***Policy Background***

*A European energy policy must pursue the objective of a sustainable, competitive and secure supply of energy. If the EU continues on its present course, this key objective will not be attained. In January 2007, the European Commission adopted an energy policy for Europe. This was supported by several documents on different aspects of energy and included an action plan to meet the major energy challenges Europe faces. Each European citizen must be informed of these challenges and the role they should play in meeting them.*

*Renewable energies help combat climate change while increasing security of supply.*

**Key Issues**

What has been adopted so far in Portugal in relation to renewable energy constitutes a comprehensive policy mix, complete with monitoring system. Portugal has been moving further away from its RES-E target between 1997 and 2004. In part, this is due to the fact that the target is not entirely realistic since it was based on the exceptional hydropower performance of 1997. As a consequence, Portugal is not expected to reach its target, even if measures are successful.

**Current national RES target**

The RES-E target to be achieved by Portugal in 2010 is 39% of gross electricity consumption. The target Portugal has set itself for biofuels is approximately 1.15% biofuel by energy content in 2005. In terms of actual volume, this means 50 000 tonnes of biodiesel and 15,000 tonnes of bioethanol. An additional 18 000 tonnes of biodiesel is covered by voluntary agreements with public or private undertakings operating public passenger transport fleets. This target is lower than the indicative target laid down in Directive 2004/30/EC (2% by 2005).

**Progress towards meeting national targets**

Portugal, which nearly met its RES-E target for 2010 in 1997, has now moved further away from this target. A sharp decline between 1997 (38.5%) and 2004 (23.84%) was observed.

In relation to biofuels, it can be said that the target set for 2005 was not met since the biofuel share of energy content was practically zero.

**Main supporting policies**

In Portugal, the following measures have been taken to stimulate the uptake of RES-E:

- *Fixed Feed-in tariffs per kWh* exist for PV, wave energy, small hydro, wind power, forest biomass, urban waste and biogas.
- *Tendering procedures* were used in 2005 and 2006 in connection to wind and biomass installations.
- *Investment subsidies* up to 40% can be obtained.
- *Tax reductions* are available.

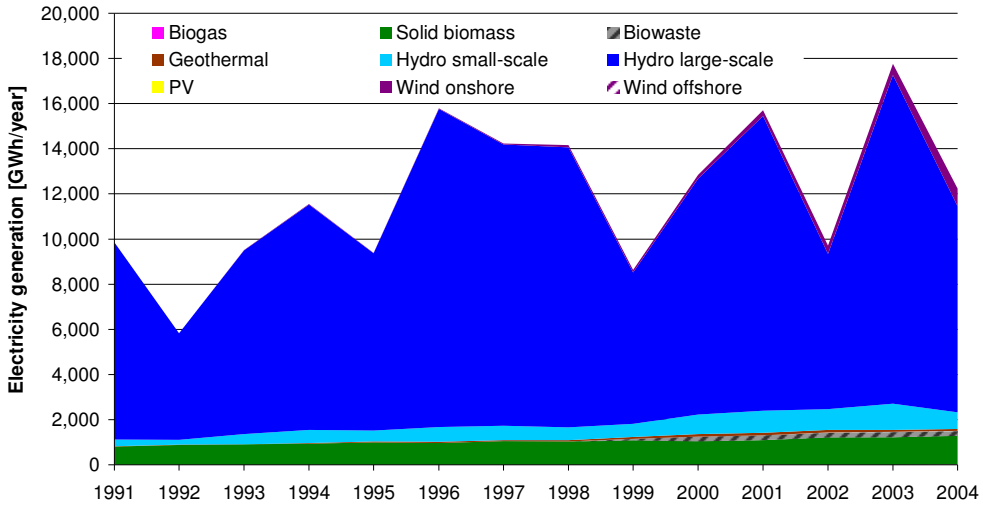
Since January 2006, when Directive 2003/30/EC was transposed into national law, the following types of support are available for biofuel production: total or partial exemption from excise duty up to a quota that is annually set, and total ISP exemption for biofuels produced in certain pilot projects. Besides this, there is the possibility of imposing a quota for biofuels in transport fuels, and of establishing voluntary agreements whenever the biofuel share in blends exceeds 15% in the case of public passenger transport fleets. Lastly, Portugal has seen the organisation of events, debates and demonstrations centred on biofuels.

A broad range of policy measures has been taken to ensure the uptake of RES-H. Investment subsidies are available, and the new Portuguese building code introduces the obligation to install solar thermal systems in certain cases. On top of this, accelerated depreciation on solar thermal equipment investments has been made possible. In the region of Madeira, non-returnable grants are also available for domestic solar thermal systems (SIEST).

**Key renewable energy statistics**

*Electricity from RES*: In Portugal, the RES-E market is dominated by hydro energy. In 2004, 9 869 GWh out of a total green electricity production of 12 214 GWh was generated by means of this RES. With a production of 1 264 GWh, solid biomass was ranked second highest as a source of RES-E in 2004, but just as in the case of hydro power, little growth was achieved. In Portugal, biogas, PV and onshore wind both have low penetration rates, but experience considerable growth. In these sectors, average annual growth rates of 47%, 62% and 54%, respectively, were observed between 1997 and 2004. By 2005, the biogas sector had further doubled its production (from 15 GWh in 2004 to 34 GWh in 2005), while the onshore wind power sector doubled its capacity (from 552 MW in 2004 to 1021 MW in 2005).

**Electricity generation from renewable energy sources by type (GWh)**




Source: European Commission
http://ec.europa.eu/energy/res/legislation/share_res_eu_en.htm

*Biofuels*: Penetration of biofuels into the Portuguese market was still very limited in 2005. From zero ktoe in 1997, the level of production rose to just 1 ktoe in 2005. This volume consists exclusively of biodiesel.

*Heating and cooling*: With regard to RES-H, biomass is the only RES with a sizable share of the market. The total level of production in 2004 stood at 2495 ktoe, with 2480 ktoe generated through biomass. While growth can be observed in the geothermal heat sector, the market share of solar thermal has shrunk between 1997 and 2004.

| | Penetration 1997 (ktoe) | Penetration 2004 (ktoe) | Av. Annual growth [%] |
|---|---|---|---|
| Biomass heat | 1 689 | 2 480 | 6% |
| Solar thermal heat | 11 | 6 | -9% |
| Geothermal heat incl. heat pumps | 1 | 9 | 37% |

Source: European Commission
http://ec.europa.eu/energy/res/legislation/share_res_eu_en.htm

**Good example: Project "RESTART in Porto"**

The Porto's demonstration site, part of the RESTART project is associated with an urban rehabilitation programme in which 300 000 m2 of degraded buildings have to be renovated in the historic centre, which is classified as part of the World Heritage List by UNESCO. The retrofitting is being done on the basis of efficient design and technology, as well as using renewable energy. It is an urban agglomeration of great historic, artistic, cultural and architectural value, with medieval urban features. CRUARB Building is a 1 080 m2 built area, hosting the technical body for the Historic Centre of the Porto Municipality. It is a refined and

cultured example of use of natural lighting in cities' historic centres.

RESTART (Renewable Energy Strategies and Technology Applications for Regenerating Towns) is a targeted demonstration project, promoted by the European Commission and coordinated by RESET (Renewable Energy Strategies for European Towns) in conjunction with A.M. Barcelona, Glasgow, Grand Lyon, Turin, Rotterdam, Copenhagen, Porto and South Dublin.

The demonstration project involved the different players of such complex urban projects as: city officers, promoters, professionals, local associations, technology manufacturers, and experts, realising through this cooperation 8 large scale building programmes in the 8 participating cities. The equivalent of more than 2 500 dwellings and two important research and cultural centres were built or rehabilitated using various renewable energy technologies and sustainable design concepts.

**For further information**

To find out more about renewables, go to: http://ec.europa.eu/energy/res/index_en.htm

http://ec.europa.eu/energy/intelligent/index_en.html

To find out more about the current situation of renewables in the Member States, go to http://ec.europa.eu/energy/res/legislation/electricity_member_states_en.htm

http://ec.europa.eu/energy/res/legislation/share_res_eu_en.htm

To find out more about support measures, go to http://ec.europa.eu/energy/res/legislation/support_electricity_en.htm

To find out about a project or contact an energy agency in your region, go to http://www.managenergy.net/emap/maphome.html

Further fact sheets on Portugal and other Member States can be found on: http://ec.europa.eu/energy/energy_policy/facts_en.htm

**What is meant by…..?**

*RES:* Renewable energy sources
*RES-E*: Electricity production from renewable energy sources
*RES-H*: Production of heat and cold from renewable energy sources
*Biofuels*: Mainly includes biodiesel and bioethanol
*Biomass*: Includes solid biomass, biowaste and biogas
*CHP*: Combined Heat and Power
*GWh*: gigawatt-hour
*ktoe*: Thousand tonnes of oil equivalent
*PV*: Photo-voltaic technology for the production of electricity from solar energy