

Recent Energy Technology Developments in IEA Member Countries

United Kingdom

The Energy Review: A Performance and Innovation Unit Report -

<http://www.cabinet-office.gov.uk/innovation/2002/energy/report/index.htm>

A review has been carried out of the long-term challenges for energy policy in the UK. The review examined how energy policy can ensure competitiveness, security and affordability, looking to 2020 and beyond to 2050, setting out the key trends, and explaining the choices ahead. The report was published in February 2002 as a report to government, and as such is not a statement of government policy. The Government will be consulting shortly on the issues raised in the report and will set out its detailed response in an Energy White Paper later in 2002. The key recommendations concerning energy technology are:

(iv) “keeping options open will require support and encouragement for innovation in a broad range of energy technologies. The focus of UK policy should be to establish new sources of energy which are, or can be, low cost and low carbon”;

(v) “the immediate priorities of energy policy are likely to be most cost-effectively served by promoting energy efficiency and expanding the role of renewables.

However, the options of new investment in nuclear power and in clean coal (through carbon sequestration) need to be kept open, and practical measures taken to do this”;

(vii) “step changes in energy efficiency and vehicle efficiency are needed, with new targets for both. In the domestic sector, the Government should target a 20% improvement in energy efficiency by 2010 and a further 20% in the following decade”;

(viii) “the target for the proportion of electricity generated from renewable sources should be increased to 20% by 2020”;

Report of Chief Scientific Adviser's Energy Research Review Group

<http://www.dti.gov.uk/ost/whatsnew/index.htm>

The Government’s Chief Scientific Adviser, Professor David King, published a review of Government support for energy research, development and demonstration activities on 14 February 2002. This was commissioned by the Secretary of State for Trade and Industry to inform the above Energy Review.

The Group concluded that the UK’s spending on RD&D should be raised to bring it more into line with that of its nearest EU competitors. It identified 6 broad areas of scientific research having the strongest case for being treated as priorities: CO₂ sequestration, energy efficiency, hydrogen production and storage, nuclear power (handling and storage of nuclear waste), photovoltaics, and wave and tidal power. It also recommended that a dedicated national energy research centre should be established.

Cleaner Coal Technology Demonstration Plant Review

<http://www.dti.gov.uk/cct/cctfinalreport.pdf>

A review of the case for Government support for cleaner coal demonstration plant was announced in June 2001 and the final report was published in December 2001. The review concluded that there is a case to expand the scope of the existing cleaner coal technology R&D programme to encompass both engineering design studies and modest demonstration projects. Subject to a review of priorities in DTI there is also a case to increase the budget allocated to the programme. The evidence received suggests that a modest increase to the programme may be sufficient to trigger the adoption of some technologies in demonstrators, or near commercial scale projects that would be funded primarily by the private sector.

The review also recommends that:

- the cleaner coal technology R&D programme is expanded in scope with additional funding as necessary to cover preliminary work on carbon capture and storage and carbon management technologies generally
- the value of the Government's investment should be maximised by seeking further collaboration with other countries.

The Renewables Obligation

http://www.dti.gov.uk/renewable/ro_order2002.htm

The Renewable Obligation (RO) is a key policy instrument for the government to meet its UK-wide targets for renewable electricity supply. It succeeds the Non-Fossil Fuel Obligation (NFFO). Part of the Utilities Act 2000, the Obligation will require licensed electricity suppliers to buy specified portions of their purchases from renewable sources. The RO came into effect on 1 April 2002 and is planned to last for 25 years.

All licensed electricity suppliers in England and Wales will be subject to the obligation; existing large-scale hydro above 20 MW and fossil based energy from waste will be excluded from the Obligation. Suppliers will demonstrate their compliance with the obligation through RO Certificates. There will be limited "banking" allowed and no borrowing against future supplies. Suppliers will have the option of supplying electricity to meet their obligation, buying RO Certificates on the market or paying a buy-out fee. The buy out price will initially be set at GBP 30/MWh. The introduction of the obligation is expected to result in a maximum 4.4% increase on average over 1999 electricity prices by 2010.

The targets are a percentage of output of 3% between 1 April 2002 and March 31, 2003, 4.3% in 2003/4, 4.9% in 2004/5, 5.5% in 2005/6, 6.7% in 2006/7, 7.9% in 2007/8, 9.1% in 2008/9, 9.7% in 2009/10) and 10.4% by March 31, 2010/11.

Renewables R&D Programme

<http://www2.dti.gov.uk/renewable/index.html>

DTI's Renewable Energy Programme provides support for innovative R&D projects, supporting the identified long-term technology strategies (technology route maps), that offer prospects for improving performance and reducing costs of energy derived from renewable sources. The 2001/2002 budget was £18.0 million, rising to £18.5 million in 2002/2003 and then to £19.0 million in 2003/2004. Future Energy Solutions (formerly ETSU) manages the programme on behalf of DTI and issues two Programme-wide call for proposals each year. Projects outside the scope of the technology road maps may also be considered. Projects can include industrial research or pre-competitive development (including initial demonstration or pilot projects).

Bio-energy Capital Grants Scheme

<http://www.dti.gov.uk/renew/eoi.htm>

£ 66 million in capital grants will be jointly made available through DTI and the National Lottery New Opportunities Fund (NOF). The package of support is being developed under a project board with representatives from DTI, NOF and the Department of Environment, Food and Rural Affairs (DEFRA). Forms and guidance are currently being drafted to issue a call for proposals in Spring 2002. The diverse organisations are working to develop, as far as possible, a common approach to the application process.

Of the £100 million new funding for renewable energy projects announced by the Prime Minister in November 2001 (in response to recommendations from the Performance and Innovation Unit, PIU), £10 million will go to generation of energy from energy crops/wood fuel (focus on CHP), £18 million to demonstration of advanced energy crop technologies and £2 million for industrial heat using energy crops and forestry wood fuel. These funds are co-ordinated by DTI. £ 36 million is to be committed by 2006 by the NOF. Of this, £33 million will be allocated to energy crop power generation projects and £ 3 million will be allocated for heat and CHP projects using energy crops/biomass. An extra £ 3.5 million from the Prime Minister's £ 100 million will be allocated to develop the fuel supply. This joint initiative will be managed by DEFRA with the Forestry Commission and the Devolved Administrations in Scotland, Wales and Northern Ireland.

Offshore Wind Capital Grants Scheme

<http://www.dti.gov.uk/renew/eoi.htm>

The DTI offshore wind capital grants scheme is now open for applications and totals £74 million. Of this total, £10 million will be committed by 2006. The first stage of the scheme requires all consortia to pre-qualify by registering before 31 January 2002. The first round of the competition will close on 1 July 2002. The second round will close on 31 December 2002 and the third on 30 June 2003. Bids will be selected for

funding according to the level of DTI grant /MW (electricity) of installed capacity ranking.

The key objective of this programme of capital grants is to stimulate early deployment of a significant capacity of offshore wind. Support for these projects will be targeted so as to help reduce both the costs and risks involved in such developments, and hence to maximise the contribution to the Government's targets for renewable electricity supply within the UK. As such the government will seek to ensure swift completion, making output from these projects available for electricity suppliers to respect their renewable obligation, promoting the development of a diversity of UK based companies together with their supply chains, spreading available funding over a range of projects involving different technical approaches and securing the maximum contribution from industry, maximising the generating capacity with available funds.

Large-scale Building Integrated PV Field Trial for Public Buildings

This field trial was initiated to raise awareness and confidence in PV applications, increase UK capacity to apply the technology, provide opportunities for local industry and assess the near-term potential for buildings integrated PV. Projects were chosen through a tendering process, to represent a wide range of technologies and applications. Projects providing the highest value through publicity, visits, information dissemination and marketing by the suppliers and installers were chosen. Qualification criteria: buildings and proposer must be public, the purpose must primarily be non-domestic, arrays must be truly integrated and large scale (min 20kWp). The maximum grant for capital costs is £300k, plus up to £20k for design and £40k for 2 year's monitoring. The 18 successful projects with the increased budget of £4.2 million were announced on 18 March 2002. See press releases on www.dti.gov.uk for the announcement and summaries of selected projects.

The Carbon Trust

<http://www.thecarbontrust.co.uk/template.cfm?name=home>

The Carbon Trust was established in April 2001 with a clear brief from the Prime Minister to take the lead on low carbon technology and innovation in the UK and put Britain in the lead internationally. The Carbon Trust plans to develop and implement:

- a programme to accelerate the take-up of existing energy efficiency and other low carbon technologies building on the Energy Efficiency Best Practice Programme (EEBPP) the enhanced capital allowances scheme, and other incentive schemes as necessary;
- a Low Carbon Innovation Programme (LCIP) deploying a range of financial instruments and support for new and emerging technologies to the point where they are self-sustaining. LCIP will draw in other funding partners to create a "funding continuum" across the innovation chain; and
- other programmes and studies to inform The Carbon Trust and hence enable it to carry out its roles and deliver its remit and objectives.