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Environment, Food and Rural Affairs Committee

Climate change: the "citizen's agenda"

Eighth Report of Session 2006–07

Volume I

Report, together with formal minutes

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Environment, Food and Rural Affairs Committee

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Committee staff

The current staff of the Committee are Chris Stanton (Clerk), Nerys Welfoot (Second Clerk), Dr Antonia James (Committee Specialist), Dr Jim Watson (Specialist Adviser), Marek Kubala (Inquiry Manager), Andy Boyd and John-Paul Flaherty (Committee Assistants) and Mandy Sullivan (Secretary).

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Summary

Climate change is the defining issue of our time. An atmospheric phenomenon driven by human activity, there is great opportunity for the ordinary citizen to make a difference. Raising awareness and encouraging citizen involvement at a domestic level is fundamental to tackling climate change. The Government must do more to achieve greater co-ordination of publicly funded messages and strategies to deal with the problem. Sir David Attenborough drew the analogy with the wartime mindset that wasting food was wrong. The threat of climate change may have grave consequences for future generations and we all need to adopt a similar mentality that wasting energy is simply wrong.

During our inquiry we heard from many interested and enthusiastic individuals and community groups who were keen to make their contribution, but were finding that Government did little to help. The Government must do more to encourage and help them. For those who remain uninterested, the Government must do as much as possible to ensure that, in their purchasing decisions, only the most climate-friendly options are available.

The Government and its organisations must follow other countries to encourage individuals and communities to use their own ingenuity and money to reduce emissions. Feed-in tariffs for household microgeneration of renewable energy should be available. The existing combination of grants and Renewable Obligation Certificates is far too unreliable and unwieldy for domestic and community microgeneration, and risks losing citizen engagement. Both Germany and Denmark have already met their renewables targets three years early as a result of operating a feed-in tariff system. The UK Government's aim to enshrine its CO_2 reduction targets in legislation notwithstanding, "UK plc" may well be missing out on valuable business opportunities that come with being a market leader in microgeneration technologies.

Environmental taxation has an important role to play in driving up demand for environmentally beneficial goods and services, but much more needs to be done to improve the credibility of 'green taxes'. As a start, the Government must avoid putting revenue-raising taxes in a 'green wrapper', simply to increase palatability.

Defra must do more to ensure other parts of Government pay attention to the climate change aspects of all that they do. There is an important role for public buildings and public investment in leading the way by example, but very little evidence of this taking place. The Government's—and Parliament's—poor record regarding its own estate fails to set a good example. The public sector continues to miss a valuable opportunity in that respect to demonstrate the financial and environmental savings that can be made.

1 Introduction

> If you could look into your grandchildren's eyes and say you knew about climate change and yet didn't bother to do anything about it, that would be a terrible thing.
>
> The task ahead of us is vast, but we can all make a difference at every level, even the smallest. Sir David Attenborough[1]

Aims of the inquiry

1. In December 2005 the Environment, Food and Rural Affairs Committee launched a series of linked inquiries into aspects of climate change policy. The Committee's Report *Climate change: the role of bioenergy* was published on 18 September 2006.[2] This, the second theme to be addressed, examines how the ordinary citizen can change his or her lifestyle to minimise the impact of climate change and to mitigate its effects.

2. Evidence was requested on the following points:

a) What is the real scope for individual and local community action to contribute to tackling climate change? Some areas for possible consideration include:

- **increasing energy efficiency, in particular the delivery of the Energy Efficiency Commitment (EEC);**
- **reducing energy consumption—not only electricity, but also energy used in heating and transportation;**
- **the provision of desirable low carbon alternatives, such as energy saving lightbulbs or using public transport;**
- **the potential for, and barriers to, microgeneration;**
- **the potential for 'smart metering';**
- **awareness of climate change and availability of information about the role of the individual in tackling the problem.**

1 BBC programme, *Can We Save Planet Earth?*, June 2006

2 Environment, Food and Rural Affairs Committee, Eighth Report of Session 2005–06, *Climate change: the role of bioenergy*, HC 965, September 2006

b) What are the barriers to uptake of climate change mitigation strategies at the level of the individual, and how can they be overcome? Are current incentives such as the energy efficiency commitment or graduated vehicle excise duty sufficiently strong to affect behaviour?

c) How can Government and other agencies—at national, regional and local levels—encourage the uptake of domestic emission reduction measures? What is the role of community projects in schools and other public institutions?

d) What is the role of NGOs in delivering the "citizen's agenda" on climate change?

e) Are Domestic Tradable Quotas (also known as personal carbon allowances) a viable option? What other economic and other incentives for behavioural change might also be considered?

f) To what extent is 'green taxation' an effective driver of behavioural change?

3. We received 57 written submissions and took oral evidence between October 2006 and May 2007 from: the Energy Saving Trust (EST); the Local Government Association (LGA); Global Action Plan; the Centre for Sustainable Energy; Richard Starkey, the Tyndall Centre for Climate Change Research; the Royal Society for the encouragement of Arts, Manufactures & Commerce (RSA); the Association for the Conservation of Energy (ACE); Centrica plc; EDF Energy plc; Ofgem; the Institution of Civil Engineers (ICE); the Royal Institution of Chartered Surveyors (RICS); B&Q; the Micropower Council; the Energy Retail Association (ERA); Dr Dave Reay, Edinburgh University; Sir David Attenborough; Alan Simpson MP; the Environment Agency; Ian Pearson MP, the then Minister of State (Climate Change and the Environment); the Carbon Trust; and Friends of the Earth. We received a further 36 written submissions as part of our evidence gathering at the University of East Anglia in January 2007 and took oral evidence from Mr Jon Cape; Mr Garry Charnock; Dr Roy Alexander; Mr Jason Borthwick; Mr John Riley; Dr Laurence Matthews; Mr Bill Butcher; Mr Doug Hoffman; Ms Helen Deavin; Reverend David Hares; Mr Glenn Buckingham; Ms Belinda James; and the Community Carbon Reduction Programme (CRed). We are grateful to all those who gave evidence to our inquiry. We would also like to place on record our thanks to our specialist advisor, Dr Jim Watson, Science and Technology Policy Research Unit, University of Sussex.

4. In September 2006 we visited Leicester to see first-hand local activity by schools and businesses to help tackle climate change at the community level. In January 2007 we also visited the Centre for Alternative Technology and Dulas Ltd. in Machynlleth, Wales; the University of East Anglia in Norwich where we took evidence in public from interested individuals; and, in February 2007, Southern Germany and Woking, as part of the inquiry. In March 2006 we visited Washington DC and California in the United States to discuss various aspects of the climate change agenda. We would like to thank all those, including Foreign and Commonwealth Office staff, who facilitated these visits. We are grateful to all those who took the time to meet us. The Chairman also participated in a BBC Radio 4 discussion as part of the *You and Yours* series of programmes into Select Committee inquiries, which received a record number of responses.

5. During the course of our investigation it became apparent that the production, consumption and transportation of food and drink also form a notable proportion of the individuals' contribution to climate change. This Report does not examine these issues, however we conclude that these aspects of the climate change agenda may merit examination by the Committee in the future.

Background

6. The UK Government already has two domestic climate change goals:

- to reduce CO_2 emissions by 20% below 1990 baseline levels by 2010; and
- by 60% below the same baseline by 2050.

7. Whilst the UK Government is on course to exceed its commitment for greenhouse gas reductions under the Kyoto Protocol,[3] recent estimates suggest that net CO_2 emissions fell by only around 5% between 1990 and 2006.[4] Total UK CO_2 emissions fell by a mere 0.1% between 2004 and 2005.[5] The Government has already conceded that it is unlikely to achieve the 20% target by 2010, with current projections suggesting that in the absence of new policy measures the reduction will be 16.2% below 1990 baseline levels by 2010.[6] The draft Climate Change Bill, published in March 2007, aims to put into statute the intention to reduce CO_2 emissions by 60% below 1990 levels by 2050. The draft Bill also proposes an interim target of reducing CO_2 to a level 26–32% below 1990 baseline levels by 2020.[7] We have commented on this in more detail in our recent Report on the Draft Climate Change Bill.[8]

UK household emissions

8. According to the Government's report *Climate Change: The UK Programme 2006*, CO_2 emissions from the domestic sector fell from 155.5 $MtCO_2$ in 1990 to 145.9 $MtCO_2$ in 2000. This decrease in emissions can be attributed in part to a background improvement in energy efficiency of just over 1% per annum, combined with the "dash-for-gas" in the electricity generation sector. However—even with the move from coal to gas—household emissions rose again to 152.9 $MtCO_2$ in 2004, a mere 2.6 $MtCO_2$ below 1990 levels and equivalent to 27% of total UK emissions.[9]

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3 To meet its Kyoto commitment, the UK is required to reduce its emissions by 12.5% below 1990 baseline levels by 2008–12. The term 'greenhouse gases' as defined by the Kyoto Protocol includes carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6).

4 Department of Trade and Industry, *Meeting the Energy Challenge: A White Paper on Energy*, Cm 7124, May 2007

5 Department for Environment, Food and Rural Affairs, *2005 UK climate change sustainable development indicator and greenhouse gas emissions final figures*, 31 January 2007

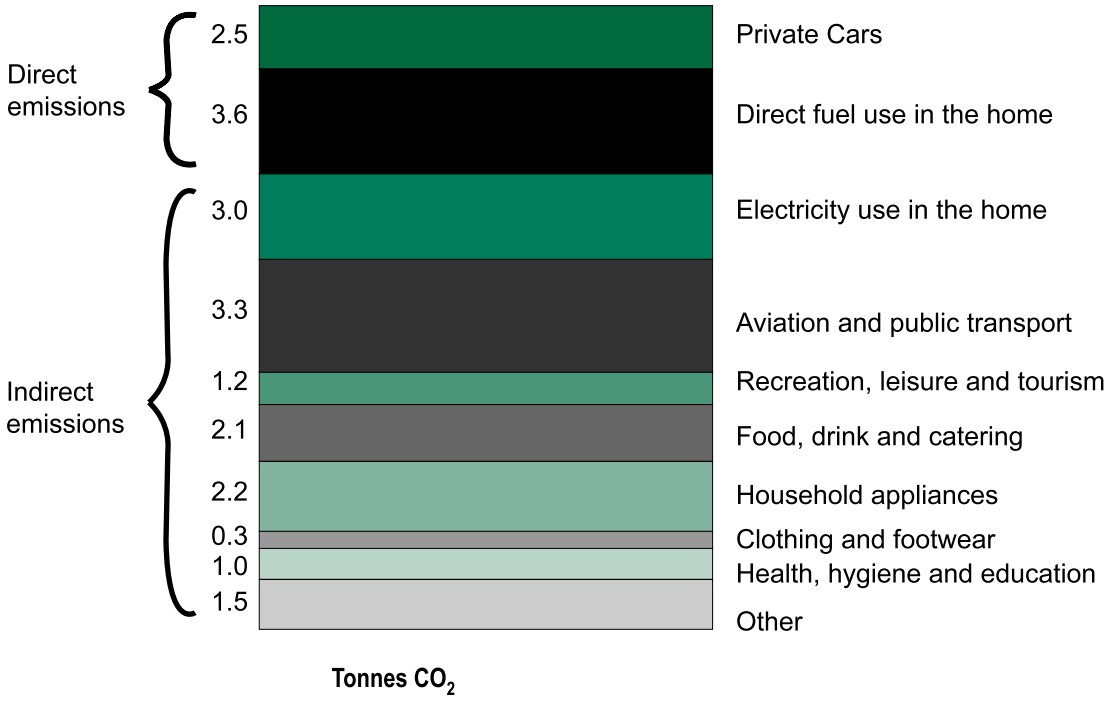
6 Environment, Food and Rural Affairs Committee, Second Report of Session 2006–07, *Defra's Departmental Annual Report 2006 and Defra's budget*, HC 132, February 2007; HC Deb, 12 June 2007, col 735

7 HM Government, *Draft Climate Change Bill*, Cm 7040, March 2007

8 Environment, Food and Rural Affairs Committee, Fifth Report of Session 2006–07, *Draft Climate Change Bill*, HC 534, July 2007

9 Department for Environment, Food and Rural Affairs, *Climate Change: The UK Programme 2006*, Cm 6764, March 2006 (figures are reported in MtC in *Climate Change: The UK Programme 2006* and have been converted into $MtCO_2$ by multiplying by 44/12); Department for Communities and Local Government, *Review of Sustainability of Existing Buildings*, November 2006

9. In 2001 each UK household emitted, on average, 20.7 tonnes of CO_2, including emissions from transport. Nearly one third of this can be accounted for by energy use—electricity and energy for space and water heating—in the home.[10] Total household emissions can be broken down accordingly:[11]



Data source; Defra, The environment in your pocket 2006, October 2006

2 Information and awareness raising

Stimulating behavioural change

10. The Department for Environment, Food and Rural Affairs (Defra) launched its Climate Change Communications Initiative in December 2005, using the slogan "Tomorrow's climate, today's challenge" to communicate the threat of climate change and the need for everyone—Government, industry and individuals—to help tackle the problem. To support this initiative, £12 million has been made available over three years, with £8.5m distributed to 83 local communication initiatives in England thus far.[12] In April 2006 the Government—led by Defra—launched a guide to communicating messages about climate change.[13] According to this guide, "the first and most important thing is to change the way people think about climate change. Then we can try to change their behaviour". It claims that the majority of the UK population think that climate change:

10 Department for Environment, Food and Rural Affairs, *The environment in your pocket 2006*, October 2006

11 Stockholm Environment Institute, York; see Defra, *The environment in your pocket 2006*, October 2006

12 Department for Environment, Food and Rural Affairs, *Departmental Report 2007*, Cm 7103, May 2007

13 In partnership with the Energy Saving Trust, the Carbon Trust, the Department of Trade and Industry, the Environment Agency, the UK Climate Impacts Programme and the Department for Transport.

- is confusing—they can't see how it relates to them;
- won't affect them personally;
- is a problem for the future, not now; and
- can't be affected by their individual actions, because the problem is so big.[14]

In July 2007, as part of its *Act on CO_2* campaign, Defra launched a new advertising campaign to raise awareness of the importance of making small changes to help tackle climate change.[15]

11. Research conducted by the Institute for Public Policy Research to examine different methods of climate change communication identified what it termed as 'alarmism', as one of the most common constructs of climate change: a problem which is "awesome, terrible, immense and beyond human control." The Institute concluded that promoting this kind of perception is unlikely to encourage behaviour change, "the scale of the problem as it is shown excludes the possibility of real action" by the reader or viewer, instilling a sense of despair and leading to the conclusion that "the problem is just too big for us to take on".[16] At a screening of Al Gore's film, *An Inconvenient Truth*, the then Secretary of State for Environment, Food and Rural Affairs spoke of three prevailing attitudes to climate change:

- denial of the issue;
- a drive to do something about it; or
- despair.[17]

12. Global Action Plan cast doubt on the efficacy of Government-funded awareness-raising media advertising campaigns, and expressed concern that the Government is not investing in behavioural change programmes. It argued that:

> […] there is a disconnection between what Government and its agencies say they want to happen and what they are willing to invest in. Government seems to be comfortable making large scale investment in media advertising campaigns that are designed to increase awareness but are not willing to invest in programmes that are designed to change behaviour. There is a growing level of academic evidence that increased awareness does not translate into changes of behaviour.[18]

13. Accordingly, Global Action Plan said that the Government must stimulate behavioural change by using "high profile environmental problems […] such as drought, heatwaves or flooding".[19] Similarly Dr Dave Reay from Edinburgh University noted that increasing

14 Department for Environment, Food and Rural Affairs, *Tomorrow's Climate Today's Challenge*, April 2006

15 Department for Environment, Food and Rural Affairs, *Benn unveils campaign to inspire climate action*, News release 207/07, 9 July 2007

16 Institute for Public Policy Research, *Warm Words: How are we telling the climate story and can we tell it better?* Ereaut and Segnit, August 2006

17 BAFTA screening of *An Inconvenient Truth*, July 2006

18 Ev 55

19 Ev 52

awareness of the local and national impacts of climate change could encourage greater understanding of the importance of individual action. Dr Reay argued that:

> The public perception of climate change seems to be that either the problem is too great and that individuals can do nothing to tackle it, or that, if there is a problem at all, then its effect will largely be confined to the developing world. Awareness of local and national impacts of climate change should be raised to bring home the direct importance of mitigating climate change to UK individuals.[20]

14. The Environment Agency, on the other hand, expressed concern that confusing messages—using "doom and gloom" rhetoric—may be more likely to engender apathy rather than action, and argued for a more measured approach:

> Adaptation messages, especially around flooding, may well be perceived as negative. However there is a critical need to make the public aware of such impacts. By avoiding apocalyptic language and showing how an individual's actions can help them positively prepare for these impacts, we believe changes in both attitudes and behaviour can be engendered.[21]

15. The Energy Saving Trust (EST) argued that investment by individual Government departments into behavioural change activities should be combined to create a "single compelling message".[22] The Community Carbon Reduction Programme (CRed) advocated the "development of a national strategy for enhancing the myriad carbon reduction and energy saving initiatives, to ensure the sharing of best practice and the avoidance of inefficiency, territoriality and replication".[23] According to a YouGov poll commissioned by the Royal Society for the encouragement of Arts, Manufactures and Commerce (RSA), nearly 80% of the people surveyed believe they could personally reduce their carbon emissions. 65% of those surveyed said that every individual should take responsibility for tackling climate change.[24] However, a recent Ipsos Mori poll conducted in June 2007 revealed that over half those surveyed believed that scientists were still questioning the existence of climate change.[25]

16. Philip Sellwood, Chief Executive of the EST, commented on the lack of co-ordination on energy-saving initiatives across central Government:

> […] the average citizen is often seeing things coming from different directions, from different government departments, and we think that just means that they are much less effective than otherwise they might be, and certainly a lot less cost effective than they could be.[26]

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20 Ev 199

21 Ev 316

22 Ev 1

23 Ev 302

24 Written evidence from the Royal Society for the Encouragement of Arts, Manufactures and Commerce (CIT 23a) [not printed]

25 BBC News, *'Scepticism' over climate claims*, 3 June 2007

26 Q 2

17. Research conducted by futerra as part of the Government's UK Climate Change Communications Strategy identified one overarching challenge for stimulating behavioural change:

> Changing attitudes towards climate change is not like selling a particular brand of soap—it's like convincing someone to use soap in the first place.

The report furthermore noted that there must be consistency between Government policy and communications in terms of climate change.[27]

18. **Raising awareness and citizen involvement at a domestic level is fundamental to tackling climate change. However, we remain unconvinced that all that needs to be done to maximise this is actually being done. We are concerned that the Government is giving out mixed messages and continues to display a fundamental lack of joined-up thinking. It is clear that so far efforts to alert the public to the dangers of climate change, and the need for personal behavioural change to deal with it, have met with mixed results. More needs to be done to achieve greater co-ordination of publicly funded messages and strategies to deal with the problem so that people are not left feeling that they cannot make a difference. We call upon the Government to review its efforts in this area and publish—within six months—details of its proposals for a more effective public communication strategy in this area.**

Energy Saving Trust

19. The Energy Saving Trust (EST) was set up by the UK Government following the 1992 Rio Earth Summit. The EST plays a leading role in promoting energy efficiency and renewables to the domestic household sector, as well as cleaner fuels and vehicles to the business transport sector. Supported through grant funding, Defra's Departmental Report 2007 breaks down the financial support provided to the Energy Saving Trust thus:

	2005–06	2006–07	2007–08
Energy Saving Trust Grant Payment[28]	£27 million	£26.2 million	£29.1 million

Source: Defra's Departmental Annual Report 2007

20. **Given the urgency the Government purports to place on tackling the threat of climate change, we recommend that the Government ensures that the Energy Saving Trust does not suffer the consequences of any tightening or reprioritising of the Departmental budget, as the cut in funding in 2006–07 suggests it did.**

21. In April 2005 the EST began piloting the Sustainable Energy Network (SEN) scheme. Building on the existing infrastructure provided by the Trust's network of Energy Efficiency Advice Centres (EEAC), the SEN pilot has created Sustainable Energy Centres (SECs) in three parts of the UK (two in England and one in Northern Ireland). These SEC's are intended to become the key local delivery element of EST's carbon saving activities for

27 futerra, *Rules of the Game*, March 2005

28 Figures for 2006–07 and 2007–08 are indicative only.

UK citizens. The EEACs—funded by Defra and the former Department of Trade and Industry (DTI)—focus on the provision of home energy efficiency advice and advise 770,000 people each year. Each Centre is to "deliver defined regional carbon saving targets in [its] territory".[29]

22. Initial results from the first year of the Sustainable Energy Network (SEN) pilot scheme (2005–06) suggest that only 20,508 customers have been referred on to grant and discount schemes against a target of 34,850, representing a shortfall of some 40%. However, as of February 2007 the pilot programme was ahead of its target number of customers in terms of advice given, with overall carbon savings for the period exceeding the target by 50%.[30] **In its response the Government and Energy Saving Trust must provide details of the future of the Sustainable Energy Network pilot and if so, whether the intention is to roll this out more widely and over what timescale. Furthermore, the Energy Saving Trust should provide details as to how the 50% figure for overall carbon savings was determined, as we are concerned that tools to calculate domestic emissions are still at a very early stage of development.**

23. According to the EST, "there is no specific funding from the Department for Transport for SEN in relation to transport activities, meaning only limited activity is taking place".[31] The Department for Transport shares a joint PSA target with Defra and the former DTI pledging to reduce greenhouse gas emissions. Furthermore, the Government's draft Climate Change Bill places a legal duty upon the Secretary of State to reduce CO_2 emissions by 60% below 1990 baseline levels by 2050. Accordingly, **we recommend that additional Government funding is made available to the Energy Saving Trust specifically to tackle greenhouse gas emissions from personal transport. We recommend that the Department for Transport (DfT) recognise its responsibility to ensure that the EST has appropriate funding to pursue its transport emissions reduction programme. The DfT should now confirm what steps it will take to tackle this problem.**

Community initiatives

24. The Community Carbon Reduction Programme (CRed) at the University of East Anglia is a network of partnerships which has set out to demonstrate how a 60% reduction in carbon emissions can be achieved by 2025. The CRed team works with its partners—including schools, businesses, local authorities, hospitals, community groups and individuals—to estimate how much CO_2 they are responsible for, and identify where and how to reduce emissions in the short, medium and long term. CRed argued that:

> With households responsible for around a third of all [the] UK emissions it is vital that communities become involved in carbon reduction. Indeed, the Government recognised this in the Energy White Paper of 2003 when it called for "unprecedented action by local partnerships" to deliver its aspiration for a 60% reduction in carbon emissions by 2050.[32]

29 Ev 10, 13

30 Energy Saving Trust, *Sustainable Energy Network pilot project: Quarter three summary*, February 2007

31 Ev 14

32 Ev 300

25. The Environment Agency cited a survey by the Tyndall Centre for Climate Change Research showing that "62% of people believe climate change to be so serious that every possible action should be taken to tackle it".[33] In the context of the same survey, however, "most people also indicated that the main responsibility for change lies at global and national levels, and not with the individual."[34] The Environment Agency was optimistic about the potential for individual action in tackling climate change and observed that there is "strong public backing" for individual and community action to contribute to emissions reductions, although noted that "[w]hat is required is the right mix of support and encouragement".[35]

26. We heard from witnesses who came to speak to us at the University of East Anglia that there is a great appetite for community level initiatives to tackle climate change, but that support is needed to overcomes a variety of barriers. Although we were told of positive examples, such as the work being done in Ashton Hayes, Cheshire, many community initiatives are taking place in spite of, rather than as a result of, Government activity. As Dr Laurence Matthews told us: "[…] with carbon reduction, I feel that there is a sort of social contract here. We are being exhorted to do our bit, but the Government need to play their part too […]".[36]

Pledge schemes

27. The Energy Saving Trust has launched a 'pledge' scheme *Save your 20%*, encouraging UK householders to commit to a series of simple measures to save at least 20% of the carbon dioxide emissions for which their homes and lifestyles are responsible.[37] A similar pledge scheme used by the Community Carbon Reduction Programme (CRed) at the University of East Anglia has "engaged with over 6,500 householders who have pledged to carry out around 21,000 carbon reduction measures".[38] These measures range from simple pledges such as turning off standby, fitting three low energy light bulbs, or switching to a renewable energy tariff to more costly and complex pledge actions, such as installing solar panels. CRed told us that there has been a four-fold increase in engagement from the domestic sector between 2004–05 and 2005–06, and that it had "witnessed a sea change in the level of public understanding of the link between CO_2 emissions and climate change".[39] In a further pledge scheme, the Chairman of the Royal Society for the encouragement of Arts, Manufactures & Commerce (RSA) challenged individuals to "manage their carbon 'footprint' by aiming to reduce their individual carbon emissions to five tonnes a year".[40] In June 2007 the Government launched its online CO_2 calculator. We discuss this further in paragraph 151.

33 Ev 318

34 Poortinga, Pidgeon and Lorenzoni, *Public perceptions of nuclear power, climate change and energy options in Britain: summary findings of a survey conducted during October and November 2005*, School of Environmental Sciences, University of East Anglia

35 Ev 316

36 Q 660

37 Energy Saving Trust, www.est.org.uk/commit

38 Ev 300

39 Ev 300, 302; this information is derived from CRed's own work and not a public opinion poll.

40 Royal Society for the encouragement of Arts, Manufactures and Commerce, www.thersa.org

28. CRed, CSE and Global Action Plan were all critical of the Government and the Energy Saving Trust's record on establishing the evidence base for 'soft measures' such as the provision of information and advice and stimulating community awareness. According to the Centre for Sustainable Energy:

> A key failing of the 14 years since the Energy Saving Trust was established—and of Defra as its principal funder—is that it has not invested in establishing an academically robust body of evidence that demonstrates the energy and carbon saving benefits of providing individuals with advice, supporting community organisations, and encouraging local authorities to improve their performance.[41]

29. CSE argued that this "evidence gap" results in measures such as advice provision and awareness raising not being given any credit for carbon savings, with progress being attributed to more easily quantifiable measures such as the EEC and grant programmes, even if the uptake of these initiatives has been stimulated by awareness-raising schemes. This also raises the concern of 'double-counting' the associated energy and carbon savings.[42] Similar concerns have been raised by Global Action Plan, which claimed that "Government funding is usually directed to awareness raising campaigns for which little or no evidence of effectiveness is sought, rather than towards behaviour change initiatives where evidence is demanded."[43] CRed also emphasised the importance of creating an evidence base, arguing that:

> The joining-up of the plethora of, largely pledge-based, carbon reduction initiatives which produce useful data on carbon savings should be a priority […] currently data is not always recorded intelligently, and in many instances data is lost altogether. Moreover, there is scant evidence to suggest that many organisations securing carbon reduction commitments from the public are conducting any meaningful analysis of whether these promises are being acted on, as little or no evaluation work is carried out.
>
> …it is absolutely crucial that a mechanism is put in place to ensure that the data from ALL pledge schemes is collated and properly stored and use. Further that a national strategy is put in place to oversee and advise those operating pledge-based schemes. There is a real danger that data will be lost and that vital information on public attitudes toward energy use will not be fully exploited by government and the agencies empowered to shape citizen's attitude to energy efficiency.[44]

30. These concerns were raised with the Energy Saving Trust (EST) in evidence. In response, EST argued that, whilst these concerns were valid, EST's programmes were subject to thorough evaluation which provided reliable evidence of their effectiveness.[45]

31. **Pledge schemes clearly have a role to play in raising awareness about climate change and what individuals can do to address this problem. However, there is a plethora of**

41 Ev 60

42 Ev 60

43 Ev 53

44 Ev 302, 304

45 Q 37–38

such schemes with a multiplicity of messages. This degree of multiplicity may result in confusion, particularly as schemes are often couched in different terms—some to save tonnes of carbon dioxide, others to reduce your carbon footprint, and others to 'save your 20%'. We are also concerned by the lack of appropriate monitoring of these pledge schemes. Whilst there is some evidence that information and awareness translates into action, it is difficult to be sure how far this impact goes. We recommend that Defra invite the promoters of pledge schemes to attend a seminar designed to address these problems and improve the quality, effectiveness, objectivity and performance of such schemes. Monitoring of impacts must also be co-ordinated.

Education and schools programmes

32. During its visit to Leicester in September 2006, the Committee heard how pupils who acted as 'Eco Warriors' at a primary school had sought to change behaviour not only at school but also in their own households. Several witnesses, including Global Action Plan, the Centre for Sustainable Energy (CSE) and CRed have emphasised the importance of education about the environment and the implementation of energy-saving programmes in schools. Global Action Plan has run its 'Action at School' programme in 164 schools. Most of these schools concentrated their efforts on reducing waste. However, some schools have participated in energy programmes; nine of these schools have reduced their energy use by an average of 12%. The CSE Energy Matters programme was delivered to some 18,000 pupils across 500 schools between 2000–2003. The programme was designed to provide resources linked to the curriculum, which "required only limited support and input from [CSE] to help familiarise the teachers with the programme". According to CSE, an independently-led evaluation of the programme in 2003 found that energy-saving behaviour improved in 76% of the families of pupils in classes where the programme was taught.[46] The Centre for Alternative Technology in Machynlleth, Wales has many visitors from schools, and told us that not only were young people more open and receptive to learning about the social, environmental and economic impacts of making different choices, but that they tended to influence their parents as well as their peers.

33. CSE argued that continued high impact of schools programmes "will not be achieved without up-to-date curriculum-linked resources, training and ongoing support for teachers". It told us that:

> programme funders such as Defra, DfES and the Energy Saving Trust must recognise the immediate positive environmental benefit of energy education and reflect on the need for effective programmes to be up-to-date and supported.[47]

34. CRed argued that schools should be made:

> a focus for this whole campaign; CRed has helped enthusiastic schools make very large cuts in energy use; climate change and resource efficiency should be a central plank not just in the curriculum but a central plank of how schools go about their business. Schools are the nexus of their communities; the message would spread not

46 Ev 57

47 Ev 58

> only among young people who will suffer if we do not tackle climate change, but out to parents and the rest of the community.[48]

The role of Local Government

35. The Government's review of the UK Climate Change Programme, published in March 2006, stated that

> action by local authorities is likely to be critical to the achievement of Government's climate change objectives. Local authorities are uniquely placed to provide vision and leadership to local communities, raise awareness and help change behaviours.[49]

and noted that some local authorities are already taking "exemplary action on climate change". Shropshire County Council, for example, has reduced CO_2 emissions from corporate buildings by 57% between 1990 and 2005.[50] In March 2007, the Local Government Association established the Independent Climate Change Commission to consider the role of councils in both tackling and adapting to climate change.

The Nottingham Declaration on Climate Change

Launched in October 2000, the Nottingham Declaration on Climate Change is a voluntary pledge to address the issues of climate change. To date over 200 councils in England and Wales have signed up to a climate change declaration such as the Nottingham Declaration, "committing their authority to take action on mitigating the effects of and adapting to climate change". [51]

36. According to the Local Government Association (LGA), although research suggests that awareness of climate change is around 90%, awareness of its urgency and scale is no greater than 15%. A report prepared for Hampshire County Council argues that "a key barrier to awareness is that people believe that climate change is so huge an issue that there is nothing meaningful that they can do about it". Several local authorities have been successful in bidding for financial support made available through Defra's Climate Challenge Fund to facilitate communicating to both individuals and communities about climate change.[52] The Energy Saving Trust has outlined its role in helping local authorities, for example through helplines and Local Support Teams. The EST has also said, however, that funding for these activities is "under threat".[53]

48 Ev 302

49 Department for Environment, Food and Rural Affairs, *Climate Change: The UK Programme 2006*, Cm 6764, March 2006

50 Ev 36

51 Ev 36; The full Nottingham Declaration can be read at: www.energysavingtrust.org.uk/housingbuildings/localauthorities/NottinghamDeclaration/EST_NDec_cert_HR.pdf

52 Ev 37

53 Ev 12

37. The LGA argued that councils can "plan, deliver, co-ordinate and enable the changes necessary to bring about a step-change in results". It argued that the "lack of a long term funding system and the stop start nature of project based funding" is a barrier to action on climate change which is consistently described by local authorities, and highlights the difficulty in accessing funds provided by a variety of bodies as "a particular barrier for smaller authorities and those not yet particularly active on climate change".[54]

38. In creating a "sustainable home" Alan Simpson MP sought to use recycled materials where possible, in order to retain the embedded energy in materials already used within the built environment. However, he expressed concern that there is "no obvious resource point for the public to access information about recycled materials and the built environment … we have to have a strategy that makes it easy for people to find out what is available and be excited by some of the work already being done."[55] Several witnesses complained about the patchy, or indeed a complete lack of, advice. The Chief Executive of Woking Borough Council, Ray Morgan, told us that they had identified the difficulty citizens were experiencing in accessing information as a problem, and were developing a 'walk-in' shop on the high street where people could obtain free independent advice and information, as well as purchase energy efficient goods.

Woking Borough Council

Woking Borough Council first published its Climate Change Strategy *Think Globally Act Locally* in March 2003. In 1999 it established an Energy and Environmental Services Company to deliver Woking's climate change goals. Several housing developments in the Borough have incorporated renewable energy systems, such as photovoltaic roof-tiles, and the energy efficiency of residential property across the Borough has increased by 33% from 1999 levels with a corresponding decrease in CO_2 emissions of 21%. A 1.3 GW Combined Heat and Power (CHP) plant has been established in the town centre serving the Council's Civic Offices, a leisure complex, an adjacent hotel and other buildings via a private wire grid. It is the "first commercially operating energy station of its kind in the country". Woking Park was also the site of the UK's first fuel-cell CHP system. The Council is now recognised as a Beacon Council (2005–06) for Sustainable Energy.[56]

39. Defra has acknowledged the importance of the different levels of delivery in terms of National Government, Regional Assemblies and Regional Development Agencies, and local Authorities and Housing Agencies.[57] Furthermore, in addition to the Energy Saving Trust's Sustainable Energy Networks, we have also heard about local borough council and community initiatives, such as those in Woking and Ashton Hayes, Cheshire.

54 Ev 35, 40

55 Ev 215

56 Woking Borough Council, Woking's Sustainable & Renewable Energy Installations

57 Ev 354–355

40. **Although there is a lot of ad hoc activity, there is no concerted central Government strategy to help local authorities to develop local greenhouse gas reduction programmes. Furthermore, it appears to us that community and local government initiatives are often taking place in spite of, rather than because of, Government activity. The Government must take visible steps to remove barriers to encourage local authorities to be more proactive in this area. It should publish before the end of 2007 its proposals to achieve this objective.** The provision of information and advice at local level appear at best patchy and funding appears to be low and misdirected. **Funding and activity clearly needs to be coordinated at a regional level between local authorities, Regional Development Agencies, and the Energy Saving Trust's Energy Efficiency Advice Centres and Sustainable Energy Networks, amongst others, to ensure that everyone has regional access to credible and independent advice, whilst avoiding unnecessary duplication of effort. The Government must make clear in its response how it proposes to do this.**

3 Household energy efficiency

> There should be a general moral view that wasting energy is wrong. […] it is morally wrong to waste energy because we are putting at hazard our own grandchildren.
>
> Sir David Attenborough[58]

Background

41. Emissions from the domestic building stock were responsible for 152.9 $MtCO_2$ in 2004, around 27% of total UK emissions. If domestic sector emissions are to be reduced in line with overall emission reduction targets, then domestic emissions have to fall to an annual 62 $MtCO_2$ by 2050.[59]

42. In October 2006 Energy Commissioner Andris Piebalgs launched the European Commission's Action Plan *Energy Efficiency: Realising the Potential*. The plan sets out more than 70 actions which the Commission proposes to take over the next six years to boost energy efficiency in the EU. The Commission estimates that the effect of the Action Plan will be a 20% reduction (against current projections) in energy consumption by 2020. Priority actions include the introduction of new appliance efficiency standards, revision of energy labelling rules, more stringent energy performance standards for buildings, and work on proposals for legislation to help ensure that emissions targets for cars are met.[60]

43. Defra sets out a hierarchy of particular behaviours to address climate change:

—avoid energy waste through simple changes to behaviour;

58 Q 512

59 Department for Communities and Local Government, *Review of Sustainability of Existing Buildings, The Energy Efficiency of Dwellings – Initial Analysis*, November 2006

60 EUROPA, *Saving 20% by 2020: European Commission unveils its Action Plan on Energy Efficiency*, Press release IP/06/1434, 19 October 2006

—use energy more efficiently by buying energy efficient products or installing home insulation measures;

—reduce carbon content of energy used by switching to green tariffs, biomass heating or microgeneration; and

—offset carbon.[61]

44. This message was supported by the Micropower Council in their evidence to the House of Commons Trade and Industry Committee in October 2006:

> Energy efficiency should come first. It is the low-hanging fruit that we have out there at the moment and microgeneration technologies are there to supply whatever residual needs you have after you have taken every cost effective step to make a building as energy efficient as possible.[62]

45. Dr Dave Reay from the University of Edinburgh argued that significant reductions in greenhouse gas emissions may be achieved through facilitating greater energy efficiency and reduced energy demand:

> Some commentators have lamented high GHG emission from power-generation in the UK, suggesting that it is futile for individuals to cut their emissions while fossil fuel-fired power generation continues to dominate the energy mix in the UK. What they overlook is the prime reason for the existence of these power stations: direct and indirect energy consumption by households.[63]

46. Policy evaluation work by Defra has shown household energy efficiency measures to be more than four times more cost-effective per tonne of carbon saved than the next best demand-side sector, which is business. In general, demand-side measures were found to be more cost-effective than supply-side measures.[64] Indeed, in some countries it is standard practice for new supply and demand reduction options to be analysed in an integrated way.

61 Ev 338

62 Uncorrected transcript of oral evidence taken before the Trade and Industry Committee on 23 October 2006, HC 1664-ii (2005–06), Q 134

63 Ev 198

64 Ev 3

California

During its visit to California, the Committee heard how the Pacific Gas & Electric company proposed the replacement of one of San Francisco's old power plants with a new plant twice the size of the old one. The regulator examined energy demand in the area, and its Energy Resource Plan showed that, as a result of energy efficiency measures, demand was not sufficient to justify the construction of the plant.

As a further demand reduction measure, the San Francisco Department of the Environment conducted an efficient lighting programme in which a large number of small businesses in San Francisco had been contacted and invited to install energy efficient lighting. Some 4000 businesses signed up to the scheme which resulted in 6MW of energy savings, equivalent to savings of $3.5m in energy bills every year based solely on lighting. The financial savings meant that there was only a 1–2 year payback period. A large proportion of the initial outlay was provided by the Department. For example, if the total cost of installation was $350, the business was invited to pay $100 with the Department making up the difference. Funding for this was generated by the 3% surcharge on energy bills (the Public Goods Charge). Revenue generated by this charge was then ringfenced for energy efficiency projects.

New build

47. Recent projections reveal that the current housing supply is insufficient to meet the growing demand as the population both ages and increases. In response to the Barker Report the Government has pledged to increase the supply of housing in England to 200,000 per annum by 2012 in order to bridge this gap. In recognition of the significance of reducing emissions from the household sector and increasing the energy efficiency of the housing stock, the Department for Communities and Local Government (DCLG) recently announced that "we need to set a target now for moving to zero carbon housing within 10 years".[65] In February 2007 the Government established the '2016 Zero Carbon Homes Taskforce' to:

> —Identify the barriers to implementation of the zero carbon 2016 target, and put in place measures to address them.
>
> —Develop a Concordat for publication alongside the final 'Building a Greener Future' policy statement, which will set out the respective roles of central and local government and business as we move towards the zero carbon 2016 target.

65 Department for Communities and Local Government, *Building a Greener Future: Towards Zero Carbon Development—Consultation*, December 2006; the Government defines 'zero carbon' as a home with zero net carbon emissions from energy use over a year.

—Develop a timeline for steps that need to be taken over the next ten years to support the implementation of the zero carbon 2016 target.[66]

48. The Environmental Change Institute at Oxford University reported in its *40% House* study that if the UK was to meet its climate change commitments, 14% of homes would need to be replaced, with 220,000 new homes built and others improved.[67] The Government has reviewed Part L of the Building Regulations for England and Wales, in order to make buildings more energy-efficient and to tackle climate change. The changes took effect in April 2006: new homes now need to be better insulated and use more efficient heating systems. The revised Part L1 (for dwellings) makes air pressure leakage testing mandatory, which should improve compliance by showing where there is unacceptable air leakage. Poor levels of airtightness in buildings can make a significant contribution to heat loss.[68] The Royal Institute of Chartered Surveyors (RICS) notes that the review of Part L and the introduction of new standards "will improve energy efficiency by around 40 per cent for new buildings".[69]

49. The Institution of Civil Engineers (ICE) says that it encourages "the upgrading of thermal performance of housing stock". It told us that homes and non-domestic buildings account for approximately 40 per cent of all UK carbon emissions and argued that, setting aside recycling initiatives, "there are a number of other areas where rapid progress could be made." ICE said that the Government could "lead the way with environmentally-aware contracts which are committed to sustainable, low-emission standards". It noted that in Hong Kong government contractors are required to provide for emission standards and waste disposal in their bids. However, it accused local authorities of failing to "deliver the proposed energy certification of public buildings".[70] The Micropower Council advocated the incorporation of microgeneration technology within new build "where it can be 'designed-in' at minimum cost and zero disruption to householders".[71] As a result of projects undertaken in Woking, the Chief Executive of the Borough Council was of the view that sustainable housing could be achievable by 2008, and there was no need to wait until 2016.

Code for Sustainable Homes

50. On 13 December 2006, the Code for Sustainable Homes was launched. According to the Department for Communities and Local Government (DCLG), it is a:

> […] new national standard for sustainable design and construction of new homes. By integrating elements of this voluntary Code into new homes and obtaining assessments against the Code, developers will be able to obtain a 'star rating' for any new home which will demonstrate its environmental performance. It will provide

66 www.communities.gov.uk

67 www.40percent.org.uk

68 www.est.org.uk/housingbuildings/regulations/

69 Ev 128

70 Ev 124, 126

71 Ev 149

> valuable information to home buyers, and offer builders a tool with which to differentiate themselves in sustainability terms.[72]

51. At the same time, DCLG launched a consultation on the timetable for incorporating the energy and emission standards set out in the—currently voluntary—Code for Sustainable Homes into future Building Regulations in the move towards 'zero-carbon' homes.[73] However, we have been told that, in terms of energy efficiency, some new buildings do not comply with the existing Building Regulations. For example, the Institution of Civil Engineers said that "not all buildings as built end up with the desired performance levels".[74] Defra said it was "too early to tell whether [the Code] has been a success as a voluntary measure."[75]

52. Given the urgency of the need to tackle climate change as soon as possible, combined with the Government's own ambitious targets to reduce carbon dioxide emissions, we are concerned by the length of time it is taking for the UK Government to move to 'zero carbon' housing. The technology required to create 'zero carbon' housing already exists, so we are puzzled as to why it is not already mandatory to build all new housing to this standard. **The Government must set out a clear timeline delineating the proportion of all new housing stock which will be built as 'zero carbon' homes on a year by year basis. We further recommend that the 2016 Zero Carbon Homes Taskforce incorporates within its terms of reference the intention to report on steps to be taken to achieve 'zero carbon' homes as soon as possible.**

53. Given that some new buildings fail to comply with the existing Building Regulations in terms of energy efficiency, we are not convinced that voluntary measures—such as the Code for Sustainable Homes—will be effective in tackling carbon dioxide emissions. The Government plans for large numbers of new houses to be built. It must not miss this valuable opportunity to ensure that they are as energy efficient as possible, as they will affect energy use for decades to come. **The Government must not only require all new houses to be built to a 'zero carbon' standard well before 2016, but must ensure that existing regulations are rigorously enforced.**

Existing housing stock

> [W]e have become so used to seeing ministers doing things like opening new power stations or new gas pipelines or whatever, even new wind farms, always with a nice white hat on their head and stuff like that, but we have never yet seen a minister open a well-insulated loft.[76]

54. Even assuming the Government meets its commitments to increase housing supply, estimates suggest that by 2050, only one third of the housing stock will have been built after 2005. New build represents only around 1% of the total housing stock each year. Therefore,

72 Department for Communities and Local Government, www.communities.gov.uk/index.asp?id=1503251

73 Department for Communities and Local Government, *Building a Greener Future: Towards Zero Carbon Development—Consultation*, December 2006

74 Q 298

75 Ev 375

76 Q 579

a substantial proportion of the existing housing stock has been built to lower energy efficiency standards and subsequently is responsible for the majority of emissions from domestic dwellings.[77]

Barriers to energy efficiency in existing housing

55. CSE argued that one barrier to individuals investing in energy saving is the 'opportunity' cost associated with it—spending on cavity wall insulation, for example, means that people will have less to spend on other things, such as new electrical goods or a deposit for a holiday.[78] In addition to cost, the 'hassle factor' was also cited as a major consideration for the householder in deciding whether or not to install energy efficiency or microgeneration measures. This view was supported by B&Q, which argued that "the individual is not focussed merely on price but also on the perceived effort required and disruption involved in adopting energy saving technologies within the home". It claimed that the direct benefits to the individual of adopting energy efficiency measures tend not to be recognised because of "the disassociation between energy use and costs and the effect of rising energy prices in masking the impact of savings".[79]

56. The Budget 2006 announced that funding of £20 million would be made available over the next two years (2006–7 to 2007–8) to "help local authorities and others work in partnership with energy companies to promote and incentivise energy efficiency measures to households".[80] Germany has a 20-year programme to refurbish all pre-1978 housing stock such that they attain contemporary energy standards.[81] According to the Baden-Württemberg Environment Committee in Stuttgart, new Federal German Building Regulations demand that when an existing property is being substantially refurbished—for example, by extending the property or replacing the roof or the windows—it must be brought up to the same energy efficiency standards as new-build properties.

57. Defra observed that:

> The obstacles are multiple and challenging. One obstacle is consumer inaction due to the hassle factor, high upfront costs, and poor information. Often consumers are confused because they are subject to multiple messages coming from multiple sources and they do not have a framework for assessing the relative value and impact of different measures. Access to low cost finances is another issue, particularly for more expensive measures.[82]

58. Energy saving and energy efficiency are the first two measures listed in Defra's hierarchy of areas for individual behavioural change. However, some 8.5m suitable homes

77 Department for Communities and Local Government, *Review of Sustainability of Existing Buildings, The Energy Efficiency of Dwellings – Initial Analysis*, November 2006

78 Ev 59

79 Ev 146

80 HM Treasury, Budget 2006, HC 968, March 2006

81 Environmental Audit Committee, Fifth Report of Session 2005–06, *Sustainable Housing: A Follow-up Report*, HC 779, March 2006

82 Q 810

still lack cavity wall insulation whilst 50% of older properties are unsuitable for such improvement.[83]

59. Against the background in which new buildings only account for approximately 1% of the total housing stock each year, greater priority must be given to reducing the CO_2 emissions associated with the existing housing stock. Particular focus must be given to existing homes with solid walls or flat roofs that are difficult to insulate. **Where energy efficiency measures in existing homes are simply impractical or too expensive, an alternative approach is to include the incorporation of renewable electricity and/or heat technologies. This could either be within individual dwellings (e.g. solar water heating) or to supply groups of properties or a community (e.g. solar photovoltaic and wind generation; combined heat and power). The German programme to refurbish all pre-1978 housing stock such that they attain contemporary energy standards has much to commend it. The Government should evaluate the application of such a programme to UK circumstances, with particular emphasis on instances where older properties are substantially improved or extended. Planning permission should not be granted where the proposed modifications will increase the carbon footprint of the building.**

Home Information Packs: the Energy Performance Certificate

60. From 1 August 2007 home owners of properties with four or more bedrooms in England and Wales will be required to arrange for a Home Information Pack (HIP) to be prepared before putting their homes up for sale. In a change to the original timetable, HIPs for smaller properties will be phased in at a later date. A mandatory feature of the HIP is an Energy Performance Certificate (EPC), which gives houses A-G ratings for energy efficiency.

61. Several witnesses were supportive of the inclusion of energy audits within Home Information Packs (HIPs). EDF Energy observed that they would "serve to increase customer engagement in energy efficiency measures",[84] while the Energy Retail Association took the view that the inclusion of Energy Performance Certificates within Home Information Packs (HIPs) will:

> […] be a policy in driving home the need for properties to be as energy efficient as possible. The onus will fall on the property owner and as they have a vested interest in obtaining the best price for their property it is logical that they should be the group that are incentivised to carry out the work.[85]

62. Recent research by the Energy Saving Trust revealed that energy efficiency is now an important consideration when buying a home for over two-thirds of those surveyed, with nearly 50% saying that they would pay an additional £10,000 for an 'environmentally friendly' property.[86]

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83 www.gos.gov.uk/goem/news/newsarchive/carbonhomesavings/

84 Ev 248

85 Ev 184

86 Department for Communities and Local Government *Green light for home energy improvements*, News release 2007/0075, 4 April 2007

63. The Environment Agency pointed out that:

> There may be things that we can do to encourage people to upgrade the energy efficiency of the home at particular points of ownership. For instance, where they buy a house, sell a house or extend or modify a house there might be scope for tax breaks, because that is a good moment to get the builders in. One of the big barriers to domestic energy efficiency is that you have to get the builders in and people, understandably, do not like doing that.[87]

64. Friends of the Earth cited research which revealed that "the six-month period after people move home is one of the most important opportunities for tackling energy efficiency and putting in microgeneration, and so forth. If there was some kind of rebate on stamp duty if you put those measures in place quickly, we think that would be a significant opportunity to help bring down emissions".[88]

65. Budget 2007 declared that: "from 1 October 2007 all new zero-carbon homes costing up to £500,000 will pay no stamp duty, with zero-carbon homes costing in excess of £500,000 receiving a reduction in their stamp duty bill of £15,000." This exemption will apply only until September 2012.[89] In addition to the Home Information Packs, we believe there is scope for the Government to incentivise the buyer rather than the seller to undertake domestic energy efficiency improvements. Buyers are more likely to undertake substantial work on a property than sellers. **We recommend that the Government provide a stamp duty rebate to home-purchasers who improve the energy performance of their property within one year of purchase.**

Tenanted properties

66. There is a particular problem of split incentives when in comes to implementing energy efficiency measures in tenanted properties. Whilst landlords will often make investments in these measures, the benefits are usually enjoyed by tenants as reductions in their energy bills. Andrew Warren, from the Association for the Conservation of Energy (ACE), argued that landlords required substantial incentives to improve their properties.[90] This was supported by CRed, which expressed concern about the issue of encouraging landlords and/or tenants to invest in energy efficiency measures, and has found this to be "a particular problem for students".[91]

67. Under section 312 of the Income Tax (Trading and Other Income) Act 2005 (ITTOIA), landlords who pay income tax may claim a deduction—the Landlord's Energy Saving Allowance—against profits for expenditure to install loft insulation or cavity wall insulation in residential properties which they let. This was extended to cover solid wall insulation in 2005, and again in April 2006 to include draught proofing and insulation for hot water systems. The maximum amount which may be claimed is limited to £1,500 per

87 Q 750

88 Q 893; with reference to Eoin Lees Energy, *Using Stamp Duty to bring about a Step Change in Household Energy Efficiency*, 2005

89 HM Treasury, *Budget 2007*, HC 342, March 2007

90 Q 579

91 Ev 301

building.[92] The Budget 2007 announced that legislation in the Finance Bill 2007 will render the allowance applicable on a per property basis rather than per building to ensure that "smaller properties have access to the full allowance".[93]

68. The then Minister of State, Ian Pearson MP, observed that:

> "[t]he Landlord's Energy Saving Allowance is actually quite a recent initiative and we need to see whether that does bring about a significant change and more landlords agreeing to their properties having energy efficient measures put into them. I am optimistic that it will. It is a reasonably significant level of assistance. I think we need to keep that under review to see whether it is at the right level."[94] […]The Energy Performance Certificate will make [energy efficiency] information available for people who are letting by 2009, as well as people who are buying from June 2009.[95]

69. More must be done to tackle the issue of tenanted properties. **Meaningful information regarding the thermal properties of these buildings, as well as the energy ratings of heating systems and appliances, must be made available to incoming tenants. Energy Performance Certificates for rented properties should be introduced as soon as possible, ideally before 2009.**

Product standards

70. According to the Energy Saving Trust, the average home has around 12 unused electrically powered devices drawing power from the grid at any one time, rendering the UK the worst of five European nations surveyed for wasting energy by leaving mobile phone chargers plugged in, appliances on standby and lights on.[96] The EST claimed that, in UK homes each year:

- Stereos on standby cost £290m and produce 1.6 million tonnes of CO_2;
- VCRs and DVD cost £194m and produce 1.06 million tonnes of CO_2;
- TVs on standby cost £88m and produce 480,000 tonnes of CO_2.

Consequently, in the UK alone, household equipment on standby produces a total of 3.1 million tonnes of CO_2 per annum.[97] Furthermore, although current estimates suggest that consumer electronics account for around 16% of household electricity use,[98] a recent report by the Energy Saving Trust predicts that domestic entertainment and computer technology could account for 45% of all household electricity use in the UK by 2020.[99]

92 HM Revenue and Customs, www.hmrc.gov.uk/budget2006/bn50.htm

93 HM Treasury, *Budget 2007*, HC 342, March 2007

94 Q 832

95 Q 834

96 BBC News, *UK 'tops energy wasters league'*, 23 October 2006 [the other countries were Italy, France, Spain and Germany]

97 BBC News, *Energy cost of PCs on standby*, 21 April 2006

98 National Consumer Council, *Information blackout: why electronics consumers are in the dark*, March 2007

99 The Independent, *UK's gadget-mania blamed for surge in emissions*, 4 July 2007

71. Dr Dave Reay from the University of Edinburgh highlights the issue of standby power as an increasingly significant contributor to household energy consumption and argues that manufacturers should reduce the standby power requirement, as well as providing OFF buttons and ensuring that devices can cope with repeatedly being switched on and off:

> … standby power use now accounts for 7% of household electricity use and leads to 3 million tonnes of GHG emissions in the UK every year. The public perception is that many of these devices either aren't drawing much power or can't be turned off and on without the risk of the device breaking. Many of these devices (e.g. televisions, stereos, digital boxes and DVD players) draw over 10 watts in standby mode. […] it is a big waste of energy […] but the benefit is to no-one. There is no sort of extra comfort at home, there is no higher standard of living, it is just an absolute waste of energy and emission of greenhouse gases. [100]

72. In its 2006 Energy Review the Government pledged to "[…] limit the amount of stand-by energy wasted on televisions, stereos and other consumer electronics" and "continue to press at international level for full implementation of the International Energy Agency's 1 Watt initiative to reduce stand-by power consumption".[101] A study by the National Consumer Council revealed that only one item of the 350 consumer electronic products surveyed had a label displaying its energy consumption.[102]

73. Current policy and regulatory activity is focused too much on gas and electricity supply. Consumer behaviour, including decisions to purchase particular energy-using products, can also have a significant impact on greenhouse gas emissions from the domestic sector. **We appreciate that "the end of standby" cannot be achieved unilaterally, but the Government must make every effort to drive forward improved product standards and eliminate the appalling waste of energy caused by leaving equipment on standby. It must make clear the efforts being made in international negotiations to achieve the "end of standby", and provide an indicative timetable detailing when it anticipates agreement is likely to be reached. As an interim measure the Government should initiate voluntary agreements with manufacturers on improving product standards. As a bare minimum they should include the energy labelling of consumer electronics—as is already in existence for "white goods" such as refrigerators—within the next twelve months.**

Energy Efficient Lighting

74. Traditional incandescent light bulbs only convert around 5% of the energy they use into light. The remainder is wasted as heat. Domestic lighting was identified by the Energy Review as one of the groups of products requiring attention in the drive to raise standards for energy-using products in the home.[103] The International Energy Agency (IEA) estimates that the global electricity bill could be reduced by nearly one-tenth if there were a global switch to energy-efficient lighting. According to the IEA lighting accounts for 19%

100 Q 454 and Ev 199

101 Department for Trade and Industry, *Our energy future—creating a low carbon economy*, Cm 5761, February 2003

102 National Consumer Council, *Information blackout: why electronics consumers are in the dark*, March 2007

103 Department of Trade and Industry, *The Energy Challenge: Energy Review Report 2006*, July 2006

of global electricity generation, resulting in CO_2 emissions three times greater than emissions from aviation.[104]

75. The BBC recently reported that energy saving light bulbs require five times less energy, cut greenhouse gas emissions by 60–70%, and save users approximately £7 per bulb each year.[105] According to estimates by Osram, a light bulb manufacturer, if every UK household switched one bulb to an energy-saving alternative one power station would become redundant.[106] Dr Dave Reay, from Edinburgh University, argued that the ease of adoption of low energy light bulbs had a wider-reaching impact by empowering householders, leading to subsequent changes in domestic energy use.[107]

76. The ERA argued that:

> Too much emphasis is placed on the efficiency of houses compared to the potential of energy demand reduction by households and this should also be addressed by Government in any policy review … low carbon emitting light bulbs should now be the norm and not the exception and the ERA are disappointed that this is not yet the case, especially given that by replacing every light fitting in the home with a low-energy bulb, the average family could save up to £240 per year.[108]

77. According to B&Q, "none of the people surveyed while buying/browsing lighting products actually bought an energy efficient product". High cost was often given as the reason for this. By reducing the price of energy-saving light bulbs, B&Q reports that it has increased sales by 80% over a year.[109] ERA argues that the Government could subsidise CFLs (compact fluorescent lights) to tackle consumer reluctance and concern over expense. However, the Energy Efficiency Innovation Review found that "price increases on [conventional] incandescents are likely to be more effective than subsidies of CFLs".[110]

78. Australia has recently joined Cuba and Venezuela in banning conventional incandescent light bulbs. The bulbs will be phased out over the next three years, becoming unavailable by 2009. Malcolm Turnbull, the Australian environment minister, claims that the ban will help cut Australia's greenhouse gas emissions by 800,000 tonnes by 2012—reducing household lighting costs by 66%—and could reduce emissions by up to 4 million tonnes of greenhouse gases by 2015.[111]

79. In October 2006, Ian Pearson MP told the House that the Government was "committed to using all using all suitable policy instruments to remove the least efficient products from UK markets", stating that:

104 International Energy Agency, *Light's Labour's Lost -- Policies for Energy-efficient Lighting*, June 2006

105 BBC News, *Shedding light on call to ban bulb*, 20 April 2006

106 The Guardian, *Push for energy-saving bulbs*, 3 November 2006

107 Ev 199

108 Ev 183

109 Ev 145, 146

110 Energy Saving Trust, *Energy Efficiency Innovation Review, Household Sector—Final Report*, December 2005

111 The Guardian, *Australia switches on to light bulb change*, Tuesday 20 February

> Our current assessment is that, by removing ordinary incandescent light bulbs (GLS bulbs) from the UK market and encouraging sales of the most efficient alternatives, we could avoid approximately one million tonnes of carbon emissions per year by 2020.
>
> The UK cannot unilaterally ban or prevent the free trade in products such as incandescent light bulbs on the basis of their energy efficiency. However, the Government are pressing the European Commission to make light-bulbs a priority for regulatory action under the recently agreed Eco-Design for Energy Using Products (EUP) framework directive. We are also discussing with retailers and manufacturers how we can remove inefficient lighting products from UK shelves in advance of regulations.[112]

80. In March 2007 the European Council invited the Commission to introduce minimum energy efficiency standards as part of the work being undertaken through the Ecodesign of Energy-Using Products Directive, with a particular focus on lighting. This could lead to inefficient incandescent domestic light bulbs being phased out from 2009.[113]

81. In July 2007 the Prime Minister and the French President, Nicolas Sarkozy, announced their intention to propose to the European Commission an EU-wide reduction in VAT on environmentally friendly products, from "fridges to insulation".[114] As an interim measure, **we recommend that the Government give serious consideration to taxing energy inefficient consumer electronics and lighting in order to reflect the wider environmental impact of choosing and owning poorer performing products. Revenue raised could then be used to offset financial incentives established to encourage environmentally beneficial behaviour. Any tax increase must, however, be combined with the provision of better information on the availability, environmental and cost benefits of energy efficient alternatives.** We discuss the issue of economic instruments further in Section 5 (paragraphs 140–159).

Smart metering, information displays and better billing

82. There is no universal definition of a 'smart' meter but the phrase describes a new generation of meters which do more than merely measure gross gas and electricity consumption. Ofgem outlined the range of "smarter" metering technology which is currently available:

- simple devices consisting of displays that can be connected to existing meters to provide information on how much energy is being used and what it costs;

112 HC Deb, 31 October 2006, col 272W

113 EUROPA, *Energy efficiency requirements for light bulbs and other energy-using products on track for adoption*, IP/07/867, 22 June 2007. In response to a Parliamentary Question, the Government noted that "it is known that some people living with lupus and epilepsy, and other long-term conditions, may be affected by energy saving light bulbs." HC Deb, 12 June 2007, col 992W

114 ENDS Europe Daily, *UK, France call for VAT cuts for green products*, Issue 2365, 20 July 2007

- more sophisticated and expensive options which allow displays, a record of energy-use every half hour, remote reading, and the ability to limit the customer's energy use in an emergency.[115]

The more advanced meters could allow for more innovative tariff structures, encouraging consumers to avoid using appliances at times of peak demand. Improved billing, which reveals historical usage and displays consumption not only in terms of kWh, but also in terms of cost and CO_2 emissions, can be used either as a stand-alone measure or in combination with a smart meter or information display.

83. EDF Energy stated that the Government should place an appropriate obligation on the energy industry to fit smart meters over around a decade, subject to a successful outcome to Ofgem's smart metering trial.[116] RWE npower had similar views. EDF is conducting its own Smart Metering Trial in conjunction with fuel poverty charity National Energy Action (NEA). Launched in April 2006, the trial will install up to 3,000 electricity and gas smart meters in homes over two years, in order to gauge how much energy consumers will save from becoming more aware of their energy use.[117]

84. ACE was similarly enthusiastic about the potential for smart meters and related innovations such as better billing information and prominent displays in consumers' homes, citing a study conducted by Sarah Darby (of the University of Oxford), which concludes that energy savings of 5–15% are possible with the use of feedback technologies such as displays.[118] However, research by Sustainability First concludes that the reduction in demand achieved by the installation of smart meters is smaller, at 1–3%.[119]

85. In June 2006 Ofgem reported on its consultation on the case for smart meters and how best to promote them. It concluded that whilst some responses to the consultation had argued for the national roll-out of smart metering, this course of action would not be "in customers' interests":

> The track record of the network companies in offering cost-effective, good quality metering services and in choosing reliable metering technologies has been mixed at best … different types of customer are likely to want different types of smart meter and it would be difficult to meet customers' needs under a regulated approach.[120]

86. Ofgem has undertaken to develop a package of measures which acknowledges that "the regulatory framework needs to encourage new products, innovation and investment."[121] Ofgem was not convinced that a national roll out was warranted and warned in oral evidence about the costs and the contravention of its competitive approach to metering. Ofgem's Alistair Buchanan said:

115 Ev 104

116 Ev 249

117 Ev 250

118 Ev 237

119 Gill Owen and Judith Ward, Sustainability First, *Smart Meters: Commercial, Regulatory and Policy Drivers*, March 2006

120 Ofgem, *Domestic Metering Innovation – Next Steps*, Decision Document 107/06, June 2006

121 Ev 104

> Personally, I am a great advocate of the most intelligent meter, but it comes at quite a price, as you will see there. […] the de minimis route is just putting a fascia in everybody's kitchen. Whether that actually gives you much more information than you get from opening the cupboard under your stair or going outside your back door, I am not entirely sure. […] [W]e have gone down the competitive market route […] the view [in government and Ofgem] has been that you do not need to go down a mandated route.[122]

In July 2007 Ofgem announced that it will be administering a Government- and industry-funded trial of a range of smart metering technologies. The two year trial will examine the potential for smart meters, stand-alone information displays, and improved billing to elicit behavioural change in energy consumption.[123]

87. Centrica said that there "is little or no reliable evidence yet of sustained change in consumption resulting from use of smart metering in this country" and noted the potential of the Ofgem trial to produce such evidence.[124]

88. The then Minister of State, Ian Pearson MP, was strongly supportive of smart metering and supported a national roll-out:

> […] I believe this is a key enabling technology for the future. I would like to think that in ten years' time every home will have a smart meter and every business will have a smart meter as well.[125]

89. According to a recent Government consultation document, "[i]f households do not know their level of energy expenditure, how energy use can be reduced, by how much, or at what cost, they are unlikely to consider investment in energy efficiency".[126] The Government announced in its Energy White Paper that, in terms of better billing, with graphically displayed historical information, it will be working with gas and electricity suppliers to "incorporate this requirement within supply licences". The Government further proposed that from 2008, all new domestic properties and all existing properties replacing electricity meters will be given a real-time electricity display, providing real-time information about electricity consumption and cost. Furthermore, energy suppliers should provide a real-time display to any household that requests one, free of charge.[127] We note that these real-time displays are not smart meters and do not allow remote communication between the meter, the consumer and the supplier. **We are disappointed by the recent provision in the Energy White Paper to provide householders with real-time displays on request from 2008. Real-time displays are not smart meters. This is a wasted opportunity and displays a sorry lack of ambition. At the very least, all displays issued must be 'future-proofed' to facilitate upgrading to two-way communication between meter, consumer and supplier, and to provide time-of-day pricing. As an interim**

122 Q 281

123 Ofgem, *First trials for smart energy meters in Britain are to begin*, Press release R/31, Thursday 12 July 2007

124 Ev 254

125 Q 819

126 Department for Environment, Food and Rural Affairs, *The Household Energy Supplier Obligation from 2011: A Call for Evidence*, June 2007

127 Department of Trade and Industry, *Meeting the Energy Challenge: A White Paper on Energy*, Cm 7124, May 2007

measure, better billing must be in place within the next 12 months. This must incorporate not only energy consumption in kWh, but how this relates to cost, carbon dioxide emissions, and with individual historical usage to help consumers make informed decisions about energy use reduction and efficiency savings.

The Role of Energy Suppliers

Energy Efficiency Commitment (EEC) / Carbon Emission Reduction Target (CERT)

90. Alongside the Building Regulations, the Energy Efficiency Commitment (EEC) is one of the principal UK policy mechanisms for improving the energy efficiency of existing homes. The aim of the EEC is to help electricity and gas consumers in the household sector to use energy more efficiently and in turn to reduce their fuel costs. Introduced in 2002, the EEC requires energy suppliers to achieve targets for installing energy efficiency measures in the household sector, particularly among the most vulnerable. Half of the energy savings made must come from priority customers who receive certain income-related benefits or tax credits. Under the current EEC, electricity and gas suppliers in Great Britain are required to meet targets for the promotion of improvements in energy efficiency in households. These targets are non-prescriptive and can be achieved by carrying out a combination of approved measures, such as installing insulation or providing low-energy light bulbs. The cost of the EEC is passed onto consumers through a levy on energy bills.

91. The first phase of the EEC programme ran from March 2002 to April 2005, when suppliers were set a target of saving 62 TWh (terawatt hours). Ofgem—which administers the EEC on behalf of Defra—noted that during EEC1 suppliers had installed, or provided, energy efficiency measures which would result in an energy saving of 86.8 TWh, or 140% of the total target of 62 TWh.[128] EEC is currently in its second phase of implementation (EEC2, running from April 2005 to March 2008), and the overall target has been set at 130 TWh. In August 2006 Ofgem reported to Government that by the end of the first year of EEC2, suppliers had already achieved some 60% of the overall target.[129] By the end of year two, 93% of the target had been achieved, equivalent to 120 TWh.[130] The 2006 Budget announced that suppliers will be able to count extra work carried out in this EEC period (2005–2008) towards their targets in the next period. As a result, British Gas, EDF, npower, PowerGen, and Scottish and Southern Energy have agreed with the Government that they will carry out between them an extra 250,000 subsidised installations of home insulation over the next two years.[131]

92. Defra is consulting on phase 3 of the EEC which will run from 2008–2011 and will be renamed the Carbon Emission Reduction Target (CERT). It is proposed that Phase 3 will roughly double the level of activity required under EEC2, and should extend the scope to include all microgeneration technologies and include 'behavioural measures' such as

128 Ev 102

129 Department for Environment, Food and Rural Affairs, *Departmental Report 2007*, Cm 7103, May 2007

130 Ofgem, *EEC Update 20*, 11 May 2007

131 HM Treasury, *Budget 2006*, HC 968, March 2006

information displays.[132] Estimates suggest that the cost to consumers of CERT will be in the region of £97 over the three-year period, assuming all the costs are passed on by the energy suppliers. This is around twice that of EEC2.[133] Post-2012, the Government envisages developing the scheme by shifting the focus from energy supply to the provision of energy services.[134] We discuss the energy services model in greater detail in paragraph 103. The Government has declared that there will be a household supplier obligation in place until at least 2020.[135]

93. Several witnesses were critical of the EEC. CRed described it as "a rather ineffectual halfway house".[136] The Centre for Sustainable Energy criticises the Government for a lack of ambition in relation to the EEC "[…] in terms of the kind of targets it is setting […] such that 60 per cent of the second round of the Energy Efficiency Commitment, which was going to be a three-year programme, was achieved in the first year".[137] It also argued that 'soft measures' such as the provision of advice are not given adequate emphasis by mechanisms such as the Energy Efficiency Commitment (EEC).[138] EDF, although supportive of the programme, asserted that:

> […] despite the substantial investment by energy suppliers in the residential sector … energy demand continues to grow and […] customer behaviour has changed very little.[139]

94. The Association for the Conservation of Energy (ACE) was critical of the current EEC, claiming that whilst it has been "very successful in terms of reaching the given targets" there is "some way to go before every home in the UK is treated to make it warm and cheaper to heat". In particular, ACE argued that "as it is presently organised" the potential impact of Government's Energy Efficiency Commitment is limited because it concentrates on cavity wall insulation and loft insulation, measures which will not make a difference to the "50 percent of older properties that have single brick walls and the considerable number of flat-roof properties" in the UK. ACE also expressed concern that the "proliferation of short-lived special offers and marketing schemes from the energy suppliers" has limited the impact of the EEC on households.[140]

95. Doubts have also been raised about the impact of changes to the EEC. For example, Centrica argued in its written submission that the second phase of the EEC places a disproportionate emphasis on the savings to be made through the use of insulation.[141] The Energy Retail Association (ERA) was similarly critical of EEC2 on the grounds that

132 Department for Environment, Food and Rural Affairs, *The Energy Efficiency Commitment April 2008 to March 2011: Initial Consultation*, July 2006

133 Department for Environment, Food and Rural Affairs, *Carbon Emissions Reduction Target April 2008 to March 2011: Consultation Proposals*, May 2007

134 Department of Trade and Industry, *Meeting the Energy Challenge: A White Paper on Energy*, Cm 7124, May 2007

135 Department for Environment, Food and Rural Affairs, *Departmental Report 2007*, Cm 7103, May 2007

136 Ev 300–301

137 Q 129

138 Ev 60

139 Ev 247

140 Ev 235

141 Ev 251

"additional requirements imposed by Ofgem and Defra" make a wide range of energy-saving measures more expensive and less attractive to suppliers. The ERA argued that the twin goals of the EEC—reducing carbon emissions and tackling fuel poverty—lead to conflicting priorities, and that the EEC is "nearing the end of its effective shelf life".[142]

96. EDF and Centrica both proposed changes to the EEC, including:

- more market-based mechanisms and longer commitment periods;
- separation of fuel poverty and carbon reduction targets;
- links with other mechanisms such as carbon trading;
- greater flexibility to allow for the use of innovative technologies such as smart meters and microgeneration and rewards for behavioural changes.

Perception of energy suppliers

97. Several witnesses expressed concern about the perceived 'credibility barrier' associated with the Energy Efficiency Commitment. Research undertaken in 2004 by the Centre for Sustainable Energy (CSE) for Ofgem suggests that—although the individuals who were surveyed had a sound knowledge of energy-saving techniques for their homes—there is a:

> deep cynicism about energy suppliers promoting energy saving (even though suppliers are now the main purveyors of energy-saving measures) [and] no awareness of the Energy Efficiency Commitment (EEC) and the energy-saving obligations it places on suppliers. [143]

Similarly, the Association for the Conservation of Energy claimed that:

> … many householders can't believe that a utility which exists to make profits out of selling units of electricity or gas would actually subsidise energy saving measures that cut fuel bills. So measures are largely installed by householders in the know and with the ready cash to pay the (albeit subsidised) price.[144]

98. The Centre for Sustainable Energy concurred with this analysis, and agreed that if suppliers took a more transparent approach to their obligations under the EEC, consumers would be more inclined to accept advice on energy efficiency measures. CSE cited the outcome of its work with focus groups (undertaken for Ofgem) as evidence:

> When they were told [about suppliers' obligations], they said, "Oh, that explains it. I will check out the little envelope stuff that is in my bill next time", and I think that tells a huge story.[145]

142 Ev 183

143 Ev 59

144 Ev 235

145 Q 136

99. ACE supports energy-saving schemes which are organised at local level, such as those administered by Warm Zones Ltd (a subsidiary of the charity National Energy Action), which are designed to reduce fuel poverty and improve energy efficiency. According to ACE, these kinds of schemes can:

> combine the credibility of the council, with the money of the energy supplier, plus the word of mouth endorsement of the community, and the local knowledge of the installers and community groups.[146]

100. Centrica's view is that customer apathy to energy efficiency, combined with the cost of equipment, is a fundamental barrier to uptake of energy saving measures. Centrica argues that fiscal measures, such as linking council tax rebates to uptake of energy efficiency measures (such as the installation of cavity wall insulation) represent one way to address this problem. British Gas conducted a trial of such a scheme in conjunction with Braintree Council, Essex in 2004, and this scheme has been extended to 25 councils across the country.[147]

101. **We are concerned by the apparent poverty of Government ambition for the Energy Efficiency Commitment (EEC; now the Carbon Emissions Reduction Target, or CERT), which compares poorly with the ambition of the emission reduction targets outlined in the draft Climate Change Bill. The existing targets are so undemanding that suppliers had already met 93% of the target for EEC2 (2005–08) by the end of the second year. Given that the Energy Efficiency Commitment is not even funded from the Government's own budget, this demonstrates a woeful lack of ambition.**

102. **We are pleased to see that CERT (EEC3) makes provision for the inclusion of microgeneration technology. However, the proposed size of CERT means that the amount of microgeneration it supports is likely to be small because suppliers expect to focus on cheaper ways of saving carbon dioxide. Therefore, once the existing programme of microgeneration grants has expired, the Government must not rely on this support mechanism alone until the market is sufficiently mature to stand alone without financial support. If the Government does go ahead with CERT as planned, and intends to use it as the sole support mechanism for microgeneration, then the level of CERT must be considerably bigger.** The barriers to progress and increasing uptake in terms of microgeneration are discussed in Section 4 (paragraphs 115–118).

Energy services

103. The idea that consumers are interested in the services energy provides (e.g. heating and lighting) rather than in the supply of energy itself has been recognised for a long time. It is an approach commonly used in businesses and other large organisations, but it has not taken hold in the household energy market. The Government has been considering the conditions under which energy companies might extend energy services to households for several years. As early as 2000, the DTI published a report on rationales for this which also

146 Ev 235

147 Ev 254–255

assessed some of the barriers.[148] During the Energy Review of 2005/06, Ministers began to highlight this potential. In a speech in June 2006, the then Trade and Industry Secretary Alistair Darling signalled the Government's intention to encourage energy services for households:

> [w]e are looking at how to create a shared incentive between consumers and energy suppliers to reduce energy use. We must look at how [energy suppliers] can change from just selling units of electricity to providing energy services—heating and lighting homes—making it their business to increase energy efficiency and cut demand.[149]

104. Whilst this vision has yet to be realised in the UK, it has already been implemented in some other countries. During its visit to California in March 2006, the Committee heard about a scheme whereby an electricity company would install more efficient refrigerators in small businesses, and charge the businesses for the goods over a period of time through their fuel bills. The size of the bills remained the same owing to the reduction in the quantity of energy being used, until the cost of the refrigerator had been paid back, at which point the bills would decrease to reflect the reduced energy demand and the business would own the energy-efficient refrigerator outright.

105. A number of witnesses told the Committee that they supported this vision. The Energy Saving Trust argued that "the long term goal we believe the Government should be working towards is a constraint on household carbon emissions. Ultimately, this may require incentivising energy suppliers to make energy demand reductions, as opposed to delivery of energy efficiency measures".[150] The Association for the Conservation of Energy (ACE) also takes the view that energy suppliers should ultimately become energy services companies (ESCOs), which provide "for each household levels of warmth and ability to power an agreed number of appliances". ACE argues that in the long term this approach will be more cost-effective for the companies, helping them to avoid expensive investments in increasing energy generation and supply by helping their customers to reduce demand, despite involving a significant change in working practices for energy companies:

> Unlike today, where a customer is just a number on a computer file, and the relationship purely transactional, energy services companies, to provide their services adequately, will have to know their customers, their lifestyles and the state of their property.[151]

106. The Chief Executive of EDF Energy told us that "we cannot afford to be just a provider of units and that a way to differentiate ourselves will be to embark our customers on this journey".[152] The Energy Retail Association was more cautious and noted that

148 D Macklon, *Energy Services in the UK Domestic Sector: Barriers to Development and Recommended Action Plan*, (Report for the DTI), 2000

149 Alistair Darling, Speech to the Fabian Society, 5 June 2006

150 Ev 3

151 Ev 235

152 Q 627

shifting energy suppliers towards an energy service model would be a "considerable challenge".[153]

107. Alan Simpson MP expressed concern that the current approach to the EEC is "fragmented, partial and short term […] Energy companies are not stepping in with offers to spread equipment installation costs over a 2–3 year period so that households can effectively make the repayments out of reductions in energy consumption".[154]

108. Currently the energy market is set up such that consumers can opt to terminate their contract with an energy supplier after 28 days. This system is likely to deter energy suppliers in making investments in customers' homes—for example, by installing solar thermal panels—as the consumer could opt to change provider with little notice. Ofgem is currently proposing to remove the "28 Day Rule" through the Supply Licence Review, with the aim of encouraging investment by the supplier in energy efficiency or microgeneration technology in the customer's home, in exchange for that customer's commitment to a fixed term contract.[155]

109. The Chief Executive of the Energy Saving Trust told the Committee that whilst a move to an energy services model was an attractive prospect, there was a "fundamental problem":

> Customers do not trust the suppliers. Why is that important? It is important because, for years and years and years, energy suppliers have been intent, very open, about the need to sell more energy to their consumers, and the consumers know this. What the energy services model seeks to do is to turn that on its head, effectively, and persuade the consumers of the product that the suppliers wish to sell them less. Given the distrust that exists between many consumers and the brands, that is going to be a very, very difficult thing to pursue.[156]

110. Following the publication of the Energy White Paper, in June 2007 Defra launched a formal Call for Evidence on options for an obligation on energy suppliers beyond 2011.[157] A leading option is to set up a new cap and trade scheme which will require suppliers to reduce the carbon emissions from energy they supply or the amount of actual energy they supply to consumers. Energy services is an established concept outside the UK (for example, in California) but has yet to be established fully in the UK's domestic energy market. As stated in the Energy White Paper, the Government envisages shifting the focus from energy supply to energy services after 2012.

111. **The Government must match ministerial rhetoric with tangible regulatory reforms that change incentives on suppliers. We commend the move to an energy services model beyond 2011, but the Government must make clear in its response what its intentions are to inspire consumer confidence in this model. Given the volume of**

153 Q 428

154 Ev 216

155 Department of Trade and Industry, *Meeting the Energy Challenge: A White Paper on Energy*, Cm 7124, May 2007

156 Q 10

157 Department for Environment, Food and Rural Affairs, *The Household Energy Supplier Obligation from 2011: A Call for Evidence*, June 2007

evidence we received discussing the 'credibility barrier' associated with the Energy Efficiency Commitment (EEC), it must be made crystal clear to consumers that this is something that they are paying for through their bills. We recommend that householders' contributions to the EEC are listed separately as part of the Government's move towards better billing.

Green tariffs

112. Green energy tariffs are available through which energy consumers pay their supplier for the provision of 'green' energy. However, there is some confusion as to what actually constitutes a 'green tariff'. According to energywatch (an independent gas and electricity watchdog), some suppliers may provide renewable electricity (a 'green' source), others may invest in renewable technologies (a 'green' fund), while yet others may offset the emissions from conventional fossil-fuel sources (carbon offset). According to Ofgem, 350,000 energy consumers (between 1 and 2% of the total) in Great Britain are signed up to a 'green tariff'.[158] energywatch believes this low level may be attributed to consumer confusion. Accordingly, it has now produced a guide to all the 'green tariffs' available, and details what they actually provide.[159] Ofgem is currently consulting on a rating system for green tariffs.[160] **We are concerned that the provision of 'green tariffs' by energy suppliers may not be as transparent or consistent as it could be. This could cause confusion and, at worst, result in a loss of consumer confidence in these products. The use of green tariffs could be an important step forward in the UK emissions reduction strategy, especially in those households where it is difficult to reduce emissions through energy efficiency measures. It is vital that Ofgem and bodies like energywatch investigate the plethora of tariffs which claim to be green and develop an independent assessment of those proposed in order to boost consumer understanding and confidence in reducing emissions via this approach. We look forward to the results of Ofgem's consultation on Developing Guidelines on Green Supply.**

4 Microgeneration

113. The Energy Act 2004 defines microgeneration as the small-scale production of heat and/or electricity from a low carbon source.[161] Examples of microgeneration technologies include solar power to generate either electricity (photovoltaics, also known as PV) or hot water (solar thermal), micro-wind turbines, ground source heat pumps, biomass, micro-combined heat and power (micro-CHP), micro-hydro, and small-scale fuel cells. The European Council has agreed a binding target for renewable energy of 20% of Europe's energy consumption by 2020.[162]

158 Ofgem, *One in five households choose an innovative energy deal,* Press Release, 4th July 2007

159 www.energywatch.org.uk/help_and_advice/green_tariffs/index.asp

160 Ofgem, *Developing Guidelines on Green Supply* Consultation - 137/07, June 2007

161 Energy Act 2004, section 82. Available at: www.opsi.gov.uk

162 HM Government, *Planning for a Sustainable Future: White Paper*, Cm 7120, May 2007

114. According to a study by the Energy Saving Trust, microgeneration could meet 30–40% of the UK's current electricity demand by 2050, with a resulting reduction in household carbon emissions of 15%.[163] However, current estimates suggest there are just over 100,000 microgeneration installations in the UK, the vast majority of which use solar thermal technology. In contrast, by 2004 Japan had installed 200,000 photovoltaic (PV) rooftop systems through its 'sunshine programme', and the German Government has introduced subsidies to help meet a target of 100,000 PV installations.[164] EDF Energy and Centrica were both enthusiastic about the prospects for microgeneration. Whilst some technologies are available now (for example solar PV, solar thermal and—very recently—micro-wind), others (particularly micro-CHP) are not.

Barriers to microgeneration

115. The Association for the Conservation of Energy argued that the two main barriers to increased uptake of microgeneration are cost and the spatial planning system. This view is supported by the Government's own Microgeneration Strategy (discussed further in paragraphs 119–121) which cites economic, regulatory, information and technical 'constraints' or barriers to microgeneration.[165] Research prepared for Defra shows that many consumers are put off by the up-front costs of microgeneration and energy saving measures.[166] ACE argued that to move the adoption of microgeneration beyond the preserve of the wealthy middle classes, "the costs must be brought down by economies of scale", and that Government could achieve this by setting binding targets through the Climate Change and Sustainable Energy Act 2006. It said that microgeneration is:

> […] the preserve of the Green, the early-adopter and the householder with enough money to spare. Ask an installer and they will tell you that a typical customer is a home-owner, educated to degree level, middle-class, middle-aged and with money in his or her pocket from a recent legacy.[167]

116. Dr Dave Reay told us that the main barriers to widespread uptake of microgeneration are:

> —cost: Photovoltaic systems are beyond the pocket of most homeowners, though solar water heating and wind turbines are becoming more affordable
>
> —planning confusion: planning restrictions on wind turbines and solar systems are often opaque

163 Ev 6

164 Department of Trade and Industry, *Our Energy Challenge: Power from the People: Microgeneration Strategy*, March 2006

165 Department of Trade and Industry, *Our Energy Challenge: Power from the People: Microgeneration Strategy*, March 2006

166 Oxera, *Policies for energy efficiency in the UK household sector* (Report for Defra) January 2006

167 Ev 236

> —grants confusion: there is confusion over what grants are available and where (Scotland vs. England, Wales and NI), how these are awarded, and what the 'pay-back' time is for different microgeneration systems.[168]

117. Dr Reay's analysis is supported by B&Q which argued that "planning permission and a lack of knowledge" are the main obstacles to uptake of microgeneration, and said that in some areas overall installation costs amount to £1,500. B&Q customers have reported that the process is:

> overly complicated and can take several months. Some of the wind turbines purchased during the recent campaign are now being returned with over 35% of returns being attributed to the difficulties associated with planning permission.[169]

118. Several well-known retailers have recently introduced the sale of microgeneration technologies such as domestic (or micro-) wind turbines and solar panels—both photovoltaics which generate electricity, and solar thermal to generate hot water. Some utility companies are now also getting involved: in June 2007 npower launched its 'one-stop-shop' for solar installations.[170]

Microgeneration Strategy

119. Following consultation during 2005, in March 2006 the Government launched its Microgeneration Strategy. The aim of the Strategy is to "create conditions under which microgeneration becomes a realistic alternative or supplementary energy generation source for the householder, for the community and for small businesses." The Microgeneration Strategy announced that the Government is working on changes to the planning system which will make it much easier for homeowners to install microgeneration equipment in existing houses. The aim of this work is to ensure that, as far as possible, homeowners will be able to install energy generating technologies such as solar panels, photovoltaic cells and domestic wind turbines without having to apply for planning permission.[171]

120. Alongside this, Ofgem has conducted its own consultation on regulatory barriers to microgeneration. Ofgem says that in developing policy it takes full account of microgeneration and that it is "working to ensure that there are no undue barriers to the development of microgeneration." It looks to suppliers, however, to "develop initiatives that will allow the market to develop without the need for regulatory intervention."[172]

121. However, doubts regarding the efficacy of the Strategy have been expressed. The Micropower Council expresses "extreme concern" that:

> six months after publication, [of the Microgeneration Strategy] Government has yet to set up the body to oversee implementation, has not set a budget for the work programme, and has only one civil servant […] working on the subject full time. […]

168 Ev 199

169 Ev 148

170 npower, Press Release *Brits still not switched onto solar energy*, 20 June 2007

171 Department of Trade and Industry, *The Energy Challenge: Energy Review Report 2006*, Cm 6887, July 2006

172 Ev 103

To launch a strategy, the bulk of which has a two-year implementation timetable, and then to take the best part of nine months even to set up a steering group to oversee that, indicates that there is a lack of commitment and a lack of priority, of resource being allocated to this in the DTI.[173]

Economic Incentives for Microgeneration

The Low Carbon Buildings Programme

122. The Low Carbon Buildings Programme (LCBP) provides grants to install microgeneration. Started in April 2006, it replaces the Clear Skies initiative and major photovoltaic (PV) demonstration programmes.[174] Initially it was allocated £28.5m over three years for households, community, public and commercial organisations. Households were allocated £6m of this funding. In the 2006 Budget, a second phase of the Programme was announced with a further £50m for public sector and charity microgeneration installations. The aim of this additional funding is to support larger numbers of installations and in turn bring costs down. The 2007 Budget further increased the funding available for the household 'stream' by reallocating £6m from the other stream).

123. Until April 2007, LCBP grants for householders were issued on a first come, first served basis until the monthly funding pot of £500,000 was fully allocated. Funding was made available at 9am on the first working day of the month. There was no waiting list for grants. If an application was rejected because monthly funds had been allocated for that month, applicants had to reapply. The monthly budget for December 2006 ran out on 20 December, the budget for January 2007 ran out on 12 January, the February 2007 budget lasted for 12 hours and the budget for March 2007 ran out in 75 minutes.[175] The scheme was then suspended by DTI in April 2007, following the increase in funds for householders from Budget 2007. The LCBP was eventually reinstated on 29 May 2007, with no monthly cap but with a cap on the maximum amount available per installation.[176] In response to a Parliamentary Question, the Government stated that over £6.4 million had been committed to household projects by 21 March 2007, when the scheme was suspended. Between its relaunch on 29 May 2007 and 10 July 2007, a further £624,316 has been committed to 629 household projects. The Government does not specify how much of this committed expenditure represents households which have subsequently 'dropped-out' of the scheme.[177] *The Committee would be grateful if the Government could provide precise actual monthly expenditure committed through the Low Carbon Buildings Programme since its relaunch in May 2007, including details of previously committed expenditure which will no longer be spent as a consequence of households 'dropping out' of the scheme.*

124. The then Minister of State, Ian Pearson MP, observed that:

173 Q 392 and Ev 151

174 Department of Trade and Industry, *Our Energy Challenge: Power from the People: Microgeneration Strategy*, March 2006

175 Metro, *Green Scheme's Funds Run Out in 75 Minutes*, 1 March 2007

176 HC Deb, 20 June 2007, col 1816W

177 HC Deb, 10 July 2007, col 1410W

> If as a matter of government policy you are trying to encourage uptake and there is that high level of demand already, is there additionality for government spending here or is this spending that would have taken place anyway? […][178]
>
> There is also an issue about finance and affordability and making it easier for people to buy or even rent microgeneration measures. I can see ways in which we can try and encourage the formation of either loans or low-cost finance, green finance packages, or maybe even find ways of encouraging companies, whether they be energy suppliers or others, to be able to say, "As part of my energy bill I can pay an extra £15 or £20 a week", or whatever it is, "and I can have a wind turbine fitted". I think that should be do-able.[179]

125. **We are concerned that householders will lose interest in the Low Carbon Buildings Programme, despite the additional £6m announced in Budget 2007. We remain to be convinced that the LCBP is the most appropriate support system. The Government should provide details of its intentions regarding the future of the programme once the current phase ends. We further recommend that the Government consider proposals for longer term alternatives to the current system, such as providing targeted grants for people on lower incomes and the use of tax incentives.** As we have already noted (paragraph 102), we are unconvinced that the current proposals for the Carbon Emissions Reduction Target (CERT) will serve this purpose.

Feed-in tariffs

126. As well as placing a duty upon the Secretary of State to report annually on the level of emissions of greenhouse gases in the United Kingdom and on the steps taken to reduce emissions, the Climate Change and Sustainable Energy Act 2006 places an obligation on energy suppliers to develop a scheme by October 2007 for paying for exports of electricity to the national grid, for example from domestic microgeneration.

Renewables Obligation

The Renewables Obligation (RO) was introduced by the Government in 2002 and defines the amount of electricity energy suppliers must provide from renewable sources of energy. The original target was 10.4% by 2010/11. The Energy White Paper confirms the Government's aim to double this to 20% by 2020.[180] Compliance with the RO is demonstrated by suppliers presenting Renewables Obligation Certificates (ROCs) to Ofgem or by paying into a 'buyout' fund. ROCs were issued to accredited generators for eligible renewable electricity generated within the UK and supplied to customers in Great Britain. They can be traded to allow electricity suppliers to meet their targets at the lowest cost.

178 Q 837

179 Qq 845–846

180 Department of Trade and Industry, *Meeting the Energy Challenge: A White Paper on Energy*, Cm 7124, May 2007

127. B&Q expressed concern about the "reluctance of energy suppliers" to engage in 'reverse selling', i.e. to offer a fair price for any electricity exported back to the grid by householders.[181] According to figures provided by Alan Simpson MP, there is currently a large degree of disparity between suppliers in terms of the price paid back to customers for any surplus energy they wish to sell back to the grid. Only npower currently buys energy back at the same price at which it sells it for. Ofgem said that it is "supporting and participating in a project under the auspices of the Electricity Networks Strategy Group" to address this issue, which, it says, is "one of the key pre-requisites for the greater penetration of microgeneration in the market". [182] Ofgem told us that "we have warned the companies that if they do not sort out selling back we will basically put on the regulatory hobnails and sort it out for them".[183] According to the Energy White Paper 2007 "All six major energy suppliers have now committed to publishing easily accessible export tariffs."[184] During our visit to Wales, Ian Draisey, Marketing Director at Dulas Ltd. told us that feed-in tariffs were needed to make renewable technologies commercially viable for large numbers of households. At present between 10 and 100 times the current number of customers wanted to install microgeneration technology but couldn't justify the cost.

128. During our visit to Germany we heard about the Renewable Energy Sources Act (Erneuerbare-Energien-Gesetz, or EEG), through which a premium "feed-in tariff" is paid to microgenerators for electricity generated from renewable energy sources. The level of premium depends on the year of installation, but once determined remains constant, and is guaranteed for 20 years. For example, photovoltaics generate between 38–54 €cents per kWh depending on their location. All the electricity generated is fed back into the grid, so the householder is paid for every kWh of renewable energy generated, and purchases all electricity used at a lower rate (approximately 18.6 €cents/kWh in 2005) from the energy supplier. The German Renewable Energy Act is funded through 3% of the price per kWh paid by the consumer to the electricity supplier—loosely equivalent to €1.55 per month (about £12 per year) for an average household consuming 3,500 kWh per year.[185] By comparison, the Renewables Obligation cost the average UK household £7.35 per year in 2006–07. Projections by Ofgem predict that this will increase to £11.41 by 2010–11 based on 2006 prices.[186] Although there is no public subsidy required for the German 'feed in tariff' system, this scheme is still paid for by electricity customers since the costs borne by energy suppliers are simply passed on—in 2005, the net cost to consumers was 2.3 billion Euros (approx £1.6bn).[187] According to German Government figures, the total emissions saved by renewables in Germany was 84 million tonnes of CO_2 in 2005.

181 Ev 148

182 The Electricity Networks Strategy Group (ENSG) is the United Kingdom Electricity Supply Industry focus group for network issues. The aim of the ENSG is "to identify, and co-ordinate work to address the technical, commercial, regulatory and other issues that affect the transition of electricity transmission and distribution networks to a low-carbon future".

183 Q 271 and Ev 103

184 Department of Trade and Industry, *Meeting the Energy Challenge: A White Paper on Energy*, Cm 7124, May 2007

185 German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, *Environmental Policy: Renewable energy sources in figures—national and international development*, May 2006

186 HC Deb, 17 July 2007, col 286W

187 German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, *Environmental Policy: Renewable energy sources in figures—national and international development,* May 2006

129. A clear majority of European Member States operate a feed-in tariff support system for renewable technologies, as opposed to the tradable certificate system such as the Renewables Obligation that operates in the UK. The German feed-in tariff structure has stimulated demand for microgeneration technologies to the extent that at least 170,000 jobs have been created (2005 figures), an increase of 10% on the previous year.[188] Germany is increasing its renewable energy output faster than expected, and in July 2007 announced that it has already met its 2010 indicative target to supply 12.5% of electricity from renewables.[189] During our visit to Germany we heard that the feed-in tariff system had been so successful in Denmark that it had already met its 2010 target for renewable energy generation. By comparison, renewables only contributed 4% to the UK's electricity supply in 2005, against a target of 10% by 2010.[190] According to data from Ofgem, only 57 of the 975 generators accredited to receive Renewables Obligation Certificates (ROCs) were small generators (below 50kW), and were accredited to individuals as opposed to businesses.[191]

130. The UK Government is committed to the Renewables Obligation, and ruled out fixing the price paid for renewable generation from its recent review of this policy.[192] Feed-in tariffs were not mentioned in the review's consultation document. However, the then Minister of State, Ian Pearson MP, observed that: "[t]he point about selling energy back into the grid and making it easier for people to be able to do that I think is a very important one, it has a symbolic importance as well as a financial one and we need to get this sorted out."[193] In May 2007, the Government conceded that the Renewables Obligation was "designed to support large scale deployment of renewables and we do not feel that it is the best way to deliver the incentives that the microgeneration industry require".[194]

131. **The current system of Renewable Obligation Certificates (ROCs) for individual householders is too unwieldy for microgeneration, and risks losing citizen engagement. We recommend the Government replace ROCs and export payments with a feed-in tariff with a single fixed rate per kWh, varying according to the type of generation.**

Planning and installation

132. The London Borough of Merton has introduced a requirement whereby all new non-residential developments are obliged to use onsite renewable sources of energy to reduce predicted carbon emissions by 10%. Since the introduction of the requirement, 33 wind turbines (of various types), three ground source heat pumps and two solar PV arrays have been or are being installed as part of five developments. Croydon Council has expanded

188 German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, *Environmental Policy: Renewable energy sources in figures—national and international development*, May 2006

189 ENDS Europe DAILY, *Germany hits EU renewables mark three years early*, Issue 2354, Thursday 5 July 2007

190 Department of Trade and Industry, *UK Energy in Brief*, July 2006

191 HC Deb, 27 March 2007, col 1467W

192 Department of Trade and Industry, *Renewable Energy: Reform of the Renewables Obligation and Statutory Consultation on the Renewables Obligation Order 2007*, October 2006

193 Q 854

194 Department of Trade and Industry, *Renewable Energy: Reform of the Renewables Obligation*, Consultation Document, May 2007

upon the 'Merton Rule' to include all developments—both new build and conversions—with a floor space of 1000m^2 or more than ten residential units.[195]

133. In terms of planning, ACE argued that there is a

> […] substantial gap between the varying high level policies of sustainability adopted by local authorities and the everyday decisions made by their planning departments and councillors [with regard to microgeneration] […] around 20 percent of householders give up the idea of installing solar when faced with the effort and cost of a planning application. This is despite one council giving applicants a grant to cover the cost of the application.[196]

134. ACE said that a recognised part of the problem is a "widespread lack of knowledge or experience in planning departments in handling the new technology of renewable energy or the subject of energy efficiency". It argues, however, that attempts to address this issue—in part supported by the regional bodies and local energy agencies—have "probably" been "inadequate and too patchy for the task".[197]

135. The Planning White Paper confirmed that the Government is working on changes to the planning system which will make it much easier for homeowners to install microgeneration equipment in existing houses. The aim of this work is to ensure that, as far as possible, homeowners will be able to install energy generating technologies such as solar panels, photovoltaic cells and domestic wind turbines without having to apply for planning permission. A consultation document to amend the General Permitted Development Order accordingly was published in April 2007.[198]

Distributed generation—local energy networks

136. Following the publication of last year's Energy Review, Ofgem and the DTI called for further evidence on the barriers to distributed energy.[199] Distributed energy systems are seen by many as desirable since they can help mitigate carbon emissions, reduce transmission losses and improve some dimensions of energy security (for example, through the reduction of fossil fuel imports). One of the issues that the DTI and Ofgem have consulted on is whether the rules for 'private networks' (such as that established in Woking) should be changed to encourage more distributed energy systems to develop.

137. In Southern Germany we saw examples of community-level biomass powered Combined Heat and Power plants, one constructed as part of a new development for 10,000 people and 2,500 work places at Scharnhauser Park near Stuttgart, the other in Mauenheim, a small established village outside Freiburg. Both were successful examples of community-level initiatives, both from financial and environmental perspectives.

195 Department of Trade and Industry, *Our Energy Challenge: Power from the People: Microgeneration Strategy*, March 2006

196 Ev 236

197 Ev 237

198 HM Government, *Planning for a Sustainable Future: White Paper*, Cm 7120, May 2007

199 Department of Trade and Industry and Ofgem, *Call for Evidence on Distributed Energy*, November 2006

138. Alan Simpson argued that the Government should remove the upper limit for energy generation within private wire networks to encourage development of city-wide or sub-regional sustainable energy networks. [200]

Community heating—Mauenheim

Mauenheim in Southern Germany is a small rural community of 100 buildings with just over 400 inhabitants. Previously the village had consumed some 300,000 litres of oil each year, costing some €200,000. It was decided to establish a local biogas Combined Heat and Power (CHP) plant, primarily in order to keep this money within the region. The CHP plant—which incorporates a solar PV array—generates over four times the electricity needed by the village, rendering Mauenheim a net exporter of electricity. The 'waste' heat generated provides over two thirds of buildings in the village, including the local hall and church, with around half their heat demand. Additional heating comes from a 1MW woodchip furnace when needed.

The CHP plant itself is operated by local farmers. However, the heating, local grid, heat transfer and photovoltaics are part of a community-owned initiative. Around €1.6m was invested, around a third of which came from local people investing a minimum of €2,500 each. The remainder from low interest loans. The investors now receive a 5% return on their capital investment, and all expenditure on the biomass and woodchip now stays in the local area. Residents of Mauenheim who haven't invested in the system simply pay for the heat and electricity they use, and benefit from the lower costs as the oil prices increase.

139. **There is a distinct lack of national focus on community level microgeneration with an over-emphasis on individual households, and we remain seriously concerned that renewable heat is still the 'poor relation' to renewable electricity, despite recommendations in our Report into The Role of Bioenergy and the work of the Biomass Task Force. The Government should initiate a study on barriers to progress to the widespread development of community-level Combined Heat and Power, and should look at financial instruments—including localised financial instruments—to encourage investment at community level. This should be published within six months. The Government must then work with the Local Government Association and Rural Development Agencies to move this type of agenda forward. As a start, the Government should lift the limit on the size of private wire networks to encourage more distributed energy.** We make further recommendations about financial incentives in paragraph 159.

200 Ev 219

5 Economic instruments and Personal Carbon Allowances

140. Carbon taxes and emissions trading are alternative ways of pricing carbon. Each provides a signal to companies and individuals that they should reduce their emissions. There are many differences between these two economic instruments. One key difference is that the level of a carbon tax (hence its impact on energy prices) can be controlled by the Government, whilst the price of emissions trading permits cannot. However, a properly designed emissions trading scheme guarantees the attainment of an emissions reduction target whereas a carbon tax policy does not.

141. In October 2006 RICS called on the Government to take tougher action on carbon emissions. Chief Executive Louis Armstrong said:

> The Government continues to fiddle while energy burns in our homes. It is time that it showed some backbone by introducing tough statutory measures to encourage industry and the consumer to make the necessary changes to reduce carbon emissions. The government must introduce fiscal incentives to encourage both the commercial and residential sectors to upgrade energy efficiency provision.[201]

Emissions trading

142. Emissions trading is a system whereby countries or companies are set a target for emissions of greenhouse gases. Participants are allocated 'allowances' of emissions proportionate to their target. These allowances can then be traded. Should a country or company emit more than its target, it must purchase the difference from another participant which has emitted less than its target.

Personal carbon allowances

143. In the design of a carbon trading scheme, there is a basic choice between a downstream scheme, in which energy users surrender allowances for their greenhouse gas emissions, and an upstream scheme, in which energy suppliers surrender allowances for the emission from the fuel they sell. The EU Emissions Trading Scheme is a downstream scheme confined to the largest emitters, while Personal Carbon Allowances (PCAs) represent a downstream scheme for all emitters, including households. An upstream scheme places a cap on carbon emissions from the whole economy, while most downstream schemes only cap the emissions of a subset of the economy. The PCA concept combines a downstream scheme within an economy-wide cap.

144. Personal carbon trading operates by dividing up an overall sustainable allocation of carbon emissions amongst the population so that individuals each have an equal share. Carbon credits—or Personal Carbon Allowances (PCAs)—would be issued at no cost to individuals who would then surrender them when purchasing energy. People using less

201 ePolitix.com, Morning Bulletin, 27 October 2006

than their share could sell their surplus to people or businesses using more than their allotted share via a market. The basic premise behind PCAs is that such a scheme would give individuals choice in relation to their energy consumption, but within a restricted budget which would curb unsustainable consumption.

145. In November 2006 Defra published its *Rough Guide to Individual Carbon Trading*, an initial scoping study prepared by the Centre for Sustainable Energy. The report by the argues that PCAs could be implemented within 5 years, and concluded that:

> At a theoretical level, individual carbon trading … is an attractively simple idea. By giving everyone a limited allowance to cause carbon dioxide emissions, total emissions from the population can be limited. Those who need or want to emit more than their allowance have to buy allowances from those who can emit less than their allowance.
>
> This 'cap-and-trade' system thereby has the potential to constrain in an economically efficient, fiscally progressive, and morally egalitarian manner the 40–50% of UK carbon dioxide emissions caused directly individuals. This is, of course, assuming both that the political system managing it can maintain and tighten the cap on total emissions and that the population has access to opportunities to curb their own emissions.[202]

146. One claimed advantage of a Personal Carbon Allowance scheme is that it makes people aware of their own carbon emissions. This increased awareness, it is argued, encourages behavioural change. EDF, however, expressed scepticism about the introduction of personal carbon allowances, and argued that there are "considerable practical, social and political barriers" to PCAs.[203]

147. Steve Sorrell from the Sussex Energy Group was not convinced by a straightforward PCA scheme, citing:

> …a combination of high administrative costs, negative interactions with the EU ETS and the political difficulties associated with carbon rationing [as being] likely to scupper the idea in the short-term.

However, he argued that most of the benefits of PCAs can be achieved through a hybrid scheme in which fossil fuel suppliers are responsible for the carbon content of fuel (petroleum, electricity or gas) sold to downstream consumers—including households—who are not participating in the EU Emissions Trading Scheme. The energy suppliers would surrender a carbon allowance for each tonne of carbon contained in the fuel sold to consumers. The price of the allowance would then be passed on in the price of the fuel. As such, the scheme would be akin to a carbon tax at the level of the downstream consumer, or individual. He argued that the hybrid 'upstream' option would be better as carbon limits are not so visible to consumers, thereby making it more politically acceptable than more

202 Department for Environment, Food and Rural Affairs, *A Rough Guide to Individual Carbon Trading*, (Report to Defra by Simon Roberts and Joshua Thumim, Centre for Sustainable Energy), November 2006

203 Ev 251

obvious 'carbon rationing' and would avoid "double counting" of some carbon emissions that are already covered by EU ETS.[204]

PCAs and equity

148. The report by the Tyndall Centre for Climate Change Research—co-authored by Richard Starkey—discussed the implementation of PCA schemes. It explored the possibility of using ID cards in the administration of such schemes, and raised the issues of civil liberties and the cost of IT systems in relation to personal carbon trading.

149. Richard Starkey argued that an equal per capita allocation of Personal Carbon Allowances is fair but Steve Sorrell expressed concern that allocating PCAs (or auction revenue from a hybrid scheme) on an equal per capita basis could place a disproportionate burden on the fuel poor. He argued that research by the Policy Studies Institute shows that "low income households vary widely in their energy consumption, owing largely to wide variations in the energy efficiency of housing".[205] The RSA Carbon*Limited* project envisages a PCA scheme operating by "dividing up an overall sustainable allocation of carbon equally amongst the population, so that we each have an equal share."[206]

150. In his speech to the Audit Commission in July 2006, the former Secretary of State, David Miliband, described PCAs as "a compelling thought experiment", and argued that they could be "more equitable" than a system of tax or regulation because:

> instead of tax increases which hit all consumers of products, personal carbon allowances provide free entitlements and only offer financial penalties for those who go above their entitlement. People on higher incomes tend to have higher carbon emissions due to higher car ownership and usage, air travel and tourism, and larger homes. People on low incomes are likely to benefit as they will be able to sell their excess allowances.[207]

"Carbon Calculators"

151. On 20 June 2007 the former Secretary of State launched the Government's online CO_2 calculator to allow people to determine their own carbon footprint resulting from energy use in the home, appliances and personal transport. The calculator then provides a "personalised action plan" providing advice on how to reduce emissions. The *Act on CO_2* calculator can be found at www.direct.gov.uk/actonCO2.[208] The Centre for Alternative Technology (CAT) has developed its own web-based carbon calculator, or 'Carbon Gym', which CAT staff demonstrated during the Committee's visit to Machynlleth in January 2007.[209]

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204 Ev 401

205 Ev 400

206 Royal Society for the encouragement of Arts, Manufactures and Commerce, *Eighty per cent of people say they could reduce their carbon footprint – YouGov research finds*, Press Release, 17 October 2006

207 Ev 350

208 Department for Environment, Food and Rural Affairs, *Miliband unveils CO_2 calculator*, News release 189/07, 20 June 2007

209 Centre for Alternative Technology, Carbon Gym: www.carbongym.co.uk

152. **Personal carbon allowances (PCAs) are an interesting 'theoretical exercise', but we remain sceptical about the practicalities of implementation. There are several substantial issues—not least regarding the avoidance of 'double-counting' and considerations of equity associated with such a scheme—which must be resolved before a system of PCAs could be implemented. As an interim measure, we recommend that voluntary personal 'indicative carbon budgets' be considered as a valid alternative to a more formalised system of Personal Carbon Allowances, thereby allowing individuals to exercise self-discipline. To this end, we commend the Government's 'Act on CO2' calculator, although note that this translates into a clear need for a comprehensive review of how people can gain an understanding of their emission profile, for example by providing information at the point of sale and the need for better billing, as discussed earlier.**

'Green taxation'

153. Green taxes are used to shift the burden of tax from 'goods' (e.g. employment) to 'bads' (e.g. pollution).[210] The Government's total revenue from 'green' taxes rose from £27.3bn in 1997 to £35bn in 2005.[211] The main contributors to this revenue in 2005 were duty on petrol and diesel (£23.3bn), vehicle excise duty (£4.8bn) and VAT on duties (£4.1bn). As Friends of the Earth pointed out, this means that the Government classified 7.7% of taxes as 'green' in 2005 (down from 9.4% in 1997).[212] The Environment Agency confirmed this point:

> the government has yet to establish that a switch in the balance of taxation towards green taxes is desirable. It is also the case that the burden of taxation has not shifted towards green taxes, despite government statements in 1997 and 2002.[213]

It is noteworthy that these forms of revenue have now become 'green taxes' against a background that when they were first introduced they were simply a way of the Government securing further revenue for the Treasury. The Carbon Trust drew a clear distinction between green taxes, which it sees as a measure intended to drive behavioural change rather than as a means of generating revenue.[214] It pointed out that where elasticity is low, a tax alone would be unlikely to prompt change.[215]

154. Alan Simpson MP was critical of emissions trading as a tool for reducing emissions and expressed a preference for carbon taxes.[216] The Institution of Civil Engineers (ICE) said that "a slow increase in taxes/penalties for high-carbon lifestyles would prove effective, while allowing people time to adjust and replace these high-emission choices",[217] although

210 HM Treasury, *Budget 2007*, HC 342, March 2007

211 Official annual figures for environmental tax revenue can be found in Office for National Statistics, *Environmental Accounts Autumn 2006*

212 Ev 386

213 Ev 327

214 Q 858

215 Q 886

216 Ev 220

217 Ev 126

RICS noted that "any development towards household or personal taxation based on carbon emissions would need to be introduced sensitively".[218] The Environment Agency, while conceding that "green taxes may not be the most appropriate instrument" in every situation, argued that:

> Fiscal instruments should be used to penalise behaviour that is environmentally damaging and reward that which is environmentally beneficial. By introducing inefficiency charges for products that are least energy efficient, the price will more accurately reflect the true environmental cost of that product.[219]

155. Both Friends of the Earth and the Carbon Trust have emphasised that green taxes should be part of a 'policy package'.[220] Friends of the Earth noted that:

> Green taxation has a key role to play in driving behavioural change, but the Government must use packages to ensure that overall this agenda is not, and is not perceived to be, about financial sacrifice or inconvenience, [221]

and called for "a series of policy packages so that the green option was the cheap and easy option, and not expensive and difficult as is so often the case at present. Increased green taxation, and the use of the revenues from that taxation, will be essential to make sure this happens."[222]

156. David Timms from Friends of the Earth observed that:

> We need to see the public won over by knowing that Government is doing something other than taxing them as a strategy for tackling climate change. […] environmental taxes on polluting activities have to rise in order to reduce the demand for these but Government will also be doing these things to help make it cheaper and easier for you to go green.[223]

Revenue recycling

157. The Micropower Council argued that there are a range of ways in which taxes could be modified to provide greater incentives for investment in microgeneration. These include Council Tax rebates, Stamp Duty rebates, capital allowances for individuals who make investments in microgeneration, tax allowances for installers and further tax allowances for landlords. One type of scheme that has been implemented in practice is based on a Council Tax rebate. Braintree District Council, in conjunction with British Gas, has introduced a scheme to provide consumers with a rebate of £100 in return for the installation of cavity wall insulation. This has resulted in the doubling of the installation of cavity wall insulation in the district.[224]

218 Ev 130

219 Ev 319

220 Ev 382, 384

221 Ev 386

222 Ev 387

223 Q 882

224 Ev 9

158. Friends of the Earth told us that the use of revenue from increased green taxes is "crucial for delivering effective outcomes", and notes that the Government itself has recognised that some or all of such revenues may be used to reinforce the effectiveness of the tax by strengthening incentive for positive impact or mitigating adverse impacts. Recycling revenue can also, it reports the Government as saying, increase the long term elasticity of taxpayers' response to a tax by facilitating the response to the tax. However it noted that apart from isolated examples such as the Climate Change Levy,[225] "there is little evidence that this approach has been adequately implemented". It continued

> [T]here are political reasons for delivering packages, rather than treating tax in isolation. There is a strong danger that "green taxation" will be stigmatised if it is perceived as simply "stealth taxation". Green taxation will be far more effective, and far more likely to be politically acceptable, if it is part of a policy package which makes clear how the revenues will be spent. £10 on Air Passenger Duty can easily be targeted as "a tax on our holidays", but if that revenue is recycled back to people via, for example increased grants for people to install energy efficiency measures in their homes, this is altogether more attractive. 2006 MORI polling showed that 60% of people support increased taxes on air travel for environmental reasons, this increased to 73% if the money raised were spent on improving the environment.[226]

159. **The Government must do much more work to improve the credibility of green taxation as part of its overall set of policies designed to deal with climate change. Green taxes should be developed to stimulate behavioural change but in such a way that revenue derived via this route is seen to be being used to fund further carbon dioxide emission reduction strategies. The Government should consider, for example, increasing taxation on poorly performing electronic goods, the revenue from which could go into a fund from which individuals and community groups could bid for support for emissions reduction projects. The Government should encourage uptake of 'green' ISAs—which invest solely in community-based emissions reduction projects and technologies—by increasing individuals' tax-free entitlement if they invest in them. 'Green' taxes must absolutely not be simply a means of revenue raising in a green wrapper to increase palatability, as this will ultimately devalue the perception of genuine green taxes.**

6 The Role of Central Government and the Government Estate

160. What the Government does on its own estate to reduce CO_2 emissions can help to set the agenda for individual action in this field. In June 2006 the Government announced its "aspirational" target to reduce carbon emissions from its office–based estate by 30 per cent

225 The Climate Change Levy is a UK measure which imposes a tax on the use of energy by businesses. The revenue generated by the levy is recycled back to business through reduced National Insurance Contributions. Renewable energy and combined heat and power are exempt from the levy.

226 Ev 386

by 2020, and pledged that the Government office estate would go carbon neutral by 2012, saving approximately 2.9 million tonnes of CO_2.[227] However, findings by the Sustainable Development Commission (SDC) revealed that, despite overall emissions falling by 0.5% since 1999–2000, emissions from many departments, including Defra, have increased. The report also highlights that 14 departments are less energy efficient now than in 1999–2000, and that while much of the electricity procured by Government departments is from renewable sources, the departments have failed to ascertain to what extent additional renewable energy over and above that already required thorough the Renewables Obligation is being generated as a result of Government procurement. The SDC notes that "there remains a great deal to be done to meet the 12.5% reduction by 2010/11 [and] self-generated electricity […] currently accounts for only 0.0004% of the electricity provision."[228] The former Minister of State (Climate Change and Environment), Ian Pearson MP, conceded that, in terms of the Government Office Estate, "performance overall is not as good as it should be and we do need to up our game".[229]

161. Several witnesses, including the Royal Institute for Chartered Surveyors (RICS) and the Environment Agency, told us that the Government should set an example through its own activities.[230] Similarly, CRed argues that a policy of informing individuals about climate change and engaging them in efforts to tackle it "will only be effective" if everyone sees that Government itself is committed to such efforts.[231]

162. The Association for the Conservation of Energy (ACE) called on the Government to encourage the uptake of domestic emission reduction measures by implementing and extending the scope of Article 7 of the EU Directive on the Energy Performance of buildings. Article 7 requires all public buildings over 1,000 square metres to display an energy performance certificate. ACE's view was that all buildings visited by the public (for example banks and supermarkets, rather than just publicly owned buildings) should display certificates in order to both raise awareness and act as an exemplar to the community.[232]

163. **There is an important role for public buildings and public investment in leading the way by example, but very little evidence of this taking place. We observe that Parliament has an important role to play as an exemplar, and that more needs to be done to improve its environmental performance. However, we remain unimpressed by the Government's poor record regarding its own buildings. It is failing to set a good example, and missing a valuable opportunity to demonstrate the financial and environmental savings that can be made. The Government must be a 'guiding light' which individuals can follow, and if the Government is to be an exemplar for citizens, then Defra should set the example for the rest of Government. Accordingly, the**

227 Department for Environment, Food and Rural Affairs, *Government signals a step-change on environmentally sustainable behaviour*, News Release 258/06, 12 June 2006

228 Sustainable Development Commission, *Sustainable Development in Government: Fifth Annual Report 2006*, February 2007

229 Q 788

230 Ev 127–128, 320

231 Ev 302

232 Ev 238

Secretary of State should be set binding targets and if these targets are missed for two consecutive years, the Secretary of State should report to Parliament the reasons why. The Government should reinforce guidance on energy performance standards for public buildings and make it easier for investment to be made in local energy generation/networks. The UK Government must set an example, showing other developed and developing nations that implementation of energy efficiency measures is not detrimental to economic growth.

Conclusions and recommendations

Information and awareness raising

Stimulating behavioural change

1. Raising awareness and citizen involvement at a domestic level is fundamental to tackling climate change. However, we remain unconvinced that all that needs to be done to maximise this is actually being done. We are concerned that the Government is giving out mixed messages and continues to display a fundamental lack of joined-up thinking. It is clear that so far efforts to alert the public to the dangers of climate change, and the need for personal behavioural change to deal with it, have met with mixed results. More needs to be done to achieve greater co-ordination of publicly funded messages and strategies to deal with the problem so that people are not left feeling that they cannot make a difference. We call upon the Government to review its efforts in this area and publish—within six months—details of its proposals for a more effective public communication strategy in this area. (Paragraph 18)

Energy Saving Trust

2. Given the urgency the Government purports to place on tackling the threat of climate change, we recommend that the Government ensures that the Energy Saving Trust does not suffer the consequences of any tightening or reprioritising of the Departmental budget, as the cut in funding in 2006–07 suggests it did. (Paragraph 20)

3. In its response the Government and Energy Saving Trust must provide details of the future of the Sustainable Energy Network pilot and if so, whether the intention is to roll this out more widely and over what timescale. Furthermore, the Energy Saving Trust should provide details as to how the 50% figure for overall carbon savings was determined, as we are concerned that tools to calculate domestic emissions are still at a very early stage of development. (Paragraph 22)

4. We recommend that additional Government funding is made available to the Energy Saving Trust specifically to tackle greenhouse gas emissions from personal transport. We recommend that the Department for Transport (DfT) recognise its responsibility to ensure that the EST has appropriate funding to pursue its transport emissions reduction programme. The DfT should now confirm what steps it will take to tackle this problem. (Paragraph 23)

Pledge schemes

5. Pledge schemes clearly have a role to play in raising awareness about climate change and what individuals can do to address this problem. However, there is a plethora of such schemes with a multiplicity of messages. This degree of multiplicity may result in confusion, particularly as schemes are often couched in different terms—some to save tonnes of carbon dioxide, others to reduce your carbon footprint, and others to

'save your 20%'. We are also concerned by the lack of appropriate monitoring of these pledge schemes. Whilst there is some evidence that information and awareness translates into action, it is difficult to be sure how far this impact goes. We recommend that Defra invite the promoters of pledge schemes to attend a seminar designed to address these problems and improve the quality, effectiveness, objectivity and performance of such schemes. Monitoring of impacts must also be co-ordinated. (Paragraph 31)

The role of Local Government

6. Although there is a lot of ad hoc activity, there is no concerted central Government strategy to help local authorities to develop local greenhouse gas reduction programmes. Furthermore, it appears to us that community and local government initiatives are often taking place in spite of, rather than because of, Government activity. The Government must take visible steps to remove barriers to encourage local authorities to be more proactive in this area. It should publish before the end of 2007 its proposals to achieve this objective. (Paragraph 40)

7. Funding and activity clearly needs to be coordinated at a regional level between local authorities, Regional Development Agencies, and the Energy Saving Trust's Energy Efficiency Advice Centres and Sustainable Energy Networks, amongst others, to ensure that everyone has regional access to credible and independent advice, whilst avoiding unnecessary duplication of effort. The Government must make clear in its response how it proposes to do this. (Paragraph 40)

Household energy efficiency

New build—the Code for Sustainable Homes

8. The Government must set out a clear timeline delineating the proportion of all new housing stock which will be built as 'zero carbon' homes on a year by year basis. We further recommend that the 2016 Zero Carbon Homes Taskforce incorporates within its terms of reference the intention to report on steps to be taken to achieve 'zero carbon' homes as soon as possible. (Paragraph 52)

9. The Government must not only require all new houses to be built to a 'zero carbon' standard well before 2016, but must ensure that existing regulations are rigorously enforced. (Paragraph 53)

Existing housing stock

10. Where energy efficiency measures in existing homes are simply impractical or too expensive, an alternative approach is to include the incorporation of renewable electricity and/or heat technologies. This could either be within individual dwellings (e.g. solar water heating) or to supply groups of properties or a community (e.g. solar photovoltaic and wind generation; combined heat and power). The German programme to refurbish all pre-1978 housing stock such that they attain contemporary energy standards has much to commend it. The Government should evaluate the application of such a programme to UK circumstances, with particular emphasis on instances where older properties are substantially improved or

extended. Planning permission should not be granted where the proposed modifications will increase the carbon footprint of the building. (Paragraph 59)

11. We recommend that the Government provide a stamp duty rebate to home-purchasers who improve the energy performance of their property within one year of purchase. (Paragraph 65)

Tenanted properties

12. Meaningful information regarding the thermal properties of these buildings, as well as the energy ratings of heating systems and appliances, must be made available to incoming tenants. Energy Performance Certificates for rented properties should be introduced as soon as possible, ideally before 2009. (Paragraph 69)

Product standards

13. We appreciate that "the end of standby" cannot be achieved unilaterally, but the Government must make every effort to drive forward improved product standards and eliminate the appalling waste of energy caused by leaving equipment on standby. It must make clear the efforts being made in international negotiations to achieve the "end of standby", and provide an indicative timetable detailing when it anticipates agreement is likely to be reached. As an interim measure the Government should initiate voluntary agreements with manufacturers on improving product standards. As a bare minimum they should include the energy labelling of consumer electronics—as is already in existence for "white goods" such as refrigerators—within the next twelve months. (Paragraph 73)

14. We recommend that the Government give serious consideration to taxing energy inefficient consumer electronics and lighting in order to reflect the wider environmental impact of choosing and owning poorer performing products. Revenue raised could then be used to offset financial incentives established to encourage environmentally beneficial behaviour. Any tax increase must, however, be combined with the provision of better information on the availability, environmental and cost benefits of energy efficient alternatives. (Paragraph 81)

Smart metering, information displays and better billing

15. We are disappointed by the recent provision in the Energy White Paper to provide householders with real-time displays on request from 2008. Real-time displays are not smart meters. This is a wasted opportunity and displays a sorry lack of ambition. At the very least, all displays issued must be 'future-proofed' to facilitate upgrading to two-way communication between meter, consumer and supplier, and to provide time-of-day pricing. As an interim measure, better billing must be in place within the next 12 months. This must incorporate not only energy consumption in kWh, but how this relates to cost, carbon dioxide emissions, and with individual historical usage to help consumers make informed decisions about energy use reduction and efficiency savings. (Paragraph 89)

The Energy Efficiency Commitment (EEC)

16. We are concerned by the apparent poverty of Government ambition for the Energy Efficiency Commitment (EEC; now the Carbon Emissions Reduction Target, or CERT), which compares poorly with the ambition of the emission reduction targets outlined in the draft Climate Change Bill. The existing targets are so undemanding that suppliers had already met 93% of the target for EEC2 (2005–08) by the end of the second year. Given that the Energy Efficiency Commitment is not even funded from the Government's own budget, this demonstrates a woeful lack of ambition. (Paragraph 101)

17. We are pleased to see that CERT (EEC3) makes provision for the inclusion of microgeneration technology. However, the proposed size of CERT means that the amount of microgeneration it supports is likely to be small because suppliers expect to focus on cheaper ways of saving carbon dioxide. Therefore, once the existing programme of microgeneration grants has expired, the Government must not rely on this support mechanism alone until the market is sufficiently mature to stand alone without financial support. If the Government does go ahead with CERT as planned, and intends to use it as the sole support mechanism for microgeneration, then the level of CERT must be considerably bigger. (Paragraph 102)

18. The Government must match ministerial rhetoric with tangible regulatory reforms that change incentives on suppliers. We commend the move to an energy services model beyond 2011, but the Government must make clear in its response what its intentions are to inspire consumer confidence in this model. Given the volume of evidence we received discussing the 'credibility barrier' associated with the Energy Efficiency Commitment (EEC), it must be made crystal clear to consumers that this is something that they are paying for through their bills. We recommend that householders' contributions to the EEC are listed separately as part of the Government's move towards better billing. (Paragraph 111)

Green tariffs

19. We are concerned that the provision of 'green tariffs' by energy suppliers may not be as transparent or consistent as it could be. This could cause confusion and, at worst, result in a loss of consumer confidence in these products. The use of green tariffs could be an important step forward in the UK emissions reduction strategy, especially in those households where it is difficult to reduce emissions through energy efficiency measures. It is vital that Ofgem and bodies like energywatch investigate the plethora of tariffs which claim to be green and develop an independent assessment of those proposed in order to boost consumer understanding and confidence in reducing emissions via this approach. We look forward to the results of Ofgem's consultation on Developing Guidelines on Green Supply. (Paragraph 112)

Microgeneration

The Low Carbon Buildings Programme

20. We are concerned that householders will lose interest in the Low Carbon Buildings Programme, despite the additional £6m announced in Budget 2007. We remain to be convinced that the LCBP is the most appropriate support system. The Government should provide details of its intentions regarding the future of the programme once the current phase ends. We further recommend that the Government consider proposals for longer term alternatives to the current system, such as providing targeted grants for people on lower incomes and the use of tax incentives. (Paragraph 125)

Feed-in tariffs

21. The current system of Renewable Obligation Certificates (ROCs) for individual householders is too unwieldy for microgeneration, and risks losing citizen engagement. We recommend the Government replace ROCs and export payments with a feed-in tariff with a single fixed rate per kWh, varying according to the type of generation. (Paragraph 131)

Distributed generation—local energy networks

22. There is a distinct lack of national focus on community level microgeneration with an over-emphasis on individual households, and we remain seriously concerned that renewable heat is still the 'poor relation' to renewable electricity, despite recommendations in our Report into The Role of Bioenergy and the work of the Biomass Task Force. The Government should initiate a study on barriers to progress to the widespread development of community-level Combined Heat and Power, and should look at financial instruments—including localised financial instruments—to encourage investment at community level. This should be published within six months. The Government must then work with the Local Government Association and Rural Development Agencies to move this type of agenda forward. As a start, the Government should lift the limit on the size of private wire networks to encourage more distributed energy. (Paragraph 139)

Personal Carbon Allowances

23. Personal carbon allowances (PCAs) are an interesting 'theoretical exercise', but we remain sceptical about the practicalities of implementation. There are several substantial issues—not least regarding the avoidance of 'double-counting' and considerations of equity associated with such a scheme—which must be resolved before a system of PCAs could be implemented. As an interim measure, we recommend that voluntary personal 'indicative carbon budgets' be considered as a valid alternative to a more formalised system of Personal Carbon Allowances, thereby allowing individuals to exercise self-discipline. To this end, we commend the Government's 'Act on CO2' calculator, although note that this translates into a clear need for a comprehensive review of how people can gain an understanding of their

emission profile, for example by providing information at the point of sale and the need for better billing, as discussed earlier. (Paragraph 152)

Green taxation

24. The Government must do much more work to improve the credibility of green taxation as part of its overall set of policies designed to deal with climate change. Green taxes should be developed to stimulate behavioural change but in such a way that revenue derived via this route is seen to be being used to fund further carbon dioxide emission reduction strategies. The Government should consider, for example, increasing taxation on poorly performing electronic goods, the revenue from which could go into a fund from which individuals and community groups could bid for support for emissions reduction projects. The Government should encourage uptake of 'green' ISAs—which invest solely in community-based emissions reduction projects and technologies—by increasing individuals' tax-free entitlement if they invest in them. 'Green' taxes must absolutely not be simply a means of revenue raising in a green wrapper to increase palatability, as this will ultimately devalue the perception of genuine green taxes. (Paragraph 159)

The role of Central Government and the Government Estate

25. There is an important role for public buildings and public investment in leading the way by example, but very little evidence of this taking place. We observe that Parliament has an important role to play as an exemplar, and that more needs to be done to improve its environmental performance. However, we remain unimpressed by the Government's poor record regarding its own buildings. It is failing to set a good example, and missing a valuable opportunity to demonstrate the financial and environmental savings that can be made. The Government must be a 'guiding light' which individuals can follow, and if the Government is to be an exemplar for citizens, then Defra should set the example for the rest of Government. Accordingly, the Secretary of State should be set binding targets and if these targets are missed for two consecutive years, the Secretary of State should report to Parliament the reasons why. The Government should reinforce guidance on energy performance standards for public buildings and make it easier for investment to be made in local energy generation/networks. The UK Government must set an example, showing other developed and developing nations that implementation of energy efficiency measures is not detrimental to economic growth. (Paragraph 163)

Formal minutes

Monday 23 July 2007

Members present:

Mr Michael Jack, in the Chair

Mr Geoffrey Cox	Mr Dan Rogerson
Mr David Drew	Sir Peter Soulsby
Mr James Gray	David Taylor
Lynne Jones	

Draft Report (*Climate change: the "citizen's agenda"*), proposed by the Chairman, brought up and read.

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

Paragraphs 1 to 163 read and agreed to.

Summary agreed to.

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

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

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No.134.

Several papers were ordered to be appended to the Minutes of Evidence.

Ordered, That the Appendices to the Minutes of Evidence taken before the Committee be reported to the House.

Several papers were ordered to be reported to the House.

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[Adjourned till Wednesday 10 October at a quarter-past Four o'clock.

Witnesses

Wednesday 24 January 2007

Wednesday 31 January 2007

Wednesday 7 March 2007

Wednesday 9 May 2007

List of written evidence

The following memoranda were received as part of the Committee's outreach programme following an advertising campaign inviting individuals to give oral evidence on 31 January 2007, at the University of East Anglia, Norwich.

Dr Laurence Matthews	Evs 277, 285
North Norfolk Environment Forum	Ev 523
Dr Rupert Read	Ev 507
Mr John Riley	Ev 276
Mr Andrew J Robertson	Ev 522
Mr Alex Ross	Ev 520
Mr Andy Ross	Ev 512
Dr Lorraine Whitmarsh	Ev 518

List of unprinted written evidence

Additional papers have been received from the following and have been reported to the House but to save printing costs they have not been printed. Copies have been placed in the House of Commons Library where they may be inspected by Members. Other copies are in the Parliamentary Archives, Houses of Parliament and are available to the public for inspection. Requests for inspection should be addressed to the Parliamentary Archives, Houses of Parliament, London SW1A 0PW. (Tel 020 7219 3074, Fax 020 7219 2570, archives@parliament.uk). Hours of inspection are from 9:30am to 5:00pm on Mondays to Fridays.

Cit 15a Centre for Sustainable Energy: Annex 1: *Local & Regional Action to Cut Carbon*

Cit 15a Centre for Sustainable Energy: Annex 2: *Making energy advice part of EEC3*

Cit 23a Royal Society of Arts: Background paper: *YouGov research note*

Cit 23b Royal Society of Arts: Annex B: *YouGov results*

Cit 37 Greenpeace: *What are we waiting for? (DVD)*

Cit 43 Dr Jillian Anable: Annex: *An evidence based review of public attitudes to climate change and transport behaviour—Report summary*

Cit 44 Alan Simpson: Annex: *Lacemakers House Green Products Guide*

Cit 45 BEAMA: Background paper: *Smart meters in practice*

Cit 46 TEHVA: Background paper: *Low Carbon heating solutions*

Cit 46 TEHVA: Background paper: *The sustainability link between electric heating and de-carbonised generation*

Cit 49 Cambrensis: Background paper: *Communicating Climate Change*

CRED 01a Jon Cape: Background paper: *Fife Energy Co-operative*

CRED 01a Jon Cape: Background paper: *Renew co-operative energy services*

CRED 10 Andy Ross: Background paper: *Carbon Rationing Action Groups*

CRED 28 North Norfolk Environment Forum: *Background paper: The Energy Review Questions*

Reports from the Committee since 2003

(Government Reponses to Committee Reports appear in brackets)

Session 2006–07		
Seventh Report	British Waterways	HC 345-I
Sixth Report	The Implementation of the Environmental Liability Directive	HC 694
Fifth Report	Draft Climate Change Bill	HC 534-I
Fourth Report	The UK Government's "Vision for the Common Agricultural Policy"	HC 546-I
Third Report	The Rural Payments Agency and the implementation of the Single Payment Scheme	HC 107-I (HC 956)
Second Report	Defra's Annual Report 2006 and Defra's budget	HC 132 (HC 522)
First Report	The work of the Committee in 2005–06	HC 213
Session 2005–06		
Eighth Report	Climate change: the role of bioenergy	HC 965-I (HC 131 06–07)
Seventh Report	The Environment Agency	HC 780-I (HC 1519)
Sixth Report	Bovine TB: badger culling	HC 905-I
Fifth Report	Rural Payments Agency: interim report	HC 840
Fourth Report	The Departmental Annual Report 2005	HC 693-I (HC 966)
Third Report	The Animal Welfare Bill	HC 683
Second Report	Reform of the EU Sugar Regime	HC 585-I (HC 927)
First Report	The future for UK fishing: Government Response	HC 532
Session 2004–05		
Ninth Report	Climate Change: looking forward	HC 130-I (HC 533 05–06)
Eighth Report	Progress on the use of pesticides: the Voluntary Initiative	HC 258 (HC 534 05–06)
Seventh Report	Food information	HC 469 (HC 437 05–06)
Sixth Report	The future of UK fishing	HC 122 (HC 532 05–06)
Fifth Report	The Government's Rural Strategy and the draft Natural Environment and Rural Communities Bill	HC 408-I (Cm 6574)
Fourth Report	Waste policy and the Landfill Directive	HC 102 (Cm 6618)
Third Report	The Work of the Committee in 2004	HC 281
Second Report	Dismantling Defunct Ships in the UK: Government Reply	HC 257
First Report	The draft Animal Welfare Bill	HC 52-I (HC 385)
Session 2003–04		
Nineteenth Report	Water Pricing: follow-up	HC 1186 (HC 490 04–05)
Eighteenth Report	Dismantling of Defunct Ships in the UK	HC 834 (HC 257 04–05)
Seventeenth Report	Agriculture and EU Enlargement	HC 421 (HC 221 04–05)
Sixteenth Report	Climate Change, Water Security and Flooding	HC 558 (HC 101 04–05)
Fifteenth Report	The Departmental Annual Report 2004	HC 707 (HC 100 04–05)
Fourteenth Report	Sites of Special Scientific Interest	HC 475 (HC 1255)
Thirteenth Report	Bovine TB	HC 638 (HC 1130)

Twelfth Report	Reform of the Sugar Regime	HC 550-I (HC 1129)
Eleventh Report	GM Planting Regime	HC 607 (HC 1128)
Tenth Report	Marine Environment: Government reply	HC 706
Ninth Report	Milk Pricing in the United Kingdom	HC 335 (HC 1036)
Eighth Report	Gangmasters (follow up)	HC 455 (HC 1035)
Seventh Report	Implementation of CAP Reform in the UK	HC 226-I (HC 916)
Sixth Report	Marine Environment	HC 76 (HC 706)
Fifth Report	The Food Standards Agency and Shellfish	HC 248 (HC 601)
Fourth Report	Environmental Directives	HC 103 (HC 557)
Third Report	Caught in the net: Cetacean by-catch of dolphins and porpoises off the UK coast	HC 88 (HC 540)
Second Report	Annual Report of the Committee 2003	HC 225
First Report	Water Pricing	HC 121 (HC 420)