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# The Energy Challenge DTI Energy Review 2006

AN UPDATE FROM IPA ENERGY + WATER CONSULTING



IPA Energy + Water Consulting

# The energy review and the electricity industry

On the 11th July 2006 Government published the results of its latest Energy Review. Its purpose was to consider further options to achieve the UK's 2003 Energy White Paper goals. The report outlines Government's proposals for tackling what it sees as two major UK long-term energy challenges, namely; Climate Change and delivering secure, clean and affordable energy. A desired outcome of the proposals is a 20-25 Mt cut in UK carbon emissions by 2020, split over a number of sectors.

A number of the proposals will directly affect the power sector, including changes to the Renewable Obligation (RO), a broadening of the EUETS and plans to promote new nuclear build; while energy suppliers could be facing (amongst other things) significant extensions to their Energy Efficiency Commitments (EECs).

## Renewables

The Review proposes a number of changes to the RO. These are aimed at re-balancing it to offer more support to less economic technologies. It also proposes measures to facilitate new build. Proposals include:

- 'Banding' the RO, to provide differentiated levels of support to renewable technologies. This should target support where it is needed. Less economic technologies, like wavepower, should get more than one Renewable Obligation Certificate (ROC) per MWh generated after 2010 while more mature technologies, such as onshore wind, and landfill gas, could receive less than one. These changes would not affect schemes built by 2010.
- Increasing the level of the RO to 20% and proposing that the level of the Obligation stays above the level of renewables actually installed, up to the 20% ceiling. These proposals should offer more certainty to developers because they guarantee that ROC prices will remain at, or above, the buyout price and that there will be no ROC price collapse.
- Allowing a big increase in investment in the transmission grid and new measures to accelerate the grid connection process to promote new build.
- Removing the cap on co-firing, but probably 'banding' it at less than 1 ROC/MWh (except for energy crops, which will get more). The design

of the co-firing banding will have to ensure the economics are right to incentivise co-firing operations, plant investment and long-term investment in energy crops.

Government is clearly trying to address criticisms of the RO, but tinkering with the RO introduces significant short term market uncertainty while the policy detail is being developed. Unintentionally this could undermine the bankability of the RO, and the ability of renewable projects to raise finance. Additionally since renewable economics are a function of both power and ROC prices, the volatility of power prices will mean that technology ROC bandings may require regular adjustment to ensure that the RO continues to provide appropriate economic incentives for renewable generation.

## New nuclear

Several well-trailed proposals are designed to smooth the process of building new nuclear stations. Government is forecasting up to 2 GW of new nuclear build by 2020, in its energy projections. Proposals include:

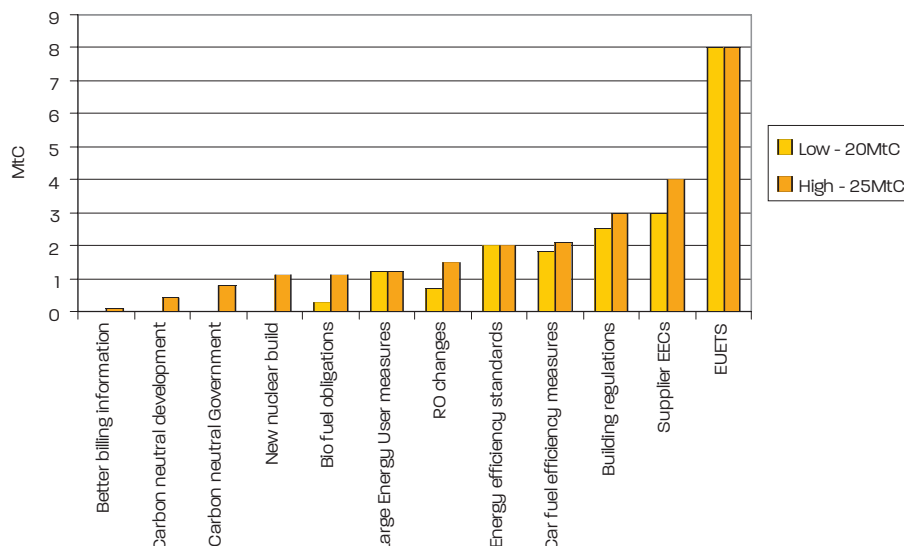
- Making a decision on the long-term management

of nuclear waste and the licensing of new reactors.

- Streamlining the planning process for new nuclear build (and other large projects) in England and Wales. Government will set out a framework (the 'major infrastructure projects rules') for planning inquiries. This framework would include a nuclear 'statement of need', keeping nuclear policy - which occupied huge amounts of time at the Sizewell inquiry - firmly outside the scope of planning inquiries.
- Appointing a high powered planning inspector to ensure that planning inquiries are run to clearly defined timescales, and that maximum use is made of the powers and efficiencies set out in the major infrastructure projects rules.

The Review states that it will be for the private sector to initiate, fund, construct and operate new nuclear plants and cover the costs of decommissioning and waste management. These proposals seem to have created interest in building new nuclear from the major EU energy companies, and should ensure interest in acquiring Government's share in British Energy (when there is a sale). However, leaving all this risk to the market continues to raise a question about whether

Projected carbon cuts from policy proposals





### Promoting energy conservation

Government is proposing extending its existing energy efficiency proposals and broadening their coverage to the domestic, large non-intensive energy user and transport sectors. Overall these proposals seem ambitious, providing about 40% (6 - 9 MtC) of the emission cuts targetted in the Review. Proposals include:

- Extending EECs in some form until at least 2020 and converting them into 'carbon emissions reduction targets' after 2011. If EECs do become carbon-based, Government is proposing making allowances for microgeneration to meet targets and giving tradeable emission credits to suppliers. These proposals will lock suppliers into long-term commitments to improve energy efficiency and cut carbon emissions.
- Obliging large non-intensive energy users in the commercial and public sectors to meet efficiency targets. This closes a hole in Government Climate Change policy which had previously not focussed on these sectors.
- Proposing measures on smart metering, home energy efficiency ratings and more frequent and informative bills. These should encourage conservation by raising awareness of energy use in the domestic sector.

While the targets are ambitious, it is not clear how promoting energy conservation will work in the context of retail supply competition and customer switching. It may be necessary to work out a longer-term framework for supply contracts that takes more account of investment in energy conservation. These proposals may also raise barriers to market entry for new entrants and small suppliers.

### Promoting distributed energy generation

The proposals on distributed energy generation reflect the Climate Change and Sustainable Energy bill which passed into law on June 21st 2006. Key points include:

- Incentivising suppliers to buy power from distributed generators and for network operators to adapt the grid for them, amending licensing and technical procedures. These measures should all facilitate the installation of these schemes.

### Energy Review highlights

<b>Emission Trading</b>
Working to bring aviation into the EUETS by 2008
Working to bring surface transport into the EUETS
Bringing energy suppliers in after 2011
<b>Promoting energy conservation</b>
Raising appliance and building energy efficiency standards
Extending power suppliers' Energy Efficiency Commitments
Extending a car fuel efficiency scheme
Incentivising the take up of energy efficiency measures
Leading by example
<b>Promoting distributed energy generation</b>
Reducing VAT on domestic micro-CHP appliances;
Incentivising distributed generation in Local Authority plans
Requiring on-site renewables in new developments
<b>Promoting renewable electricity</b>
Raising the level of the RO from 15% to 20%
Developing an RO 'guaranteed headroom' mechanism
Enabling faster grid connections
Cutting planning barriers
Developing an RO "banding" system in 2010
Giving co-firing a long-term role
Freezing the ROC buyout price after 2015
<b>New nuclear power stations</b>
Providing better guidance on reactor licensing
Providing a decision on the long-term management of waste
Streamlining and simplify the planning process in E&W
Ensuring that planning inquiries are run to clearly defined timescales
<b>Cleaning up fossil fuels</b>
Developing a Carbon Capture Technology programme
Amending international legal frameworks to support it
<b>Alternative fuels for transport</b>
Developing a Transport Innovation Strategy
Raising the Renewable Transport Fuel Obligation above 5% after 2010
<b>Other proposals</b>
More investment in the electricity transmission network
More investment in gas storage and import infrastructure
Providing more forward looking energy market information



- Planning system changes and requirements for new property developments to include on-site micro-renewables. Government is hoping these proposals will kick-start the development of distributed energy at regional, local, and community levels.

There are major issues associated with how these schemes will interact with electricity metering and supply. Much work will still be required in this area to allow microgeneration to flourish.

### Emission Trading

In the Review, Government underlines its commitment to the EUETS and emphasises its green credentials through its aspirations of achieving a 60% cut in carbon emissions by 2050. Proposals include:

- Delivering an 8Mt cut in carbon emissions from Phase II of the EUETS.
- Including aviation in the EUETS scheme by 2008 and surface transport at some point in the future.
- Giving emission credits to electricity supply companies for meeting domestic energy efficiency targets after 2011 is also likely to be considered.

Government views the EUETS as a key tool to achieve its longer term 60% emission reduction target. To broaden its scope, however, the UK will have to get collective agreement from the rest of the EU to implement these proposals.

### The Devil is in the detail

The Review outlines proposals designed to meet Government's policy objectives on Climate Change and energy security. But they are aspirational and as with all such proposals, the devil will be in the detail. Until they are published as policies, there will be uncertainty about their form and likely impact. Clearly industry needs certainty as quickly as possible so that it can begin to make the investments required to achieve the Government's objectives.

### IPA Energy + Water Consulting - the company

IPA is an independent company that has worked at the forefront of electricity and gas market development for 17 years.

The company has global experience in creating, implementing and strengthening energy markets, both electricity and gas, in order to increase competition, raise economic efficiency, attract private sector capital, foster renewables and promote emissions reduction. Founded in 1989, IPA's headquarters are in Edinburgh.

Recent projects that IPA has undertaken include:

- Providing support for renewable policy, including investigation of the economics of co-firing, and the development of marine energy
- Assessing the implications of the EU ETS on the power sector, and providing expertise on the DTI's emissions projections panel
- Renewable project development, including work on feasibility studies, financial analysis, planning support, contract analysis and negotiation

- Valuation of ancillary services, assessment of transmission tariffs and support for price controls
- Asset valuation and risk assessment including work on coal, CCGT, pump storage and interconnector projects
- Development of business strategy including provision of bespoke business models

IPA also produces PowerView, a quarterly forecast of GB electricity prices and ROC prices under Base, Low and High scenarios using its proprietary market model ECLIPSE. This forecast includes detailed assumptions and discussion of the evolution of the industry over the forecast horizon, as it responds to emission constraints, carbon trading, the development of renewable generation and the future of nuclear and coal capacity. Our next forecast will include consideration of the impact of the Energy Review.

PowerView can be purchased on a subscription or one-off basis.

Clients who use PowerView include:

- Utilities
- Independent generators
- Financiers

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