

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

In the United Kingdom, renewable energies are an important part of the climate change strategy and are strongly supported by a green certificate system (with an obligation on suppliers to purchase a certain percentage of electricity from renewable energy sources) and several grants programs. Progress towards meeting the target has been significant (electricity generation from renewable energies has increased by around 70% between 2000-2005), although there is still some way to go to meet the 2010 target. Growth has been mainly driven by the development of significant wind energy capacity, including offshore wind farms.

Current national RES target

The RES-E target to be achieved by the UK in 2010 is 10 % of gross electricity consumption. An indicative target for RES-E of 20% for 2020 has been set. No formal targets exist for RES-H. National targets under the Biofuels Directive for the UK are of 1.7% biofuel in 2008, 2.6% in 2009 and 3.5% in 2010 (assuming 50:50 split between biodiesel and bioethanol).

Progress towards meeting national targets

After a relatively stable share in the early 2000s, growth over the past couple of years has been significant. In 2005, the share of renewable sources in electricity generation reached 4.1%, in comparison with the 2010 target of 10%.

With regards to biofuels, the UK was very close to its indicative target in 2005 (0.19% share).

Main supporting policies

The United Kingdom's policy regarding renewable energy sources consists of four key strands:

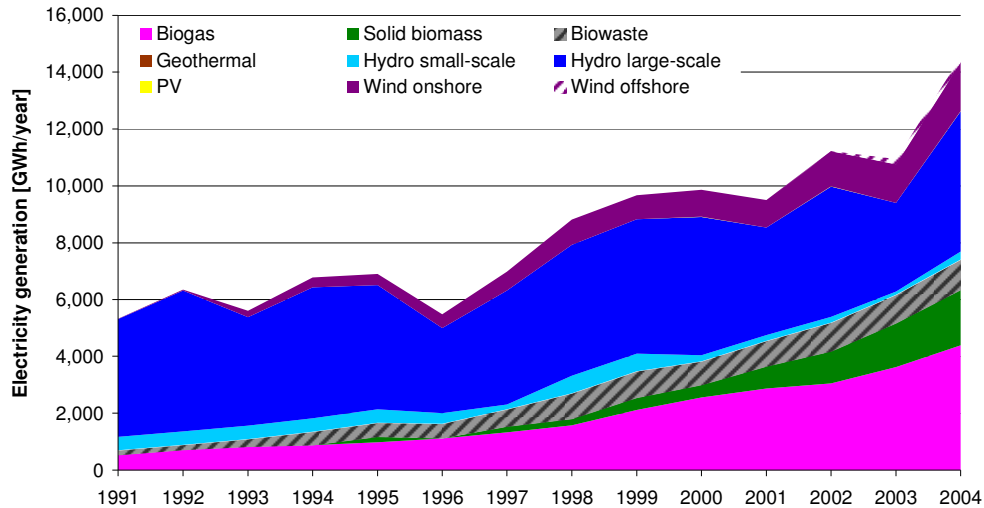
- *Obligatory targets* with tradable green certificate system (Renewables Obligation on all electricity suppliers in Great Britain to supply a specific proportion of RES-E). The non-compliance 'buy-out' price for 2006-2007 was set at £33.24/MWh (approx 48.20 EUR/MWh), which will be annually adjusted in line with the retail price index.
- *Climate Change Levy*: RES-E is exempted from the climate change levy on electricity of £4.3/MWh (approx. 6.3 EUR/MWh)
- *Grants schemes*: funds are reserved from the New Opportunities Fund for new capital grants for investments in energy crops/biomass power generation (at least £33 million (EUR 53 million) over three years), for small-scale biomass/CHP heating (£3 million or EUR 5 million), and planting grants for energy crops (£29 million or EUR 46 million for a period of seven years). A £50 million (EUR 72.5 million) fund is available for the development of wave and tidal power, the Marine Renewables Deployment Fund.
- Development of a *regional strategic approach* to planning and targets for renewable energies.

RES-H is supported by grant schemes and investment subsidies, biofuels are currently supported by a tax exemption. Following the success of the Renewable (electricity) Obligation, the UK government will introduce a Renewable Transport Fuel Obligation in April 2008. No such scheme is currently planned to promote RES-H.

Key renewable energy statistics

Electricity from RES: Electricity from hydro has historically been the most important source of RES-E in the UK, although its relative share of RES-E production is decreasing strongly as other forms of RES increase. In 2004 the most important source of renewable electricity was generation from biogas, alone contributing to just over 30% of RES-E. Biomass in total contributed to just under 51% of RES-E in the UK in 2004, with solid biomass representing 13% of overall RES-E and biowaste 7%. In 2005, the UK became one of only eight countries worldwide to have over 1 000 MW of installed wind capacity, and contributed to just under 12% of RES-E in the UK in 2004. At the beginning of 2006 the UK had 1 337 MW of installed wind capacity, including onshore and offshore, with a further 821 MW under construction, and 9 700 MW in the planning system.

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: 2005 saw a significant increase in the production of biofuels in the UK, although the UK is only the tenth largest producer in the EU. Estimated biodiesel production in 2005 was 51 ktons (compared to 9 ktons in 2004). This trend is likely to continue as the installed capacity for the production of biodiesel increased to 445 ktons in 2006 from 129 ktons in 2005.

Heating and cooling: Heating mainly comes from biofuels with a small but increasing share of solar heating. The general trend shows a decrease in the use of renewables for heat production.

	Penetration 1997 (ktoe)	Penetration 2004 (ktoe)	Av. Annual growth [%]
Biomass heat	858	703	-3%
Solar thermal heat	9	25	16%
Geothermal heat incl. heat pumps	1	3	22%

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

Good example: Project "DOWNVInD"

The ongoing DOWNVInD project is the flagship project for offshore wind energy development in Europe. It aims to install two demonstrator wind turbines sited adjacent to the Beatrice oil field (east coast of Scotland) stand about one hundred and fifty metres above sea level. New world records have been broken as the machine already installed is the first wind turbine in international waters, the furthest from shore (25 km), the biggest (5 MW) and in the deepest water (42 m). The DOWNVInD consortium, which includes 18 partners from 7 European countries, will develop and prove the techniques, technologies and processes that should enable European contractors to lead in the global market of installing and operating large capacity deepwater off shore wind farms. No commercially viable options are currently available for the construction and installation of wind farms further from shore, where the visual impact may be mitigated or entirely eliminated. If successful, a full 200-turbine wind farm will be built 12 miles off shore, with the capacity to generate enough energy to power a city the size of Aberdeen.

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.htm

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 the UK and other Member States can be found on: http://ec.europa.eu/energy/energy_policy/facts_en.htm

What is meant by.....?

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

ktoe: Thousand tonnes of oil equivalent

PV: Photo-voltaic – technology for the production of electricity from solar energy

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