



House of Commons
Committee of Public Accounts

Department of Trade and Industry: Renewable energy

**Sixth Report of
Session 2005–06**

*Report, together with formal minutes and
oral evidence*

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The Committee of Public Accounts

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Summary

The Government's energy policy and wider climate change programme aims to increase the proportion of electricity generated from renewable sources, such as wind, wave and biomass. The Government's target is to supply 10% of Britain's electricity from renewable sources by 2010, with the aspiration of doubling this share to 20% by 2020. The aims of these levels of renewable generation are to make a significant contribution to national and international targets for reducing carbon dioxide emissions, while improving the diversity and security of the UK's energy supplies. In the period to 2020, however, the contribution of renewables to these aims could be offset by the planned closure of most of the UK's existing nuclear power stations.

To achieve the rapid expansion in renewable energy required by the 2010 target, the Department of Trade and Industry (the Department) introduced in April 2002 the Renewables Obligation. The Obligation requires all electricity suppliers to source a growing percentage of their sales each year from renewable sources. The scheme pushes up the demand for renewable energy, thus increasing the revenue that generators can earn which in turn encourages developers to invest in new generating capacity. Electricity suppliers pass the higher cost of purchasing renewable electricity on to consumers. The Renewables Obligation will cost consumers £1 billion per annum by 2010 rising to £1.5 billion per annum by 2015.

The Renewables Obligation is more expensive than the other mechanisms currently being used under the Climate Change Programme to reduce carbon dioxide emissions. These include promoting energy efficiency through the Climate Change Levy, which is paid by non-household consumers of energy, and controlling the carbon dioxide emissions of key industries through emissions trading schemes. The expense of the Obligation reflects the high cost of renewable generation and poor targeting of the scheme – around a third of the funds exceed the support needed by generators. The Department hopes that funding investment in renewables now will reduce future generating costs and thus the cost of each tonne of carbon dioxide saved. It has not established measures or targets to track the industry's progress in reducing costs, however, and consumers will not necessarily benefit if generating costs do fall.

The Department is working to remove barriers to the achievement of the 2010 target, but this work is imposing further financial and non-financial burdens. Support to develop new and emerging renewables technologies and the cost of upgrading the electricity grid, so that it can carry the renewable energy generated, is likely to total £2 billion or more in the period to 2010. New planning guidelines, introduced in 2004, seek to increase the proportion of successful planning applications for renewable sites and will reduce the influence of local communities on planning decisions.

On the basis of a Report by the Comptroller and Auditor General,¹ we examined the Department on the contribution of renewables to the UK's energy and environmental objectives, the cost of the Renewables Obligation for consumers, and the challenges of delivering the 2010 target.

1 C&AG's Report, *Department of Trade and Industry: Renewable Energy* (HC 210, Session 2004–05)

Conclusions and recommendations

- 1. Even if support for renewable energy achieves its planned contribution to reducing carbon dioxide emissions, the Department will need to encourage investment in other zero or low carbon generating capacity, or energy efficiency measures, if it is to meet its overall emissions target.** Options for new generating capacity include replacing nuclear power stations due for closure, or producing both heat and power from the same energy source. The long lead times for commissioning new generating capacity mean that the Department now needs to decide urgently which forms of generation to support and in what ways.
- 2. The renewables programme will provide value for money only if it helps industry to lower the cost of renewable energy to levels which approach the combined financial and carbon dioxide costs of other forms of generation.** Otherwise the contribution that renewables can cost-effectively make to the twin objectives of reducing carbon dioxide emissions and improving energy security is likely to be limited. The Department needs to set out the expected rate of reduction in the cost of generating energy from each of the main renewable sources and actively monitor progress.
- 3. The Renewables Obligation is currently at least four times more expensive than the other means of reducing carbon dioxide currently used in the United Kingdom, which include levying a charge on non-household users of energy and controlling the carbon dioxide emitted by key industries.** A carbon tax would be a less complex way of reducing carbon emissions. The Department and the Department for Environment, Food and Rural Affairs should manage the range of policy instruments operating under the Climate Change Programme so that public resources are applied cost-effectively.
- 4. The 2010 target requires the costs of the Renewables Obligation to be acceptable to consumers.** But the Department has no means of informing its judgement on this issue. It should consider surveying consumers or consulting consumer bodies, such as energywatch.
- 5. Around a third of the support provided by the Renewables Obligation exceeds the extra cost of renewable generation.** The Obligation provides the same level of support to all eligible technologies and sites regardless of their costs and long term potential to deliver reductions in carbon dioxide. As part of its 2005 review of the Renewables Obligation the Department should reduce the excess support in the scheme. It could, for example, taper or phase out support for lower cost renewable technologies which have limited growth potential, such as landfill gas, or limit the number of years individual generating sites can benefit from the scheme.
- 6. By including sites within the Renewables Obligation from the previous support scheme the Department has raised unexpected revenue for the Exchequer from electricity consumers, worth between £550 million and £1 billion by 2010.** Prices paid to generators who agreed contracts under the Department's previous support scheme were not affected by the introduction of the Renewables Obligation, but the prices paid by electricity suppliers and passed on to consumers have increased. So the

revenue arising from the output of these sites now exceeds the payments made to generators, and the resulting surpluses accrue to the agency which runs the scheme and are transferred to the Exchequer.

7. **Predictions commissioned by the National Audit Office suggest that output from onshore wind sites should grow from 0.4% of the UK's total electricity supply in 2003–04 to nearly 3% by 2010–11.** These sites are often unpopular with local communities and the likely rapid expansion of onshore wind power in the next five years could create a public reaction against renewable energy.
8. **In the first three years of the Renewables Obligation scheme, the capacity of accredited sites generating electricity from landfill gas has increased by over a third.** Public financial support for landfill gas sites is, however, at odds with the objectives of environmental legislation which promotes recycling of waste, rather than its disposal in landfill, and thus limits the potential of this form of renewable energy.
9. **Wind power generation is much less environmentally intrusive when sited offshore.** The Department should factor in this environmental advantage when considering the relative costs and benefits of onshore and offshore wind power, and the level of financial support provided to each.
10. **Biomass can provide a secure, stable and sustainable energy source, but levels of generation remain low even though public funds have been made available to support the development of the technology.** Drawing on its experience of providing research funding and capital grants for biomass, the Department needs to decide whether to continue to support biomass and, if so, how to make its support programmes more effective.
11. **The Renewables Obligation has the effect of transferring substantial sums from consumers to the renewables industry — over £400 million in 2004–05, rising to £1 billion by 2010 — amounting to some £5 billion over the whole period.** But this subsidy to renewables is not authorised under the annual supply procedure and so, unlike public expenditure, is not subject to regular Parliamentary scrutiny. Requiring users to source supplies from uneconomic providers has the same affect as taxing users to subsidise the providers, but is not as transparent or amenable to parliamentary control. The government should make arrangements for annual Parliamentary scrutiny, and the amounts involved should be reported annually to this Committee.

1 The contribution of renewables to the UK's wider energy and environmental policy

1. The Government's Energy Policy² has four objectives:

- Protecting the environment. The Government's Climate Change Programme aims to reduce UK carbon dioxide emissions by 60% by 2050. The Government is currently reviewing the Programme which is expected to deliver around a 15% cut in carbon dioxide emissions between 1990 and 2010,³ against a target for a 20% reduction.
- Energy security through diverse and reliable sources.
- Affordable energy for the poorest.
- Competitive markets for UK business, industries and households.

2. The Government wants renewable sources of energy, which include the sun, the wind, waves, the flow of water, and biomass, to make an increasing contribution to UK energy supplies in the years to 2010 and beyond (**Figure 1**). This growth in renewables is intended to improve the security of the longer term electricity supply and contribute to the Climate Change Programme. It should also assist the UK renewables sector to become competitive in home and export markets and in doing so provide employment.⁴ The Department expects that renewable energy could deliver around a fifth of reductions in carbon dioxide emissions by 2010.⁵

2 Energy White Paper, *Our Energy Future: Creating a Low Carbon Economy*, 2003, para 1.18

3 Updated Emissions Projections, Department of Trade and Industry, November 2004, Annex 6

4 *New & Renewable Energy: Prospects for the 21st Century* – The Renewables Obligation, Statutory Consultation, Department of Trade and Industry, August 2001, para 1.10

5 Q 3

Figure 1: Major Renewable Technologies and their stage of development

Each of these technologies produces no carbon dioxide or, in the case of biomass, only the carbon dioxide already absorbed from the atmosphere when it was growing.

Technology	Description	Stage of development
Hydroelectricity	Exploits the energy of flowing water (e.g. from a reservoir or river) to drive a turbine connected to an electricity generator	Proven technology. Large sites are commercially viable but smaller sites, meeting certain conditions, can receive support under the Renewables Obligation
Wind	Harnessing the power of moving air by using turbines mounted on a tower.	Onshore wind is a commercially viable technology under the additional support provided by the Renewables Obligation. Little UK experience of operating offshore wind sites and thus the Department has provided additional financial support by way of capital grants.
Landfill gas	Biodegradable waste breaks down in landfill sites. Carbon dioxide and methane extracted and burnt in a gas turbine.	One of the cheapest sources of renewable generation. But scope for further expansion is constrained by environmental legislation which encourages recycling of waste.
Biomass	Use of plant material, such as straw, or animal waste, such as chicken litter, as a fuel.	Costs vary from site to site. A small number of sites viable under the Renewables Obligation alone. Capital grants are also available to help industry develop new sites.
Marine	The extraction of energy from ocean waves or tidal streams, which are high velocity sea currents caused by periodic movements of the tides.	Both technologies are at the stage at which pre-commercial demonstration projects can be tested. In January 2005, the Department announced details of a scheme to provide financial support for such projects.

Source: C&AG's Report, *Department of Trade and Industry: Renewable Energy (HC 210 Session 2004–05)*, Figure 2 and Appendix 3

3. Levels of renewable generation in the UK have been low by international standards and are currently about half the European Union average. In part, the levels have been low as there has been less pressure in the UK to find alternative sources of energy because of the extensive resources in coal, oil and gas.⁶ In the late 1990s, the Government wanted to provide a new and strong drive to develop renewable energy. It set a target for renewables to account for 10% of energy supplied in Britain by 2010, subject to the cost to the consumer being acceptable. A supporting target of 5% by 2003 was not achieved. The Department decided that its previous policy for supporting renewable technologies – the Non-Fossil Fuel Obligation – was not bringing forward plans and proposals quickly enough. It therefore wanted to provide stronger incentives for the renewables industry to identify and develop sites where low cost energy could be generated.⁷ It concluded that a renewables focused policy instrument was the only way to achieve the increase in

6 Q 63

7 C&AG's Report, *Department of Trade and Industry: Renewable Energy (HC 210, Session 2004–05)*, paras 1.9–1.11

generation required to attain, in the Department's words, the "rather heroic 2010 target". An incentive to reduce emissions across all sectors of the economy, such as a carbon tax, was unlikely to have yielded sufficient levels of renewable generation.⁸

4. After four years of development and consultation the Department introduced the Renewables Obligation in April 2002. The scheme requires all electricity suppliers in Britain to source a growing percentage each year of their total sales from renewable sources. Suppliers purchase Renewables Obligation Certificates from renewable generators who receive them free from the Office of the Gas and Electricity Markets (Ofgem) when they produce electricity. The generators can sell the Certificates with the associated electricity or separately. Suppliers demonstrate compliance with the Obligation by surrendering Certificates to Ofgem. If a supplier surrenders an insufficient number of Certificates in any year they pay a premium related to the size of the shortfall. The premium is at a level which provides a strong incentive for suppliers to obtain Certificates. The revenue from the Certificates increases generators' income, thus helping them to cover the higher cost of producing electricity from renewable sources and providing the renewables industry with an incentive to build new capacity.⁹

5. Projections of renewable generation up to 2010, commissioned by the National Audit Office, suggest that provided that electricity prices remain buoyant, capital and operating costs continue to fall as the industry's experience grows, and new planning policy¹⁰ eases the problems developers have faced in getting sites commissioned, the Department could still achieve the 2010 target. Under less favourable price and cost conditions, the level of renewable generation in 2010 could fall to around 7.5% of electricity supplied compared with the 10% target.¹¹

6. The Government's aspiration is for renewable energy to account for 20% of electricity supplied in Britain by 2020, and has stated that renewables will need to contribute at least 30% to 40% of the electricity supply by 2050 if the 60% cut in carbon dioxide emissions is to be achieved.¹² To encourage such levels of generation, the Department will need to help industry develop and bring into use new renewable technologies, as the potential for the existing mature technologies to contribute to a larger and secure renewable electricity supply is constrained. There are practical and environmental limits on increasing output from landfill gas and hydroelectricity.¹³ The intermittent nature of wind power means that generation levels are uncertain, so back-up generation is required, and as the proportion of electricity generated from intermittent sources increases the costs of maintaining stable supplies also rises.¹⁴

8 Qq 4, 8

9 C&AG's Report, para 1.12 and Figure 7

10 In August 2004 the Office of the Deputy Prime Minister issued a new planning policy statement (PPS 22) on renewable energy in England

11 C&AG's Report, paras 1.18–1.19

12 Energy White Paper, 2003, paras 4.5, 4.11

13 C&AG's Report, para 3.18 and Appendix 3

14 Energy White Paper, 2003, para 4.41

7. The Department's research and development programme has been running for 30 years and has provided grants worth £230 million (at 2002 prices) in the last 16 years.¹⁵ The programme has a poor record of helping the progress of renewable technologies. The onshore wind sector has been dominated by Danish and German technology.¹⁶ The cost of generating electricity from the Department's currently favoured demonstration technologies – wave and tidal – currently remains much higher than that of mature renewable technologies, despite research funded by the Department as far back as the 1980s.¹⁷ Biomass has also been slow to get established. It accounted for only 11% of electricity generated from renewable sources in 2003–04 even though the Department has supported research and development into biomass for over 20 years.¹⁸ More recently the Department has worked with the National Lottery to make funds available from the lottery to help industry develop individual sites.

8. Whether or not the Department succeeds in achieving the Government's 2020 aspiration, the contribution of renewables to both reducing carbon dioxide emissions and improving security of supply could be offset by other factors. Most of the UK's existing nuclear power stations are due to close by 2020, and consequently generating levels are expected to fall to about a third of current output. This fall will largely offset the projected growth in renewable generation over the same period (**Figure 2**). It is therefore likely that the Department will need to encourage the growth of other sources of low or zero carbon generation by 2020 if it is to achieve both the Government's climate change and energy security objectives.¹⁹

15 C&AG's Report, para 2.35 and Figure 13

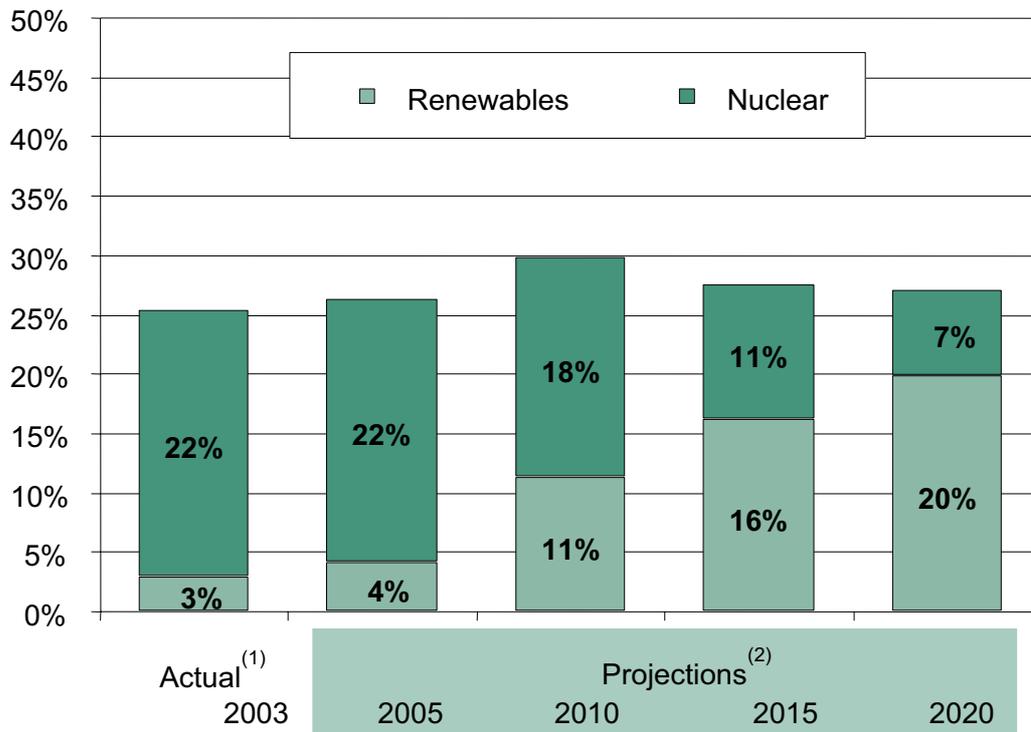
16 Q 121

17 *Wave and Tidal Stream Energy Demonstration Scheme*, Department for Trade and Industry, May 2005, para 1.3

18 *The Renewables Obligation*, Ofgem's 2nd Annual Report, Feb 2005, Figure 10

19 Qq 30, 111

Figure 2: Percentage of total electricity generated from nuclear and renewable sources



Sources:

1. Table 5.6 of Digest of United Kingdom Energy Statistics 2004, Department for Trade and Industry.

2. Updated Energy Projections, November 2004 – Addendum: Projections Beyond 2010, Department of Trade and Industry, which assumed that the level of renewable generation would not grow after 2015. The figure for 2020 above assumes that the Government achieves its aspiration for renewables. Note: Renewable generation includes output from technologies, such as large scale hydroelectricity, which are not covered by the Renewables Obligation.

2 The cost of the Renewables Obligation to consumers

9. The cost of the Renewables Obligation is passed on by electricity suppliers to consumers through higher prices. The cost rises in real terms each year in line with increases in the size of the Obligation placed on suppliers and the overall demand for electricity, rather than the actual level of renewable generation. By 2010, the cost of the Renewables Obligation, which does not appear on electricity bills and is not explained to consumers, is expected to reach £1 billion per annum (at 2002 prices).²⁰

10. The Renewables Obligation is the most expensive of the Government's instruments to reduce carbon dioxide under the cross-cutting Climate Change Programme (**Figure 3**). The Department justifies the cost by reference to:

- the Renewables Obligation's subsidiary objectives. The Regulatory Impact Assessment for the scheme estimated the number of jobs that could be created but it did not quantify the benefits of increased renewable generation for improving the UK's energy supply.
- the importance of renewables to achieving longer term reductions in carbon dioxide emissions. The Department argues that there are practical limits to the use of cheaper measures, such as energy efficiency, to reduce carbon dioxide. It expects current public investment in renewables to help industry reduce future generating costs, thus making renewable generation a more cost effective way of reducing carbon dioxide. But the Department does not have measures against which it can monitor progress over time.²¹

20 C&AG's Report, para 1.12

21 *ibid*, paras 3.4–3.6; Q 114

Figure 3: Cost of selected Government policies for reducing carbon dioxide emissions

Policy Instrument	Policy Objectives	Cost (£/tCO ₂)
Renewables Obligation ⁽¹⁾	<ul style="list-style-type: none"> Climate change Subsidiary: <ul style="list-style-type: none"> Energy security New technologies United Kingdom industry Rural economy 	70–140
Energy Efficiency Commitment	<ul style="list-style-type: none"> Climate change Improve energy efficiency Alleviate fuel poverty 	Negative – 16
Climate Change Levy	<ul style="list-style-type: none"> Improve energy efficiency Climate change 	5–11
United Kingdom Emissions Trading Scheme	<ul style="list-style-type: none"> Climate change First mover advantage for United Kingdom firms London as trading centre 	18
European Union Emissions Trading Scheme ⁽²⁾	<ul style="list-style-type: none"> Climate change Improve energy efficiency 	3–21

Source: Ofgem (2004)

Notes:

1) Lower limit based on the Obligation being met in full, with the upper limit based on 50% of the Obligation being met.

2) This range depends on the price of carbon dioxide allowances under the Scheme. The high end of the range assumes that the Scheme leads to large scale replacement of coal-fired power stations with gas-fired stations.

11. Over the 25 years of the Renewables Obligation, about two thirds of the support for generators will go towards meeting the higher costs of generating renewable electricity. The remaining third will exceed generators' needs because the Obligation provides the same level of support to all technologies regardless of their relative profitability. The scheme therefore encourages the development of the most economic renewable projects first. But it also means that sites using the cheaper renewable technologies – in particular, landfill gas

and onshore wind – receive substantially more support than they require. For example, a generator commissioning a well located onshore wind site in 2004–05 could, over the life of the project, expect to receive twice the level of support it needed to meet the costs of developing and operating the site.²² The Department’s current review of the operation of the Obligation will look at whether the scheme provides the necessary incentives to meet the 2010 target whilst ensuring that the profits earned by developers are not excessive. It has employed consultants to examine the economics of lower cost technologies and if necessary, or appropriate, it will consider amending the Obligation. Amendments might include a tapering of support.²³

22 C&AG’s Report, paras 3.19–3.20

23 Qq 86, 100, 116

3 Reflecting the interests of consumers

12. In setting its 2010 target, the Government stated that the cost of renewable energy should be acceptable to consumers.²⁴ In 2001, the Department estimated that by 2010 the Renewables Obligation would have increased electricity prices by an average of 5.7% across all electricity consumers.²⁵ This price increase will cost the typical domestic consumer about £10 to £12 per annum (at 2002 prices). When the Department implemented the Renewables Obligation there had been a fall in electricity prices, partly as a result of the introduction of new electricity trading arrangements in 2001.²⁶ The electricity market has since changed and other market forces have resulted in domestic consumers paying over 10% more for their electricity in the year to March 2005.²⁷ These rises will make it more difficult, and potentially more expensive, for the Department and its partner, the Department for Environment, Food and Rural Affairs, to achieve their shared Public Service Agreement target to eradicate fuel poverty in vulnerable households in England by 2010.

13. Part of the cost of the Renewables Obligation arises because the Department included under its terms renewable sites, such as wind farms and landfill gas sites, that were still being assisted under the Non-Fossil Fuel Obligation. The Department worked with the Non-Fossil Purchasing Agency – the body which manages the Non-Fossil Fuel Obligation contracts – to put in place arrangements to ensure that the income received by the generators was unaffected by the introduction of the Renewables Obligation. These arrangements have a number of consequences.

- The generators continue to operate under the conditions of their original contracts with Non-Fossil Purchasing Agency. These contracts, which run until at least 2014, provide generators with fixed prices for their output. These prices have to date been above the wholesale price of electricity.
- The Non-Fossil Fuel Purchasing Agency sells the output from the Non-Fossil Fuel Obligation sites to electricity suppliers. Since the introduction of the Renewables Obligation, electricity suppliers having been willing to pay more for this output as it is now sold with the associated Renewables Obligation Certificates. Suppliers pass these additional costs on to consumers.
- The revenue collected by the Non-Fossil Purchasing Agency from electricity suppliers each year now exceeds the amount it pays the contractors and results in annual surpluses. The Department estimate that the surpluses are likely to accumulate to between £550 million to £1 billion by 2010.

24 Q 48

25 Q 14

26 Q 119

27 Retail Price Index, Consumer Price Indices (April 2005), Office for National Statistics, May 2005

- The Government has earmarked £60 million of the surpluses to promote the use of renewable energy. The remainder are likely to be paid into the Consolidated Fund and will benefit the Exchequer.²⁸

14. The inclusion of these Non-Fossil Fuel Obligation sites helped create a market for Renewable Obligation Certificates by increasing the supply of Certificates available to electricity suppliers. Their inclusion has however come at a cost to the consumer, as their electricity bills have increased to meet the additional cost of the surpluses generated and transferred to the Exchequer. If the Department had excluded the Non-Fossil Fuel Obligation sites from the Renewables Obligation, and made corresponding reductions in the size of the annual Obligations placed on electricity suppliers, it could have prevented the generation of the surpluses and reduced the costs imposed on consumers. Such action would not have affected the incentives on Non-Fossil Fuel Obligation contractors to generate electricity.²⁹

15. To bolster industry confidence in the Government's commitment to renewable energy, and increase the probability of meeting the 2010 target, the Department proposed an expansion of the Renewables Obligation in December 2001, 21 months after the scheme started. The expansion, which was approved by Parliament in 2005, will increase the cost of the scheme to consumers from 2011. By 2015, these additional costs will have risen by at least £0.5 billion per annum, which will add 4% to the electricity bills of industrial consumers and 2% to the bills of domestic consumers. The price rise will result in the typical domestic electricity consumer paying a further £5 to £6 per annum (at 2002 prices) by 2015 in addition to the £10 to £12 in paragraph 12 above.³⁰

16. The Department set out the cost implications of the Renewables Obligation in its 2001 public consultation on the scheme and in 2004, when it consulted on its proposals to expand the scheme. Despite the reference to consumers' interests in the wording of the Government's 2010 target, however, the Department has not consulted consumers, or their representative groups, about their willingness to contribute to the cost of renewable energy. The Department acknowledges that there is likely to be a level at which the price of supporting renewables would become unacceptable to the consumer. It has not yet tested, or decided, what that level would be.³¹

17. There is no annual parliamentary approval of the cost to consumers of supporting the renewables industry through the Renewables Obligation. Parliament reviewed the Renewables Obligation when it was first established, and then expanded in 2005. But Parliament does not consider the subsidy to the renewable industry as part of the annual supply procedure. The subsidy is therefore not subject to the same degree of parliamentary control as business support directly provided by the Department from its own resources.³²

28 C&AG's Report, para 3.12

29 *ibid*, para 3.13

30 *The Renewables Obligation Order 2005*, Statutory Consultation, Department of Trade and Industry, September 2004, Appendix B, Draft Regulatory Impact Assessment

31 Qq 48–51

32 Q 17

4 Overcoming the challenges to delivering the 2010 target

18. The Department designed the Renewables Obligation to facilitate the rapid expansion of renewable generation required by the 2010 target. It decided that the Obligation should provide a single level of public support to all technologies, independent of their costs or maturity. The scheme therefore encourages generators to develop the most economic sites first. These sites tend to utilise the mature renewable technologies where risks are better understood and costs have already been reduced.³³

19. By 2010, the mature renewable technologies are unlikely to account for more than 5% of electricity supplied in Great Britain and thus, on their own, will not deliver the 10% target. The Department has therefore introduced capital grants programmes to help industry develop offshore wind and biomass sites as these are generally not commercially viable under the single level of support provided by the Renewables Obligation. The grants are intended to help developers gain experience and confidence of these technologies, and thus help them reduce generation costs for future projects. The first rounds of grants, for which £170 million has been made available by the Department and the National Lottery fund, have so far had mixed success. These grants have helped the completion of two fully operational offshore wind sites, with 10 others at varying stages of development, but they have produced no significant increase in energy production from biomass.³⁴

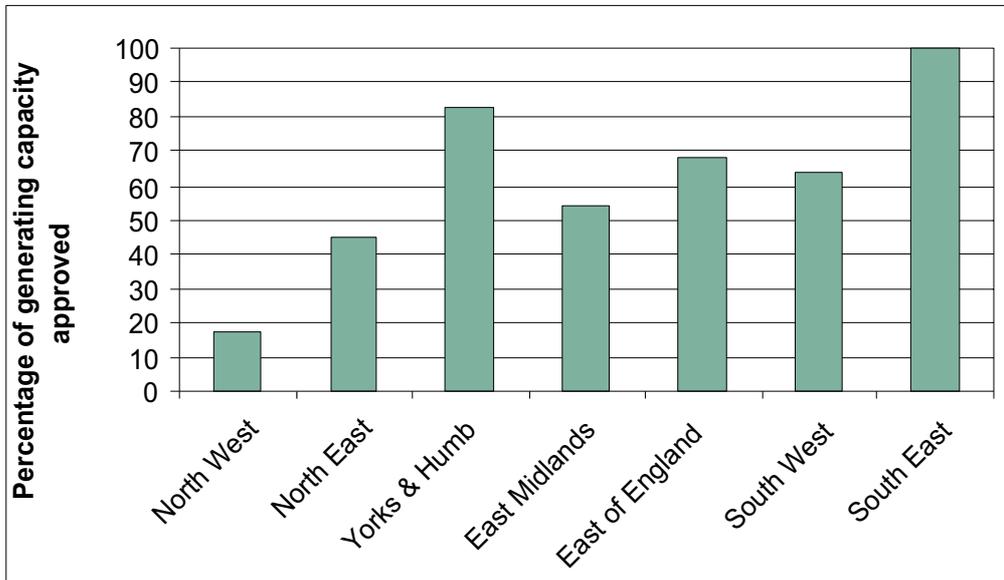
20. Since the 1990s the development of some renewables sites, in particular, onshore wind sites, has been delayed or halted due to difficulties in getting planning permission. The success rate of applications for onshore wind sites has varied substantially between English regions (**Figure 4**). The Department has, therefore, worked with the Office of the Deputy Prime Minister to reduce the barriers faced by renewable generators in getting planning permission and, in 2004, a new planning statement was issued. The statement seeks to get a more consistent approach to planning and thus increase the proportion of applications for renewable sites which are approved by requiring local planning authorities to take account of national interests and regional targets for increasing renewable generation, as well as local environmental, economic and social impacts. Consequently some applications which would previously have been refused are now likely to be passed.³⁵ The statement increases the chances of hitting the 2010 target, but only by reducing local communities' influence on the planning process.

33 Q 83

34 C&AG's Report, paras 2.29–2.31; Q 99

35 Qq 39–40

Figure 4: Rate of planning approval for onshore wind farms in each of the English Regions from 1999 to 2003



Note: West Midlands has been excluded as no applications were made in the period

Source: British Wind Energy Association

21. The Department has worked with Ofgem to provide incentives for the owners of the electricity grid to upgrade it so that it can transmit and distribute renewable electricity from where it is produced, often at remote sites, to where it is consumed. The total cost of projects to upgrade the grid, which typically require planning approval, is uncertain. The Department estimated in 2003 that the costs of improving the transmission network, so that the 2010 target could be achieved, could be between £1.1 billion to £1.3 billion, with a further £400 million to £600 million needed for the distribution network.³⁶ These costs will be passed on to consumers through higher prices and are in addition to the costs of the Renewables Obligation.³⁷

36 *Renewables Innovation Review*, Department for Trade and Industry, February 2004

37 C&AG's Report, para 3.2

Formal minutes

Monday 18 July 2005

Members present:

Mr Edward Leigh, in the Chair

Mr Richard Bacon
Mrs Angela Browning
Greg Clark
Helen Goodman
Ms Diana R Johnson

Mr Sadiq Khan
Sarah McCarthy Fry
Jon Trickett
Mr Alan Williams

Draft Report (Department of Trade and Industry: Renewable energy), proposed by the Chairman, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 21 read and agreed to.

Conclusions and recommendations read and agreed to.

Summary read and agreed to.

Resolved, That the Report be the Sixth Report of the Committee to the House.

Ordered, That the Chairman do make the Report to the House.

Ordered, That the provisions of Standing Order No. 134 (Select Committees (Reports)) be applied to the Report.

[Adjourned until Wednesday 12 October at 3.30 pm]

Witnesses

Monday 21 February 2005

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Sir Robin Young KCB, and Mr Roy Collins, Department of Trade and Industry

Ev 1

Oral evidence

Taken before the Committee of Public Accounts

on Monday 21 February 2005

Members present:

Mr Edward Leigh, in the Chair

Mrs Angela Browning
Mr Ian Davidson

Mr Frank Field
Mr Alan Williams

Sir John Bourn KCB, Comptroller and Auditor General, National Audit Office, further examined.

Ms Paula Diggle, Second Treasury Officer of Accounts, HM Treasury, further examined.

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL:

Department of Trade and Industry: Renewable Energy (HC 210)

Witnesses: **Sir Robin Young KCB**, Permanent Secretary and **Mr Roy Collins**, Head of Renewables Obligation Review Team, Department of Trade and Industry (DTI), examined.

Q1 Chairman: Good afternoon. Welcome to the Committee of Public Accounts, where today we are looking at the Department of Trade and Industry and the subject of renewable energy. We are joined by Sir Robin Young, who is the Permanent Secretary of the Department and Mr Roy Collins who is head of the Renewables Obligation Review Team. You are both very welcome. Sir Robin, somebody tells me this might be your last appearance before us?

Sir Robin Young: I believe this is the case, unless the Committee summons me back very, very quickly.

Q2 Chairman: I was told that tomorrow is your last day in the office.

Sir Robin Young: This is true. You would have to shift a bit to get me again.

Q3 Chairman: I am very sorry that on this happy day we have dragged you in. It is also Sir John Bourn's birthday, so we wish him a very happy birthday. I apologise to both of you. Back to the subject of renewable energy, perhaps you would look at figure 16, page 36 and tell me how you justify the extra cost of supporting renewable energy compared with other means of reducing carbon emissions, especially given the fact that this Renewables Obligation (RO) is, of the five current policy mechanisms, the most expensive?

Sir Robin Young: Certainly, and of course what I should say is that it is not either/or, it is both/and. If you look at paragraph 1.2 in the Report, it makes plain that the Government's climate change programme includes approaches under five broad headings: energy efficiency, low carbon transport, emissions trading scheme and then renewable resources. So renewables is one of five, if you divide energy efficiency into two, domestic and non-domestic, and in the Government's white paper it is designed to hit around 20% of the total Kyoto

target. So the government is trying to hit its Kyoto targets by 2020 80% in other ways but 20% by increasing the contribution of renewables. As the Report says in paragraph 3.4 just opposite the table 16 you have drawn attention to, the high cost of renewables largely reflects the high current costs of generating renewable electricity, but obviously part of the hope or aspiration is that, as we drive forward renewables, the cost will come down as we innovate and as companies doing it make the economies which we want and we hope that by encouraging it at this upfront high cost, we will produce a lower cost renewable energy sector some time in the future.

Q4 Chairman: That is all very well, but it is a very complex scheme. Why not just have a carbon tax? It is much simpler for people to understand and apparently it was recommended by the Royal Society. It is based on the principle that the polluter pays.

Sir Robin Young: We have an emissions trading scheme which is similar in that respect but, as the Report says at paragraph 3.4 "It is unlikely that a policy tool focused directly on reducing emissions across all sectors of the economy, such as a carbon dioxide tax, would have yielded the same level of renewable generation in this time". So we are trying to go ahead with greater energy efficiency on other schemes to encourage low carbon energy, but also to produce a viable renewable sector, which has the subsidiary objectives which are also mentioned in table 16, of energy security, new technologies, jobs in the UK and help for the rural economy.

Q5 Chairman: Could you please look at paragraph 1.12, which you can find on page 13. Why do consumers have to pay for the scheme, regardless of whether or not it is successful?

Sir Robin Young: We hope it is going to be successful and one good thing about the report is that the consultants say we will very nearly hit our 10% by 2010.

Q6 Chairman: Mr Collins may wish to answer this. The fact is that the consumer pays even if we get very little renewable generation. That is right, is it not, Mr Collins?

Mr Collins: The nature of the scheme is that it fixes a size of market for renewable energy and that cost to consumers is capped. That was a very important element of the scheme that the government wanted when it set up the renewables obligation. In such a situation, if we are behind our obligation level, then that additional support from consumers feeds through into higher ROC (Renewables Obligation Certificate) prices, they are the certificates within the scheme, and that will incentivise further renewable development. So the objective is to design a scheme which both caps the cost to consumers and is effective in stimulating a continued growth.

Q7 Chairman: It may be capped, but the essence of my question is right is it not: the consumers will have to pay for the scheme, regardless of whether it is successful or not?

Mr Collins: The maximum costs to consumers of the scheme are capped and are fixed by the obligation level. It is not necessarily the case that if there is lower performance, consumers will face those full costs. We do accept that the nature of the scheme is that it creates a market for renewable energy of a certain level. The alternative would be to fix the price of renewable energy, a scheme of that kind, and that would deliver a much closer correlation between the costs of the scheme and the actual generation. That kind of scheme has its own disadvantages in terms of the level of government intervention and the amount that the government would be required to do in the way of fixing prices.

Q8 Chairman: Could you look at paragraph 3.20, page 41 please. How can this renewables obligation provide value for money when a third of the support for generation companies is in excess of their needs? Mr Collins, if you wish to answer, you may; I accept that this is a very complex area.

Sir Robin Young: The purpose is to have a scheme which gives the necessary kick-start to this currently tiny sector which would enable us to hit the rather heroic target of 10% by 2010. Indeed, as the Report rightly says, previous consultants had cast doubt on our ability to get that kick-start, that sufficient acceleration to hit the 2010 target, which is a key part of our overall climate change strategy. Where we have erred, where we have obviously taken a risk or a judgment call is in the relative generosity of the scheme designed to get the necessary acceleration. If I refer you to the table on page 12, figure 5, it shows how far we have to go. So where some people say "Oh well, if you made it less generous" we would be even less likely to hit the 10% target than other previous consultants have said we were. That is the context in which suggestions about making the

scheme less generous must lie; if you made it less generous you would be less likely to hit the 10% target.

Q9 Chairman: As I understand it, the way you have structured this renewables obligation you are encouraging people to go for onshore rather offshore, is that not right?

Sir Robin Young: No, not at all.

Q10 Chairman: You do not accept that.

Sir Robin Young: No. If you look at page 2, you will see a table there, which admittedly is Oxera, the consultants the NAO hired, but there is a prediction that something between 4% and 4.5% of the contribution by renewables will be offshore wind.

Q11 Chairman: Is the subsidy not more marginal for offshore rather than for onshore and therefore these companies are going to go for the onshore? You are aware, Sir Robin, that this is probably the number one issue in the British countryside in terms of planning.

Sir Robin Young: I am keenly aware of this and there is a good section on planning in—

Q12 Chairman: What a lot of people are saying in the British countryside is that the way you have structured this, you are encouraging these companies to go for onshore rather than offshore.

Sir Robin Young: The answer to that does lie in table 1 on page 2, which shows that the contribution by offshore wind is predicted to be a great deal higher and certainly the increase in it even higher.

Q13 Chairman: That may be, but you have not actually answered the question I put to you. Are you denying the point I put to you that the subsidy for offshore is much more marginal than for onshore, therefore companies are naturally going to go for onshore first?

Sir Robin Young: Well they have gone first by this marginal extent here, but actually the major increase we are predicting and the Report predicts is in offshore. So I am denying that.

Q14 Chairman: Well I have asked the question and other members can come back to this if they wish. Now, by requiring the use of more expensive electricity, which I am sure you accept, are you not effectively taxing consumers to finance subsidies for renewable energy?

Sir Robin Young: The cost of the scheme does indeed fall on consumers; it is set out fairly in paragraph 1.12 on page 13. The cost to consumers, because of renewables obligation is estimated to amount to £1 billion per year by 2010, which is 5.7% increase in prices. That 5.7% is between 1999 and 2010, so it amounts to around 0.5% per annum in price increase and that is indeed the cost to consumers of this renewables obligation policy.

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Q15 Chairman: What I am putting to you is that effectively this is a stealth tax. What you are doing is forcing generators to buy more expensive energy, then you are making consumers pay for it.

Sir Robin Young: That is exactly what we are doing in order to—

Q16 Chairman: So it is a stealth tax.

Sir Robin Young: I do not think I can agree that it is a stealth tax.

Q17 Chairman: Can I just put it to you that you are bypassing normal parliamentary procedures by which you raise a tax, for instance by way of a carbon tax. Having raised the money and having put that through proper parliamentary procedures, you can then use that money to subsidise industry in the way that you wish. The way that you have structured this very complex scheme, which very few people understand, is effectively bypassing annual parliamentary scrutiny.

Sir Robin Young: It has of course had all of the proper parliamentary scrutiny, both the main primary legislation and all the secondary legislation which we regularly put through and we are putting one through as we speak. So it has regularly parliamentary scrutiny, which is why I had to object to the term “stealth”. Otherwise, you are absolutely right, Chairman.

Q18 Chairman: You have forced generators to buy more expensive energy, and make the consumers pay for it.

Sir Robin Young: Correct. In order to achieve the 2010 renewables target.

Q19 Chairman: I am not denying the policy objective.

Sir Robin Young: No; quite. It was only the word “stealth” I thought I ought to quibble with because it has been completely above board.

Q20 Chairman: No, I did not expect for a moment that you would accept the word “stealth”. By excluding non-fossil fuel obligation sites within the renewables obligation £1 billion is generated for the exchequer. Is this not also taxation by stealth? The reference is paragraph 3.12 on page 38.

Sir Robin Young: It is indeed taxation and in the third indent the report produces the figure, which we agree with, between £550 million and £1 billion.

Q21 Chairman: So you accept that figure of £1 billion generated for the exchequer, do you?

Sir Robin Young: I certainly accept “. . . between £550 million and £1 billion”, as the report says in the third indent. The report is an agreed report and we have agreed it. Again, I have to object to the word “stealth”. During the Sustainable Energy Bill, this was much talked about, amendments were put down; during the Energy Bill which became the Energy Act, this was talked about and amendments were put down.

Q22 Chairman: I am not using the word “stealth”, but what has happened to this £1 billion? As I understand it, it has just gone straight into the consolidated fund?

Sir Robin Young: It does not arise until the period up to 2010.

Q23 Chairman: What is going to happen to it? Is it going to be returned to the consumer, is it going to go to this industry or is this going to be used by the Treasury?

Sir Robin Young: £60 million of the surpluses which have arisen so far have been committed by the Government to promote renewable energy and that is probably about half of what has been accumulated so far; I do not have an up-to-date figure, but the £1 billion is the accumulated amount.

Q24 Chairman: So you accept the fact that not all this money is either going to go back to the consumer or going to go to the industry.

Sir Robin Young: Back to the Exchequer.

Q25 Chairman: It is going to go to the Exchequer?

Sir Robin Young: Yes, where it has not been hypothecated or where the Government has not used it.

Q26 Chairman: Yes, so it is a stealth tax, is it not?

Sir Robin Young: It is not a stealth tax; it is an arrangement whereby the surplus which is taken from the consumers goes back to the Exchequer on behalf of the tax payer. I do not think I would like to accept the word “stealth”.

Q27 Chairman: But the fact is that this extra money is being generated and it is not being returned to the industry, it is being given to the Treasury. It is a free gift to the Treasury, is it not?

Sir Robin Young: Yes, it is going to the Treasury, as set out in paragraph 3.12.

Q28 Mrs Browning: There are several government departments who have an interest in this area of policy, yours is but one of them. From your perspective at the DTI, what do you feel the key objective of this renewables policy is?

Sir Robin Young: To play our part in the climate change overall plan, and to encourage a rather exciting, innovating, technologically interesting and potentially job creating part of the British energy sector.

Q29 Mrs Browning: And do you feel, from the DTI’s perspective, that integrity of the longer term supply is important?

Sir Robin Young: Yes, we do.

Q30 Mrs Browning: In respect of the figures for renewables up to 2010 and then up to 2020, we see from Sir John’s Report that you are on target to meet your renewables by 2010, but that that will incur a 5% increase in costs, which the Chairman has touched on. Is it not the case that as far as energy supply overall is concerned you are also from your

department looking at a situation where nuclear is going to be phased out by 2020 with the old Magnox generators being closed down? How do you square this integrity of supply over the next 15 years with renewables really only replacing, if that, if they meet their target, the very reliable source of nuclear energy? When we look at the figure here on page 2, we see that so much of this renewable is either offshore or onshore wind. How do you judge, from the point of view of the department with responsibility for business, the integrity of supply of renewables?

Sir Robin Young: You are completely right. Our Energy White Paper in February 2003 went through that line of argument in huge detail. On nuclear, as the Committee must know, I am quoting now from the White Paper which says "While nuclear power is currently an important source of carbon-free electricity, the current economics of nuclear power make it an unattractive option for new generating capacity and there are also important issues for nuclear waste to be resolved. However, we do not rule out the possibility that at some point in the future new nuclear build might be necessary, if we are to meet our carbon targets".

Q31 Mrs Browning: What do you reckon the lead time is, for example, if you were to put nuclear onto an existing nuclear site?

Sir Robin Young: You would need some heroic assumptions about licensing, permission and the length of time that the planning process would take, but it is long time, which I am sure is underlying your question.

Q32 Mrs Browning: It is underlying my question, but the point I am really trying to get to is that renewables are all very laudable in terms of carbon emissions, but it just seems to me that your Department is so focused on hitting an environmental target set by another government department, that you are completely losing sight of what one would expect the DTI also to be arguing for within government and that is the integrity and continuity of supply over this same period. What have you actually said to your colleagues in other government departments about that?

Sir Robin Young: The whole Energy White Paper was around exactly that: the need to have a secure, sustainable energy supply and the need to hit our environmental targets. These are twin objectives for the government and the renewable section of the Energy White Paper makes it plain that low carbon generation is a feature both of our industrial policy and of our environmental policy. I agree that the nuclear chapter in this white paper makes it plain that we are neither ruling out nor ruling in future new nuclear build, which I suppose you might say is more of a holding paragraph rather than a final decision of ultimate policy and it is in the context of the low carbon generation chapter that the nuclear is being looked at. We in the Department are absolutely at one with our DEFRA and other

colleagues in trying to get both a sustainable and secure energy supply and one that helps meet our environmental targets.

Q33 Mrs Browning: But if you are going to meet your targets as per page 2 here, with such a disproportionate amount of wind power, that would not guarantee integrity of supply through to 2020, would it, because the wind does not blow all the time?

Sir Robin Young: No, but the Report is good in describing the technological challenge which we are already overcoming by better storage, improvements to the grid, which will capture the wind, offshore and on. The Report also is optimistic in that they say we will hit our 2010 targets and table 1 on page 2 is the consultants' estimate of the mix which will prevail in 2010. I think it is a challenge well worth going for without prejudice as to whether or not a future government decides to go nuclear. I think the United Kingdom is rightly focusing on renewable energy as part of its contribution to overall energy policy. You see in table 6 on page 13 that we are actually out of kilter in lagging behind in the amount we get from renewable energy sources.

Q34 Mrs Browning: Could I just bring you back to you this point? If you meet your targets and if you keep the proportion of wind energy in comparison with other types of renewables, as shown in this report through to 2020, you are not going to be able to guarantee integrity of supply much beyond 2015, are you? If we are going to be dependent on wind energy to replace nuclear, are the lights not going to go out at some point?

Sir Robin Young: No, our absolute determination is to have a policy which does not make the lights go out.

Q35 Mrs Browning: How are you guaranteeing that? Will you give me a guarantee today that the lights will not go out? I know you are leaving today and I just wish you were going to be there for another 20 years for all sorts of reasons.

Sir Robin Young: Not if the lights go off.

Q36 Mrs Browning: Are you going to guarantee, from a government point of view, that your plans in place are going to say that nuclear will be phased out, you will phase in this proportion of wind energy and the lights are not going to go out in the next 15 years because of integrity of supply?

Sir Robin Young: The absolute guarantee is in the white paper, that a reliable competitive and affordable supply of energy is a number one priority for the government, of equal priority to the low carbon objective.

Q37 Mrs Browning: But that is an aspiration, that is not telling me how you have actually tangibly planned for that within your department's plans.

Sir Robin Young: We certainly are planning for that by looking at the future energy mix, by discussing with the sectors and with the energy sector more widely exactly how to do it so as to get the right mix.

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The new nuclear decision will be taken at some point or other in the future exactly to get the balance you want between a sustainable energy market and the environmental objectives. This would face any incoming government and is a challenge for us all and for all other developed countries.

Q38 Mrs Browning: I doubt either of us will be in this Committee in 15 years time, but as I light the candle when the lights go off, I will think of today.

Sir Robin Young: Please remember this conversation.

Q39 Mrs Browning: I shall indeed. May I just ask you why you think the Deputy Prime Minister, on 9 August last year, changed the planning guidance in order to facilitate more land-based wind turbines on the English countryside?

Sir Robin Young: Paragraphs 2.3 to 2.10 of the Report deal with the planning aspects and what we found, as paragraph 2.6 says, is that there was a strange diversity of approach from planning authorities throughout the country and as between various parts of the United Kingdom; both the time taken for applications and the result of applications in the planning process showed an unacceptable variety. So after much consultation, we did as paragraph 2.8 says, tried to get a more consistent way of approaching planning for renewable generation throughout the regions of the country. So each English region now has targets for renewable generation, a sort of indicative minimum for the contribution which their region is meant to make to the overall UK aim.

Q40 Mrs Browning: But PPS22 clearly—clearly—restricts local input into where these land-based turbines go.

Sir Robin Young: Several planning applications are still turned down, as MPs are well placed to know, so it is not the case that this imposes automatic approval of applications. Certainly the change to the planning policy guidelines note was only made after full consultation. You are right to the extent that it is increasing the number of projects which are approved from where it was before. It is also getting a more consistent approach to these applications in different regions of the country.

Q41 Mrs Browning: Against the wishes of the local population because they have now restricted input into the decision-making process.

Sir Robin Young: Paragraph 2.10 points out that the NAO “Surveys show that the general public are in favour of renewable energy, with, for example, two thirds of those surveyed in England being happy to have an onshore wind farm in their area”. That is what the report says.

Q42 Mrs Browning: It has been put to the test in Devon on many occasions; I have to tell you that I am surprised at those statistics.

Sir Robin Young: These are the Report’s statistics, not mine.

Q43 Mrs Browning: Are you concerned at all that going down this route of focusing purely on wind power is actually going to create a backlash in the general public against renewables, against the concept of renewables in general and that that might not be such a good thing?

Sir Robin Young: We are asked to find ways of achieving the 2010 target. We are doing so in a way which fits in with what the market tells us is the most likely mix of renewable arrangements which will help us hit that. At the moment wind is what the market says is the best option, the most likely way in which we will hit our 2010 target and the huge increase is indeed in offshore wind not onshore wind, where we are hoping to have the private sector produce almost half of the contribution which renewables needs to make to their obligation.

Q44 Mrs Browning: How do you defend keeping energy policy with the DTI when in fact it is divorced from that very important department DEFRA, which has responsibility for global warming? Does it not logically make sense to put the two things together?

Sir Robin Young: There is a variety of approaches in different countries. Other Member States, the United States of America, have different mixes. Parts of energy have shifted around in my recent memory: energy efficiency was in DTI when I was young; it has now gone across to DEFRA. Various models have been tried. For what it is worth, the energy sector, whenever asked, will always prefer to stay within DTI, where they see us as proactive champions of the sector and the opportunity for innovation, *etcetera*, which they have in DTI, with more of that commercial focus. Their fear is that if they were moved to DEFRA it would be rather as you first suggested that energy policy would be rather subsumed beneath environment policy. These are difficult machinery of government changes and my job would be to carry out whatever any future government decided.

Q45 Mrs Browning: As that proactive champion of industry what representations have you in the DTI made to other government departments about replacing the old Magnox nuclear reactors?

Sir Robin Young: We have had a lot of discussion about the future of the existing nuclear reactors, just as we have a lot of discussion about the potential for nuclear new build. For some existing reactors there is talk already of extending their lives and we have frequent discussions, both with the regulators and with other departments around that topic. We have something called the sustainable energy policy network which was set up after the publication of the Energy White Paper, which allows for cross-departmental discussion of exactly issues like that.

Q46 Mrs Browning: Is your position at the DTI in favour or not?

Sir Robin Young: It is neither. We are having a good cross-departmental discussion about the options.

Q47 Mrs Browning: You are sitting on the fence; most uncharacteristic of you.

Sir Robin Young: I shall try to avoid that habit. For the moment we are having cross-departmental discussions about that and no Government decision has been announced about the extension of the life of existing nuclear plants or, beyond what I read, about new nuclear build.

Mrs Browning: I shall need my candles then. Thank you very much.

Q48 Mr Davidson: The Government's target is to supply 10% of Britain's electricity from renewable resources, subject to the costs being acceptable to the consumer. How is this "acceptable to the consumer" judged?

Sir Robin Young: What we do is calculate the total cost, which in this case, as we discussed earlier, is a 0.5% increase in energy prices as a result of the renewables, which is mentioned in paragraph 5 of the summary, so a 5.7% increase between 1999–2010. Ministers collectively adjudged a 0.5% premium for renewables worth paying for the benefits we have just been discussing.

Q49 Mr Davidson: So ministers decided that was a price worth paying by consumers.

Sir Robin Young: Yes.

Q50 Mr Davidson: Is there a stage at which it would not be a price worth paying?

Sir Robin Young: I think there would be. In all cases we have calculated the cost and who is going to pay that; indeed that will come to other energy sources as well.

Q51 Mr Davidson: What sort of level is deemed to be unacceptable to the consumer?

Sir Robin Young: We have not got as far as deciding that. What we have said so far is that this is acceptable, that 0.5% per annum looks about right as acceptable.

Q52 Mr Davidson: How much above that would it have to be before it becomes unacceptable? If it doubled, would it be unacceptable?

Sir Robin Young: That is hypothetical. I just do not know the answer to that question. We have not tested it yet.

Q53 Mr Davidson: You are running this. I expect you to have thought on these things.

Sir Robin Young: We certainly have thought.

Q54 Mr Davidson: What have you been thinking then?

Sir Robin Young: We have shown ministers a variety of options and they have plumped for this one, which is 0.5%. Ministers chose acceptability.

Q55 Mr Davidson: What was the range of options then?

Sir Robin Young: I do not have them in my head and I am not even sure I am allowed to tell you them. Obviously there are loads of options with consumer price results from new nuclear build at certain—

Q56 Mr Davidson: I understand that. It says here in the Report "... subject to the costs being acceptable to the consumer". That is not quite the same thing as being acceptable to ministers as an imposition upon the consumers. I am just seeking clarification as to whether or not any judgment has actually been made as to what might be acceptable to this mythical consumer?

Sir Robin Young: Yes, ministers made the judgment that 0.5% per annum should be and is acceptable to the consumer. They were not asked to take judgments on any higher price for the consumer since this is the product of our discussions.

Q57 Mr Davidson: You just came forward with a load of assumptions and said if 10% is acceptable to the consumer then you get this and if such and such is acceptable to the consumer you get that and if 0.5% is acceptable then this is what you get.

Sir Robin Young: More or less. Remember that we had to put forward propositions which would deliver a target by 2010, so there is only a certain number of options which, in our view—and in this case the report's consultants confirm our view—

Q58 Mr Davidson: Okay, I can recognise when I am being stonewalled. Why did the Department miss its target for 5% of electricity generated from renewables by 2003?

Sir Robin Young: Because the previous non-fossil fuel policy was not bringing forward plans and proposals quickly enough, which is why it had to be replaced by the renewables obligation.

Q59 Mr Davidson: When did you realise that the target was not going to be met?

Sir Robin Young: It was shortly after 1997–98, when the new government came in with some high aspirations for the contribution by the renewables obligation.

Q60 Mr Davidson: So you realised in 1997–98 that the target was not going to be met.

Sir Robin Young: Yes.

Q61 Mr Davidson: Do you think adequate corrective action was taken at that stage to get you as close to the target as possible or were there other steps which could have been taken which would have got you closer to the target?

Sir Robin Young: It is clear that the earlier we could have introduced what we now know to be the Renewables Obligation arrangements, the quicker we would have accelerated. We wanted to consult the sectors really very carefully about how to draw up this renewables obligation arrangement. If we had produced it earlier, we would have accelerated earlier.

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Q62 Mr Davidson: So that is a yes then, is it?

Sir Robin Young: It took two or three years to get the right arrangements. This is a very new experimental sector. It is not straightforward at all and nowhere else in the country is doing it. Nowhere else in the world is accelerating—

Q63 Mr Davidson: Why is our level of renewable generation only half the European average?

Sir Robin Young: In part it is because the United Kingdom has such good resources in coal, oil and gas that there was not such pressure on us to find alternative sources, is the truth. There is now pressure on us as we are becoming net importers of energy, subject to the nuclear argument which Mrs Browning referred to. Other than that there was not the pressure on us to find renewable ways of doing it as there was in other countries which did not have their own resources.

Q64 Mr Davidson: In terms of pricing in other European countries which have higher levels of renewable generation, are their prices higher than ours? Can we anticipate, if there is a harmonisation in terms of percentage of renewables, that the prices will go up still further?

Sir Robin Young: I do not know the answer to that question. I do not know whether Mr Collins does.

Mr Collins: What it is true to say is that any support scheme to support renewable energy anywhere in the EU will add to the cost to consumers. It is clear from schemes which have been operating in countries such as Germany and Denmark, that that does come at a cost.

Q65 Mr Davidson: Are energy costs in Europe generally higher than they are here?

Mr Collins: There is a broad range and I do not know personally the position in the UK.

Q66 Mr Davidson: That has the merit of clarity. How can using lottery money be justified for something which is clearly a government strategy?

Sir Robin Young: Lottery money is used for the most innovation heavy and furthest from the market products, just as it is used for other new inventions.

Q67 Mr Davidson: Tell me what other new inventions lottery money is used for.

Sir Robin Young: There is a whole lottery stream under NESTA. What does NESTA stand for? I have forgotten and my previous job was in DCMS, as you recall. Under the New Opportunities Fund and NESTA there was a great strand of lottery money for new inventions¹.

Q68 Mr Davidson: Is that within the context of what the lottery was originally sold to the public as being for?

Sir Robin Young: It was a shift from the original lottery projects. In the first four years of this administration the new opportunities fund was introduced to shift the base somewhat.

Q69 Mr Davidson: So you accept that it was a departure.

Sir Robin Young: It was a departure.

Q70 Mr Davidson: I remember voting on the lottery and what the money was for, but it was not this.

Sir Robin Young: You were voting for a departure into a wider spread from the old sports, art and charities. Then the new government produced the New Opportunities Fund.

Q71 Mr Davidson: What prospect is there of these new technologies ever being viable without public subsidy?

Sir Robin Young: That is the key question. We are absolutely clear and the Report is clear that at the moment they need public subsidy and they need it in varying degrees. At one stage large hydro plants might have needed public subsidy but, as the report says, we judge they do not need it now. There are cases of people coming off subsidy, but at the moment all these—

Q72 Mr Davidson: Do you have a target date when some of these areas will no longer be requiring public subsidy?

Sir Robin Young: The renewable obligation takes us through to 2027, after which time it will be interesting to see whether the cost of building a renewable plant—

Q73 Mr Davidson: It will be interesting. That is what I am trying to get from you as an answer, as to whether or not we can expect—

Sir Robin Young: We are two years in with this one. This is really highly experimental, we are reviewing it later this year, but this is very, very early days of this particular arrangement for subsidising, incentivising and encouraging renewables.

Q74 Mr Davidson: Do you think the Department is winning the battle against Nimbyism?

Sir Robin Young: If the Report is right—if it is right—that two thirds of people are happy to have onshore wind in their back yard, then that would suggest yes, but I do not know whether that figure is accurate. It sounds as though it might not be in parts of the south-west of England.

Q75 Mr Davidson: It sounds a bit like people being willing to use mobile phones themselves and being willing to have a mast in somebody else's back yard.

Sir Robin Young: Yes, or pay higher taxes for something.

Q76 Mr Davidson: Indeed. May I just clarify whether or not, in terms of joined-up government, you have been speaking to those who deal with farmers? Now that farmers get huge amounts of money for nothing, do we have any suggestion or discussion about the prospect of these things being brought together and that as part of the price of receiving all this money for nothing, farmers should be willing for more money to see renewable energy sources sited on their land.

¹ NESTA stands for the National Endowment for Science, Technology and the Arts.

Sir Robin Young: I do not know the answer to that question. Do you? Have we discussed whether farmers get encouraged as a condition of taking the new CAP? Should they be encouraged to have some onshore—

Q77 Mr Davidson: Thank you. I do not know whether you are looking for a job as a translator when you leave here.

Sir Robin Young: All jobs welcome.

Mr Collins: It was a question I really did not expect.

Q78 Mr Davidson: That is possibly why it was passed to you.

Mr Collins: I really do not know the position on the CAP. There is a DEFRA scheme to support farmers in the planting of energy crops and that is a biomass form of energy and we do see that as a growing and important part of our renewable energy mix. I am not aware of any links between farmers and onshore wind.

Q79 Mr Williams: How can you justify that at £30 per megawatt hour some of the technologies are getting vastly greater profits than they need in order to be viable business projects?

Sir Robin Young: The justification is that had the arrangements we produced, taken altogether, been less generous we would have been less likely to hit the 2010 target. It was a judgment call as to how generous to be and we have an extremely challenging target.

Q80 Mr Williams: You got it wrong then, did you not?

Sir Robin Young: I think we got it right, because we are just on schedule—just—to hit it. We are not exceeding this target at all, even by the Oxera figures.

Q81 Mr Williams: In that case why do NAO say that it is more money than they needed to come in? It would have been a good business project at the lower price. Was that lower price ever offered?

Sir Robin Young: No. With respect—

Q82 Mr Williams: You do not know. You do not actually have anything on which to justify this figure other than the fact that it has produced the level you wanted, but you have no way of knowing whether you could produce the same amount for less.

Sir Robin Young: I think that is true.

Q83 Mr Williams: That is quite interesting, because we are worried about value for money. We are told that one third of the support to generators exceeds their needs. What would you estimate that to be?

Mr Collins: The figure of one third relates to the value of the scheme out to 2027–29 if it remains unchanged. We have already said that we are looking at the issues which the NAO has raised in this area in our current review of the renewables obligation. It is important to bear that in mind. The other very important thing to bear in mind here is that the costs of renewable energy projects are extremely site specific. No wind project is of exactly

the same cost. It depends on the connection costs and the wind speed and so on. Through the system that we have, with a single level of support, what we do is incentivise the development of the most economic projects first and in that way we seek to control the cost to consumers of the scheme. That is the context in which the NAO has raised this particular issue.

Q84 Mr Williams: How long are the contracts of people who are at the moment investing in the cheaper sources of supply?

Mr Collins: The generator will have a contract with an electricity supplier and the details of that contract are a commercial matter for them.

Q85 Mr Williams: So we do not know what life of services these generators are going to enjoy.

Mr Collins: We have a scheme which offers a single level of support for every kind of renewable—

Q86 Mr Williams: I know that, that is what I am complaining about.

Mr Collins: That incentivises the most economic projects. We are aware of the issue which the NAO has raised in relation to some onshore wind and landfill gas projects and we are looking at that in our current review. We have some external advisers to support that analysis and we will publish it and then we will consult on its findings and if necessary or appropriate we will look at amendments to the obligation.

Q87 Mr Williams: It really gives a new meaning to the term windfall profits, does it not? Perhaps the Chancellor should consider calling on the precedent of the banking industry and the early days when he came into office and consider whether perhaps there should be some form of windfall tax on those who are all rushing to get into these cheaper technologies. But you cannot answer that.

Sir Robin Young: No.

Q88 Mr Williams: I know we are talking about a different policy objective, but in terms of the overall supply of electricity, with this coming on stream, how long could we continue with our present sources of generation as envisaged to be available, plus this 10% which is coming in? How long would it be before capacity would not be adequate as a supply? There must be a notional date at which we have to make major new capital investment in electricity generating. When is that?

Sir Robin Young: A lot depends on the Energy White Paper. It depends on energy efficiency. Half of the savings we have to make by 2020 to hit our Kyoto targets are in energy efficiency. It is assumed that we will use a lot less energy because of energy efficiency measures.

Q89 Mr Williams: Yes, but you are not answering my question. That is just talking about the efficiency on the supply side. I have asked you a question on your reasonable predictions. Are you saying then

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that we can meet all foreseeable future demand without any other major generating investment other than this which is taking place in renewable.

Sir Robin Young: The government has a choice, which is set out in the White Paper.

Q90 Mr Williams: I am asking you whether it is logical. It cannot be, can it?

Sir Robin Young: There is no "it".

Q91 Mr Williams: With the nuclear plants running out. I went into the Ministry of Technology in 1969 in Tony Benn's days and we inherited the first generation and the plans for the second generation of nuclear power stations. There is an issue which everyone is pussyfooting around which is what is going to be the next source of major power generation as opposed to tinkering at the edges. When is such a decision going to have to be taken?

Sir Robin Young: This Government, in its Energy White Paper, has said that it will take a decision soon as to whether to review the building of new nuclear power stations. The Government will also have to take decisions about the length of life of the existing power stations, the one which you will remember from your days.

Q92 Mr Williams: In the terminology of your Department what is the outer limit of soon?

Sir Robin Young: I would expect it not to happen in the next two or three months.

Q93 Mr Williams: That is a fairly good bet. What about the next two or three years?

Sir Robin Young: Who can predict what any new administration will do. This White Paper does not contain proposals for building new nuclear power stations. However, we do not rule out the possibility that at some point in the future new nuclear build might be necessary.

Q94 Mr Williams: Does the White Paper relate output to foreseeable demand?

Sir Robin Young: Yes.

Q95 Mr Williams: What is the estimate there?

Sir Robin Young: It does not give the estimate for your question, but it points out that if we do very well on energy efficiency, we will need less energy and that affects the answer to your question about the amount of supply. That is why they are putting huge weight on the energy efficiency arrangements meeting over 50% of our Kyoto targets. Then the White Paper looks at the future length of life of existing nuclear power stations and then finally it says that we have not ruled in or out a possibility of future nuclear build. We do say in the White Paper that the current economics of nuclear power make it an unattractive option for new generating capacity and there are also important issues for nuclear waste to be resolved; familiar topics to you, I imagine, from earlier days.

Q96 Mr Williams: I was fascinated to read the other day an American scientist saying they now think they have a new solution to it in a process called vitrification. I remember when Solly Zuckerman was the Chief Scientific Adviser and I was a green little Parliamentary Secretary in the Ministry of Technology and we were told where we did not have a solution to waste that the scientists would have the lifetime of the power stations in which to search for such an answer and that they would certainly find an answer, but at that stage, in 1969, the best bet was something called vitrification. Here we are, 35 years on, and vitrification is still only a disposal point in the sky.

Sir Robin Young: When I was Private Secretary to Mr Nicholas Ridley in DoE 25 years ago we were looking for four deep sites in which to put the stuff.

Q97 Mr Williams: What about the alternative sources, the bio sources? We have concentrated on the wind processes because of the environmental storms they have created in certain parts of the country. What are your projections of the potential on the bio side both in pricing terms and in capacity terms?

Sir Robin Young: At the moment biomass is 15% of the current 2004 renewable sector. As the report says in paragraph 2.28 on page 27, it has been slow going to get biomass going. Bio energy is taking time to fulfil its potential across the whole of Europe.

Q98 Mr Williams: Is that only in this country?

Sir Robin Young: No, it is across the EU.

Q99 Mr Williams: What about in America?

Sir Robin Young: I have notes on the European Commission's recent report on the EU.

Mr Collins: Biomass is used in America but not in significantly greater amounts than in the EU.

Sir Robin Young: It has been slow going but it is in our list of projects which we are supporting more at the research end. DEFRA have just started a new task force to look at it under the NFU man, whose name I have now forgotten; Sir Ben Gill. It has been disappointing how the energy crop sector has not flourished.

Q100 Mr Williams: In view of what I have described as the windfall profits in relation to the wind sector of the technology, when do you envisage bringing the actual subsidy more in line with the costs of the technology and the provision of it?

Sir Robin Young: In the review we are carrying out this year in 2005 we will look at what we think are the necessary incentives to get people to come forward with projects which will allow us to hit the 2010 target whilst ensuring those not excessive profits are part of it. We will look carefully at all the suggestions that there are excess payments for some schemes which are not outweighed by insufficient payment for others. This is a package. The answer to your question is 2005.

Q101 Mr Williams: In terms of the conventional supply, it is now suddenly becoming conventional wisdom that China and India, but China in particular, are going to be enormous gobblers up of the world's supplies of power. Does that not mean we are going to have to make major generating decisions earlier than we possibly expected?

Sir Robin Young: That is taking me a bit wide of my specialist subject.

Q102 Mr Williams: You are planning it.

Sir Robin Young: Yes, yes.

Q103 Mr Williams: Planning takes odd little things like changes into account, does it not?

Sir Robin Young: I completely understand. We have obviously looked very carefully with the Foreign Office and others at the areas from where we need to import our gas and oil supplies. You will have noticed recently an important treaty with Norway trying to shore up that bit of our trade in energy. We are now net importers of energy, which we were not when you were a minister in the Ministry of Technology. It is therefore really important that we research and plan for where we can get future energy sources. That again is part of the Energy White Paper and is something constantly under review as part of our sustainable energy policy.

Q104 Mr Williams: When was the most recent review?

Sir Robin Young: In 2003.

Q105 Mr Williams: But the Chinese explosion has come since 2003.

Sir Robin Young: That is true. I am no expert on China, but I think a lot of their energy is their own energy and I do not think they are importing from the same areas of the world as we import our energy from.

Q106 Mr Williams: According to their energy ministers they need something like 70 nuclear power stations and I have forgotten how many conventional ones to have the slightest hope of meeting their foreseeable demands and therefore they are in the world market. So that throws completely out of gear our projections for the future in terms of external sources of power for ourselves and the costing of it.

Sir Robin Young: I do not think it throws it completely out of gear, but you are absolutely right that we should constantly revisit, as we are each year, our assumptions about imports of energy in the light of emerging changes in China and we shall do that. We are doing that every year.

Q107 Mr Williams: I hope you enjoy your life post-PAC; it is good to see you and I wish you well.

Sir Robin Young: Thank you very much.

Q108 Mrs Browning: Just for the record, is it the case that between now and 2020, as things stand at the moment, we will see nuclear disappear and energy which contributes 20% of our energy mix at the

moment without putting carbon emissions up into the atmosphere. That will be replaced over exactly the same time period with exactly the same 20% replacement by 2020 of renewables including a high proportion of wind energy which actually needs traditional energy to back it up because it cannot be guaranteed. Is that what we are looking at here?

Sir Robin Young: There is no planned equivalence between what we have seen as the fastest realistic acceleration of the renewable energy and any calculation about nuclear. If there is exactly the arithmetical—which I am not certain there is, I cannot confirm your figures—

Q109 Mrs Browning: It is about 20% of the supply, is it not?

Sir Robin Young: It is about, but it is an accidental equivalence. We are not planning 20% of renewable energy because of the nuclear going down, we are planning it anyway. If a future government revisits this nuclear question, which is put aside for future decision in the Energy White Paper, in my view we would still want to push forward the renewable energy contribution to overall policy.

Q110 Mrs Browning: The point I am just trying to get on the record here is that by 2020, if things look as they do today—and I did ask you the question about what you thought the lead time was to commission a nuclear power station if we were to start today and I suspect it would be a good 15 years—

Sir Robin Young: Yes, I think that is right.

Q111 Mrs Browning: So we are looking at 2020, with 20% of the non-carbon nuclear energy disappearing, being replaced with 20% renewables which do not necessarily have the ability to be self sufficient inasmuch as they need a backup of a more traditional supply, certainly on the wind energy side. How much will we have contributed by 2020 then in terms of global warming in the sense that we will not actually be any further forward, will we? It is an exact transfer from one energy source to another. We will not have rowed back on what we throw up as emissions. We will be exactly where we are today.

Sir Robin Young: It is a very complicated sum, as you point out. The Energy White Paper sets out the mix of things which we are doing to hit our Kyoto targets which do indeed require a real reduction and it is a mix of energy efficiency in households, energy efficiency in industry and commerce, transport, the EU emissions trading scheme and renewables. It is not right to pick out renewables and pick out nuclear and then look at those two. The overall Kyoto performance is a mixture of all those things set out in the Energy White Paper and in the climate change documents. The climate change review later in the year will revisit all our promises to hit the Kyoto targets and any new emerging targets. It will take account of our review of the renewable obligation and it will include no doubt another decision, or possible decision on nuclear, both the longer life for existing nuclear plants and the potential for building new ones.

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Q112 Mrs Browning: I shall not press you any further on that. I am sure you are not retiring, so I wish you well with your next venture. I am sure you will be delighted to leave this rather bizarre policy behind.

Sir Robin Young: Certainly not, but thank you for your good wishes.

Q113 Mr Davidson: Looking at paragraph 3.6, it mentions there that public investment in renewables is expected to reduce further future generating costs. How quickly do you expect these costs to fall?

Mr Collins: What we know is that the costs of wind power have fallen very substantially around the world in the last decade in particular and there are good reasons why we could hope to see similar cost reductions in other renewable technologies both as a result of economies of scale from larger markets and also from technological innovation. We have published, as part of one of our reviews, a set of projections or estimations of where those costs may be and obviously there is a lot of uncertainty in that area, but all that material is on the department's website. It sets trajectories for the different technologies and the possible situations.

Q114 Mr Davidson: In terms of the Renewables Obligation, if you do not have a fall in costs, how is that benefit going to be shared out and how are consumers going to benefit from that?

Mr Collins: Really it is something we have to keep monitoring as time goes by and we see how the renewables obligation is performing, we see what the trends in renewable energy costs are and also the other factors are what is happening to the underlying electricity price, what is happening to oil and gas prices. It is something we acknowledge that we will need to continue to look at as the obligation evolves to ensure that we achieve our twin objectives of increasing renewable generation at the minimum cost to the consumer.

Q115 Mr Davidson: What I am not clear about from that answer is what sort of mechanism there is to devise what is acceptable to the consumer and if there are savings in generation, how they are divided.

Mr Collins: In our current review we are looking at the position of the most low cost renewable technologies.

Q116 Mr Davidson: So this will be made up at the time, will it? Is that what you are basically saying?

Mr Collins: We can look at whether there is a way of dealing within the renewables obligation in a general way and a process which would allow for a sort of tapering of support over time for technologies.

Q117 Mr Davidson: Looking at paragraph 2.20 leads me to ask just how much extra the extension of the renewables obligation quota to 15.4% in 2015–16 costs the consumer. Is that all within the 0.5% a year or is that going to be a different figure?

Mr Collins: Yes, a similar kind of calculation would apply to that.

Q118 Mr Davidson: But there was no calculation. It was just a question of a figure plucked out of the air by ministers as being something which was deemed acceptable to consumers.

Mr Collins: At the time that decision was taken the department did look at the cost to consumers and indeed that was discussed across government as a whole before any decision was taken.

Q119 Mr Davidson: May I just clarify how you are establishing cost to consumers? Sir Robin, whatever happens to you when you leave here you are not likely to be on benefits, I should have thought, and your wife works as well. Therefore the cost of fuel to you is going to be a much smaller percentage of your income than it is to many people in my constituency. I am not entirely sure that the needs of those who have least are being adequately reflected by the proposals you are putting forward to ministers in terms of what is acceptable. What help can you give me on that?

Sir Robin Young: We can certainly assure you that ministers were extremely concerned about the effect on the consumer of this policy, as the report admits. They concluded, rightly or wrongly, that 0.5% per year was okay, particularly at a time when electricity prices were falling. This Committee has looked at the new electricity trading arrangements and you will be familiar with BETA (British Electricity Trading Arrangements). However, the context has now changed. Electricity prices are now rising again. Next time round, when we invite ministers to take a view, they will need to look at that against their electricity prices for poorer people and take a fresh view. They will certainly look very, very closely at the impact of this on the poorest consumers as well as everybody else.

Q120 Chairman: May I ask a question about research and development? There is mention of this in paragraph 2.39 on page 29. You spent £230 million on renewable energy research and development in the past 16 years. Why do you have so little to show for it?

Sir Robin Young: It is easier said than done is the answer. This is an extremely complicated and difficult topic. There are no easy solutions and no other countries have done any better. It is not the case that we have not tried and some good research has come out of it, but I agree that there is no magic solution. If there were, we would have found it or some other country would have found it.

Q121 Chairman: It says here “. . . many contractors, especially wind generators, said they had not received significant benefits from technological developments funded by the programme”. It is all rather too difficult, is it not?

Sir Robin Young: In that particular case it is the Danish and German turbine sectors which are extremely strong and they dominate the onshore wind sector. It is probably true that the UK firms, who have come in late, will have found it difficult to compete. This is highly competitive and a very difficult sector, but one in which I hope the United

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Kingdom will take a lead if we hit our 10% target. We should force innovation and change in a way which is a good use of a regulation.

Mr Williams: Just a thought at the end of this process. It seems rather grotesque that you are subsidising people to produce electricity at a price which is unaffordable to many consumers, therefore you are now going to subsidise the consumers to use the subsidised production. It seems a rather convoluted way of solving your problem.

Q122 Chairman: That is a question worthy of Sir Humphrey. See whether you can answer it.

Sir Robin Young: I do not think I understood it. At least I am prepared to admit that.

Q123 Mr Williams: You indicated in answer to my colleague that ministers would take into account that their constituents would not be able to afford it, therefore obviously the only way you can do that is

by in some way subsidising them to buy it. I am just pointing out that it seems poetic. I am not demanding any great intellectual response. It seems a rather grotesque situation that you are subsidising to produce what you are going to have to subsidise to use.

Sir Robin Young: In so far as you are using the price mechanism to get money into a sector, it will have differential effects on different consumers, so the government has to adjust its position and help the poorest consumers, otherwise you cannot use the price mechanism at all to put money into the sector. It is a poverty alleviation issue.

Chairman: That is a very fair final answer from you, Sir Robin. Thank you very much, gentlemen. It is obviously not for this Committee to argue with the policy objective, but it is for us to question whether, in order to meet that policy objective, we are not adopting a very complex mechanism. Thank you very much, Sir Robin.