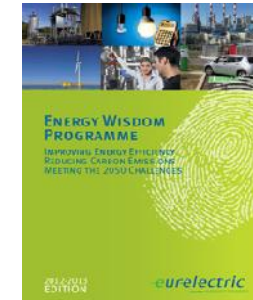


EDP – Energias de Portugal



Project Name	Hydropower programme in Portugal
Project Category	Electricity Generation: New Generating Capacity - Renewables
Project Location	Portugal
Project Description	<p>The EDP Group has a large experience in developing hydropower projects in Portugal (EDP), Spain (HC Energía) and Brasil (EDP Brasil). This programme comprises only the plants that started operation after 1990 in Portugal, both reservoir and run-of-river types, with the following units and total rated power:</p> <p>Alto Lindoso (2 units, 630 MW, 1992) Touvedo (reservoir,1 unit, 22 MW, 1993); Pracana (reservoir, 3 unit, 2x8 MW + 25 MW, 1993); Caldeirão (reservoir, 1 unit, 40 MW, 1994); Miranda (run-of-river, 4 units - only the 4th is reported here, 189 MW, 1995); Vila Cova (run-of-river, 1 unit, 23,4 MW, 2001); Frades (reservoir, 2 units, 191,4 MW, 2005); Alqueva (reservoir, 2 units, 240 MW, 2002. Exploited by EDP since 2007); 5 mini-hydro schemes (Labruja, Cefra, Sabugueiro II, Lagoa Comprida and Pedrógão), installed between 1992 and 2006, with a total installed capacity of 22,6 MW; Picote II (reservoir, repowering, 1 unit, 246 MW, Sept. 2011); Bemposta II (reservoir, repowering, 1 unit, 191 MW, Sept. 2011)</p>
Project Manager	Pedro Paes, Sustainability and Environmental Office / Senior Engineer, pedro.paes@edp.pt
Project Name	Hydro Power Plant S. João
Project Category	Electricity Generation: New Generating Capacity: Renewables
Project Location	Brazil
Project Description	Hydropower plant (run-of-river) in the Paraíso river, with the following characteristics: Total catchment area: 1,2 km ² and 2 units, Francis turbines, with rated power 2x 12,60 MW. The power plant started operation in 2007.
Project Manager	Pedro Sirgado, Sustainability / Executive Manager, pedro.sirgado@edpbr.com.br

Project Name **Hydropower Plant Paraíso**
Project Category Electricity Generation: New Generating Capacity: Renewables
Project Location Brazil - Costa Rica city, state of Mato Grosso do Sul
Project Description PCH Paraíso is a small hydropower plant of 21,6 MW installed capacity, located in the municipality of Costa Rica in the State of Mato Grosso do Sul, with the following characteristics: Total catchment area: 0,21 km² and 2 units (Francis turbines) with rated power 2x 10,80 MW (Ensured Power: 14,35 MW average). The power plant started operation in 2003 and was submitted in 2006 by EDP Brasil (subsidiary of EDP) to the United Nations CDM.
Project Manager Pedro Sirgado, Sustainability / Executive Manager, pedro.sirgado@edpbr.com.br

Project Name **Hydro Power Plant, Mascarenhas**
Project Category Electricity Generation: New Generating Capacity: Renewables
Project Location Brazil - Doce river, located in Mascarenhas District, Baixo Guandu City (Espírito Santo State)
Project Description Mascarenhas hydro power plant (run-of-river) in the Doce river. The first 3 units (2x45,00 MW + 1x41,00 MW) were installed in 1970. The 4th group, which is reported here, is a repowering of the existing plant and was commissioned in 2006. It is composed of 1 unit (Kaplan turbine) with 49,50 MW rated (Ensured Power: 23,90 MW average). The 3rd group was also repowered in 2011.
Project Manager Pedro Sirgado, Sustainability / Executive Manager, pedro.sirgado@edpbr.com.br

Project Name **Hydro power plant, Santa Fé**
Project Category Electricity Generation: New Generating Capacity: Renewables
Project Location Brazil - Itapemirim river, located in Alegre City, Espírito Santo State
Project Description The Santa Fé Hydro Power Plant is located in the Itapemirim River and has the following characteristics: Total catchment area: 1,21 km² and 2 units (francis turbines, with rated power 2 x 14,8 MW - Ensured Power: 16 MW estimated).The power plant started operation in 2009.
Project Manager Pedro Sirgado, Sustainability / Executive Manager, pedro.sirgado@edpbr.com.br

Project Name **Large Hydropower plant, Peixe Angical**
Project Category Electricity Generation: New Generating Capacity: Renewables
Project Location Brazil
Project Description The Peixe Angical Hydro Power Plant is localized in the Tocantins River (run of the river), with the following characteristics: Total catchment area: 294 km² and 3 units (Kaplan turbines) with rated power 3x 153,12 MW (Ensured Power: 271,00 MW average). The power plant started operation in 2006. This hydro power plant is operated by Furnas Centrais Elétricas S.A., holder of 40% of the venture, while the remaining 60% is owned by EDP Energias do Brasil S.A.
Project Manager Pedro Sirgado, Sustainability / Executive Manager, pedro.sirgado@edpbr.com.br

Project Name **Large Hydropower Plant, Luis Eduardo Magalhães (Lajeado)**
Project Category Electricity Generation: New Generating Capacity: Renewables
Project Location Brazil - municipalities of Peixe and São Salvador do Tocantins, Tocantins state
Project Description The Luis Eduardo Magalhães (Lajeado) Hydro Power Plant is located in the Tocantins River, with the following characteristics: Total catchment area: 630 km2 and 5 units (Kaplan turbines) with rated power 5 x 180,5 MW (ensured power 902,5 MW). The 1st unit was commissioned in Dec. 2001 and the 5th unit in Dec. 2002. The power plant is currently operated by Investco, owned by EDP Lajeado Energia S.A. (73%), CEB Lajeado Energia S.A. (20%) and Paulista Lajeado Energia S.A. (7%)
Project Manager Pedro Sirgado, Sustainability / Executive Manager, pedro.sirgado@edpbr.com.br

Project Name **Hydropower Plant, Suíça**
Project Category Electricity Generation: New Generating Capacity: Renewables
Project Location Brazil - municipality of Santa Leopoldina, Espírito Santo state
Project Description The Suíça Hydro Power Plant is located in the Santa Maria River, with the following characteristics: Total catchment area: 0,6 km2 and 2 units (Francis turbines) with rated power 1 x 15 MW and 1 x 18,5 MW (ensured power 33,9 MW). The power plant is currently owned and operated by Energest.
Project Manager Pedro Sirgado, Sustainability / Executive Manager, pedro.sirgado@edpbr.com.br

Project Name **Small Hydropower Plant, Rio Bonito**
Project Category Electricity Generation: New Generating Capacity: Renewables
Project Location Brazil - municipality of Santa Maria Jetibá, Espírito Santo state
Project Description The Rio Bonito Hydro Power Plant is located in the Santa Maria River, with the following characteristics: Total catchment area: 2,0 km2 and 3 units (Francis turbines) with rated power 3 x 7,5 MW (ensured power 22,5 MW). The power plant is currently owned and operated by Energest.
Project Manager Pedro Sirgado, Sustainability / Executive Manager, pedro.sirgado@edpbr.com.br

Project Name **Wind Farm Programme**
Project Category Electricity Generation: New Generating Capacity: Renewables
Project Location Europe (Portugal, Spain, France, Belgium, Poland and Romania) and America (United States and Brasil)
Project Description EDP launched its wind farm programme in 1996, in Portugal. The programme was expanded to Spain, in 2005 and France in 2006, as well as Belgium (2007), Poland (2007), USA (end of 2007, following the acquisition of Horizon Wind Energy company), Romania (2008) and Brasil (end 2009). The Renewable Energy business worldwide is managed by EDP Renováveis (EDPR). Besides those countries, EDPR is developing new wind farms in the UK (off shore) and in Italy. By the end of 2011, the total installed capacity by country was: Portugal: 613 MW
Spain: 2201 MW
France: 306 MW
Belgium: 57 MW
Poland: 190 MW
Romania: 285 MW
USA: 3422 MW
Brasil: 84 MW

Project Name **CCGT Power Plants**
Project Category Portugal (Ribatejo and Figueira da Foz) and Spain (Navarra)
Project Location Electricity Generation - New Generating Capacity: Fossil - Fuel
Project Description Investing in CCGT, the most efficient power plants currently, is one of the pillars of the company's strategy to reduce CO2 emissions under the Iberian liberalised electricity market. Main characteristics of the CCGTs: Ribatejo (Portugal): three units with 265 MW (rated power) gas turbine combined with 165 MW (rated power) steam turbines, totalling 1176 MW. Commissioned in 2003 (1st unit), 2004 (2nd unit) and 2006 (3rd unit) / Lares (Portugal): two units (826 MW) started operation in November 2009 / Castejón (Spain): two units with 392,6 MW rated power, commissioned in 2002 / Soto 4 (Spain): two 413 MW rated power units, commissioned in December 2008 and 2010.

Project Name **Soporgen, Energin and Fisigen plants**
Project Category Electricity Generation - New Generating Capacity: CHP
Project Location Portugal
Project Description Soporgen (paper industry) and Energin (chemical industry) are two of the largest Portuguese CHP plants. They were switched from fuel oil to natural gas CHP after acquisition by EDP in 2000 and 2002 respectively. In 2010, EDP commissioned a third CHP plant, in Barreiro, substituting an old fuel oil fired CHP.

Project Name **Efficient lighting exchange campaign**
Project Category End-User Energy: Lighting Appliances & Equipments
Project Location Portugal
Project Description The campaigns were carried out in the framework of the portuguese regulatory programme PPEC-Promotion of end-use energy efficiency, and consisted of exchanging/distributing about 5,2 million CFL: door-to-door scheme, EDP stores, shopping centres and supermarkets, social neighbourhoods, historical neighbourhoods, schools, municipalities where EDP is building future facilities, and social Solidarity Institutions
Project Manager Pedro Paes, Sustainability and Environmental Office / Senior Engineer, pedro.paes@edp.pt

Project Name **Variable Speed Motor Drives (VSD) Programme**
Project Category End-User Energy: Electric Technologies
Project Location Portugal
Project Description The project was launched in 2007 in the framework of the regulatory programme PPEC - Promotion of end-use electric energy efficiency and consisted in the installation of 163 (2007) + 300 (2008) + 150 (2009) + 375 (2011) VSD's in industry facilities.
Project Manager Pedro Paes, Sustainability and Environmental Office / Senior Engineer, pedro.paes@edp.pt

Project Name **Tertiary Efficient Lighting Campaign**
Project Category End-User Energy: Lighting Appliances & Equipments
Project Location Portugal
Project Description The project was carried out in the framework of the portuguese regulatory programme PPEC-Promotion of end-use energy efficiency, and consisted of exchanging T7-type fluorescent tubes with ferromagnetic ballasts by the same amount of T5-type lamps with electronic ballasts, either in offices or in schools.
Project Manager Pedro Paes, Sustainability and Environmental Office / Senior Engineer, pedro.paes@edp.pt

Project Name	The use of LULUCF activities for carbon sequestration in Portugal
Project Category	CO2 Capture and Sotarage + Carbon Sequestration: Other Projects
Project Location	Several farms in Portugal: Quinta da França (Covilhã), Herdade das Cruzetinhas (Chamusca), Herdade da Machoqueira do Grou (Chamusca), Companhia das Lezírias (Benavente), Herdade do Azinhal (Grândola), Herdade da Asseiceira (Benavente), Herdade Terra das Freiras (Montemor-o-Novo,) ,Herdade Lage de Cima (Montemor-o-Novo), Herdade das Murteiras (Évora), Quinta da União (Portalegre), Herdade da Silveira (Portalegre), Herdade da Chaminé (Portalegre), Herdade do Almarjão (Crato), Herdades da Crucieira e Endrinhos (Crato), Herdade dos Ruivos (Évora), Herdade de Vale do Gaio e Fraguins (Alcácer do Sal).
Project Description	Portugal was one of the few countries to choose all of the voluntary LULUCF (Land Use, Land Use Change and Forestry) activities under Article 3.4 of the Kyoto Protocol, namely forest, cropland and grassland management. This project, implemented in sixteen locations (about 2,336 ha), was designed to demonstrate the potential of such activities in the national inventory. Alongside afforestation, forest management and the agricultural practice of no-tillage, it considers the installation of sown biodiverse permanent pastures rich in legumes, which are a Portuguese inovation. After this project began, the Portuguese government has decided to support the installation of new areas of this system of pastures throughout the country, in order to help comply with the targets in the Kyoto Protocol.
Project Manager	Tiago Morais Delgado Domingos, Manager (Terraprima - Sociedade Agrícola Lda.), tdomingos@terraprima.pt