Following our full disclosure policy, all information about EDP can be accessed in www.edp.pt. EDP strongly recommends the consultation of our 2010 Annual Report.

EDP is an European utility company, based in Portugal but also present in 12 other countries, being the most relevant in the CO_2 context Spain, Brazil, USA, etc. 2010 in short figures:

Turnover	14,171 EUR Million
Gross Profit	5,404 EUR Million
Net profit	1,079 EUR Million
Employees	12,096
Assets	40,489 EUR Million
Equity	7,855 EUR Million
Liabilities	29,756 EUR Million
ISIN	PTEDP0AM0009
SEDOL	4103596

WATER MANAGEMENT AND GOVERNANCE

1. WATER MANAGEMENT AND GOVERNANCE

1.1 Does your company have a water policy, strategy or management plan?

Yes.

1.1a Please describe your policy, strategy or plan, including the highest level of responsibility for it within your company and its geographical reach:

It's Global (Portugal, Spain, Brazil, EUA).

EDP has a Corporate Environmental Policy that is transversal throughout the company and includes all the significant environmental aspects. The Corporate Environmental Policy states "Constantly improve environmental performance", this includes sustainable water management.

Most of the main companies that form EDP have their own environmental policies that always include the environmental management system, with focus on the significant environmental aspects, in which water management is always present. EDP considers having a significant impact on water resources, namely in the thermal and hydro production assets, so EDP manages water issues in such a way that minimises this impact. This good management is validated by the ISO 14001 and the EMAS certification, both applying the continuous improvement management approach.

EDP has water management plans in most of its production assets. By the end of 2010 the ISO 14001 certification, for the whole EDP group, covered 69% of total group net installed capacity, and the EMAS certification covered 28 % of total installed power. In the thermal and hydro production assets, EDP's commitment with resource eco-efficiency – that includes water use – is set into place through the Environmental Management Programs and the procedures regarding the Environmental Management System, implemented and certified by ISO 14001:2004 and by the EMAS.

The board of directors is the ultimate responsible for the environmental and sustainability policy as well as for the environmental performance of the company that includes water management. The board is assisted by a corporate environmental and sustainability office. Its manager is responsible for the reinforcement of the environmental and sustainability policy and for the follow-up and reporting of the EDP Group environmental and sustainability performance, that includes water management performance.

The water operational management is delegated in the power plant's directors and the water related risks are followed by the CRO (Chief Risk Officer).

In 2011, EDP will develop a water policy that will address all the related strategic issues.

Position of responsible person: Board/Executive board.

1.1b Does the policy, strategy or plan specify water reduction, quality or efficiency targets or other water related goals?

Yes.

Type of target/goal	Target/goal	Comments
Absolute reduction	Reuse of the water effluent from the Liquid effluent treatment plant in the desulphurization plant at Sines Power Plant in Portugal	
Absolute reduction	12% industrial water use reduction at Sines Power plant	Environmental Management Program 2010 for Sines power plant
Absolute reduction	35% reduction of the liquid treated effluents at Sines Power plant	Environmental Management Program 2010 for Sines power plant
Other	Liquid effluent monitoring rate of 92% at Sines Power plant	Environmental Management Program 2010 for Sines power plant
Other	Liquid effluent monitoring rate of 93% at Ribatejo Power plant	
Other	Liquid effluent monitoring rate of 93% at Lares Power plant	
Absolute reduction	1,5% saving in water use at Sidergas plant	Optimization of the water conditions to the inverse osmosis, at Sidergas plant
Quality of discharge	Reduction to zero of the probability of oil spills in rain water collectors Sidergas plant	Through the installation of new water oils separators, at Sidergas plant
Quality of discharge	Reduction to approximately zero of the probability of gasoil spills	Through the acquisition of equipment at Sidergas plant
Quality of discharge	Optimization of the conditions of the effluent delivered to Nestle, Sevares plant	Through the acquisition of equipment at Sevares plant

1.2 What specific actions has your company taken to manage water resources or engage stakeholders in water-related issues?

Geographical reach	Type of actions	Action	Outcomes
Global	Direct Operations	EDP has an environmental management system that manages the significant environmental aspects. Water is one of the most important aspects. All situations regarding water are closely followed, from use to spills.	The follow-up of water use and consumption.
Portugal	Direct Operations	In thermal and hydro production (EDP Produção):In the thermal and hydro production company EDP develops activities of plant's project, construction, exploitation and decommissioning. All these actions are developed in the straight compliance with the law and with all the voluntary commitments assumed by EDP, namely in what regards water use reduction; For new plants, during project phase, EDP incorporates the corporate environmental practices and ensures that the minimization and compensation measures stated by the Environmental Impact Declaration (issued by the competent state authorities) are effectively accomplished. In addition, best (voluntary) practices are added to the project guaranteeing that it will have a good environmental performance.	Reduction of - Water use and consumption, - Energy consumption - Operating costs
Portugal	Direct Operations	Examples of good voluntary practices: In Lares plant the industrial water supply is a mixture of water from the channel and the reused water from: the final wash of the treatment sand filters and mixed bed exchangers; the recirculation of mixed bed exchangers (when the water does not achieve the minimum requirements to be send to the demiwater tank, namely high conductivity); good quality condensate and boiler blow down water. The first two are sent to the water treatment plant and the last one is sent to the service water tank; During normal operation there are actions regarding the internal control aiming to demonstrate the respect for legal imposed limits, on surface and ground water withdrawal. These restrictions apply to water used in cooling and/or process, to rejected effluent volume and quality, to the quality of the receptor water. When the receptor is a river its water quality is also monitored with a monthly periodicity; Depending on each installation characteristics and on the associated infrastructures, the ground water quality is sometimes monitored through piezometers; In Setúbal power plant, in the oil heating lines, condensate water recovery equipment was installed. This equipment collects the residual treated water that is later used in the power plant garden irrigation; In Sines power plant, the boiler slag extraction wet system was replaced for a dry one, one of the main objectives of this replacement was water use reduction. The replacement began in 2004 and ended in 2008. The water use associated with this system, 532 000 m^3/year, was eliminated. Some other environmental, operational and maintenance advantages of this replacement were: discontinuance of mud production in the liquid effluent treatment installation; discontinuance of product consumption associated with the hopper water treatment (44 ton/year); significant cost reduction associated with the cleaning of the area; economical possibility of selling of the hopper the bottom ash; Also at the Sines power plant, by the end of 2009, and within the desulphurisation project, conditions were created to allow the reuse of almost all of the chemical effluent treated at the liquid effluent treatment installation.	Reduction of - Water use and consumption, - Energy consumption - Operating costs
Portugal	Direct Operations	In distribution, in Portugal, there is a special procedure regarding spills. This obliges its communication within 24 hours to the distribution company environmental department but also establishes all the actions to mitigate its impact.	Avoidance and minimisation of spill impact on the environment.
Spain	Direct Operations	In HC Energía - Production and distribution company in northern Spain - **Aboño power plant (Gijon):** (1) Improvement of the Aboño 1 hopper, through the optimization of valves, the plant uses less treated and potable water, (2) Reduction of water use in about 55 000m^3/month in the Aboño 2 desulphurization, (3) Improvement of water circulation systems for Aboño 1 and 2, (4) Sea water desalinization, (5) Recuperation of purge water. **Soto de Ribera power plant (Oviedo):** (1) Reuse of rain water for irrigation, (2) Continuous chlorine dosage in water cooling, preventing water spills.	Reduction of : Water use and consumption, Energy consumption and Operating costs
Brazil	Direct Operations	In Brazil an environmental evaluation is made during the viability studies phase for the hydro plants. In this phase the surface and ground water quality parameters are evaluated. During construction phase the impacts are monitored, and minimization measures are taken, all much focused on water quality. During operation the water quality and quantity are regulated by the plant operating license and are closely monitored.	Mitigation of the risk of degrading water quality.
Spain and Portugal	Other: Water regulatory risk	In November 2009, an internal working group was created to access the impact of the water framework directive on EDP Produção hydro power plants by the EDP Produção board.	Mitigation of regulatory risk

Global	Community engagement	Econnosco program, an initiative for EDP employees. This programme involves reduction in electricity and water consumption in EDP's office buildings, waste management and the creation of a Sustainability Ambassador – a volunteer employee who encourages sustainability measures in his/her workplace. From 2006 till 2009, in Portugal, the program reduced in 32% the water use in buildings.	Reduction of water use and consumption, energy consumption

2. RISKS AND OPPORTUNITIES

RISKS INDICATORS

Operations

2.1 Are you able to identify which of your operations are located in water-stressed regions?

Yes.

Method	Please add any comments here:
Global Water Tool	The Global Water Tool is a tool developed by the WBCSD aiming to help companies to access which of its assets are located in water stress areas, in countries that lack access to improved water and sanitation and which of its suppliers are in water stress areas.

2.1b Please list the water-stressed regions where you have operations and the percentage of your total operations in that area:

Country	Region within country	Proportion of operations located in this region (%)	Further comments
Spain	Murcia	0-10	Only one site of EDP Group is located in water stressed area. It is a small co-generation unit, located in Murcia, Spain and representing 0,07% of installed capacity, 0,22% of production in 2010 and 0,0038% of total water withdrawals. Notwithstanding its limited size, EDP is developing all adequate measures to deal with a unit with this specific location. The work developed last year will continue in 2011, when we will formalize a Water Policy and to complete the set of tools to manage water at a corporate level and with an integrated approach.

2.2 Do you use other indicators (besides water stress) to identify operations which are located in regions subject to water-related risk?

No.

2.3 Please specify the total percentage of your operations that are located in regions at risk which you identified in questions 2.1 and/or 2.2?

0%

2.4 Please specify the basis you use to calculate the percentages used for questions 2.1 and/or 2.2

Basis used to determine percentage	Please add comments here
Production volumes, installed capacity and water withdrawals	Only one site of EDP Group is located in water stressed area. It is a small co-generation unit, located in Murcia, Spain and representing 0,07% of installed capacity, 0,22% of production in 2010 and 0,0038% of total water withdrawals.

2.5 Are you able to identify which of your key water-intensive inputs (excluding water) come from regions subject to water-related risk?

No.

2.5b You may explain here why you are not able to identify which of your key water-intensive inputs come from water-stressed regions and whether you have plans to explore this issue in the future:

In 2010, EDP has established a working group to access Sustainability risks in the supply chain. Within this project the key sustainability aspects were identified:

- Human rights and labour – working conditions – Forced labour or equivalent, unfair salary practices, child labour, restrictions on freedom of association and collective bargain, discrimination practices and non guarantee of equality of opportunities, inhuman treatment;
- Human rights and labour –occupational health and safety – accidents at work, occupational diseases
- Environment – Environmental damage – includes as risk examples amongst others: water stress and wastewater emissions
- Integrity and ethics – Corruption and bribery moral and psychological, coercion sexual-harassement, legal non compliance, unfair competition.

These key sustainability aspects are now being analysed for each category in order to identify if there is any related risk. If this occurs mitigation actions will be taken. Currently some actions are already taken in order to minimize the supply risk, namely specific audits, security procedures checks, special contract clauses, etc.

Water issues, specifically if water stress will affect our strategic supplies will be addressed in 2011 within the works of this group. The outputs will be the identification of the strategic supplies that might be subjected to water stress and the implementation of mitigation measures to minimize this risk.

3. RISK ASSESSMENT OPERATIONS

3.1 Is your company exposed to water-related risks (current or future) that have the potential to generate a substantive change in your business operation, revenue or expenditure?

Yes.

3.1a Please describe the current and/or future risks to your operations, the ways in which these risks affect or could affect your operations, and your current or proposed strategies for managing them

Country or geographical description	Risk Type	Risk description	Timescale (years)	Potential business impact	Risk management strategies
Portugal	Regulatory - other	European Water Framework	Current	The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which: (a) prevents further deterioration and; (b) promotes sustainable water use based on a long-term protection of available water resources; (c) aims at enhanced protection and improvement of the aquatic environment; (d) ensures the progressive reduction of pollution of groundwater, and (e) contributes to mitigating the effects of floods and droughts. The Directive will most probably impact in EDP hydro power plants through heavier restrictions on: Ecological flows; Flood and cleaning discharges; Hydropeaking; Sediment management; Working regime. These restrictions will most probably impact EDP cash flow generation.	In Portugal EDP is represented in the relevant River Basin Councils. These are advisory boards in which all the water users (consumers and non consumers) are represented amongst many others (government, scientists, etc.). This allows EDP to proceed with a close follow up of the activities of the national river managements authorities and to prepare itself for the discussion of the of the river basin management draft plans. These will be available during 2011.
Spain	Regulatory - other	European water framework	Current	The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which: (a) prevents further deterioration and; (b) promotes sustainable water use based on a long-term protection of available water resources; (c) aims at enhanced protection and improvement of the aquatic environment; (d) ensures the progressive reduction of pollution of groundwater, and (e) contributes to mitigating the effects of floods and droughts. The Directive will most probably impact in EDP hydro power plants through heavier restrictions on: Ecological flows; Flood and cleaning discharges; Hydropeaking; Sediment management; Working regime. These restrictions will most probably impact EDP cash flow generation.	In Spain EDP closely follows up of the activities of the national river managements authorities
Portugal	Physical: Declining water quality	(1) Salinity increase, (2) turbidity changes	Current	These risks can occur at Ribatejo and Lares power plants. Decrease or even stop of the steam generators production, as a consequence of shortcomings in cooling water.	(1) Optimization of continuous monitoring of water quality; (2) Increase the frequency of routine inspections and tests in the critical seasons of the year, namely, spring and summer; (3) Prepare/ensure alternative supply sources for demineralization water process.
Portugal	Physical: Declining water quality	(1) Degradation of ground water quality (2) contamination by biofouling	Current	These risks can occur at Setúbal power plant. Degradation of groundwater quality withdrawal for demineralized water production, due to salinity increase. Contamination by biofouling (Dreissena polymorpha and Corbicula fluminea) of surface water (Sado estuary) with negative consequences on the cooling capacity as well as on degradation of the condenser system materials. These risks have a direct negative impact on power plant availability for electricity production, thus impacting cash flow generation.	(1) Definition/review of inspection plans and analysis programs for ground and surface water; (2) Evaluation of the need to prepare contingency plans, particularly in relation to groundwater withdrawal.
Portugal	Physical: Declining water	(1) water degradation/ contamination	Current	These risks can occur at Sines power plant. Water degradation/contamination by turbidity changes with possible impact on the water	(1) Development and use of a algae growing model to identify abnormal algae concentration situations; (2) Implementation of algae detection equipment, in

	quality	by turbidity changes (2) Strong affluence of algae		pretreatment necessary for demineralized water production. Algae presence with strong affluence, which can largely affect water pumping equipments and cooling capacity. These risks have a direct negative impact on power plant availability for electricity production, thus impacting cash flow generation.	order to minimize impact on the critical periods; (3) Installation of grid cleaning systems, and algae retention systems; (4) Definition of alternative origins for demineralized water.
Portugal	Physical: Flooding	Floods	Current	Floods caused by local hydrological conditions and rising sea levels affect the accessibility and/or impact the operations of EDP's infrastructures such as offices, electricity distribution lines or gas distribution pipelines	EDP manages these risks either through direct corrective actions on its assets either by prevention measures. The directive actions are: - In a power plant exposed to river overflow – Setúbal - protection walls were constructed - In a new power plant exposed to river overflow – Ribatejo -the equipments were placed at a superior height - In hydro power plants the floodgates circuits were duplicated, in hydro power plants diesel emergency groups were placed in flood protected sites, etc.). The prevention measures are based on using all the relevant information to anticipate the floods: - Access to meteorological forecasts, - A dedicated communication channel with the civil protection authorities - Annual detailed equipment maintenance plan - Companies' and sites' emergency plans - "All risks" insurance - Environmental liability insurance - Civil responsibility insurance The concern with physical risks which include water related risks, affecting EDP is transversal throughout the company. In Portugal, Spain and Brazil, most of the assets are ISO 14001 and EMAS certified thus guaranteeing that risks related with extreme events and water scarcity or excess are identified and mitigated. In response to physical risks which include water related 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 water related. Water related risks to assets and losses are mostly covered by a range of insurances for the Group's assets in operation, so the maximum risk cost incurred is mostly transferred out of the EDP Group (except for partial revenue losses). Also, EDP has a captive insurance policy (Energia RE, based in Luxembourg) for sharing Group's small losses (below external insurance deductibles) and to give direct access to reinsurance market.
Spain	Physical: Flooding	Floods	Current	Floods caused by local hydrological conditions and rising sea levels affect the accessibility and/or impact the operations of EDP's infrastructures such as offices, electricity distribution lines or gas distribution pipelines	EDP manages these risks using all the relevant information to anticipate them: - Access to meteorological forecasts, - A dedicated communication channel with the civil protection authorities - Annual detailed equipment maintenance plan - Companies' and sites' emergency plans - "All risks" insurance - Environmental liability insurance - Civil responsibility insurance The concern with physical risks which include water related risks, affecting EDP is transversal throughout the company. In Portugal, Spain and Brazil, most of the assets are ISO 14001 and EMAS certified thus guaranteeing that risks related with extreme events and water scarcity or excess are identified and mitigated. In response to physical risks which include water related 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 water related. Water related risks to assets and losses are mostly covered by a range of insurances for the Group’s assets in operation, so the maximum risk cost incurred is mostly transferred out of the EDP Group (except for partial revenue losses). Also, EDP has a captive insurance policy (Energia RE, based in Luxembourg) for sharing Group’s small losses (below external insurance deductibles) and to give direct access to reinsurance market.
Brazil	Physical: Flooding	Floods	Current	Floods caused by local hydrological conditions and rising sea levels affect the accessibility and/or impact the operations of EDP’s infrastructures such as offices, electricity distribution lines or gas distribution pipelines	EDP manages these risks using all the relevant information to anticipate them: - Access to meteorological forecasts, - A dedicated communication channel with the civil protection authorities - Annual detailed equipment maintenance plan - Companies’ and sites’ emergency plans - “All risks” insurance - Environmental liability insurance - Civil responsibility insurance The concern with physical risks which include water related risks, affecting EDP is transversal throughout the company. In Portugal, Spain and Brazil, most of the assets are ISO 14001 and EMAS certified thus guaranteeing that risks related with extreme events and water scarcity or excess are identified and mitigated. In response to physical risks which include water related 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 water related. Water related risks to assets and losses are mostly covered by a range of insurances for the Group’s assets in operation, so the maximum risk cost incurred is mostly transferred out of the EDP Group (except for partial revenue losses). Also, EDP has a captive insurance policy (Energia RE, based in Luxembourg) for sharing Group’s small losses (below external insurance deductibles) and to give direct access to reinsurance market.
Portugal	Increase water stress	Reduced water availability	6-10	(1) Water stress can reduce water availability for power plant cooling systems (2) water stress can reduce water availability for hydro power plants Both situations can reduce plant availability and production thus decreasing cash flow generation.	For new plants, during project phase EDP incorporates the corporate environmental best practices. In addition, best (voluntary) practices are added to the project guaranteeing that it will have a good environmental performance. As an example of good voluntary practices during project phase there is the Lares plant, in which the industrial water supply is a mixture of water from the channel and the reused water from the final wash of the treatment sand filters and mixed bed exchangers; the recirculation of mixed bed exchangers (when the water does not achieve the minimum requirements to be sent to the demiwater tank, namely high conductivity); good quality condensate and boiler blow down water. The first two are sent to the water treatment plant and the last one is sent to the service water tank. In the exploitation phase there are actions aiming to reduce water use. An example of good practices during exploitation phase is in Setúbal power plant, in which condensate water recovery equipment was installed in the oil heating lines. This equipment collects the residual treated water that is later used in the power plant garden irrigation. Another action is the replacement at Sines power plant of the boiler slag extraction wet system for a dry one,

one of the main objectives of this replacement was water use reduction. The replacement began in 2004 and ended in 2008. The water use associated with this system, 532 000 m^3/year, was eliminated. Some other environmental, operational and maintenance advantages of this replacement were: discontinuance of mud production in the liquid effluent treatment installation; discontinuance of product consumption associated with the hopper water treatment (44 ton/year); significant cost reduction associated with the cleaning of the area; economical possibility of selling of the hopper the bottom ash.
Also at the Sines power plant, by the end of 2009, and within the desulphurisation project, conditions were created to allow the reuse of almost all of the chemical effluent treated at the liquid effluent treatment installation.

Water stress in hydro power plants is managed through the reservoir dams that allow water stock.

3.2 What methodology and what geographical scale (e.g. country, region, watershed, facility) do you use to analyze water-related risk across your operations?

Risk Methodology	Geographical scale
Global Water Tool	Facility

Currently EDP uses the Global Water Tool to access which facilities are under water stress. Additionally EDP analyses water related risk in a qualitative approach per facility. EDP is also following the available methodologies in order to access which will be the most adequate.

Supply Chain

3.3 Do you require your key suppliers to report on their water use, risks and management?

No.

3.4 Is your supply chain exposed to water-related risks (current or future) that have the potential to generate a substantive change in your business operation, revenue or expenditure?

Yes.

3.4a Please describe the current and/or future risks to your supply chain, the ways in which these risks affect or could affect your operations and your current or proposed strategies for managing them

Country or geographical reach	Risk type (to supplier)	Risk description	Timescale (years)	Potential business impact (to responding company)	Risk management strategies (to responding company)
Colombia	Water scarcity	Coal mining uses water. If there would be restrictions on water use this could cause an impact.	Unknown	If coal becomes scarce its price will increase, which will negatively impact EDP's cash flow	(1) EDP has diversified fuel sources; (2) EDP has invested strongly on renewable (wind) thus reducing its exposure to fossil fuels.

4. IMPACTS TO BUSINESS

4.1 Please describe any detrimental impacts to business related to water that your company has faced in the past five years, their financial impacts and whether they have resulted in any changes to company practices :

The detrimental water-related impacts in the past 10 years (since 2000) have been evaluated by EDP Produção, the thermal and hydro production company in Portugal. The values obtained were: for corrective measures due to excessive raining, for hydro assets about 45 000 Euro, for thermal assets 80 000 Euro. The corrective measures due to excessive dryness, from 1994 till 2005, for thermal assets cost about 900 000 Euro. The adaptation measures related with these last measures cost about 350 000€. Also due to a deterioration of the aquifer water quality that supplies raw water to one of the Portuguese power plants (Setúbal), EDPP has incurred in additional expenses – about 90 000 Euro - in the years 2005 and 2009, due, respectively, to costs associated with cementation/sealing and opening of groundwater artesian wells as follows.

In Portugal, in 2009, a transformer in a hydro power plant ruptured due to a lightening strike and emergency procedures were implemented to recover 5 m^3 of oil and 10 m^3 of oil/water mixture, thus preventing any environmental damage on the water basin.

In Spain, in EDP, to prevent incidents that can cause non-controlled spills, there is a program going on sub-stations that will seal water covers and will also install oil collectors. Also under this program these installations are supplied with equipment to control accidental oil spills and to mitigate its environmental impacts. In 2010, in Spain, floods have caused severe damage in the Prianes power plant forcing its stoppage for reparation which cost approximately a million Euro. Also in 2010 in Spain, EDP has paid 21 thousand Euro of fines regarding spills.

5. OPPORTUNITIES

5.1 Do water-related issues present opportunities (current or future) that have the potential to generate a substantive change in your business operation, revenue or expenditure?

Yes.

5.1a Please describe the current and/or future opportunities, the ways in which these opportunities affect or could affect your operations and your current or proposed strategies for exploiting them?

Country	Opportunity description	Timescale	Potential business impact	Strategy to exploit opportunity
Portugal	Hidropower electricity production	Current	The electric generation from hydropower plants increases EDP's cash flow. It is more interesting than producing electricity from fossil fuel power plants.	EDP is heavily investing in hydropower plants: By 2015 there will be more 1,7 GW more hydro capacity, by 2020 there will be 1,8 GW more. The investments are: Sabor, 170 MW hydro reversible power plant (HRPP) reservoir dam (RD); Ribeiradio-Ermida, 77 MW RD; Foz Tua, 251 MW HRPP RD; Fridão, 238 MW two dams to help improve flow modulation; Alvito, 225 MW HRPP; Carvão-Ribeira, 555 MW HRPP RD; Picote II, 246 MW repowering RD; Bemposta II, 191 MW HRPP repowering RD; Alqueva II, 256 MW HRPP repowering RD; Venda Nova III, 736 MW HRPP repowering RD; Salamonde II, 204 MW HRPP repowering RD; Paradela III, 318 MW HRPP repowering RD.
Portugal	Cooling towers	Current	Less water use will impact less on costs when water use starts to be paid.	Closed water refrigeration circuits, with cooling towers, were adopted in the recently built Ribatejo and Lares combined cycle power plants. When compared to the conventional fuel-oil and coal plants of Setubal and Sines they are less water intensive because they use less water thus reducing water availability dependence in the respective locations.
Spain	Cooling towers	Current	Less water use will impact less on costs when water use starts to be paid.	In Spain the Soto and Castejon power plants have closed water refrigeration circuits, with cooling towers. When compared to the conventional condenser cooling systems these are less water intensive because they decrease water use and consequently decrease the dependence on water availability in the respective locations.
Portugal	Reversible hidropower	Current	Increases cash flow from operations.	Reversible hydro power plants play a strategic role in wind energy because they allow off peak wind energy storage and sale in peak hours. This not only creates a positive cash flow but also helps dealing with wind curtailment, that is, the non use of wind energy in off peak hours.

6. MANAGING TRADE-OFFS BETWEEN WATER AND CARBON EMISSIONS

6.1 Has your company identified any linkages or trade-offs between water and carbon emissions in its operations or supply chain?

Yes.

6.1a Please describe the linkages

Linkage or trade-off	Policy or action
There is a direct link among water and CO_2. This link mostly occurs through energy. Energy is consumed to transport and treat water, water is used to produce energy in hydropower plants and it is also used in the thermal power plants cooling source. Energy has a direct link to CO_2 since most of the energy used comes from fossil sources that emit CO_2. GHG reduction systems in power plants, such as the desulphurization systems cause an increase in water consumption. In EDP's operations there are many trade-offs between water and CO_2 emissions: - Water shortage on the hydropower plants will cause more energy production from thermal sources, thus generating more CO_2 emissions; - Decline of water quality causes more energy consumption in pre-treatments and pumping, thus causing more CO_2 emissions. The above mentioned trade-offs also exist in EDP's supply chain, namely because some of the suppliers have a water intensive business. Per example the coal suppliers, that use large amounts of water in the coal preparation plant.	- Reduce water and energy consumption; - Diversification of suppliers and of technologies. EDP has developed strategies to diminish its exposure to water and CO_2 risk through water use/consumption saving measures such as: - In the Lares plant the industrial water supply is a mixture of water from the channel and the reused water from the final wash of the treatment sand filters and mixed bed exchangers and the recirculation of mixed bed exchangers (when the water does not achieve the minimum requirements to be sent to the demiwater tank, namely high conductivity) and the good quality condensate and boiler blow down water. The first two are sent to the water treatment plant and the last one is sent to the service water tank; - In Setúbal power plant the condensate water recovery equipment was installed in the oil heating lines. This equipment collects the residual treated water that is later used in the power plant garden irrigation: - In Sines power plant there was the replacement of the boiler slag extraction wet system for a dry one, one of the main objectives of this replacement was water use reduction. The replacement began in 2004 and ended in 2008. The water use associated with this system, 532 000 m^3/year, was eliminated. Some other environmental, operational and maintenance advantages of this replacement were: discontinuance of mud production in the liquid effluent treatment installation; discontinuance of product consumption associated with the hopper water treatment (44 ton/year); significant cost reduction associated with the cleaning of the area; economical possibility of selling of the hopper the bottom ash.

WATER ACCOUNTING

7. WITHDRAWALS AND RECYCLING

7.1 Are you able to provide data, whether measured or estimated, on water withdrawals within your operations?

Yes.

7.1a Please report the water withdrawals within your operations for the reporting year

Location	Withdrawal type	Quantity (ML/yr)	Proportion of data that has been verified
Portugal	Surface water	794 591	100%
Portugal	Ground water	241	100%
Portugal	Municipal water	3 101	100%
Spain	Surface water	357 658	100%
Spain	Municipal water	1 877	100%
Brazil	Surface water	9	100%
Brazil	Ground water	25	100%
Brazil	Municipal water	63	100%
USA	Municipal water	37	100%

7.2 Are you able to provide data, whether measured or estimated, on water recycling/reuse within your operations?

No.

7.2b Please explain why you are not able to provide data for water re-use/recycling within your operations

This data is currently not available. Efforts are being made to have this data.

7.3 Please use this space to describe the methodologies used for questions 7.1 and 7.2 or to report withdrawals or recycling/reuse in a different format to that set out above

The data was obtained directly through direct flow meter measures and indirectly through calculations using pump operation time.

7.4 Are any water sources significantly affected by your company's withdrawal of water?

No.

7.4.b You may explain why your company's withdrawal of water does not significantly affect any water sources.

The operation of electricity plants (gas and coal, cogenerations and hydro plants) needs water, for use, and consumption. Water use occurs in the hydro power plants, in which water is turbinated, and in the thermal power plants, in which water is used in the condenser cooling circuits. Water is consumed in thermal power plants in the cooling towers, in all plants in the refilling of the water-steam circuit and in some auxiliary systems such as pre-treatment systems.

All EDP power plants have been subjected to a licensing process in which the authorisation of the competent authorities has only been given when the plant's operation was compatible with the resource use and when it was granted that it would not cause any significant damage.

8. DISCHARGES

8.1 Are you able to identify discharges of water from your operations by destination, by treatment method and by quality using standard effluent parameters?

Yes.

8.2 Did your company pay any penalties or fines for significant breaches of discharge agreements or regulations in the reporting period?

No.

8.3 Are any water bodies and related habitats significantly affected by discharge of water or runoff from your operations?

Yes.

8.3a Please list any water bodies and associated habitats which are significantly affected by discharge of water or runoff from your operations

Country	Water body	Impact	Company action and outcomes
Portugal	Riparian zones	Impact on biodiversity, impact on river flow, impact on sediment transportation, etc.	EDP is developing measures to compensate its impacts due to the new Hidropower plants.
Brazil	Riparian zones	Impact on biodiversity, impact on river flow, impact on sediment transportation, etc.	

9. WATER INTENSITY

9.1 Please provide any available financial intensity values for your company's water use across its operations

Country or geographical region	Financial metric	Water used type	Financial intensity	Please provide any contextual details that you consider relevant to understand the units or the figures you have provided
Portugal	Turnover	Water use in operations	545260	UNIT: m^3/Million Euro Turnover 1 463 399 319 Euro, water 797 933 10^3m^3 Based on ISO 14001 certified power stations income.
Spain	Turnover	Water use in operations	688199	UNIT: m^3/Million Euro Turnover 522 428 928 Euro, water 359 535 10^3m^3 Based on ISO 14001 certified power stations income.
Brazil	Turnover	Water use in operations	44	UNIT: m3/Million Euro Turnover 2 156 645 239 Euro, water 96 10^3m^3 Based on ISO 14001 certified power stations income.
USA				IN USA generation is not ISO 14001 certified so we do not calculate this figure.

9.2 Please provide any available water intensity values for your company's products across its operations

Country or geographical region	Product	Product unit	Water unit	Water intensity (Water unit/Product unit)	Please provide any contextual details that you consider relevant to understand the units or the figures you have provided
Portugal	Electricity generation	GWh	m^3	28948	UNIT: m^3/GWh 27565 GWh, water 797 933 10^3m^3
Spain	Electricity generation	GWh	m^3	24392	UNIT: m^3/GWh 14740 GWh, , water 359 535 10^3m^3
Brazil	Electricity generation	GWh	m^3	13	UNIT: m^3/GWh 7293 GWh, , water 96 10^3m^3
USA	Electricity generation	GWh	m^3	5	UNIT: m^3/GWh 7689 GWh, water 797 933 10^3m^3