	93	gCO <sub>2</sub> /t/km	GHG Protocol Mobile emissions based on distance
Metro	106	gCO <sub>2</sub> /t/km	GHG Protocol Mobile emissions based on distance



# Carbon Disclosure Project

## EDP's Response to CDP 2010

### 12. SCOPE 1 DIRECT GHG EMISSIONS

12.1. Please give your total gross global Scope 1 GHG emissions in metric tonnes of CO<sub>2</sub>-e.

- 20,039,249 tCO<sub>2</sub>e.

12.2. Please break down your total gross global Scope 1 emissions in metric tonnes CO<sub>2</sub>-e by country/region.

Country	Scope 1 Emissions [t CO <sub>2</sub> e]
Portugal	11,100,457
Spain	8,933,273
Brazil	5,521

12.3. Business division

Business Division	Scope 1 Emissions [t CO <sub>2</sub> e]
Electricity	20 038 642
Gas	608

12.4. Please break down your total gross global Scope 1 emissions by GHG type. (Only data for the current reporting year requested.)

GHG Type	Scope 1 emission (metric tonnes)	Scope 1 emissions (metric tonnes CO <sub>2</sub> -e)
CO <sub>2</sub>	20,032,260	20,032,260
SF6	0.280	6,382

12.5. Please give the total amount of fuel in MWh that your organization has consumed during the reporting year.

- 66,014,076 MWh.

12.6. Please complete the table by breaking down the total figure by fuel type.

Fuels	MWh
<b>Total</b>	66,014,076
<b>Individual fuels</b>	
Coal – hard	36,841,037
Fuel oil	1,695,908
Gasoil	30,166
Gas (excluding OCGT, CCGT and CHP)	2,535,001
CCGT	19,033,128
CHP	4,704,607
Solid biomass	1,174,229

12.7. Please estimate the level of uncertainty of the total gross global Scope 1 figure that you have supplied in answer to question 12.1 and specify the sources of uncertainty in your data gathering, handling, and calculations.

Scope 1	
Uncertainty range	Less than 3%
Main sources of uncertainty in your data	Carbon balance (less than 2.5%)
Expand on the main sources of uncertainty in your data	Carbon PCI (less than 8.2%) Carbon PCS (less than 0.9%) Ashes (less than 4.3%)

In Europe, GHG emissions are subjected to Commission Decision no. 2007/589/CE. In Scope 1, emissions we consider as acceptable figure an error of less than 3%.

### 13. SCOPE 2 INDIRECT GHG EMISSIONS

13.1. Please give your total gross global Scope 2 GHG emissions in metric tonnes of CO<sub>2</sub>-e.

- 1,274,421 t CO<sub>2</sub>e.

13.2. Please break down your total gross global Scope 2 emissions in metric tonnes of CO<sub>2</sub>-e by country/region.

Country	Scope 2 emissions (metric tonnes CO <sub>2</sub> -e)
Portugal	1,122,447
Spain	108,593
Brazil	39,642
USA	3,740

13.3. Where it will facilitate a better understanding of your business, please also break down your total gross global Scope 2 emissions by business division. (Only data for the current reporting year requested).

Business Division	Metric tonnes CO <sub>2</sub> -e
Electricity	1,270,718
Gas	3,703

13.4. How much electricity, heat, steam, and cooling in MWh has your organization purchased for its own consumption during the reporting year?

Energy Type	MWh
Electricity	33,256 t CO <sub>2</sub> e

# Carbon Disclosure Project

## EDP's Response to CDP 2010

**13.5. Please estimate the level of uncertainty of the total gross global Scope 2 figure that you have supplied in answer to question 13.1 and specify the sources of uncertainty in your data gathering, handling, and calculations.**

	Scope 2
Uncertainty range	Less than 5%
Main sources of uncertainty in your data	National emission factors
Expand on the main sources of uncertainty in your data	

In Europe, GHG emissions are subjected to Commission Decision n. 2007/589/CE.

In Scope 2, emissions were obtained using company data and converting into CO<sub>2</sub> with conversion factors of the GHG Protocol. The values are fully audited. We consider as an acceptable figure an error of less than 5%.

### 14. EMISSIONS SCOPE 2 CONTRACTUAL

**14.1. Do you consider that the grid average factors used to report Scope 2 emissions in question 13 reflect the contractual arrangements you have with electricity suppliers?**

We considered the grid average factor used for Scope 2 emission calculations to reflect our reality.

**14.2. Has your organization retired any certificates, e.g. Renewable Energy Certificates, associated with zero or low carbon electricity within the reporting year or has this been done on your behalf?**

EDP participates in the RECS-Renewable Energy Certificate System with four hydropower plants: Ponte de Jugais (19.2 MW), Sabugueiro I (13.2 MW), Desterro (12.6 MW) and Vila Cova (23.4 MW). These certificates are issued since 2003 by REN ([www.ren.pt](http://www.ren.pt)), a member of AIB-Association of Issuing Bodies.

The REC System has the main objective of encouraging the production of electrical energy from renewable sources and guaranteeing the consumer/trader that, by acquiring a RECS certificate, they are supporting renewable energy generation and reducing emissions.

For each MWh produced in the power plants enlisted in the REC system, a certified is issued and it can be traded. The additional return complements the price of the electricity and is a reward for the producer for having generated electricity from a renewable source.

**14.3. Please provide details including the number and type of certificates.**

Type of certificate	Number of certificates
RECS	8,263

### 15. SCOPE 3 OTHER INDIRECT GHG EMISSIONS

**15.1. Please provide data on sources of Scope 3 emissions that are relevant to your organization.**

Sources of Scope 3	Emissions (metric tonnes of CO <sub>2</sub> -e)	Methodology
Portugal - Airplane travel	1,308,920 kg CO <sub>2</sub>	Ghg emission factors Company data
Portugal - Train	3,442 kg CO <sub>2</sub>	Ghg emission factors Company data
Portugal Commuting	40,792 kg CO <sub>2</sub>	Ghg emission factors Company data
Portugal Fuel transport	21,204 kg CO <sub>2</sub>	Ghg emission factors Company data
Portugal gypsum and ashes transport	2,338,874 kg CO <sub>2</sub>	Ghg emission factors Company data
Spain Fuel transport	3,740,957 kg CO <sub>2</sub>	Ghg emission factors Company data
Brazil - Airplane travel	1,483,500 kg CO <sub>2</sub>	Ghg emission factors Company data
Spain - Airplane travel	n/a	Ghg emission factors Company data
EDP Renováveis - Airplane travel	n/a	Ghg emission factors Company data

### 16. EMISSIONS AVOIDED THROUGH USE OF GOODS AND SERVICES

**16.1. Does the use of your goods and/or services enable GHG emissions to be avoided by a third party?**

EDP through EDP Serviços de Energia provides energy efficiency services and projects.

**16.2. Please provide details including the anticipated timescale over which the emissions are avoided, in which sector of the economy they might help to avoid emissions and their potential to avoid emissions.**

EDP Serviços de Energia developed many services in 2009 in which emissions are avoided:

#### Industry and Agriculture Sector:

- eCube cooling systems (Food industry), cost 2,326,376 EUR, Energy consumption avoided 1,140,501,600 kWh, CO<sub>2</sub> emissions avoided 688,283,620 kg; Project timescale 20 years, eCube is a system placed inside the cooling chamber that regulates internal temperature avoiding recurrent motor starts;
- CFLs, Efficient lightning, cost 326,775 EUR, Energy consumption avoided 37,337,508 kWh, CO<sub>2</sub> emissions avoided 96,401,650 kg, Project timescale 7 years;

# Carbon Disclosure Project

## EDP's Response to CDP 2010

- eCube cooling systems (Food processing industry), cost 43,4377 EUR, Energy consumption avoided 63,992,000 kWh, CO<sub>2</sub> emissions avoided 128,251,620 kg, Project timescale 20 years.

### Services and Commerce:

- CFLs, cost 1,612,000 EUR, Energy consumption avoided 179,892,076 kWh, CO<sub>2</sub> emissions avoided 47,7152,000 kg, Project timescale 7 years;
- Astronomical watches, cost 1,283,750 EUR, Energy consumption avoided 114,685,200 kWh, CO<sub>2</sub> emissions avoided 379,805,000 kg, Project timescale 6 years, Astronomical watches are power controllers that are regulated by daytime, this allows for huge savings in public illumination.

### Residential sector

- CFLs exchange in social neighborhoods cost 1,970,000 EUR, Energy consumption avoided 173,014,380 kWh, CO<sub>2</sub> emissions avoided 583,120,000 kg, Project timescale 7 years.

## 17. CARBON DIOXIDE EMISSIONS FROM BIOLOGICALLY SEQUESTERED CARBON

17.1. Please provide your total carbon dioxide emissions in metric tonnes CO<sub>2</sub> from the combustion of biologically sequestered carbon i.e. carbon dioxide emissions from burning biomass/biofuels.

- 8,044 t CO<sub>2</sub>e.

## 18. EMISSIONS INTENSITY

18.1. Please describe a financial and an activity-related intensity measurement for the reporting year for your gross combined Scope 1 and Scope 2 emissions.

Type of emissions intensity measurement	The resulting figure for scope 1 and scope 2 emissions	Contextual details considered relevant to understand the units or figures provided
Financial	1,747 t CO <sub>2</sub> /EUR M	<b>Turnover:</b> 12,198 Million Eur <b>Emissions (Scope 1+2):</b> 21,313,671 tCO <sub>2</sub>
Activity-related	386 tCO <sub>2</sub> /GWh	<b>Production:</b> 55,208 GWh <b>Emissions (Scope 1+2):</b> 21,313,671 tCO <sub>2</sub>

## 19. EMISSIONS HISTORY

19.1. Do the absolute emissions (Scope 1 and Scope 2 combined) for the reporting year vary significantly compared to the previous year?

No. Scope 1 and Scope 2 absolute emissions remained stable:

- 2008 - 21,384,672 tCO<sub>2</sub>e
- 2009 - 2,313,671 tCO<sub>2</sub>e

## 20. EXTERNAL VERIFICATION/ ASSURANCE

20.1. Please complete the following table indicating the percentage of reported emissions that have been verified/assured and attach the relevant statement.

Scope 1	Scope 2	Scope 3
100%	100%	0%

## 21. EMISSIONS TRADING AND OFFSETTING

21.1. Do you participate in any emission trading schemes?

Yes:

Scheme Name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions (t CO <sub>2</sub> e)
EU-ETS	01/01/2009 to 1/12/2009	18,186,401	3,274,000	20,011,108
EU-ETS	01/01/2010 to 31/12/2010	18,266,990		
EU-ETS	01/01/2011 to 31/12/2011	18,101,753	733,000	
EU-ETS	01/01/2012 to 31/12/2012	16,911,880	208,000	

21.2. What is your strategy for complying with the schemes in which you participate or anticipate participating?

EDP is currently involved in the European Trading Scheme (EU ETS). This has already entered the Kyoto period (2008-2012), with stricter requirements than the pilot phase for utilities. The recently approved PNAL E II (in Portugal) and PNA (in Spain) allocated 30% less CO<sub>2</sub> allowances to EDP's generating facilities than in the pilot phase.

EDP has, since 2006, a very proactive strategy to anticipate possible impacts of CO<sub>2</sub> costs. Our goal is to reduce specific CO<sub>2</sub> emissions by 56% in 2012 (in comparison with 2005).

In order to diversify risk and optimize 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 generated several tonnes of VERs – Verified Emission Reductions. Some of these VERs were redeemed to neutralize Group events, while the rest was traded.

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

## Carbon Disclosure Project

### EDP's Response to CDP 2010

#### 21.3. Has your company originated any project-based carbon credits or purchased any within the reporting period?

Credit origination/ credit purchase	Project identification	Project documentation URL	Verified to which standard	Number of credits (metric tonnes CO <sub>2</sub> -e)	Credits retired	Purpose e.g. compliance
Credit Origination	PCH Paraíso	<a href="http://cdm.unfccc.int/Projects/DB/BVQI1188558574.2/view">http://cdm.unfccc.int/Projects/DB/BVQI1188558574.2/view</a>	Credit Origination	303,095	No	Compliance
Credit Origination	PCH São João		Credit Origination	226,408	No	Compliance
Credit Origination	PCH Santa Fé	<a href="http://cdm.unfccc.int/Projects/DB/SGS-UKL1218641241.99/view">http://cdm.unfccc.int/Projects/DB/SGS-UKL1218641241.99/view</a>	Credit Origination		No	Compliance
Credit Origination	UHE Mascarenhas	<a href="http://cdm.unfccc.int/Projects/DB/SGS-UKL1183734827.45/view">http://cdm.unfccc.int/Projects/DB/SGS-UKL1183734827.45/view</a>	Credit Origination	353,262	No	Compliance
Credit	Água Doce	<a href="http://cdm.unfccc.int/Projects/DB/SGS-UKL1156244716.38/view">http://cdm.unfccc.int/Projects/DB/SGS-UKL1156244716.38/view</a>	World Bank	95,928		Compliance
Credit	Horizonte	<a href="http://cdm.unfccc.int/Projects/DB/SGS-UKL1151534607.76">http://cdm.unfccc.int/Projects/DB/SGS-UKL1151534607.76</a>	Other entities	43,587		Compliance

# Carbon Disclosure Project

EDP's Response to CDP 2010

## CLIMATE CHANGE COMMUNICATIONS

### 22. CLIMATE CHANGE COMMUNICATIONS

**22.1. Have you published information about your company's response to climate change/GHG emissions in other places than in your CDP response?**

Yes. In our 2009 Annual Report.

**22.2. Through voluntary communications such as CSR reports? Please attach your latest publication(s).**

In Energy wisdom Program brochure, edited in 2010. Energy wisdom programme is a voluntary electricity industry initiative sponsored by Eurelectric that aims to reduce CO<sub>2</sub> emissions and improve efficiency.

In [www.edp.pt](http://www.edp.pt) (EDP's site):

Climate Change:

Main page: [www.edp.pt](http://www.edp.pt)> [sustainability](#)> [environment](#)> [climate change](#)

Emissions Reduction: [www.edp.pt](http://www.edp.pt)> [sustainability](#)> [environment](#)> [climate change](#)> [reducing emissions](#)

Emissions reducing within the Business: [www.edp.pt](http://www.edp.pt)> [sustainability](#)> [environment](#)> [climate change](#)> [reducing emissions](#)> [reducing emissions within the business](#)

Emissions Reduction through External Measures: [www.edp.pt](http://www.edp.pt)> [sustainability](#)> [environment](#)> [climate change](#)> [reducing emissions](#)> [emissions reduction through external measures](#)

Carbon Disclosure – EDP's answer of 2009: [www.edp.pt](http://www.edp.pt)> [sustainability](#)> [environment](#)> [climate change](#)> [Carbon Disclosure](#)