

# GREENHOUSE GASES EMISSIONS AND CARBON TRADING IN PORTUGAL

Brief summary on CDM project implementation in some Portuguese speaking countries

### I – POLICIES, LEGAL FRAMEWORK AND CREDIT TRADING

Portugal imports around 80% of the primary energy it consumes (mostly fossil fuels). Through the increase of renewable energy generation the country has managed, during the last three years, to start exporting power and to decrease its imports of fossil fuel for energy generation.

Under the Kyoto Protocol 1997, Portugal was permitted an overall increase of greenhouse gas emissions of 27% compared to 1990 levels, during the first commitment period of 2008 to 2012. This limit was exceeded by the end of 2005, which requires a concerted effort to reduce its carbon emissions.

The Portuguese Energy Strategy for 2020, approved by the Council of Ministers on 15 April 2010 ("Resolution of the Council of Ministers no. 29/2010" or "ENE 2020") adopts and revises the previous strategy defined by the Resolution of the Council of Ministers no. 169/2005, of 24 October 2005, defining a competitiveness, growth and financial and energy independence agenda, through betting on renewable energies and integrated promotion of energy efficiency. This ENE 2020 envisages security of supply and environmental and economic sustainability of the model thus created, contributing to reduction of CO2 emissions and generating benefits for society which will be progressively

internalised in the final consumption price of energy.

ENE 2020 incorporated 10 measures aimed at re-launching the economy and promoting employment, by investing in research and technological developments and increasing Portuguese energy efficiency.

One of ENE 2020 five defined objectives of promoting environmental and economic sustainability as a fundamental condition for the success of the energy policy, makes provision for the use of tax policy tools, with part of the amounts generated in the sector coming from the trade of CO2 emission licences, as well as other amounts generated by the renewables sector, all for the creation of a tariff balance fund allowing the continuity of the growth of renewable energies.

The PES proposed targets include increased use of endogenous resources, with further investment in hydroelectric energy, in particular through mini hydroelectric plants. The target set out for the purposes of respecting the principles of environmental sustainability is to achieve a 50% increase in the installed capacity of mini hydroelectric plants by 2020, i.e., with a total installed capacity of 250 MW. This will enable the reduction of carbon dioxide emissions and of the use of most fossil fuels as primary sources of energy. The target generation capacity from renewable energy sources is 60% by 2020.

"Portuguese Law Firm of the Year"  
*Chambers Europe Excellence 2009, IFLR Awards 2006 & Who's Who legal Awards 2006, 2008, 2009*

"Corporate Law Firm of the Year - Southern Europe"  
*ACQ Finance Magazine, 2009*

"Best Portuguese Law Firm for Client Service"  
*Clients Choice Award - International Law Office, 2008, 2010*

"Best Portuguese Tax Firm of the Year"  
*International Tax Review - Tax Awards 2006, 2008*

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The tax system has been reorganised to control carbon emissions, through the following economic instruments:

- A carbon tax to be reflected in the price of energy products.
- Temporary incentives in some energy sectors, providing for financial sustainability, while hierarchically arranging the different sources of renewable energy, co-generation and energy efficient projects.

ENE 2020 guarantees a progressive decarbonisation of the Portuguese economy. Generation of power from renewable energy sources will result in an additional reduction of the emissions of 10 million tones of CO<sub>2</sub> by 2020. The emission of a further 10 million tones of CO<sub>2</sub> will be prevented through energy efficiency associated measures.

Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the EU (Emissions Trading Directive), as amended by Directive 2004/101/EC amending the Emissions Trading Directive (Amended Emissions Trading Directive), was implemented in Portugal by Decree-Law 233/2004 of 14 December 2004 as amended, in particular, by Decree-Law 93/2010, of 27 July 2010, which also establishes the new system for trading of licences of greenhouse gas emissions from aviation activities. It establishes the national system for greenhouse gas emissions trading, as per the Amended Emissions Trading Directive.

The following have also been implemented:

A National Climate Change Action Plan (PNAC) (the latest PNAC is dated 2006). This contains internal policies setting greenhouse gas emissions reduction measures for various sectors, with a specific section on energy.

A National Action Plan (NAP) (PNALE II, effective for the 2008 to 2012 period, approved by Resolution of the Council of Ministers 1/2008, 4 January 2008). This sets out the emissions allocation licences plan for the industries covered.

The latest PNAC aims to reinforce the monitoring of greenhouse gas emissions in different sectors, and to extend compliance with Kyoto Protocol targets by applying measures to sectors not covered by the EU's Emissions Trading Scheme (EU ETS). The PNAC was revised in 2007, setting additional goals and measures to reduce 1556 million tonnes of carbon dioxide emissions per year. The annual average value for Portugal for the 2008 to 2012 commitment period is 76 387 505 tonnes of carbon dioxide equivalent.

The PNAC supports the preparation of the PNALE II for the second period of the EU ETS (which started on 1 January 2008), and the fourth national communication and progress report (including used sinks) to be submitted under the United Nations Framework Convention on Climate Change (UNFCCC).

In 2006, the Portuguese Carbon Fund (operating under the EU ETS) was created by Decree-Law 71/2006 of 24 March 2006, to invest in the Kyoto Protocol's flexible mechanisms and, if necessary, to adopt additional national measures to overcome the PNAC's estimated deficit, as per the review of the earlier version of the PNAC.

The PNAC further accounts for Assigned Amount Units (AAUs) in the EU context, and sets out the national balance of greenhouse gas emissions for the 2008 to 2012 period, which includes the:

- Mandatory accounted greenhouse gas emissions generated.
- Emission/removal of carbon dioxide equivalent resulting from forestation, reforestation and deforestation activities.
- Optional accounting of emissions/removal of carbon dioxide equivalent resulting from other activities.

The PNAC states that the desired reduction of carbon dioxide emissions will come mainly from the energy sector. Further, the reduction of energy consumption in other sectors will create a smaller growth of energy supply activities, namely in generation.

The proposed measures are mostly linked to energy efficiency and make provision, among other things, for the:

- Increase of renewable energy generation.
- Introduction of new natural gas combined cycle power plants.
- Increase of thermal efficiency of buildings.
- A solar water warming system (for buildings), with an installation of 100 000 square metres per year as from 2006.
- Full implementation of Directive 96/61/EC concerning integrated pollution prevention and control (IPPC Directive).
- Further taxation of certain industrial fuels (fuel oil, gas of liquefied petroleum, coal and coke).
- Revision of the programme for energy consumption searching to implement energy efficiency.
- Reduction or abandonment of the tariff for sale of power for fuel oil cogeneration units.
- Investment in new co-generation units with natural gas or renewable sources production.

PNALE II determines that the energy sector will only have the right to receive 56421 emission allowances (each AAU is one tonne of carbon dioxide equivalent). This represents a reduction of the previous assessments for the 2005 to 2007 period of 22.4%. The reserve of free emission allowances for new installations consists of 21.5 million tonnes of carbon dioxide equivalent.

Furthermore, the Portuguese emissions trading scheme is regulated by the following:

1. Decree-Law 71/2006, of 24 March 2006, creating the Portuguese Carbon Fund.
2. Decree Law 72/2006 of 24 March 2006, transposing the Amended

Emissions Trading Directive. This regulates trading of greenhouse gas emission licences (CELE) and the EU ETS.

3. Council of Ministers Resolution 1/2008 of 4 January 2008. This introduced the PNALE II, for the 2008 to 2012 period.
4. Joint Decree 2836/2008 of the Ministry of Economy and Innovation and the Ministry of Labour and Social Solidarity approving the assignment of emissions licences to undertakings. This implements policies established in the PNALE II.
5. Regulation 2216/2004 of 21 December 2004 directly applies to formalities of transfer, devolution and annulment of emission licences.
6. Decree-Law 93/2010 of 27 July 2010, setting forth the regime for the trade of greenhouse gas emissions licences within the aeronautic activities regime, implementing Directive No. 2008/101/CE, which amended Directive No. 2003/87/EC.

Additionally, the Portuguese Environmental Agency (APA) must also maintain updated information on its website ([www.apambiente.pt](http://www.apambiente.pt)), relating to the:

- EU ETS.
- Enforcement of the PNALE II.
- List of the domestic entities to which emission licences were granted.

As per articles 6 and 12 the Kyoto Protocol (Protocol to the United Nations Framework Convention on Climate Change, adopted in the third conference of the Convention Parties, in Kyoto, on the 11 December 1997- respectively, the “Framework Convention” and the “Kyoto Protocol”), Clean Development Mechanisms (“CDM”) and Joint Implementation (“JI”) credits are traded in Portugal, using the same methods and schemes for other simple emissions trading titles, such as Assigned Account Units. Decree-Law 72/2006 of 24 March 2006, transposing the Amended Emissions Trading Directive, sets out the transfer

of emissions credits obtained through CDMs and JI projects, in compliance with the Kyoto Protocol.

These transactions are subject to the same registration rules as those for simple emissions trading titles, and are subject to notification to the Registration of Portuguese Licences Emissions (RPLE).

The main investments in Portugal in CDM and JI projects are made by the Portuguese Carbon Fund (FPC). This state fund, driven by the need for compliance with the emissions limits in the PNAC, is currently investing in a variety of projects within the Kyoto Protocol flexible mechanisms.

This fund aims to contribute on a supplementary level to complying with the Kyoto Protocol in Portugal, through the acquisition of credit units under the defined mechanisms and strives for the promotion of additional emissions reduction through domestic projects.

As regards carbon trading agreements in Portugal, the usual legal agreement consists of a normal emissions reduction purchase agreement, between a seller with surplus credits and a buyer requiring credits to compensate its greenhouse gas surplus. The transaction may also be in the form of a futures contract, in the futures exchange market.

In order to reduce the greenhouse gas emissions and develop climate change strategies, legislation is a very important driver, since the PNALE II imposes maximum emission limits on undertakings. Further, certain tax incentives have been previously created to incentivise emissions’ reduction, by decommissioning old vehicles and using biofuels, with biofuel titles attributed as per the respective Petroleum Tone Equivalent pursuant to the characteristics of the biofuel.

Other factors such as pressure on market players, affected parties and supply chains, despite growing interest in the environment, greenhouse gas emission limits, laws and policies are not yet decisive factors, but are beginning to be defined and taken into account in Portuguese legislation.

All entities granted a title for emission of greenhouse gases (TEGEE) are to submit an emissions report (REGEE) to the APA, until 31 March of each year, with reference to the previous calendar year, in compliance with Decree Law 233/2004 of 14 December 2004, as amended. This report is subject to supervision by independent and certified auditors.

## II – RECENT NOTES CONCERNING CDM PROJECTS IN ANGOLA, BRAZIL AND MOZAMBIQUE

Angola, Brazil and Mozambique, are Portuguese Speaking Countries, with a significant growth potential in terms of CDM projects, with economies developing and maturing at full steam. Portugal has a historical, language, and somewhat cultural - and thus natural - bond with these countries.

As referred before, CDM projects allow the implementation and execution of emission-reduction projects in developing countries, enabling the promoter of the project to earn certified emission reduction (CER – Certified Emission Reduction) credits, each credit being earned and measured for one ton equivalent of CO<sub>2</sub>. These CERs can be traded and sold, and used by industrialised countries to meet a part of their emission reduction targets under the Kyoto Protocol.

Usually, ERPA (Emission Reduction Purchase Agreements) are used within the CDM projects. ERPAs are the carbon off-take contracts usually underlying the sale and purchase of CER’s obtained as a result of implementation of CDM projects.

We shall turn herein after to some issues related to each of the three countries referred to above.

### - ANGOLA

Angola ratified the Framework Convention on 17 March 2000. On 8 May 2007 it ratified the Kyoto Protocol, which came into force on 6 August 2007.

Up until recently, the absence of a Designated National Authority (“DNA”) meant that any research carried out were mainly theoretical.

This important issue was addressed through the recent creation of the *Autoridade Nacional Designada* fulfilling the role and competences of the required DNA, created by Decree-law no. 2/2010, of 13 January 2010.

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Among the competences of this Authority powers is the power to approve projects presented to it for perusal and approval. In turn, the Government is the competent entity for the definition of the eligibility and sustainability criteria, which will serve as basis for the Angolan DNA's work.

The potential for CDM projects in Angola has been pointed out, for example in the energy sector (hydro power plants), in the oil and gas sector, in the forestry sector and in the Programme of Activities (PoA)<sup>1</sup>.

#### - BRAZIL

Brazil ratified the Framework Convention on 28 February 1994 and deposited its ratification of the Kyoto Protocol instrument on 23 August 2002, the latter coming into force on 16 February 2005.

Brazil is the fifth largest country in the world (8.5 million km<sup>2</sup>) and has a coastline of about 7.4 thousand km, extensive mineral reserves, 15% of all the surface freshwater on the planet with two thirds of the Amazon rainforest, known as the "World's Lungs".

Pursuant to the commitments undertaken in the Convention on Climate Change, Brazil recently presented its Second National Communication (a document published on 26 October 2010)<sup>2</sup>, containing relevant data on this subject.

It is to be noted that the country has a significant level of experience regarding CDM projects. Up to the present date, 223 CDM projects have been submitted for registration<sup>3</sup>.

#### - MOZAMBIQUE

Mozambique ratified the framework Convention on 25 August 1995 and ratified the Kyoto Protocol on 18 January 2005 which came into force on 18 April 2005.

Mozambique submitted its initial National Communication under the Framework Convention on Climate Change on 2 June 2006<sup>4</sup>.

Prime Ministerial Decree no. 12/2006, of 15 June 2006, provides the legal grounds for the structure of the DNA and the criteria to be used in the approval of CDM project activities. Ministerial Decree no. 154/2007, of 25 December 2007, sets forth the detailed regulations for CDMs in Mozambique.

Finally, the submission of Mozambique's National Adaptation Programme of Action (NAPA), on 1 July 2008, should be mentioned<sup>5</sup>.

Mozambique currently has one CDM project, at validation stage, which was recently approved by Mozambique's DNA. This project involves switching from coal to natural gas at the rotary kiln of a clinker manufacturing plant outside Maputo, the capital of Mozambique. The participants in the project are CIMPOR (a Portuguese Group with activities in the Cement industry), a plant owner and the Matola Gas Company (MGC).

Brazil is thus the winner of this race to CDM implementation and credit earning, with a large number of implemented CDM projects, and experience in this area. Angola and Mozambique seem to now have the necessary legal infrastructure for implementation of CDM projects, with a significant potential for new investment opportunities and credit earnings to be exploited.

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<sup>1</sup> The Programme of activities consists in the agglomeration project documents, defining the major guidelines, targets and sites where measures may or are to be implemented, even if not all of those sites are known and specifically identified in advance.

<sup>2</sup> Available at <http://www.mct.gov.br/index.php/content/view/326984.html>.

<sup>3</sup> Query dated 07.03.2011, see <http://cdm.unfccc.int/Projects/projsearch.html>.

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<sup>4</sup> Available at <http://unfccc.int/resource/docs/natc/moznc1.pdf>.

<sup>5</sup> Available in <http://unfccc.int/resource/docs/napa/moz01.pdf>.