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The Energy Efficiency Commitment April 2008 to March 2011

Initial Consultation

July 2006

Department for Environment Food and Rural Affairs

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Contents

EXECUTIVE SUMMARY

1. The purpose of this consultation is for the Government to solicit early views on the shape of EEC3 to inform its thinking in advance of the statutory consultation in 2007. The Government believes that this consultation can contribute to efforts to try and ensure a smooth transition to the 2008-11 period and stimulate a constructive discussion about the Priority Group as well as the role of trading

Section 1 – Introduction

2. This describes the EEC and the process that the Government will follow from the Initial Consultation in July 2006, through publication in September 2006 of Defra's illustrative mix of measures that are expected to form the basis of the EEC3 target and issue of the statutory consultation in spring 2007.

Section 2 – Carbon emissions reduction obligation

3. The implications of commencing provisions in the Climate Change and Sustainable Energy Act 2006 that enable the Secretary of State to set a carbon emissions reduction target instead of the current energy efficiency target are considered. In addition to the energy efficiency measures promoted under the current EEC, this would allow the Secretary of State to include, by order, microgeneration measures and measures (other than energy efficiency) for reducing the consumption of supplied energy, for example behavioural measures.

4. The Government wishes to support and encourage *innovation and flexibility* in approaches to carbon abatement in the household sector and have considered how it might be possible to include in the EEC innovative measures for which robust agreed energy saving scores are not yet available.

5. In view of the potential move to a carbon emission reductions target, views are invited on whether to denominate the EEC target and scores for individual measures on the basis of the current methodology, or whether it would be possible to develop that methodology to express the target and scores more explicitly in terms of carbon.

Section 3 – Transition to 2008-11

6. The Government recognises that smooth transition between phases of the EEC is key to ensure sustained and increasing levels of energy efficiency activity and effective delivery of higher targets, and stakeholders want early clarity on the transitional arrangements between EEC2 and EEC3

7. The document seeks views on an option to provide early clarity to stakeholders on the expected scores for measures under EEC3: for Defra to finalise and publish the scores for EEC measures, on which the overall target will be based, by the end of 2006

Section 4 – Equity issues

8. The primary objective of the EEC is to contribute to the reduction of carbon emissions in the household sector. While EEC does not have a specific fuel poverty objective, consideration is given to the share of EEC3 energy savings that could be directed to the priority group.

9. The document considers, and seeks view on, the implications of directing differing levels of activity to the priority group and of the possibility of introducing a new mechanism within the EEC framework that could exempt suppliers from fulfilling part of their target in the priority group if they could satisfy certain criteria and pay a prescribed sum of money to a relevant third party to undertake energy efficiency measures.

Section 5 – Opportunities for Trading

10. The 2004 Energy Efficiency Action Plan promised that, in conjunction with the review of the EEC3 target, we would explore with all interested parties the opportunities for trading of the energy/carbon savings achieved.

11. The Energy Review announced that some form of supplier obligation would continue until at least 2020. The Government is considering whether, from 2011, this obligation could change from the current measures-based approach to one with tradable targets defined in terms of absolute carbon or energy demand.

12. The Initial Consultation reports the findings of the exploration into opportunities for trading EEC energy/carbon savings and invites views on the issues discussed.

13. The deadline for responses to this consultation paper is Monday 23 October 2006.

Chapter 1

Introduction

Purpose

1.1 The Government is eager to solicit early views on the shape of EEC3 to inform its thinking in advance of the statutory consultation in 2007. While we have not previously held a consultation at this point in the EEC cycle, we believe that the successful passage of the Climate Change and Sustainable Energy Act presents some new opportunities that it is important to get external stakeholders views on. We also believe that this consultation can contribute to efforts to try and ensure a smooth transition to the 2008-11 period and stimulate a constructive discussion about the Priority Group as well as the role of trading. We therefore encourage interested parties to share their views with us on these issues in the coming months.

1.2 The remainder of this chapter sets out the broader context and goes into more detail on the process. Chapter 2 focused on the implementation of the Climate Change and Sustainable Energy Act, the scope for introducing greater flexibility into EEC as a stepping stone to the post-2011 framework, and how targets should be denominated. Chapters 3 , 4 and 5 consider the issues of transition to EEC3, equity and the Priority Group, and trading respectively.

Context

1.3 Energy efficiency is at the very heart of the Government's energy and climate change policy – as set out in the *2003 Energy White Paper*[1] and confirmed in the *2006 Energy Review*[2]. The Energy Efficiency Commitment (EEC) is one of the flagships in the Government's instruments to improve energy efficiency in the household sector and a key part of the UK's Climate Change Programme. The EEC imposes a statutory obligation upon electricity and gas suppliers to meet a target for the promotion of improvements in energy efficiency among household consumers in Great Britain. Suppliers encourage and assist household consumers to make energy savings - through the promotion of measures such as cavity wall and loft insulation, and energy efficient light bulbs, boilers and appliances. The current EEC, which runs from April 2005 to March 2008, also encourages suppliers to innovate by providing an incentive for innovative action. There is also an incentive for energy services.

1.4 The aim of the EEC is to help electricity and gas consumers in the household sector to use less energy. In doing so, the primary aim is to make a

[1] Our energy future – creating a low carbon economy. Cm 5761. February 2003
[2] The Energy Challenge – Energy Review Report. Cm 6887. July 2006

significant contribution to the UK's climate change objectives. The EEC has also had a range of social benefits, including a general improvement in the energy efficiency of our housing stock and supporting Local Authority objectives under the Home Energy Conservation Act 1995 and Decent Homes. The EEC does not have a specific fuel poverty objective, but for reasons of equity it does currently require suppliers to direct 50% of energy savings towards a priority group of low-income customers. As low income customers are often among those most at risk of fuel poverty, assistance provided through EEC does also help to alleviate fuel poverty.

1.5 The Office of Gas and Electricity Markets (Ofgem) is responsible for overseeing the delivery of the EEC by monitoring suppliers' progress towards meeting their energy saving targets, assessing, approving and monitoring suppliers' EEC activities. Suppliers can undertake any measures to meet their commitments provided they can demonstrate to Ofgem's satisfaction that they result in a quantifiable improvement in energy efficiency.

1.6 The EEC targets have been set in three year phases: 2002-2005, 2005 – 2008 and plans for 2008-2011. In this document:

EEC 2002-05 is referred to as EEC1
EEC 2005-08 is referred to as EEC2
EEC 2008-11 is referred to as EEC3.

1.7 The EEC has been highly effective. Under EEC1 all obligated energy suppliers successfully met their legal targets delivering an expected 0.37 MtC per annum in 2010[3]. Detailed evaluation of the first phase[4] showed that EEC1 stimulated about £600m investment in energy efficiency and is delivering net benefits to householders in excess of £3 billion (net present value). For every £1 spent by suppliers, householders have benefited by about £9. The evaluation also indicates that the priority group is benefiting to the tune of about £1.8m in reduced energy bills and increased comfort. Suppliers can pass on the costs of EEC to consumers, but analysis for EEC1 indicates that this has a small impact on fuel bills – about £3.20 per customer per fuel for each of the three years from April 2002 or less than 1% of fuel bills - and can be easily recovered by householders if they install just two energy efficient light bulbs.

1.8 The EEC2 obligation on suppliers required around twice the level of activity as EEC1 and is estimated to cost around £9 per customer per fuel for each of the three years from April 2005 or around 2% of fuel bills. Carbon savings from EEC2 are expected to be 0.62 MtC annually by 2010.

[3] Assessment of EEC 2002-05 Carbon, Energy and Cost Savings. Defra. March 2006.
[4] As footnote 1 and Evaluation of the Energy Efficiency Commitment 2002-05. Dr Eoin Lees. February 2006.

1.9 The Government is committed to the EEC as a key carbon abatement mechanism in the household sector to 2011. This was confirmed in the *2004 Energy Efficiency Action Plan*[5]. The aim of this early announcement was to provide greater certainty so that the energy efficiency industry and energy suppliers could plan ahead and consider with greater confidence the additional investment required to deliver increased activity levels. The *2005 Energy Efficiency Innovation Review (EEIR)*[6] provided further evidence that EEC was a very cost-effective approach and would continue to be so for some time to come. The EEIR also concluded that there was potential for a substantial increase in activity. In the *Climate Change Programme 2006*[7] the Government announced its broad ambition levels for EEC3, clarifying that it believes EEC3 can deliver about 0.9 to 1.2 MtC per year by 2010, an increase of around 50-100% on the EEC2 target. Estimates of costs and impacts on energy bills will be made available in Defra's illustrative mix of possible measures for EEC3 in September (see paragraphs 1.13 to 1.14 below).

1.10 As part of the Energy Review, the Government provided additional clarity on its long-term intentions by announcing that it was committed to maintaining a household obligation on energy suppliers in some form until at least 2020 and that the level of ambition from 2011 will at least be equal to that under EEC3, delivering a minimum of 3-4 MtC by 2020. The Government is keen to move towards a scheme in which supplier incentives are more closely aligned with its wider carbon and energy objectives. The Government wants to incentivise energy suppliers to engage more actively with customers to deliver greater energy efficiency in the home in the period post-2011 and will carry out further analytical work and consultation with interested parties to develop an appropriate framework. One way to achieve this, as identified in the 2005 Energy Efficiency Innovation Review, could be to move in 2011 to an obligation based on a tradable target set in terms of reducing absolute energy demand or carbon emissions from the household sector.

1.11 A further part of the policy landscape relevant to the EEC is the EU Directive on Energy End Use Efficiency and Energy Services which seeks to provide indicative targets, mechanisms, incentives and frameworks to remove existing market barriers that impede the efficient use of energy, as well as create the conditions for the development of a market for energy services to final consumers across all sectors. Member States have two years to implement the provisions of the Directive from its entry into force on 17 May 2006. The Directive covers the domestic, industrial and public sectors and Article 6 requires Member States to place obligations on energy distributors, distribution system operators and energy retail companies in one or more of the following areas:

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[5] Energy Efficiency: The Government's plan for Action. Cm 6168 April 2004
www.official-documents.co.uk/document/cm6/6168/6168.htm

[6] Energy Efficiency Innovation Review: Summary Report. December 2005
www.defra.gov.uk/environment/energy/eeir/index.htm

[7] Climate Change: The UK Programme 2006. CM6764. March 2006
www.defra.gov.uk/environment/climatechange/uk/ukccp/index.htm

- provide energy services
- provide energy audits or energy efficiency measures
- contribute to funds designed to achieve energy efficiency measures.

The Government will be consulting on the possible implications of this Article and other parts of the Directive in due course.

Process

1.12 As part of the process to set in place the legislation for the EEC3 obligations, the Government is required to hold a **formal statutory consultation**. This will set out precise proposals on what the Government intends to do and be accompanied by draft legal text and a draft regulatory impact assessment. We intend to launch this in spring 2007. However, the Government is eager to solicit early views from stakeholders on the way forward to inform its considerations and allow it to provide early clarity on some issues. A key area on which we are keen to hear from stakeholders is the relevant provisions in the Climate Change and Sustainable Energy Act 2006 that would be effected by a commencement order in late 2006 or early 2007. This consultation document therefore invites comments in relation to:

- commencement of provisions in the Climate Change and Sustainable Energy Act 2006 for carbon emissions reduction targets
- transitional arrangements from EEC2 to EEC3
- the approach to social equity under EEC3
- the potential for the EEC to evolve towards or include a system for trading of energy efficiency or "White" certificates.

1.13 The level of the overall target for each phase of the EEC is established using an **illustrative mix** of possible measures to demonstrate the feasibility of the target. The data and assumptions underlying the illustrative mix are based on a wide range of sources, including information provided by energy suppliers, by representatives of the industries concerned and by experts, including the Energy Saving Trust (EST) and the Buildings Research Establishment (BRE).

1.14 In September 2006, Defra proposes to make available on its website a first version of the illustrative mix of measures for EEC3 and, separately from this consultation, will welcome comments on the illustrative mix. This will include energy saving scores for individual measures. In order to provide early certainty on the scores that will be attributed to measures in EEC3, the Government will

consider whether those scores should be set at the end of 2006 and views about the pros and cons of this approach are invited (see paragraphs 3.12 to 3.14).

1.15 The Government will take account of comments received in response to this initial consultation in developing its proposals for the spring 2007 consultation. In addition, issues that will not be covered in this document, but will covered in the spring 2007 consultation are:

- the level of the overall obligation
- estimated carbon savings
- estimated benefits to consumers
- estimated costs to consumers
- application of the obligation (which energy companies, which consumers)
- type of fuel savings to be eligible
- determination of suppliers' individual targets
- interaction with other programmes
- any issues that the Secretary of State will require Ofgem to determine
- draft statutory instrument
- draft regulatory impact assessment.

1.16 Following Defra's statutory consultation Ofgem will consult on certain aspects of the Administration Procedures for EEC 3.

1.17 Comments on all aspects of the issues covered by this document are invited, and should be sent by 23 October 2006 to:

SEP6 – Partnerships Branch
Zone 3/G16
Defra
Ashdown House
123 Victoria Street
London SW1P 6DE
Email address: eec2006consultation@defra.gsi.gov.uk

1.18 In line with Defra's policy of openness, at the end of the consultation period copies of the responses will be made publicly available through the Defra Library (Ergon House, 17 Smith Square, London SW1P 3JR). The information they contain may also be published in a summary of responses and shared with other Government departments or the Devolved Administrations. If you do not consent to this, you must clearly request that your response is treated confidentially. Any confidentiality disclaimer generated by your IT system in e-mail responses will not be treated as such a request. You should also note that there may be circumstances in which Defra is required to give information to third parties on request, in order to comply with its obligations under the Freedom of Information Act 2000 and the Environmental Information Regulations.

Chapter 2

Carbon emissions reduction obligation

This chapter covers the following key issues:

- the implementation of provisions in the Climate Change and Sustainable Energy Act 2006 for a carbon emissions reduction target that would allow the Government to extend the range of measures available to suppliers under the EEC
- the scope for encouraging greater innovation and introducing more flexibility
- whether suppliers' targets and the scores attributed to measures that they use to achieve them should be expressed in terms of energy or carbon savings.

Background

2.1 The Government wishes to encourage a holistic approach to carbon abatement in the household sector, encouraging customers to take advantage of the full benefits of combining both energy efficiency and microgeneration to reduce their carbon emissions. We also want to raise awareness among household consumers of the impacts of their energy use and encourage them to change their behaviour and attitudes to energy in the home. As part of this approach we wish to provide suppliers with even more flexibility in the measures they can adopt to meet their targets. The Climate Change and Sustainable Energy Act 2006 provides the opportunity to extend the range of measures allowable.

2.2 Section 33BC of the Gas Act 1986 and section 41A of the Electricity Act 1989 enable the Secretary of State by order to impose respectively on each gas transporter/supplier and each electricity distributor/supplier an obligation to achieve an energy efficiency target. This is defined as a target for the promotion of improvements in energy efficiency.

2.3 Sections 15 and 16 of the Climate Change and Sustainable Energy Act 2006 amend section 33BC of the Gas Act 1986 and section 41A of the Electricity Act 1989 to enable the Secretary of State instead to impose on gas transporters/suppliers and electricity distributors/suppliers an obligation to achieve a carbon emissions reduction target. As in the relevant current legislation, this is defined as a target for the promotion of measures for improving energy efficiency.

2.4 The Secretary of State also has a discretionary power to add, if provided by order:

i. measures for increasing the amount of electricity generated, or heat produced, by microgeneration
ii. any other measures specified in the order for increasing the amount of electricity generated or heat produced from using low-emissions sources or using low-emissions technologies; and
iii. measures for reducing the consumption of supplied energy.

2.5 On the basis of an obligation imposed on electricity and gas suppliers, in respect of household consumers, this section considers the possible implications of a carbon emissions reduction target that would include:

- measures for the promotion of energy efficiency
- measures for increasing the amount of electricity generated or heat produced by microgeneration measures[8]
- measures for reducing the consumption of supplied energy such as behavioural measures (e.g. consumption feedback devices).

The focus of this section is on microgeneration and measures that can prompt behavioural changes, which would be new to the EEC. For avoidance of doubt it should be noted that these new measures will not be mandatory – suppliers will still have full flexibility in which measures they choose to meet their obligations.

2.6 The Government is considering whether to include in the carbon emissions reduction target the category under paragraph 2.4 (ii) above: "any other measures of a description specified in the order for increasing the amount of electricity generated, or heat produced, using low-emissions sources or technologies". This provision was intended to allow the inclusion of such measures should an obligation ever be placed on energy companies in a non-domestic context. As set out in the *Climate Change Programme*, the Government is committed to considering whether further action is needed to encourage SMEs to take up energy efficiency opportunities, however work is at a very early stage. Given this, and the fact that Energy Efficiency Commitment applies to individual domestic consumers in premises used wholly or mainly for domestic purposes, we think it unlikely that any measures brought forward as a result of provision (ii) under paragraph 2.4 would be directly relevant to domestic consumers. Provisions (i) and (iii) under paragraph 2.4 appear to cover measures that are likely to be used in a domestic context and communal CHP schemes would still be included, as they are under the existing legislation.

[8] In Scotland, under the Climate Change and Sustainable Energy Act, only measures for increasing the amount of electricity generated by microgeneration measures would be eligible, since the production of heat is a devolved matter within the competence of the Scottish Parliament

- ***Comments are invited on whether there could be circumstances in which larger scale measures for increasing the amount of electricity generated, or heat produced, using low-emissions sources or technologies could apply to the EEC.***

Microgeneration measures

2.7 Microgeneration has been the focus of particular Government attention recently with the Government's *Microgeneration Strategy*[9] published in April 2006 and reinforced by Budget 2006, the Climate and Sustainable Energy Act and the Energy Review. Microgeneration technologies typically generate electricity and/or provide heat for an individual dwelling. The associated carbon emissions are expected to be lower than those from the typical alternative, that is, for example, compared to grid electricity or a gas boiler to provide heating. Examples of some of the types of microgeneration technologies that could be included in EEC3 are:

- micro wind turbines – generating electricity using a small wind turbine, which may be attached to the dwelling,
- photovoltaic panels – generating electricity directly from sunlight using semiconductor material (mostly silicon) usually installed in panels on the roof
- wood chip boilers – using wood chips as fuel in a boiler; wood chips emit carbon when being burnt but that carbon was taken up from the atmosphere when the wood grew.

2.8 Some microgeneration measures which also improve energy efficiency already qualify (or may be considered) under the current EEC and will continue to qualify under EEC3 including:

- micro combined heat and power (micro-CHP) – generating electricity and providing heat at the same time, via a range of technologies, for example using a Stirling engine, an internal combustion engine or fuel cell
- heat pumps, which transfer heat that is stored in the ground or air to the heating system using a refrigeration cycle
- solar water heaters, usually installed on the roof, which use sunlight to heat water.

2.9 As well as broadening the options available to suppliers, the inclusion of all forms of microgeneration could encourage a whole-house approach. It may also aid the targeting of consumers not initially interested in energy efficiency but receptive to the idea of microgeneration. Some consumers may find

[9] Our Energy Challenge: Power from the people. DTI. March 2006 www.dti.gov.uk/energy/sources/sustainable/microgeneration/strategy/page27594.html

microgeneration technologies appealing because of their 'high tech' nature or their visibility. Microgeneration will also provide opportunities for consumers living in hard-to-treat homes, such as those off the gas grid and those for whom traditional energy efficiency measures are not suitable. Combining energy efficiency and renewables could lend itself to an energy services approach. Against this background, suppliers may find microgeneration measures an attractive additional option for meeting their targets.

2.10 Microgeneration technologies are expected to be more costly to promote than energy efficiency measures. Since there are considerable differences in cost between different technologies, and in the attractiveness of technologies to consumers, the levels of support that might be required by the suppliers to promote them will vary. In view of this we intend to undertake further analysis for a variety of microgeneration measures as part of our development of the illustrative mix. As noted in paragraphs 1.13 to 1.15 above, we would welcome suggestions, information and data from stakeholders, for example on the potential savings and costs (both to consumers and suppliers) for microgeneration measures to inform our analysis.

2.11 As a first broad estimate and on the basis of current available information, we would suggest that the majority of microgeneration measures are likely to be around 3-10 times less cost-effective for suppliers than existing energy efficiency measures.[10] As a result, it is expected that the impact of microgeneration measures on EEC3 would be small. Because some of these measures will be new to the market, accreditation by Ofgem - which is responsible for determining which measures qualify for the EEC and the savings to be attributed to those measures - may need to be on a case-by-case basis.

2.12 The *Microgeneration Strategy* sets out a number of measures aimed at tackling the barriers currently preventing widespread take-up of microgeneration. These measures vary from the Low Carbon Buildings Programme, through a review of communications activity to assess how to improve information provision and a pilot to assess the benefits of smart metering combined with microgeneration**.** Individually, the measures in the *Microgeneration Strategy*, alongside new opportunities for microgeneration measures under the EEC mechanism, should contribute to delivering a sustainable market in microgeneration technologies. In the *2006 Energy Review*, the Government said that it would aggressively implement the *Microgeneration Strategy*.

2.13 Many of the measures in the *Microgeneration Strategy* are underpinned by the Climate Change and Sustainable Energy Act 2006. The Act makes the legislative changes necessary to include the full range of microgeneration technologies in the EEC and also to make it easier for microgenerators to access the benefits of Renewable Obligation Certificates. The Act includes a range of

[10] However, solar PV panels may be even less cost-effective, while wood chip boilers may be almost as cost-effective as some energy efficiency measures for suppliers to promote.

measures aimed at tackling climate change through the promotion of microgeneration, energy efficiency, renewable heat and community energy schemes.

2.14 The Act includes provisions that give the Government powers to require energy suppliers to purchase exported electricity and further requires Government to take a decision on setting targets for microgeneration by 2008. It also includes measures such as giving parish councils powers to promote microgeneration and energy efficiency and placing a duty upon Government to promote renewable heat and community energy schemes.

2.15 In addition, the Low Carbon Buildings Programme (covering the UK) encourages both energy efficiency and microgeneration technologies in buildings and will allocate £80m of grants over a period of three years (between 2006-09) through two streams. The original £30m fund was supplemented by the announcement in Budget 2006 of a further £50m to help fund the installation of microgeneration technologies in a range of buildings including schools, social and local authority housing and public buildings. Of the £30m, £6.5m over three years has been allocated to the residential sector.

2.16 In assessing microgeneration activity under EEC3, Ofgem and Defra will consider the likely overlap with other Government policies and support. Where the suppliers have been able to interact with some Government programmes, such as the Clear Skies programme in the past, Ofgem has required the suppliers to prove that the measures could not have been installed without their funding. On that basis, suppliers would only be able to seek an EEC score for microgeneration measures, which have also been supported by Government grant, in proportion to their own funding for those measures.

2.17 The Government will seek to assess likely double-counting of microgeneration activity between the EEC and other programmes such as the Renewables Obligation. One option that is being considered is whether the best and most practical approach might be to estimate the potential overlap between EEC and the Renewables Obligation and take it into account when assessing the amount of carbon savings likely to be generated at programme level.

2.18 Overall, microgeneration technologies are unlikely to reach the level of market maturity by 2011 that would be needed to play a major role in delivering ambitious EEC3 targets. However, alongside the other support for this sector, the EEC mechanism will help to promote microgeneration by offering energy suppliers wider flexibility and more options for innovative approaches in working in the household sector. This approach will also allow the EEC mechanism to begin to evolve towards more flexible approaches for the period beyond 2011.

2.19 We are aware that some stakeholders have suggested some or all microgeneration measures should receive further support or incentives via the

EEC mechanism. The need for and potential of incentives for any particular sector or approach will be considered holistically as part of the 2007 statutory consultation. However we would need to consider both the positive and negative implications of any such approach, including whether incentivisation under the EEC was justified and cost-effective. We would also need to consider the impact on carbon savings for the EEC mechanism.

- ***We would welcome early views from stakeholders on the inclusion in EEC3 of microgeneration measures, to help inform the development of the 2007 consultation.***

Measures for reducing the consumption of supplied energy

2.20 Allowing flexibility within the EEC mechanism for suppliers to develop approaches to reducing energy consumption could increase the innovative responses that they have developed in working in the household sector.

2.21 In developing their programmes for EEC3, energy suppliers would have the option to identify various activities that reduce the consumption of supplied energy. For the purposes of this consultation, the Government has considered some possible activities below. It is likely that the key approach will be to raise awareness by consumers of their energy use, in a way which informs and encourages them to reduce their consumption. For the purposes of this consultation we will refer to such measures as “behavioural measures”.

2.22 Providing consumers with better information about their energy use and its costs enables them to get feedback on their actions and could encourage energy saving behaviour, such as turning off lights and appliances left on standby. Information can be provided through more frequent and accurate bills or through real-time displays.

2.23 In order to accredit energy savings for behavioural measures, it would be necessary to distinguish between savings resulting from the consumer’s behavioural changes and those due to the consumer installing physical energy saving measures to avoid double-counting. This is because, due to the scale of the EEC, the majority of physical energy efficiency measures on the market are already subsidised by suppliers. The assessment and monitoring of energy/carbon savings from behavioural measures creates new challenges. As for any existing EEC measure, accredited energy savings need to be robust and independently identified.

2.24 The Government has already recognised that behavioural changes could yield substantial carbon savings and announced a range of support for the development of more robust information about their actual impact, including trials of smart metering and associated feedback devices. In the 2006 Energy Review the Government reinforced this further with announcements about improving

standards of information on bills and an intention to discuss with interested parties how rapidly to roll-out real-time energy displays once trial results are available. In its Metering Innovation decisions document[11], Ofgem sets out guidance to suppliers planning to trial approaches providing information on consumption. The guidance details how suppliers should set up their trials and what information they should collect to aid accreditation under the EEC.

- ***We would welcome early views from stakeholders on the inclusion in EEC3 of measures for reducing the consumption of supplied energy, to help inform the development of the 2007 consultation.***

Innovation and Flexibility

2.25 The Government would like to support and encourage the development of innovative approaches to carbon abatement in the household sector. We would like to explore with stakeholders how the EEC mechanism might accommodate more flexible and creative methods and measures. Some stakeholders have suggested that the EEC mechanism should be more flexible in allowing the inclusion of innovative measures or approaches for which robust agreed energy saving scores are not yet available or are not practically possible to provide in the targeted EEC period.

2.26 One possible option is that the EEC could allow a small proportion of each supplier's target to be met through activity to which a score could not be assigned up front, or for which a different scoring methodology would be developed. For example it could be proposed that energy suppliers should be permitted to meet a fixed, limited amount of their target by using measures that are understood to improve the energy efficiency of consumers, but as yet are unquantified. Suppliers could be permitted to promote such activity and be required to undertake a full appraisal of it to ensure that the resulting information could inform any future decisions on the EEC.

2.27 A possible approach would be to "ring-fence" a limited proportion of each suppliers' target which they would be allowed to meet through unproven or unquantified measures. For these measures, the relevant legislative order for the EEC would provide clear guidance on how the measures should be assessed and accredited towards a supplier's EEC obligation. For instance, on the basis of current information, one such measure could include the provision of real- time displays of electricity consumption. As the Energy Review recognises, there have been a number of studies carried out around the world which have suggested that these units encourage consumers to make significant reductions to their consumption. However, evidence is needed on the savings in the UK context and their durability as well as the proportion of the saving may have been achieved through the installation of measures, as opposed to behavioural

[11] Domestic Metering Innovation – Next Steps. Ofgem. June 2006

changes. (Because the measures might have been promoted by a supplier, it is not appropriate to accredit this part of the energy saving.)

2.28 Suppliers are currently able to have their measures accredited on an ex-post basis in the current EEC programme, although this approach has only been taken up in a limited way. This is because suppliers are uncertain upfront what credit such measures will receive and are unwilling to take the risk of not having a fixed energy saving. To help overcome this in EEC3, one option would be for suppliers to be able to choose upfront either to provide Ofgem with *ex-post* monitoring information to achieve an EEC score, or to use the ring-fenced option described above, based on the methodology for assessment provided in the Order. This would encourage the suppliers to innovate and achieve energy savings that would be greater than the methodology provided in the Order. It would be necessary to consider further how such arrangements would be administered.

2.29 There are many challenges in developing such an approach and the Government would welcome further exploration with stakeholders of how these could be resolved. For example, the Government would wish to consider how additionality could be assessed, how the rules of engagement could be fair, rigorous and consistent and avoid anti-competitiveness. We would wish to ensure that this approach supported the evidence base for new and developing technologies and approaches, providing the opportunity to learn lessons for new mechanisms post 2011.

2.30 Further work is also needed on how such an approach could be effectively set out within the EEC legislation, but in any case there could be significant administrative and practical complications, requiring more micro-management of supplier activity and suppliers would need to carry out careful *ex-post* analysis of such activity, whichever option they chose, in order that the Government could fully analyse the impact at the end of the EEC period.

2.31 In addition, the Government would need to ensure that any such approach was consistent with the primary purpose of the EEC to reduce carbon emissions. The Government would also need to consider whether using the EEC mechanism as a way of promoting innovation or testing of new approaches by energy suppliers would be justified in terms of customer costs.

- ***We would welcome views on how the EEC might be developed in a way that gives more flexibility for innovation whilst keeping costs as low as possible, maximising the reduction of carbon emissions and minimising administrative burdens.***

Targets and Scores : Methodology

2. 32 Currently under the EEC the score accredited to energy efficiency measures is the gross energy saving from the measure which is discounted over the lifetime of the measure. A fuel standardisation factor is applied to weight for the carbon content of the relevant fuel. Any rebound effects such as comfort-taking are currently only taken into account when estimating carbon savings, but not for the EEC score or the target. Details of the methodology for EEC2 are available on the Defra website at www.defra.gov.uk/environment/energy/eec/index.htm.

2.33 The energy savings attributable to each measure are based on the best available data at the time. Besides reviewing relevant literature and liaising with the research community, the Government has its own research programme to improve knowledge of the most important aspects of the actual energy savings being achieved in the field. Current and planned projects which may have an impact on attributable savings include:

- internal temperature and heating patterns (before and after installation of insulation) – due to report in summer 2006
- performance of 'in-situ' cavity wall insulation – due summer 2006
- domestic hot water consumption – due spring 2007
- secondary heating (pilot) – due summer 2006
- ventilation rates (pilot) – due summer 2006
- energy savings from loft insulation (sponsored by the insulation industry) – due summer 2006
- Pilot of smart meter and associated feedback devices commencing in winter 2006.

2.34 In view of the potential replacement of energy efficiency targets by carbon emissions reduction targets, the Government has considered whether to use the current methodology, which has a carbon weighting, or whether it would be possible to develop it to express the target and the scores attributed to individual measures more explicitly in terms of carbon.

Using the current methodology

2.35 If the denomination continued to be in terms of fuel-standardised lifetime-discounted energy savings, energy efficiency measures would be treated as they are under EEC2. Micro-generation would be treated in the same way as fuel switching, where the carbon weighting of the score takes account of the benefits in terms of carbon reduction. The savings score is the difference between the energy used with a micro-generation system (such as a solar PV panel) multiplied by the fuel standardisation (which would be zero for carbon-free energy from PV) compared to the alternative (in this case the grid electricity with its fuel standardisation factor). In other words, in this example, PV would be credited with its output.

Denomination in terms of carbon

2.36 In considering whether the target and scores for individual measures should be expressed in terms of carbon, it is necessary to take account of:

- the rebound or comfort factor
- business as usual deadweight
- whether lifetime or annual savings should be used
- whether savings should be discounted.

2.37 The direct rebound or comfort factor is relevant because carbon savings depend on the net energy savings for each measure (annual energy saving minus the comfort taken).

2.38 Currently, the Government assumes a comfort factor of 30% for insulation measures and no significant comfort factor for other measures. This means that the score for insulation measures would be reduced by 30% compared to other measures. However, this is not expected to make any significant difference in terms of the ranking of cost-effective measures: insulation, particularly cavity wall insulation, would still be expected to be needed to deliver the bulk of the savings.

2.39 Business-as-usual deadweight[12] can only be accounted for over the whole programme, and hence any target set could only be in terms of gross carbon saved and not net. In considering the contribution of the EEC to the Climate Change Programme it will be necessary to make an adjustment for deadweight.

2.40 A further consideration is whether lifetime savings or annual savings should be used. Using annual savings treats measures with different lifetimes in the same way, so a measure that saves a certain amount only for one year is valued in the same way as a measure the saves the same amount for several years or decades. By contrast, using lifetime savings gives a better indication of the total amount saved, which is more relevant for carbon savings in the context of climate change.

2.41 Using lifetime savings, the question arises as to whether these should be discounted, so that savings sooner are considered relatively more valuable than savings in future years. Saving carbon sooner brings benefits sooner, and discounting savings would be consistent with the standard theory that people value nearer benefits (of any kind) more highly than benefits further in the future. For example, if two measures have the same lifetime carbon savings, but one delivers higher savings over a shorter lifetime, discounting would favour that measure. This approach is always used for financial costs and benefits, although

[12] Measures that would have been installed anyway in the absence of the policy, but which are also benefiting from the policy, for example in terms of financial contributions Savings from these measures therefore not additional.

not necessarily for physical quantities (a tonne of carbon saved in the future is not smaller than a tonne of carbon saved today).

2.42 Discounting could also be seen as taking account of uncertainty in the future. However, there are a number of uncertainties in assessing carbon savings from particular measures which could turn out to be higher or lower in the future. Not all of those uncertainties are related to or are affected by discounting and not all uncertainty can be eliminated. Some assumptions, such as the lifetime of measures, become more critical without discounting. In any case, it should be emphasised that when evaluating the overall programme the most up-do-date information will be used and adjustments will be made, for example for business-as-usual deadweight (see above).

2.43 Using lifetime carbon savings without discounting would mean that, compared to current scoring arrangements, the value of the savings increases and more so for longer-lived measures. In other words long-lived measures such as insulation would benefit relative to shorter-lived measures such as appliances or lights by around 40%. In theory, discounting would value earlier savings more and therefore would incentivise earlier action. In practice, however, in the EEC framework, all actions need to take place during the 3 years of the programme (or earlier for activity that is carried forward), but the relative attractiveness of different measures would be affected, as with discounting. The relative value of short-lived measures would be higher compared to long-lived measures. Either way, in developing the overall target and for the size of the programme we also consider the annual carbon savings in 2010. This makes sure that enough action takes place in any case in the short term.

2.44 The two effects of no discounting and taking account of the comfort factor work in opposite directions and therefore the overall impact is small, within a couple of percent for the relative scores of cavity wall insulation and lighting for example.

2.45 In summary, options for the target, and score for individual measures, can be expressed as:

i. (a) energy savings (with or without carbon weighting) or (b) carbon savings (including taking account of comfort-taking)
ii. (a) annual savings or (b) lifetime savings and if so (1) discounted or (2) not discounted.

2.46 Given the provisions of the Climate Change and Sustainable Energy Act 2006 and the importance of carbon savings, the Government is considering using lifetime carbon savings, possibly without lifetime discounting, for the target in EEC3. This would supersede the current scoring regime, where the units are expressed in fuel-standardised, lifetime-discounted TWh (which has no physical meaning), and would utilise a more meaningful unit. Using lifetime carbon

savings might also help in the evolution of the EEC mechanism to future approaches beyond 2011.

2.47 All eligible measures, including microgeneration technologies, reduce the demand on primary energy sources and therefore contribute to improving energy security. We do not anticipate that a change in the methodology would have an impact on energy security.

- ***We would welcome views on the possibility of using lifetime carbon savings for the EEC3 target and scores, and the relative merits of doing so with and without discounting.***

Summary

The Government is of the view that it is practically and technically possible to commence provisions in the Climate Change and Sustainable Energy Act 2006 for a carbon emissions reduction target that would allow the range of measures available to suppliers under the EEC to be extended and that there are positive implications to doing so. There are also many challenges to be explored in the best approach to the operation and application of the provisions.

The Government is of the view that in addition to the promotion of energy efficiency measures, a carbon emissions reduction target should include:

- the promotion of measures for increasing the amount of electricity generated, or heat produced, by microgeneration, and
- the promotion of measures for reducing the consumption of supplied energy such as measures which change consumers' behaviour.

It is also considering whether a carbon emissions reduction target should include other measures for increasing the amount of electricity generated or heat produced using low-emissions sources or technologies.

The Government is considering using lifetime carbon savings, possibly without lifetime discounting for the EEC3 target and the savings from individual measures.

The Government would welcome views on:

- ***the inclusion in EEC3 of microgeneration measures***

- ***the inclusion in EEC3 of measures for reducing the consumption of supplied energy***

- ***whether there are circumstances in which larger scale measures for increasing the amount of electricity generated, or heat produced, using low-emissions sources or technologies could apply to the EEC***

- ***how the EEC might be developed in a way that gives more flexibility for innovation, whilst keeping costs as low as possible, maximising the reduction of carbon emissions and minimising administrative burdens***

- ***the possibility of using lifetime carbon savings for the EEC3 target and scores, and the relative merits of doing so with and without discounting.***

Chapter 3

Transition to 2008-2011

This chapter covers the following key issues:

- the proposed approach to transition between EEC2 and EEC3
- the proposed approach to scoring carry-over towards suppliers' EEC3 targets
- the proposed approach and timetable for analysis of scores.

3.1 The Government recognises that smooth transition between phases of the EEC is highly desirable and that key stakeholders would welcome early clarity about transitional arrangements between the current and the next phase of the EEC. In the *2006 Climate Change Programme* the Government announced that it "intends to allow unlimited carry-over of activity from the current phase of the EEC to the next and will establish effective transitional arrangements following appropriate consultation and analysis providing clarity as soon as possible on practical arrangements".

3.2 For the transition from the predecessor Energy Efficiency Standards of Performance (EESOPs) to the first phase of the EEC, suppliers were allowed to carry over actions accounting for up to 10% of their EEC1 targets.

3.3 For the transition from EEC1 to EEC2, suppliers were allowed unlimited carry over. Suppliers started work early on their EEC2 targets and carried forward energy savings worth about 25% of the EEC2 target.

3.4 In his *Evaluation of the Energy Efficiency Commitment 2002-05* [13] , Dr Eoin Lees concluded that in the transitions from EESOP3 to EEC1 and from EEC1 to EEC2, the short term "start stop" cycle of previous transitions appeared to have been largely eradicated. However, he identified unintended consequences in the way the carry forward was executed from EEC1 to EEC2. From EEC1 to EEC2, the energy savings from lighting, appliances and boilers were reduced. As a result, energy savings from energy efficiency measures carried forward form EEC1 to EEC2 were almost exclusively insulation measures. This, together with the volume of carry over, has led to a lower level of activity than anticipated in 2006.

3.5 By the end of June 2006, Ofgem reported that suppliers had met roughly two thirds of their EEC2 targets. A range of the energy efficiency industries and

[13] Evaluation of the Energy Efficiency Commitment 2002-05. Dr Eoin Lees. February 2006. Available at http://www.defra.gov.uk/environment/energy/eec/pdf/eec-evaluation.pdf

other organisations have suggested that some suppliers are currently reducing or reigning back on their levels of activity for the remainder of the EEC2 period. This would suggest that there is significant capacity in the energy efficiency industry which may not be exploited in the remainder of the EEC2 period, but if suppliers began work on their EEC3 obligations early, could make a significant contribution to the effectiveness of the transition to EEC3.

3.6 In this light the Government expects to undertake further analysis of the future capacity of the energy efficiency industry and take account of the potential capacity in setting the target for EEC3. In view of the challenging ambition levels of EEC3 and the potential capacity likely to be available in the energy efficiency industry, particularly in lighting and cavity wall insulation, energy suppliers are encouraged to make full use of transitional arrangements to start EEC3 work early. Since the target for EEC3 is likely to be challenging it is probable that the most cost-effective approach for suppliers will be to make full use of the transitional arrangements offered by the Government, as they did for EEC2.

3.7 There are a number of benefits to suppliers in starting their EEC3 activity early. These include minimising their risks, having more flexibility in the schemes they develop and maximising overall cost-effectiveness. Suppliers can also pick and choose the measures they carry forward.

3.8 The Government recognises that certainty about the practical details of transition will help to provide further confidence to suppliers and other stakeholders, in deciding whether and when to start work early on EEC3.

3.9 As announced in the Climate Change Programme 2006 the Government intends to allow unlimited carry-over of measures from EEC2 to EEC3. Measures carried over from EEC2 to EEC3 will be accredited with savings in line with the methodological approach for EEC3 savings. (This is the same approach used for the carry-over from EEC1 to EEC2.) The savings are likely to be different for at least three reasons:

i. revised savings due to new technical evidence or new evidence on usage

ii. other changed assumptions e.g. level of aggregation/averaging of measures, and/or

iii. changed scoring methodology for the EEC scheme (e.g. discount rate, inclusion of comfort taking, energy or carbon, annual or lifetime savings).

3.10 It has been suggested that the savings carried over should not take account of (i) and (ii) above in order to have more certainty. However, it is necessary to take account of (iii) in any case and, given that we may change to a more carbon based scoring scheme including comfort taking, the scoring

methodology is likely to change and hence it would be necessary to translate from EEC2 score to EEC3 score. The Government and Ofgem agree that it is better to give credit for measures in EEC3 which are consistent with the latest evidence.

3.11 However, it has been suggested that in order to provide early clarity to stakeholders on the expected scores for measures in EEC3 and to support and facilitate transitional arrangements between EEC2 and EEC3, the Government should make early decisions about the scores which will be used in the analysis for setting the target for EEC3.

3.12 One option would be for the Government to seek to finalise and publish an analysis of the score for measures by the end of 2006. Following this work, Ofgem is responsible for determining the actual, disaggregated savings for standard measures, and the aim would be that Ofgem could publish its final approach to this alongside the Government's statutory consultation in spring 2007.

3.13 It is necessary to consider the degree to which the absence of complete certainty would be an impediment to starting work early on EEC3, given that cavity wall insulation is expected to deliver the bulk of the savings and that there was a high level of carry-over from EEC1 to EEC2, despite later certainty about the exact scores in the Defra's final Illustrative Mix, published in December 2004, which would be equivalent to December 2007 in the EEC3 cycle.

3.14 Setting the score for individual measures in advance of setting the overall target could have disadvantages. It would mean that further research, data or information made available at a later stage about the performance of measures could not be included in the analysis as the target for EEC3 developed. So there would be a risk that the target for EEC3 could be based on savings which were higher or lower than the most up-to-date information. In addition it would limit the amount of time available for engagement with stakeholders on elements of the scoring approach. There is therefore a balance to be struck between early clarity and analytical robustness on scores.

- ***We would welcome views on the possible publication by the end of 2006 of the scores to be attributed to individual measures under EEC3 and the degree to which this is likely to result in an early start to EEC3.***

3.15 The Government notes the concerns of the energy efficiency industries and other organisations that some suppliers may be reducing their levels of activity for the remainder of the EEC2 period, which could have an impact on relevant industries. We intend to continue proactive engagement with key stakeholders over the summer, and in parallel to this consultation process. We will also consider with key stakeholders how policies and programmes outside the EEC

can or should continue to encourage sustained and effective capacity in the energy efficiency industry and the take-up of energy efficiency measures by householders. In parallel to this consultation, we would welcome early input into these considerations, in particular on how the ramp up to EEC3 is working, the cause and possible effect of any difficulties and how they might be mitigated.

Summary

The Government recognises that smooth transition between phases of the EEC is essential and that key stakeholders would welcome early clarity about transitional arrangements between the EEC2 and EEC3. As announced in the Climate Change Programme 2006, the Government intends to allow unlimited carry-over from EEC2 to EEC3.

The Government is considering whether it should make early decisions on the scores that will be used in the analysis for setting the target for EEC3.

The Government would welcome views on:

- ***the possible publication by the end of 2006 of the scores to be attributed to individual measures under EEC3 and the degree to which this is likely to result in an early start to EEC3.***

Chapter 4

Equity issues

This section covers the following key issues:

- the role of the priority group in the EEC mechanism
- key issues for consideration in developing priority group options for EEC3
- initial suggestions for future work for the 2007 consultation.

4.1 The provision of energy efficiency measures is one of the three key pillars of action that can help remove people from fuel poverty (the other pillars being income enhancements and lower fuel prices) and the priority group element of the EEC1 and 2 has had positive impacts on fuel poor households. The priority group was established to ensure that low-income consumers, who spend a higher proportion of their income on fuel are as able as other consumers to benefit from EEC measures. With higher energy prices, considering the impact of EEC costs on consumers, particularly those on low incomes, remains a key Government priority.

4.2 In order to address this issue of equity, under the EEC suppliers are currently required to direct at least 50% of energy savings to a priority group of low-income consumers, in receipt of certain income/disability benefits or tax/pension credit. This group now represents about 7m or around 28% of all households in Great Britain.[14] This also means that throughout the first two EEC phases, the benefits to the priority group will have been greater than those averaged across all consumers.

4.3 Since the scope of priority group consumers to contribute to the cost of EEC measures is limited, the cost to suppliers of directing measures to the priority group is higher than for other consumers - suppliers have separately and specifically to identify them and to provide sufficient subsidy for the consumer to be able and willing to take up the relevant measure.

4.4 The Government remains committed to tackling the challenge of fuel poverty. Between 1996 and 2004, considerable progress was made, with the number of vulnerable households needing to spend 10% or more of their income on fuel to heat their homes adequately across the UK falling from 6.5 million to around 2 million. However, since that time householders have seen significant rises in their energy costs and it is now estimated that some 1 million vulnerable

[14] Based on the Family Resourced Survey, 2004-05

households will have gone into fuel poverty in England, with a proportional rise in the devolved administrations.

4.5 As indicated in the *Energy Review*, it is clear that, to tackle fuel poverty, a range of action is needed across each of the potential causes of fuel poverty. While EEC does not have a specific fuel poverty objective, it is making a notable contribution to tackling fuel poverty – it is estimated that in total the 3 phases of EEC could take some 100,000 vulnerable households out of fuel poverty by 2010, on the basis of EEC 2 activity levels. EEC will, however, only ever be able to be a make a limited contribution to meeting our fuel poverty targets as analysis suggests that there could still be between 800,000 to 2 million vulnerable households in fuel poverty in 2010 depending on the level of fuel prices. This wider challenge will require continued effort on multiple other fronts including through Warm Front, Decent Homes and the work of DWP, though the Government is committed to working with suppliers and other interested parties against the wider background of the fuel poverty strategy to consider the position of low-income consumer under the EEC, including the future of the priority group.

4.6 In considering the future approach to equity within the EEC mechanism the Government will need to consider a number of issues including (but not limited to):

- any practical limitations on further EEC activity in the priority group
- the policy trade-offs including the comparative cost-effectiveness of delivering EEC energy savings to the priority group
- the potential contribution to the alleviation of fuel poverty[15].

Our initial analysis on these issues is set out below. In addition, although not directly related to the EEC, the Government has looked at overall expenditure on the priority group, including programmes other than the EEC. This is considered at Annex A.

Practical limitations on further EEC activity in the priority group

4.7 In order to provide a basis for considering the possible share of EEC3 energy savings that could be directed to the priority group and to assess whether there are any limitations, it is useful to look at the remaining potential for EEC work in the priority group. It is not possible to estimate the precise level of measures that it may be possible to provide to this group. On the assumption that cavity wall insulation (CWI) is likely to be the measure that will deliver the bulk of EEC3 savings, for the purposes of this analysis CWI is taken as a proxy to estimate the maximum possible proportion of energy savings that could be directed at the priority group if there were to be a 50% or a 100% increase in EEC3 activity compared to EEC2.

[15] As compared to other measures with positive impacts on fuel poverty.

4.8 In practice energy suppliers will be able to choose which measures they offer to priority group households and will not be limited to providing cavity wall insulation. As some measures which are available under EEC2 cannot be increased significantly (or may even decrease) such as condensing boilers, the numbers of other measures, particularly CWI, may even have to increase further in order to compensate.

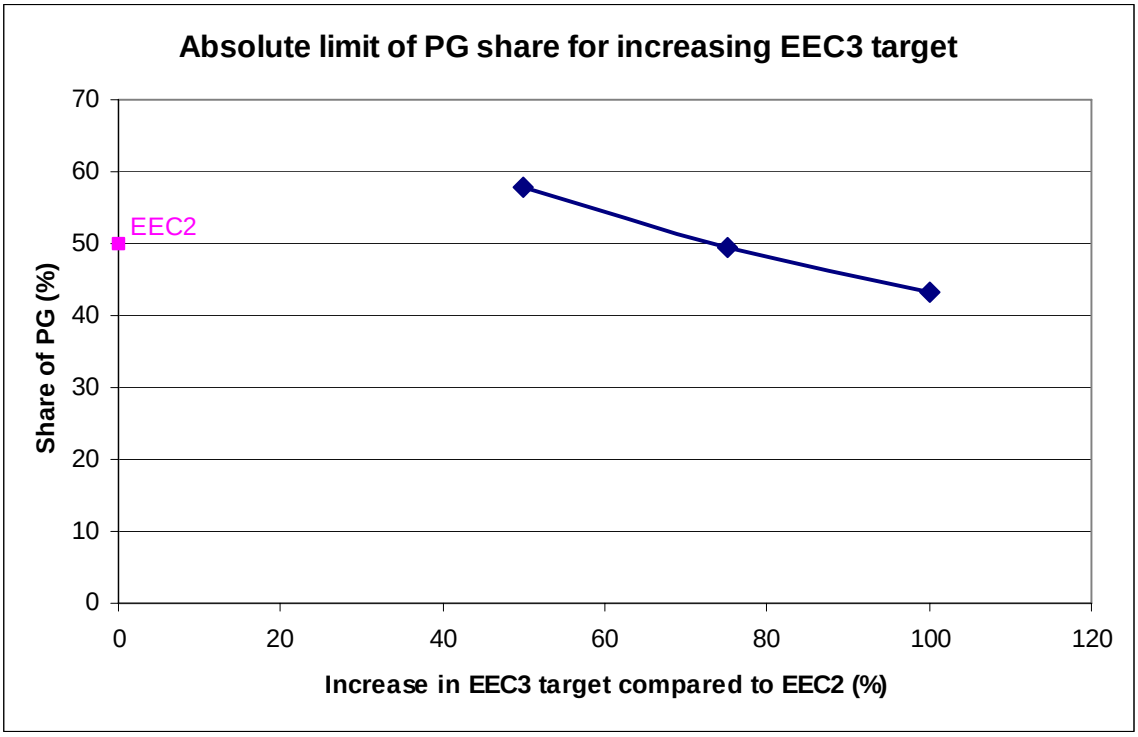
4.9 Our initial analysis begins by drawing from the English House Condition Survey 2004, the Living in Wales Survey 2004 and the Scottish House Condition Survey 2002 to estimate the total number of empty cavity walls in Great Britain, which is about 10.9m in 2004. We have then included the following assumptions/issues:

- 5% of cavities in Great Britain cannot be filled for technical reasons (for example due to driving rain)
- the priority group makes up 28% of all those households in England and Wales and 32% in Scotland for which CWI is applicable
- 'churn' – households moving in and out of the priority group – is assumed to be 20% of the number of households in the priority group
- taking account of further installations under EEC1, EEC2 and Warm Front between 2004 and 2008,
- priority group homes are smaller than non-priority group homes (ratio of 0.82:1).

4.10 On this basis, the Government's initial estimate is that the remaining potential for cavity wall insulation in the priority group is about 2.0m CWI in 2008, while the total remaining potential in 2008 is estimated to be 8.3m empty cavities. In 2008, an estimated 37% of non-priority group households will have un-insulated cavity walls while only 27% of priority group will households have empty cavities, so churn increases the remaining potential in the priority group (which is included above). These figures suggest that, if CWI is the probable measure, there are likely to be practical limits to setting high levels for the priority group. However, the choice of measures may evolve in the future.

4.11 In order to develop a first rough idea of the possible scale of CWI activity in EEC3 we extrapolate the figures used in the EEC2 illustrative mix. The remaining potential of CWI in the priority group is then compared to the total potential number of CWI installations for EEC3 required respectively for a 50% to 100% increase in activity in EEC3, assuming it may not be possible to reach 10% of these (for example householders not willing to have CWI, or where it is not feasible or is impracticable to identify potential customers). On the basis of this scope for cavity wall insulation activity, the maximum proportion of energy/carbon savings that could be directed to the priority group for a 50% increase of total activity in EEC3 would be about 58% of the total savings and for a 100% increase the limit to the priority group would be about 43% of the total savings

(see figure below). On this basis, and depending on the actual level of the target for EEC3, it may not be technically or practically feasible to direct 50% of energy savings to the priority group, as has been the case to date. When approaching these absolute technical limits we would expect the cost to increase significantly.



The comparative cost-effectiveness of delivering EEC energy savings to the priority group

4.12 During the EEC1 period, 48.5% of the total energy savings achieved by suppliers resulted from measures installed in or provided to priority group households. After the excess measures were carried forward to EEC2, suppliers met the requirement to achieve at least 50% of energy savings in relation to priority group consumers.

4.13 Defra's *Assessment of the EEC 2002-05 Carbon, Energy and Cost Savings*" has estimated the costs and gross benefits of the measures carried out. The assessment was carried out both in respect of total activity during the three-year period and in respect of measures that suppliers counted towards their EEC1 targets. In relation to total activity including that carried over to EEC2, it is estimated that the priority group accounted for 57% of programme costs and 43% of energy cost benefits. In relation to EEC1 targets, it is estimated that the priority group accounted for 53% of the programme cost and 41% of energy cost benefits.

4.14 Defra's assessment indicates that the cost to suppliers of directing measures to the priority group for EEC1 was higher than for other customers by around 21% on average, due to the higher levels of subsidy needed. Since the cost of directing measures to the priority group is higher than for other consumers, any change in the size of the priority group would lead either to an increase or decrease in the overall cost of the EEC or, if the programme cost were maintained, an increase or reduction in carbon savings. Since the costs of the EEC are potentially passed on to consumers, any change in the cost of the EEC would impact on both priority group and non-priority group consumers through either higher or lower fuel costs.

4.15 The opportunities for suppliers to work with Local Authorities in the social housing sector, where co-financing is possible and a large part of the priority group work in EEC1 was carried out, is diminishing and more priority group activity is likely to take place in the private sector. The cost contribution from suppliers for priority group customers is therefore likely to rise as these consumers are less able to contribute to the cost of measures.

4.16 Our initial analysis therefore suggests that it is likely that the relative cost of delivering to the priority group, in comparison with the able to pay sector, will be higher in EEC2 than in EEC1. The overall cost of EEC3 could therefore be more sensitive to the priority group share of the target than in previous phases of the EEC.

<u>The potential contribution to the alleviation of fuel poverty</u>

4.17 While *Fuel Poverty in England: The Government's Plan for Action* acknowledged that it was challenging to quantify the precise contribution made by various policies and programmes towards targets to reduce fuel poverty, Defra made a commitment to work to establish this quantification in relation to certain programmes, where feasible.

4.18 To help develop an estimate of the role of EEC in tackling fuel poverty, Defra commissioned the Building Research Establishment (BRE) to undertake modeling to enable a better feel for the approximate order of magnitude . This work has indicated that, based on the model used, activity under EEC by 2010 could take some 100,000 vulnerable households out of fuel poverty on current EEC2 activity levels.

Possible approaches to equity issues in EEC3

4.19 The above considerations suggest that there is a complex balance to be struck between maintaining the cost-effectiveness of the main aim of EEC, that is reducing carbon emissions, and the potential implications of using the EEC

mechanism to deliver additional benefits such as social equity or reducing the number of households that cannot afford adequately to heat their homes.

4.20 Some initial suggestions for possible approaches to the treatment of low-income consumers are set out below for consideration.

4.21 **Option 1 could be to set the proportion of energy savings required to be directed at the priority group such that the absolute level of energy savings under EEC3 directed at the priority group will be at least a similar level to EEC2.** This would mean that if EEC3 were to increase by 50% compared to EEC2, the priority group share would be about 33%. If EEC3 were to increase by 100%, this share would be about 25%.

4.22 Our initial analysis set out above suggests that this option (an "EEC2 PG level" option) would be technically and practically feasible. It would maintain the carbon focus of the EEC, while allowing the EEC to remain cost-effective. Priority group customers would still be able to benefit from the next phase of the EEC, as well as continuing to benefit from measures that they received under previous phases. Finally, it would continue to allow the EEC to work effectively with Warm Front and fuel poverty programmes in Wales and Scotland and to contribute to the Government's fuel poverty objectives. However, under this option the priority group would be likely to receive a smaller share of the benefit of this phase of the EEC programme than their proportion in the population.

4.23 **Option 2 could be to set the proportion of energy savings required to be directed at the priority group such that the absolute level of energy savings under EEC3 directed at the priority group will be proportional to its size in the overall population.** The priority group represents about 28% of all households, so it could be seen as appropriate for the priority group to receive 28% of the energy savings under EEC3*.* In practical terms, one proxy for this would be the proportionate share of the energy saving target.

4.24 There could, however, be a difference between the shares of energy cost benefits and of energy savings due to differing mixes of measures for Priority Group and non-Priority Group households. In order to provide a safety margin and ensure that that the Priority Group did receive benefits at least in proportion to its size, the Priority Group share could be higher, for example one third. This would be a reduction of more than 15% points compared to the priority group share under the current EEC. However, since the overall target for EEC3 will be higher than that for the current EEC, the actual level of energy savings for the priority group will increase. For example, if EEC3 were to increase between around 50% and 100%, the actual level of energy savings going to the priority group would be the same or around 33% greater, respectively, than under the current EEC.

4.25 This option (a “proportionate” option) would reduce that the carbon focus of the EEC, since a significant proportion of the costs would be directed at the low-income group, rather than at more cost-effective carbon abatement options. It would suggest that the EEC could be significantly less cost-effective. Priority group customers would still be able to benefit from the next phase of the EEC, as well as continuing to benefit from measures they have received under previous phases. Finally it would continue to allow the EEC to work effectively with Warm Front and fuel poverty programmes in Wales and Scotland and to contribute to the Government’s fuel poverty objectives.

4.26 **Option 3 could be to set the proportion of energy savings required to be directed at the priority group such that the absolute level of energy savings under EEC3 directed at the priority group will be maintained at the current 50% level.** Our initial analysis set out above suggests that this option (a “50%” option) may, depending on the actual size of the EEC3 target, be greater than the upper limits of what is technically and practically feasible if CWI remains the measure of choice. It would mean that the carbon focus of the EEC would be reduced, since the majority of costs would be directed at low-income consumers, rather than at the most cost-effective carbon abatement options via consumers that can afford to contribute more to the cost of measures. It would suggest that the EEC could be significantly less cost-effective. Priority group customers would still be able to benefit from the next phase of the EEC, as well as the ongoing benefits from previous phases. Finally it would continue to allow the EEC to work effectively with Warm Front and fuel poverty programmes in Wales and Scotland and, with a higher EEC3 target, could increase the contribution of the EEC to the Government’s fuel poverty objectives.

4.27 **In addition to setting a priority group requirement within EEC3, a fourth option could be to introduce a new mechanism within the EEC legislative framework that would exempt suppliers from fulfilling part of their target in the Priority Group if they could satisfy certain criteria and paid a prescribed sum of money to a relevant third party to undertake related energy efficiency measures.** Two possible approaches are considered here. In both cases, the suppliers would need to demonstrate why they were unable to meet their target in respect of the priority group. Those reasons that were considered to be acceptable to warrant a different approach towards meeting the relevant target would be included within the criteria of bringing the exemption into operation in favour of the supplier. If the supplier was able to satisfy the pre-conditions of the exemption, it would then be entitled to make a payment via a relevant third party, such as Warm Front, calculated on a prescribed basis which would take into account the extent to which the supplier was seeking an exemption from its obligation to the priority group. Firstly, suppliers could gain an exemption from delivering some or all of the priority group share of their target, thereby reducing the level of the overall target – “total” exemption option. They would pay a sum of money, to be determined by the Government and set in the EEC3 Order, instead of meeting the requirement

to achieve a proportion of energy savings in the priority group. Where an exemption was brought into play that was underpinned by, for example, a limitation of available and/or willing members of the priority group the cost of the exemption is likely to reflect the cost to the suppliers of undertaking such measures had the limitation not existed. The resulting money would be used, for example via Warm Front, on behalf of suppliers to provide measures that are related to those found under the EEC programme.

4.28 Alternatively, suppliers could be exempt from some or all of the priority group share, but still deliver the overall target – a "differential" exemption. They would still need to carry out the same total amount of measures to achieve their target, but could deliver them to able to pay consumers, rather than meeting a requirement to deliver a proportion of savings in the priority group. The exemption price would need to take account of the cost difference of promoting measures in the priority group and non-priority group, about 20% under EEC1. The money would be used in the same way as described above.

4.29 Suppliers would not be able to move between options (i.e. meeting the priority group obligation or gaining an exemption from it) during the course of a particular piece of work or activity. In addition the use of the exemption would need to be phased, so that any funds it drew in could be effectively expended during the EEC period. Further analysis of the potential advantages and disadvantages of these options needs to be carried out and the Government will also need to consider the detailed legal requirements, practical and administrative arrangements that would need to be developed to effectively support them and whether these options provide a viable mechanism. Further consideration will need to be given to the circumstances in which the exemption should come into play and how and when they should be assessed as applying. The relevant exemption price would need to be set in the EEC3 Order with an index-linking formula which would allow Ofgem to make relevant annual adjustments. It would be linked to the real cost of providing measures to priority group customers which would be passed on to suppliers.

4.30 **Finally, it has been suggested that, in addition to setting a priority group requirement within EEC3, the Government could introduce a new mechanism within the EEC legislative framework that would enable suppliers to deliver some of their priority group obligations through measures other than energy efficiency.**

4.31 Some stakeholders have suggested that the EEC mechanism should be used to provide support to low-income households and the alleviation of fuel poverty by allowing energy suppliers to offer priority group customers support other than energy efficiency measures. Examples of such support have included benefit entitlement checks or fuel vouchers. It has been suggested that this would support equity within the EEC mechanism since low-income consumers would continue to benefit from approaches which would offer them as much help and support as energy efficiency installations.

4.32 The legislation underlying the EEC mechanism allows the Secretary of State to set a target for promotion of improvement in energy efficiency, or with the Climate Change and Sustainable Energy Act amendments, other approaches to carbon abatement. Primary legislation would be required to allow the EEC mechanism to be used to meet suppliers' targets by offering or promoting measures that did not lead to improved energy efficiency or carbon abatement. It will not be possible to develop primary legislation changes in time for the start of EEC3 in April 2008. This option is therefore one that the Government may wish to explore as part of consideration of the framework for the household sector post 2011.

4.33 It has been proposed that since primary legislation for such an approach is not practical in the timetable for EEC3, consideration should be given to a voluntary approach by which arrangements might be established outside the legislative framework. However this would not avoid the fact that a supplier's EEC target could not be met via non-energy related approaches. Nor could the Government rely on the establishment of such voluntary agreements in setting the EEC target, the size of the priority group or any elements of the framework for EEC3.

Summary

This section has looked at the EEC priority group of low-income consumers and examined some of the criteria that the Government will take into account in considering approach to equity issues under EEC3.

It has discussed possible approaches that may be taken to equity issues in EEC3, both in relation to the priority group and possible new mechanisms.

The Government would welcome initial views from stakeholders on the above issues to help inform the development of the 2007 consultation.

Chapter 5

Opportunities for trading

This chapter covers the following key issues:

- the potential for trading within the EEC mechanism
- the potential for a move to a formal tradable white certificate scheme
- the potential for testing or exploring trading approaches in EEC3.

5.1 In *Energy Efficiency : the Government's Plan for Action* published in April 2004[16] we promised that "in conjunction with the review of the target for EEC post-2008 we will … explore with all interested parties the opportunities for trading of the energy/carbon savings achieved".

5.2 In response to this commitment we commissioned NERA Economic Consulting to undertake a study of the potential for trading within the EEC mechanism and the feasibility of evolving the EEC towards a formal tradable white certificate scheme. The purpose of the study was to review the functioning of the EEC and consider modifications or new policies to encourage more "trading" in the energy efficiency measures market.

5.3 The NERA report *Energy Efficiency and Trading: options for increased trading in the Energy Efficiency Commitment*[17] was published in March 2006 and discussed with stakeholders at an Energy Efficiency Partnership for Homes' hosted event at the end of that month.

5.4 The NERA report concluded that trading is already an important element of the EEC mechanism. Energy suppliers have been very innovative in finding creative ways of working with a wide range of third parties to promote and deliver energy efficiency improvements in the household sector. There are already significant amounts of "trading" and interaction between all the key players in the energy efficiency market. In particular this takes the form of "vertical" trading, where energy suppliers work with other parties to deliver their targets, and "inter-temporal" trading where suppliers use transitional arrangements for measures achieved in one compliance period to meet EEC targets in the next, "horizontal" trading, between obligated energy suppliers, is less used.

5.5 In considering whether the EEC should be moved to a formal tradable white certificate (TWC) scheme the NERA report concluded that a transition to a TWC scheme would require new institutional arrangements and new

[16] www.official-documents.co.uk/document/cm61/6168/6168.htm
[17] www.defra.gov.uk/environment/eec/eec-trading.pdf

legislation, including primary legislation. The report also suggested that the change in the composition of measures and delivery routes occasioned by a TWC scheme may be limited and thus the impact on scheme cost-effectiveness may not be significant. The Government would welcome any comments on these conclusions.

5.6 There are both arguments for and against a move towards a TWC scheme. Transaction costs for suppliers are likely to decrease, as there would be fewer requirements for the involvement of suppliers in energy efficiency projects. In addition the greater transparency of costs and an increased number of market participants might increase competition and innovation, thereby reducing costs and prices. But against this, administrative costs are likely to increase with the involvement of a larger and more diverse set of participants in the monitoring, reporting, and verification process. The risk to many players might increase since, in order to sell measures into the TWC market, they would need to undertake work without the certainty of a purchaser.

5.7 The NERA report and discussions with stakeholders on this issue have not established that a move to a formal TWC scheme would realise significant additional cost-effective benefits to the EEC mechanism. In addition, it would need primary legislation to allow EEC targets to be met by the purchase of tradable certificates, and a new legislative framework could not practically be introduced in time for the start of the EEC3 in April 2008.

5.8 Some stakeholders have suggested that allowing energy suppliers retrospectively to purchase measures to be counted towards their EEC scores would allow flexibility for the development of arrangements that would permit the exploration of trading-related approaches amongst key market players. It is doubtful whether the current EEC legal framework would allow for suppliers to meet their targets by buying measures previously installed by other players. However, the Government would be interested in any other suggestions from stakeholders of mechanisms that might allow trading-related activity against the background of the existing legislation.

5.9 The Energy Review announced that some form of supplier obligation will continue until at least 2020. The Government is considering whether, from 2011, this obligation could change from the current measures-based approach to one with tradable targets defined in terms of absolute carbon or energy demand.

The Government would welcome views on from stakeholders on the above issues.

Annex A

The overall expenditure on the EEC priority group, including programmes other than the EEC

1. From 2002 to 2008, an estimated programme expenditure of £3.2bn has been spent on energy efficiency measures principally through the Energy Efficiency Commitments (EEC1 and EEC2), Warm Front and other fuel poverty programmes. About 80% of this expenditure went to households in the priority group (comprising about 28% of all households in Great Britain). Just over half of the £3.2 billion expenditure was under EEC. On average, priority group households have received support from Government programmes of about £360 per household, compared to about £37 for non-priority group households. Consumers who received measures under EEC 1 and EEC2 will continue to benefit from those measures during the EEC3 period and beyond.

	Priority Group £bn		non-Priority Group £bn		Total £bn
EEC 2002-05	0.24	53%	0.21	47%	0.44
EEC 2005-08	0.72	61%	0.46	39%	1.19
Warm Front 2002-08	1.14	100%			1.14
Other FP programmes 2002-08	0.43	100%			0.43
Total 2002-2008	**2.53**	**79%**	**0.67**	**21%**	**3.20**
per household	£ 361		£ 37		£ 128

Sources: Assessment of EEC 2002-05 Carbon, Energy and Cost Savings (Defra 2006); EEC 2005-08 Illustrative Mix; UK Fuel Poverty 4th Annual Progress Report 2006 (adjusted for administration, research and leasing costs); Devolved Administrations.

2. Assuming that expenditure on fuel poverty programmes continues at least at the level of 2007/08, about 60% of the expenditure will be in the priority group over 2002-2011, not including any further resources under EEC3.

3. If EEC3 maintained a priority group share of 50%, about 80% of the total expenditure from 2002 to 2011 would go to the priority group and priority group households would receive support of about £720-790 per household over 2002-2011 compared to about £75-90 for non-priority group households for a 50-100% increase in EEC3 respectively.

4. The costs of EEC2 are estimated to be not more than £9 per fuel per year for the period of the EEC2 target, which corresponds to about £16 per year per household or around 2% of fuel bills for those three years. Analysis of the potential costs of EEC3 will be undertaken as part of the development of the

illustrative mix (see paragraphs 1.11 to 1.12 above). However the initial analysis in this document suggests that the wide range of Government support aimed at this sector, while not integral to the equity of the EEC, may already be working towards protecting priority group customers from the potential increases in their fuel bills that the EEC mechanism is likely to entail.