

PART III. NATIONAL REPORTING GUIDELINES FOR CSD-14/15 THEMATIC AREAS

B. ENERGY

Government focal point: Tom Bastin
Responding ministry/office: Dept. for Environment, Food and Rural
Affairs/Dept for Trade and Industry

Decision-Making: Strategies, policies, programmes and plans, legislation, policy instruments and the regulatory framework; involvement of Major Groups

- Access to electricity and other energy services, through either grid extension or decentralized energy technologies, in both urban and rural areas, including main programme objectives, impacts and progress;
- Efficient use of energy in the household and commercial sectors through, e.g., introduction of improved cook stoves or liquefied petroleum gas (LPG) for cooking, minimum energy performance standards for appliances and lighting, energy efficient building codes, and metering.
- Improved efficiency in energy supply (e.g. energy generation, transmission and distribution).
- Policies to facilitate the transfer of modern energy technologies, such as export promotion policies or establishment of an enabling environment for investments, including their objectives, the types of financing available and other incentives provided to facilitate technology transfer.
- Reform or restructuring of the energy sector within the last ten years to improve the functioning of energy markets.
- Legal and regulatory frameworks related to overall energy policies that have been adopted.
- The use of economic instruments, including pricing and tariff reform.
- Participation of private companies in the electricity sector, their impact on electricity services and their involvement (e.g. generation; transmission; distribution).
- Major Groups⁶ participation in energy decision-making, whether at the national or community level
- Women's participation in needs assessments or planning and policy formulation related to energy at the local and/or national levels; other means.
- Programmes designed to increase the share of renewable energy in the national energy supply mix, including information on their goals and targets.
- Measures and programmes adopted to improve fuel efficiency for transport vehicles. Such as vehicle fuel efficiency standards; vehicle inspection and maintenance programmes; introduction of cleaner fuels; any other.
- Existence of nuclear energy programme and information on nuclear materials transported within or across national boundaries; national programmes that ensure nuclear safety; arrangements in place for public review and hearings.

UK Action

⁶ Major Group consists of: Women; Business and industry; Local authorities; NGOs; Children & Youth; Indigenous People; Workers & Trade Unions; Scientific & Technical Communities; and Farmers.

Overall energy policy is set out in the UK's Energy White Paper (EWP), published in 2003. This information addresses many of the issues raised in these reporting guidelines, the following text highlights some key points. The full document is available at:

www.dti.gov.uk/energy/whitepaper/index.shtml .

Decision-Making: Strategies, policies, programmes and plans, legislation, policy instruments and the regulatory framework; involvement of Major Group

The EWP recognised that the UK needed a new energy policy to address three key challenges:

- the threat of climate change.
- Dealing with the implications of reduced UK oil, gas and coal production, which will make us a net energy importer instead of an energy exporter.
- Replacing or updating much of our energy infrastructure over the next 20 years.

As we address these three challenges, we have four goals for our energy policy:

- putting ourselves on a path to cut the UK's carbon emissions by some 60% by about 2050, with real progress by 2020;
- maintaining the reliability of energy supplies;
- promoting competitive markets in the UK and beyond; and
- ensuring that every home is adequately and affordably heated.

To deliver this new energy policy a Sustainable Energy Policy Network (SEPN) was set up. This is a network of policy units from across Government Departments, the Devolved Administrations, regulators and key delivery organisations that are jointly responsible for delivering the goals and individual commitments set out in the Energy White Paper.

- Structure of UK energy market

Liberalised energy markets are the cornerstone of UK energy policy. Rather than pick technological winners, the UK Government aims to provide the fiscal and regulatory framework within which the market can identify the most cost effective means of delivering emissions reductions and secure, reliable supplies. This strategy is based on the following key principles:

- the regulatory framework must give high priority to reliability. Both Ofgem (the electricity and gas industry regulator) and the Government have duties to secure that all reasonable demands for electricity and gas are met;
- diverse sources, fuel types and trading routes should be promoted to avoid the UK being reliant on too few international sources of oil and gas and we work with producer nations and the private sector to promote the conditions needed for investment in infrastructure;

- competitive markets incentivise suppliers to achieve reliability, for example by diversifying their own sources to reduce their commercial risks. We continue to work to create an effective policy and regulatory framework for the market both at national and international level;
- we need robust information on supply and demand and also market responses to it and so we monitor carefully energy reliability;
- Ultimately though for markets to work, the private sector needs to be confident that Government will allow them to work and so we have made the clear commitment not to intervene in the market except in extreme circumstances, such as to avert, as a last resort, a potentially serious risk to supply.

There is a role for the Government in correcting market failures, including countering socially or environmentally undesirable outcomes. For example, the market may not properly value externalities created by energy efficiency or innovation. But Government intervention is justified only where it is well targeted, cost-effective, affordable and efficient, promoting appropriate signals within a credible long-term framework.

- Energy Efficiency

Energy efficiency is a key aspect of our new energy policy. The UK's overarching objective is to "create a step change in energy efficiency (a doubling of the rate) by 2010 to contribute to improvements in energy efficiency of 12.1 million tonnes of carbon (Mtc) by 2010 and further economy wide savings of 10 Mtc by 2020"

To deliver this objective the UK has a range of energy efficiency policies:

A joint HMT-Defra Energy Efficiency Innovation Review is being undertaken which is looking to fully appraise the effectiveness of existing energy efficiency policies and identify where further carbon savings can be delivered by new or strengthened cost effective energy efficiency measures.

All our policy measures aim at market transformation in one way or another. Key measures include the Energy Efficiency Commitment, Enhanced Capital Allowances and the promotional programmes of the Energy Savings Trust; Building Regulation development and enforcement; development and taking forward of energy labelling and product standards development, and negotiating voluntary agreements with industry – these are especially powerful in influencing manufacturers to design, market and cost effectively produce in volume the more efficient products we need.

Key barriers to overcome include lack of demand from consumers for energy efficiency so raising public awareness, changing attitudes and ultimately changing behaviour are all going to be essential if we are going to achieve our climate change goals. As part of tackling this, Defra have indicated that we will launch in 2005/06 a new climate change communications fund to change attitudes to climate change. Defra have already announced that the communications initiative is worth £12 million between now and 2008 and is designed to complement the work of Defra's key climate change delivery partners, such as the Carbon Trust, Energy Saving Trust, Environment Agency and UK Climate Impacts Programme.

Fiscal incentives for energy efficiency are routinely considered and we have already introduced a range of incentives. For buildings, for example, these include the Landlords Energy Saving Allowance; lower rates of VAT on energy efficient materials such as insulation, and reduced rates of VAT for micro-CHP and ground-source heat pumps.

More information on specific policies is available in the Energy Efficiency Action Plan:
www.official-documents.co.uk/document/cm61/6168/6168.pdf .

- Renewable Energy

The UK has set itself a target to deliver 10% of its electricity supply from renewable sources by 2010. The Energy White Paper also outlines the UK Government's aspiration to double this by 2020. Wind energy is probably the most proven and economic form of renewables generation, which can be widely deployed in the UK. As such we expect wind energy to make the major contribution to progress towards our 10% renewables target with significant expansion from both onshore and offshore wind.

To support its targets, the UK has put in place a Renewables Obligation on electricity suppliers to supply a growing proportion from renewables, in line with the 2010 target. The UK Government recently outlined its intention to extend this to 15% in 2015 and is currently reviewing how the Obligation might be developed further to 2020. The Obligation does not specify or favour particular renewable technologies. (See also section 3.1 below)

Renewable Energy is exempt from the Climate Change Levy (a tax on the use of energy by businesses).

The UK also runs a series of capital grant and R&D schemes, in particular to support R&D and demonstration of renewable technologies not yet fully developed or financially competitive (such as wave and tidal, biomass and solar power). We are spending just over £500m between 2002-2008 to help develop emerging renewable and low carbon technologies.

- This includes, among other things grants of over £60 million for energy crops and biomass, £31million for PV and £12.5 million for community schemes.
- In August 2004 it was announced that a special £50m Marine Renewables Deployment Fund would be set up to help bridge the funding gap between pre-commercial and supported commercial technologies. £42m of this has been earmarked to kickstart construction of large-scale demonstration farms that will see for the first time wave and tidal power feeding into the national grid within 3 years.

More information on the UK's renewable energy policies is available at
<http://www.dti.gov.uk/renewables/>

- Distributed Generation

UK has a Combined Heat and Power (CHP) target of 10 Gigawatts of Good Quality capacity by 2010. To achieve this target the UK has published a CHP strategy (web address). The CHP Strategy brings together the wide range of measures introduced over recent years. These include exemption from the Climate Change Levy on all Good Quality CHP fuel inputs and electricity outputs, and eligibility for Enhanced Capital Allowances.

The UK will be implementing the Cogeneration Directive by February 2006. The Directive places an obligation on Member States to ensure that support for CHP is based on useful heat demand and primary energy savings. It sets out a methodology for assessing the energy efficiency of CHP schemes based on harmonised efficiency reference values for the separate production of heat and power. Member States have until 21 February 2006 to transpose it into national law. The UK supports the aim of the Directive and in particular its emphasis on the promotion of cogeneration that delivers primary energy savings.

The UK is also kick-starting the development of a sustainable market for community heating by 2010. CHP can be used in combination with community heating, where several dwellings are linked to a central heat source. Such schemes can provide affordable warmth and power, make substantial carbon savings and help rejuvenate run-down urban communities. A Community Energy programme, launched in January 2002, is a three-year £50m programme, which aims to increase the development and installation of community heating schemes – mainly based on CHP - across the UK by addressing the key barriers of a lack of investment capital and a lack of knowledge on how to deliver the benefits of community heating. We have secured further funding from within Departmental resources to extend the programme, with a further £10m available in the three-year period to 07/08, to support the funding of new bids from 05/06. We are currently working with the programme managers at the Energy Saving Trust to develop the extension programme.

- Nuclear

While nuclear power is currently an important source of carbon-free electricity, supplying around 20% of our electricity from 12 stations, its current economics make it an unattractive option for new generating capacity and there are also important issues of nuclear waste to be resolved.

The White Paper did not propose building new nuclear power stations but did not rule out the possibility that this might be necessary in the future to meet our carbon reduction targets. It stated that the UK's priority is to strengthen the contribution that energy efficiency and renewables make to meeting our carbon commitments, although it recognised that whilst ambitious progress is achievable, uncertainties did remain.

The White Paper also stated clearly that before any decision to proceed with building new nuclear power stations, there would need to be the fullest public consultation and the publication of a white paper setting out the Government's proposals.

The **Nuclear Decommissioning Authority** was established on 1 April as an independent public body to provide strategic direction to the decommissioning and clean-up of Britain's civil public sector nuclear sites. Further information about the NDA is available on its website at www.nda.gov.uk

There are also a range of skills and research initiatives that will help keep nuclear power as a future option.

- The Cogent Sector Skills Council takes a strategic view of the nuclear sector to ensure that the education and training base can meet the nuclear employers current and future needs. It has established a Nuclear Advisory Council that will enable it to better estimate demand and scope teaching/education supply issues.
- Opportunities for fission research have been announced as part of the Research Councils "Towards a Sustainable Energy Economy" initiative. Up to £6 million being made available over four years.
- Research opportunities through European Union's Framework Programme for Research and Development (FP6 Euratom) and OECD co-ordinated research programmes.
- UK is playing active role in the development of the Generation IV International Forum (GIF) international research programme on advanced reactor systems.

More information about the UK's nuclear policy is available at <http://www.dti.gov.uk/energy/nuclear/index.shtml>

- Transport

UK is encouraging the purchase of clean, low carbon vehicles and fuels as set out in our **Powering Future Vehicles Strategy**. Average new car fuel efficiency in the UK has improved by about 10% since 1995. And there has been a significant increase in sales of the most fuel-efficient vehicles, with some 3% of new cars now achieving fuel efficiency of sub-120 g/km CO₂ (equivalent to about 60 miles per gallon).

UK also using fiscal measures (including fuel duties, vehicle excise duty and company car tax) and grants (including the TransportEnergy grants) to encourage people to buy cleaner, more fuel-efficient vehicles.

Our main **vehicle taxation policies** (VED and company car tax) are CO₂-based - the more your car pollutes, the more you pay. Motorists can save up to £110 in VED each year and thousands of pounds on their company car tax bills by choosing the cleanest, most fuel-efficient vehicles. They have helped improve the average fuel efficiency of new cars in the UK by around 10 per cent since 1995 - good for the motorist, and good for the environment.

And we have used fuel duty incentives to support the introduction of **clean, low carbon fuels**. Ultra-low sulphur forms of petrol and diesel are taxed at 3 pence and 6 pence per litre less than higher sulphur forms of petrol and diesel, biofuels enjoy a 20 pence per litre fuel duty incentive, and road fuel gases enjoy even higher levels of support - the equivalent of about 40 pence per litre).

We are funding research, development and demonstration programmes to bring forward efficient vehicles and low carbon fuel technologies. Through the DfT's New Vehicle Technology Fund, we are spending £500,000 on the **hydrogen bus trials in London**. And we are funding an **ultra-low carbon car challenge**, which involves helping key players in the automotive industry to develop ultra-fuel-efficient vehicles.

More detailed information is available at: www.dft.gov.uk/stellent/groups/dft_roads/documents .

Capacity-Building, Information and Research & Technologies

- Efforts to establish new, or strengthen or reform existing national and local institutions responsible for national programmes on energy for sustainable development.
- Training or other capacity-building activities undertaken to strengthen energy planning, management of energy efficiency or development of new and renewable sources of energy.
- Launching of public information campaigns and educational programmes to raise awareness of energy efficiency and environmentally sound energy systems.
- Networking between centers of excellence on energy for sustainable development that has enhanced information sharing, capacity-building and technology transfer.
- Internet websites related specifically to the issues contained in these Energy Guidelines, provide homepage addresses (URL).
- Efforts to promote increased research and development of various energy technologies: renewable energy; energy efficiency; advanced energy technologies, including cleaner fossil fuel technologies; any other.

UK Action

Capacity-Building, Information, Research and Development

- Awareness raising

We are committed to raising awareness on climate change and its links to energy use. UK Government currently runs a number of different climate change related communications activities focused on specific issues and target audiences. These include campaigns to address business and household energy efficiency, renewable power generation, low-carbon transport and climate change impacts. More information on specific activities can be found via the web links below.

- Role of the Carbon Trust - research and development investment and support to industry

The Carbon Trust is helping businesses respond to the Government's policy measures such as the EU Emissions Trading Scheme, Climate Change Agreements and Building Regulations and to help them understand the risk and capture the opportunities in energy efficiency and carbon management through the Action Energy Programme.

The Trust is also promoting the Government's energy efficiency Enhanced Capital Allowances Scheme to encourage investment by business in qualifying energy saving technologies and products and managing the Energy Technology List of qualifying energy saving equipment.

It is also investing in the development of innovative low carbon technologies in the UK in both energy efficiency and renewable energy across all sector, including:

- Research and development funding to encourage innovation in the low carbon sector through Carbon Vision and Research, Development and Demonstration.
- Technology Acceleration Projects for specific technologies and markets with significant carbon reduction potential.
- Direct help for pre-commercial and commercial organisations with low carbon technologies through the Carbon Trust's Incubator Programme and Venture Capital investment.

More information on the work of the Carbon Trust is available at: www.thecarbontrust.co.uk .

- Role of the Energy Savings Trust

The Energy Savings Trust (EST) was established to deliver energy efficiency solutions to households.

EST manages a network of 52 Energy Efficiency Advice Centres (EEACs) which provide advice to consumers and local authorities, to help them assess their energy use, and refer them to any available grant offers. EST has also promoted an Energy Efficiency campaign as a source of information and call to action for consumers to reduce their energy use and install energy efficiency measures.

EST works closely with the energy efficiency industry and provides the resources and infrastructure for the Energy Efficiency Partnership for Homes. This Partnership is made up of 260 representatives of, amongst others, industry, energy suppliers, local authorities, housing managers and community groups. The Trust also administers the Major Photovoltaic Demonstration Programme for the DTI and the *TransportEnergy* programmes supporting the market development of clean fuel and low carbon vehicles.

More information on the EST is available on its website: www.est.org.uk .

- International and European Issues

UK is working Internationally and at European level to fund capacity building and research and development on energy efficiency and renewable energy.

Internationally we are a partner in the Renewable Energy and Energy Efficiency Partnership (REEEP) which aims to address the barriers to the take up of renewable energy and energy efficiency technologies and make them affordable options for all.

At European level we are working closely with EU partners and the EC on the implementation of the Intelligent Energy for Europe Programme and Framework Programme Six which provide support for research and development projects across Europe.

- Web-links

www.defra.gov.uk/environment

www.dti.gov.uk/energy

www.thecarbontrust.co.uk

www.est.org.uk

www.hm-treasury.gov.uk

www.dft.gov.uk

www.reeep.org

www.europa.eu.int/comm/energy/intelligent

www.eca.gov.uk

Financing

- Specific measures taken to establish an appropriate enabling environment conducive to attracting investments in the energy sector: pricing/subsidy reform; fiscal and financial incentives; power purchase agreements; other arrangements.

UK Action

Financing

- Fiscal incentives for energy efficiency

UK has a number of fiscal incentives for energy efficiency including:

- Climate Change Agreements (CCAs) which were introduced with the Climate Change Levy (CCL) in 2001. Energy intensive sectors covered by the CCL were given the opportunity to sign up to 10-year voluntary agreements covering energy use and/or emission reductions in return for an 80% discount on the levy. There are currently 44 sectors with over 10,000 facilities covered by the agreements. In 2002, the first target period, total savings were over 4 Mtc against a pre-2000 baseline. More information is available at: www.defra.gov.uk/environment/ccl.
- The Enhanced Capital Allowances (ECA) scheme aims at encouraging companies to invest in low carbon technologies. Investments eligible under ECA allow 100% first year allowances against taxable profits in the first year of expenditure. This is administered jointly by The Carbon Trust and the Inland Revenue. More information on the scheme is available at: www.eca.gov.uk.

- Renewables Obligation

The Renewables Obligation is the Government's main mechanism for supporting renewable energy. Introduced in April 2002, it provides a substantial market incentive for all eligible forms of renewable energy. In Scotland, the Renewables Obligation (Scotland) is in place. Work is under way to introduce a Renewables Obligation in Northern Ireland.

The Obligation requires suppliers to source an annually increasing percentage of their sales from renewables. For each megawatt hour of renewable energy generated, a tradable certificate called a Renewables Obligation Certificate (ROC) is issued.

Suppliers can meet their obligation by:

- acquiring ROCs
- paying a buy-out price of £30/megawatt hour
- a combination of ROCs and paying a buy-out price.

When a supplier chooses to pay the buy-out price, the money they pay is put into the buy-out fund. At the end of the 12-month Obligation period, the buy-out fund is recycled to ROC holders.

We are currently reviewing the Renewables Obligation and whilst this is not a fundamental re-think of the Obligation, it is an opportunity to consider amendments to improve its effectiveness in certain areas. Following a preliminary public consultation, the Government will set out its proposed position in a statutory consultation document which will be published later this year.

More information about the Renewables Obligation is available at:
http://www.dti.gov.uk/renewables/renew_2.2.htm

Cooperation

- Cooperation with neighbouring countries in energy trade and/or interconnection of electricity or gas networks, including through transnational pipelines; nature of such cooperation.

The UK's international energy strategy, aimed at mitigating the effects of climate change and ensuring we have secure and sustainable energy supplies is set out at:

http://www.fco.gov.uk/Files/kfile/Energy_Report_281004.pdf

The UK is a member of the Paris-based International Energy Agency, whose key aims are:

- to maintain and improve systems for coping with oil supply disruptions; and operate an information system on the international oil market;
- to promote rational energy policies worldwide;
- improve global energy supply by developing alternative energy sources and increasing efficiency of energy use, and
- assist in the integration of environmental and energy policies.

Further details can be found at:

www.iea.org

The UK is a member of the Brussels-based Energy Charter Treaty (ECT), a multilateral institution that promotes the rule of law in trade, transit and investment of energy, and also promotes energy efficiency and good environmental practice in energy. Since 1998, its members have been negotiating a Transit Protocol aimed at supplementing existing ECT rules on international transit of energy. Further details can be found at:

www.encharter.org

As a member of the European Union, the UK is part of the EU Energy Council. The work of the Energy Council focuses in particular on ensuring that the energy needs of EU consumers, both domestic and industrial, can be met effectively – in particular through effective functioning of the internal EU energy market in electricity and gas. Further details can be found at:

http://europa.eu.int/pol/ener/index_en.htm

<http://europa.eu.int/scadplus/leg/en/s14000.htm#GAZELEC>