National Assembly for **Wales**
Cynulliad Cenedlaethol **Cymru**

White Paper on Energy (May 2007)

Abstract
This research paper provides a short synopsis of the May 2007 White Paper on Energy

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Cynulliad Cenedlaethol Cymru
National Assembly for Wales

White Paper on Energy (May 2007)

Gareth Clubb
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National Assembly for Wales

Executive Summary

The 2007 White Paper on Energy indicates the strategic direction the UK Government wishes to take concerning energy policy. Its publication was delayed by legal action over the level of consultation the Government had undertaken to inform its opinion on nuclear power.

The document is set out in eleven chapters that cover many aspects of energy policy, at the international, UK, constituent country, and English regional and local authority levels. Several related consultation documents have either been recently released, or were published at the same time. Details of these documents – which include a consultation on the future of nuclear power – are available on pages 338 and 339 of the White Paper.

The UK Government has decided to introduce a mandatory cap and trade scheme for carbon, called the Carbon Reduction Commitment. It will focus on large organisations for which energy efficiency benefits would outweigh administrative costs.

Real-time electricity displays are expected to be made available to all householders free of charge over the next 10 years.

An independent infrastructure planning commission proposed in the Planning White Paper will determine applications on energy projects over 50MW and major gas infrastructure projects.

Extra support is proposed for those maturing and developing forms of renewable technology in a less advanced stage of technological development.

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White Paper on Energy (May 2007)

1 Introduction

The 2007 White Paper on Energy[1] (2007 White Paper) was published on 23 May 2007. A series of consultations related to, or announced in the White Paper, includes:

- Planning
- The future of nuclear power
- Reform of the Renewables Obligation
- Carbon Reduction Commitment
- UK regulation of carbon capture and storage
- Carbon dioxide from cars
- Guidance on the consenting process for onshore generating stations above 50MW in Wales and England

The consultation on the 2007 White Paper closes on 10 October 2007.

2 Background to the White Paper

[1] DTI, *Meeting the energy challenge: A White Paper on energy*, May 2007, http://www.dti.gov.uk/files/file39387.pdf

The 2003 Energy White Paper[2] (the 2003 White Paper) was the UK Government's first major energy policy document since its 1998 White Paper[3]. The 2003 White Paper set out the UK Government's energy policy in relation to the wider commitment to sustainable development, and considered the three challenges of climate change, the decline of indigenous energy supplies, and updating the energy infrastructure. The resulting energy policy had four goals:

- To cut the UK's carbon dioxide emissions by 60 per cent by 2050, with "real progress" by 2020
- To maintain the reliability of energy supplies
- To promote competitive markets in the UK and beyond
- To ensure that every home is adequately and affordably heated.

In the 2003 White Paper, the economics of nuclear power were described as making it "an unattractive option for new, carbon-free generating capacity". The 2003 White Paper noted that "there are also important issues of nuclear waste to be resolved". Furthermore, under the subheading "We do not propose new nuclear build…"

> This white paper does not contain proposals for building new nuclear power stations… **Before any decision to proceed with the building of 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**. [Emphasis as in the original]

As a result of this statement, Greenpeace submitted a High Court challenge to the UK Government's 2006 Energy Review[4]. The 2006 Energy Review was designed to assess progress against the 2003 White Paper's goals, and claimed to be a consultation document seeking views on the medium and long-term energy policy issues in the Review. Greenpeace was successful in obtaining 'declaratory relief'[5] in respect of the decision of the DTI

> to support nuclear new build as part of the United Kingdom's future electricity generating mix[6]

The judgement concluded that the consultation itself was "manifestly inadequate", and wholly insufficient for consultees to make an "intelligent response". As a result of this judgement, the publication of the 2007 White Paper was delayed by several months.

3 White Paper on Energy (May 2007)

The 2007 White Paper is set out in 11 chapters covering the following issues:

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[2] DTI, *Energy White Paper: Our energy future – creating a low carbon economy*, February 2003, http://www.dti.gov.uk/files/file10719.pdf
[3] DTI, *Conclusions of the review of energy sources for power generation and Government response to fourth and fifth reports of the Trade and Industry Committee*, October 1998, Cm 4071.
[4] DTI, *Our energy challenge: Securing clean, affordable energy for the long term*, January 2006, http://www.dti.gov.uk/files/file25079.pdf
[5] A statement of law – in this case that the consultation process was procedurally unfair, and that the decision in the Energy Review that nuclear new build "has a role to play…" was unlawful.

- Energy and climate security
- Saving energy
- Heat and distributed generation (combined heat and power, and renewable energy)
- Oil, gas and coal
- Electricity generation
- Research and development
- Transport
- Planning
- Devolved issues and issues for local authorities and English regions
- The impact of the proposed policies
- Implementing the proposed policies

3.1 Energy and climate security

The chapter covering energy and climate security introduces an international strategy to deliver both energy and climate security. The strategy is built around four main elements:

- Promoting open, competitive energy markets
- Taking action to put a value on carbon emissions to ensure that investment decisions fully reflect the costs of climate change
- Driving investment to accelerate the deployment of low carbon technologies
- Promoting policies to improve energy efficiency, thereby cutting emissions and reducing dependence on fossil fuels

3.2 Saving energy

Chapter 2 considers saving energy, or energy efficiency. The proposals in this chapter are to be progressed in "accordance with the principles set out in the Memorandum of Understanding" with respect to the devolved administrations. In order to achieve substantial energy savings, policies will be required to create incentives to greater energy efficiency, support more energy efficient choices, and deliver greater energy efficiency and use of renewable energy in public sector buildings.

The UK Government has decided to implement a mandatory cap and trade scheme for the UK, called the Carbon Reduction Commitment. It is intended to deliver carbon savings of 1.2MtC[7] per year by 2020 from large commercial and public sector organisations, focusing on large organisations for which energy efficiency benefits would outweigh administrative costs. The UK Government will consult on a proposal to require Energy Performance Certificates to be displayed in business premises in Wales and England, and also on a proposal to extend advanced and smart metering services to all but the smallest business users in Great Britain. From April 2008,

[6] Greenpeace Ltd v Secretary of State for Trade and Industry [2007] EWHC 311 (Admin), CO/8197/2006
[7] MtC = Megatonnes of carbon equivalent = 1,000,000 tonnes of carbon equivalent. 1 tonne of carbon equivalent equates to 3.66 tonnes of carbon dioxide

buildings greater than 1,000m^2 occupied by public authorities and by institutions providing public services, such as government offices, hospitals, schools, museums and libraries, will be required to display a certificate showing an energy rating for the building and the steps that can be taken to improve its energy performance.

For householders, the 2007 White Paper has proposed to extend until 2020 the obligation on energy suppliers to help make households more energy efficient. An online carbon dioxide calculator is expected to be unveiled in the summer on www.direct.gov.uk/actonCO2. Furthermore, there is an expectation that every home will have smart electricity and gas meters installed over the next decade; it is proposed that from May 2008, every household having an electricity meter replaced and every newly built domestic property will be given a real-time electricity display, free of charge. The 2007 White Paper reminds readers of the likelihood that by 2016 all new homes built in England will need to be 'zero carbon', with substantial improvements on current energy efficiency standards by 2010 and 2013. In Wales, the former Minister for Environment, Planning and Countryside announced in February 2007 the Government's aspiration for all new buildings to be zero carbon by May 2011[8].

The 2007 White Paper indicates that further research will be conducted into the possibility of implementing personal carbon allowances.

Several incentives and measures are outlined in order to reduce fuel poverty, including improving energy efficiency measures for people in receipt of state benefits.

3.3 Heat and distributed generation

This chapter covers heat and distributed generation, which is, in effect, renewable energy generation and combined heat and power (CHP). The proposals in this chapter are to be progressed in "accordance with the principles set out in the Memorandum of Understanding" with respect to the devolved administrations. The UK Government wants to provide opportunities for the growth of these 'distributed energy' (DE) technologies by removing barriers and providing incentives for its use, where cost-effective.

The requirement for new homes to be 'zero carbon' means that DE will have to be included in all new housing developments. Some grants are available for installing certain renewable energy systems for householders, communities, businesses, and the public sector.

Since 2006, the UK Government has committed to carbon emission reduction targets of 30 per cent on 1999/2000 levels by 2020, and to carbon neutrality for its office estate by 2012.

The best efficiency savings for CHP are when there is consistent demand for heat throughout the day. Industrial sites and some community-scale projects are therefore most suitable, and a number of measures have been introduced to support CHP in these circumstances.

[8] National Assembly for Wales, Record of Proceedings, 13 February 2007, http://www.cynulliadcymru.org/en/bus-home/bus-chamber/bus-chamber-second-assembly/bus-chamber-second-assembly-rop.htm?act=dis&id=48756&ds=2007/2

The Government proposes a five-point package of measures to address barriers to the uptake of distributed renewable energy: improving information and awareness, more flexible market and licensing arrangements, clearer rewards for small-scale generators, facilitating connections for distributed generators, and driving demand for distributed energy at local and regional levels.

3.4 Oil, gas and coal

Chapter 4 covers the supply of these fossil fuels, which DTI projections suggest will comprise more than 90 per cent of the UK's fuel mix by 2020. Much of the comment is directed towards well-functioning international energy markets as a basis for stable supplies of energy. A role is seen for maximising recovery of oil and gas reserves from the UK continental shelf, and coal is a source of flexibility for energy generation that is envisaged to remain important over the coming decades. Clean coal technology is covered in chapter 5. Legislation is proposed to streamline the application and planning process for offshore storage of gas.

3.5 Electricity generation

This chapter is split into five sub-sections.

3.5.1 Investment framework

In order that the electricity market operates efficiently and takes account of the UK Government's environmental and social goals, the policy framework provides incentives for carbon emissions to be priced and accounted for by electricity generators. In particular, policy proposals aim to:

- Strengthen the EU Emissions Trading Scheme and the carbon market
- Provide sufficient information for appropriate investment decisions to be made
- Change the planning regime for electricity generation
- Clarify policy on renewables, carbon capture and storage, and civil nuclear generation

3.5.2 Networks

The transmission and distribution networks are in need of investment because of ageing infrastructure and the necessity to connect to decentralised generators.

3.5.3 Renewables

Renewable energy produces very little greenhouse gas emissions. The UK Government is awaiting the results of a Sustainable Development Commission study on tidal power (including tidal power in the Severn estuary) before considering its next steps.

In order to increase investment in maturing and developing forms of renewable technology, banding is being introduced so that more support is provided to those in a less advanced stage of

technological development. It is hoped that this will bring forward emerging renewable technologies. Capital grant schemes will also apply to demonstration stages of technology development.

Changes in the planning system are proposed in order to reduce the time taken for renewable energy schemes to progress to deployment. The UK Government expects such changes to lead to a maximum time of nine months for the decision-making phase to be completed, except in particularly difficult circumstances. A Planning Policy Statement on Climate Change will be published at "the earliest opportunity". In Wales, a consultation on 'Planning for Climate Change' closed in March 2007.

As highlighted in section 2.5.2, grid connections are important for large-scale renewable developments, such as onshore wind farms. The UK Government intends to promote better management of the way in which grid connections are allocated (currently, the system takes no account of the stage of completion of a development).

3.5.4 Cleaner coal and carbon capture and storage for fossil fuels

This section of the chapter focuses on the three main means of reducing the carbon intensity of coal as a fuel in electricity generation: improving coal-fired power station efficiency, co-firing coal with biomass, and carbon capture and storage (CCS). The UK Government has announced a competition to develop a 300MW power station capable of capturing and storing 90 per cent of the carbon dioxide emitted.

3.5.5 Nuclear power

The UK Government issued a separate consultation paper on the future of nuclear power in electricity generation[9]. The executive summary of that consultation document forms this section of chapter 5, and covers nuclear power and carbon emissions, security of supply, the economics of nuclear power, safety and security of nuclear power, transport of nuclear materials, waste and decommissioning, nuclear fuel, reprocessing, and proposals for UK Government facilitation.

If the capacity of existing nuclear power stations were completely replaced with fossil fuel power stations, the carbon equivalent of between 30 and 60 per cent of the savings anticipated from the 2007 White Paper would be emitted. As a result of the long lead times with nuclear power station construction, new capacity will be unlikely to be in place by 2020; 10GW of nuclear power generation is likely to be decommissioned over the next 20 years. An analysis by the DTI suggested that nuclear could make a contribution to low-carbon electricity generation in the UK.

The consultation provides the opportunity to discuss the ethical, intergenerational, and public acceptability issues associated with the private sector investing in new nuclear power stations and generating new nuclear waste.

[9] DTI, *The future of nuclear power*, May 2007, http://www.dti.gov.uk/files/file39197.pdf

The power to consent to the construction of power stations greater than 50MW capacity has been executively devolved to Scottish Ministers and is also devolved in Northern Ireland. The UK Government acknowledges the need to take account of any areas in which the devolved administrations have competence.

In a sister document to the consultation on nuclear power[10], the UK Government notes that while nuclear energy policy is a reserved matter for the UK Government, the statutory planning process to which proposals for new power stations are subject is devolved to varying degrees. Wales has some devolved planning functions, but these do not include the power to consent to the construction of power stations over 50MW. This document envisages that Wales would be included in the process of Strategic Siting Assessment "as set out in Section 3 of this document". Although the Welsh Assembly Government would be consulted on this, there is no political criterion on which a Strategic Siting Assessment could be refused. A consultancy report for the DTI[11] identifies Wylfa as a feasible site for new reactor development, although the report notes that economic and waste issues are regarded by the Welsh Assembly Government as key factors against new nuclear build in Wales.

3.6 Research and development, demonstration and deployment, and skills

The UK Government has committed to support the development and deployment of new low-carbon technologies, in particular in the phase between initial concept to the point where they can be deployed commercially. The strategy to speed up the deployment of low carbon technologies is based on building long-term policy frameworks for tackling climate change (including carbon pricing), encouraging private sector involvement, and intervening to address market failures through a framework of policies and incentives. Support includes the new Energy Technologies Institute which will be launched in summer 2007, and an Environmental Transformation Fund, due to be established in April 2008.

3.7 Transport

Chapter 7 unveils the UK Government's strategy for balancing the demand for transport and the need for mobility against the costs of climate change. The policies include carbon pricing, supporting the inclusion of aviation into the EU Emissions Trading Scheme, ensuring that "serious consideration" is given to the inclusion of surface transport in the EU Emissions Trading Scheme, fiscal measures (such as fuel duty and vehicle excise duty), the use of biofuels in transport, funding for research and development, a Low Carbon Innovation Transport Strategy, and promoting public transport and alternative travel options.

[10] DTI, *The future of nuclear power: Consultations on the proposed processes for Justification and Strategic Siting Assessment*, May 2007,
http://www.dti.gov.uk/files/file39199.pdf
[11] Jackson I and Jackson S, 2006. *Siting new nuclear power stations: Availability and options for the Government*, Discussion Paper for DTI Expert Group,
http://www.jacksonconsult.com/content_pdf/Nuclear_Siting_Report.pdf

3.8 Planning

Chapter 8 focuses on the planning system as it applies to electricity generation projects, and gas and electricity infrastructure projects. The 2007 White Paper argues that there are problems with the timeliness of planning decisions. For example, these decisions take on average 27 months for small windfarms (under 50MW) in Wales, compared with 14 months in Scotland and 10 months in England. Proposals in the 2006 Energy Review for changing the planning system have been progressing according to the UK Government's timetable. Changes have been based on improving the strategic context against which individual planning decisions should be made, introducing more efficient inquiry procedures, and timely decision-making.

The UK Government proposes a fundamental reform of planning for nationally significant infrastructure projects, including energy projects above 50MW and major gas infrastructure projects in Wales and England. This subject is covered in more detail in the Planning White Paper 2007[12], and Members' Research Service has produced a research paper[13] covering that White Paper. An independent infrastructure planning commission is proposed to examine and take decisions on applications for nationally significant infrastructure projects, as well as projects designated by national policy statements or UK Ministers. Two or three of the commissioners would be appointed on the advice of the Welsh Assembly Government, reflecting the role of the commission in determining nationally significant energy projects in Wales. In addition, it is proposed that a single application process will be developed for major national infrastructure projects, that inquiry procedures will be improved, and that better opportunities for public consultation and engagement will be made available.

3.9 Devolved Administrations, English regions and local authorities

Chapter 9 examines devolved matters and English local and regional issues. The sum of the information provided that is relevant to Wales is that:

> In line with the devolution settlements in Scotland, Wales and Northern Ireland, all proposals in this White Paper which touch on devolved matters will be progressed in accordance with the principles set out in the Memorandum of Understanding. It is expected that the Devolved Administrations will want to consider in due course how to take forward their responsibilities that are relevant to energy policy.

3.10 Impact of our measures

This chapter unveils the estimated impact of the different measures and policies in the 2007 White Paper. The headlines are:

- An annual reduction of between 23 and 33 million tonnes of carbon by 2020 (of which the EU Emissions Trading Scheme is responsible for 13.7 million tonnes)

[12] HM Government, *Planning for a sustainable future White Paper*, May 2007, http://www.communities.gov.uk/pub/669/PlanningforaSustainableFutureWhitePaper_id1510669.pdf
[13] See http://www.cynulliadcymru.org/bus-home/bus-guide-docs-pub/bus-assembly-publications/bus-assembly-publications-research.htm

- Improved security and reliability of energy supplies
- A 200,000 reduction in the number of UK households in fuel poverty by 2010

3.11 Implementation

Chapter 11 brings together the 2007 White Paper's principal measures and outlines how the UK Government intends to implement them. Some of the measures will require primary legislation, while others will depend on the outcome of public consultations. The UK Government intends to legislate "as soon as is feasible".