

ENERGY EFFICIENCY WHO PAYS AND WHO BENEFITS?

Reg Platt, Jan Rosenow
and Brooke Flanagan

December 2012
© IPPR 2012

ABOUT THE AUTHORS

Reg Platt is a research fellow at IPPR.

Jan Rosenow is a consultant at JR Energy Consulting and a doctoral researcher at the Environmental Change Institute, University of Oxford.

Brooke Flanagan is director at Future Climate.

ACKNOWLEDGMENTS

The authors would like to thank Brenda Boardman (Environmental Change Institute, University of Oxford) and William Baker (Consumer Focus) for their advice on this project, and Will Straw, Clare McNeil, Graeme Cooke and Nick Pearce of IPPR for their comments on earlier drafts of this report.

We would also like to thank of all the interviewees who took part in the research and British Gas for kindly supporting this work and sharing original data to include in the report.

All of the views contained in this report are those of the authors.

ABOUT IPPR

IPPR, the Institute for Public Policy Research, is the UK's leading progressive thinktank. We produce rigorous research and innovative policy ideas for a fair, democratic and sustainable world.

We are open and independent in how we work, and with offices in London and the North of England, IPPR spans a full range of local and national policy debates. Our international partnerships extend IPPR's influence and reputation across the world.

IPPR
4th Floor
14 Buckingham Street
London WC2N 6DF
T: +44 (0)20 7470 6100
E: info@ippr.org
www.ippr.org
Registered charity no. 800065

This paper was first published in December 2012. © 2012
The contents and opinions expressed in this paper are those of the author(s) only.

SMART IDEAS
for CHANGE

CONTENTS

Executive summary	2
ECO's contribution to reducing emissions and tackling fuel poverty	2
Costs of ECO and the impact on energy bills.....	3
Distributional outcomes of ECO	4
Conclusions and policy implications	5
1. Introduction	7
2. The Energy Company Obligation	8
2.1 What is the Energy Company Obligation?	8
2.2 A new approach	9
2.3 ECO's limitations in tackling climate change and fuel poverty	10
Summary	13
3. The cost of ECO	14
3.1 How much will ECO cost and add to energy bills?	14
3.2 Cost of the carbon savings target.....	14
3.3 Cost of the fuel poverty target.....	18
Summary	22
4. Who will benefit from ECO and who will lose out?	24
Distributional outcomes of ECO	24
Outcomes for fuel poverty.....	26
Summary	29
5. Conclusions	30
Policy implications	31
References	35
Appendix: List of interviewees	39

EXECUTIVE SUMMARY

In January 2013, a new policy worth up to £3 billion a year, the Energy Company Obligation (ECO), will be introduced to reduce carbon emissions and tackle fuel poverty. It will do this by placing obligations on energy suppliers to improve the energy efficiency of properties in the domestic sector. ECO will work alongside the Green Deal (see boxed text). This paper seeks to establish whether ECO will achieve its desired outcomes and whether it will result in a fair distribution of costs and benefits.

The Energy Company Obligation

ECO marks a radical change from previous obligations that have been placed on suppliers. It will oblige suppliers to deliver high-cost energy efficiency improvements, such as solid wall insulation, rather than low-cost improvements, like loft or cavity wall insulation. ECO is the first suppliers' obligation aimed specifically at tackling fuel poverty. All energy bill payers will bear the cost of the policy because suppliers will pass on their costs. Only certain types of household, however, stand to benefit from efficiency improvements.

Low-cost improvements will mainly be delivered by the Green Deal, which will be introduced alongside ECO. The Green Deal will enable households to install measures at no upfront cost, with payment taken directly from the savings that households make on their energy bills. Green Deal financing will not cover high-cost measures or be appropriate for fuel-poor homes, which is why ECO is needed.¹

ECO's contribution to reducing emissions and tackling fuel poverty

Improving the energy efficiency of homes is the most cost-effective way to reduce emissions and tackle fuel poverty – but ECO, combined with the Green Deal, will make only a limited contribution to either of these goals. The policies will:

- Achieve just 26 per cent of the emissions reductions achieved by current obligations on suppliers, and only 40 per cent of the savings that could be achieved through low-cost measures like loft insulation top-ups and cavity wall insulation.² The Committee on Climate Change (CCC) has said that failing to install all available loft and cavity wall insulation within the decade will result in the UK missing its legal emission reduction targets.
- Result in 125,000–250,000 households being taken out of fuel poverty by 2023 (DECC 2012b) but the number of households in fuel poverty is far greater than this. In England alone the number of fuel-poor households is around 2.7 million – or 10 to 20 times larger than the ECO target.³ We estimate that £17.5 billion of investment is needed to improve all of these households.⁴ At the current level of expenditure this would take over 32 years to achieve.

1 High-cost measures will be too expensive to be eligible for Green Deal financing. Measures provided through the Green Deal will not realise large bill savings for fuel-poor households and so will not get them out of fuel poverty. By enabling fuel-poor homes to receive measures under ECO they will be able to realise the bill savings without having to make repayments.

2 These figures were correct as of December 2011. The design of Green Deal and ECO has changed since this time and the amount of emissions savings expected to be achieved through low-cost measures will have increased. Nevertheless, the overall picture remains the same.

3 This is based on the definition of fuel poverty proposed in a government-commissioned review carried out by Professor John Hills of the London School of Economics. The proposed definition aims to improve on the current definition which captures households that have high incomes or large properties. The government has committed to adopting a new definition of fuel poverty.

4 Based on the average fuel-poor home requiring £6,500 of improvements (Camco 2012).

Costs of ECO and the impact on energy bills

The government estimates that ECO will cost suppliers around £1.3 billion a year (the 'central' cost estimate). This would be an almost pound-for-pound replacement for existing energy efficiency policies, the Carbon Emissions Reduction Target (CERT) and the Community Energy Savings Programme (CESP), so there would be no additional impact on bills. Like CERT and CESP, ECO would make up around £50 of an average annual energy bill, or 4 per cent of the average dual-fuel bill.⁵ But the cost of ECO is very uncertain and could range from £0.53 billion to £3.09 billion annually⁶ (DECC 2011a), which means the impact on bills could be less than CERT and CESP – perhaps as low as £20 per household – or more, at up to £116 (or 1.5–8.7 per cent of the average dual-fuel bill). Some suppliers have claimed that the cost of ECO is likely to be at the upper bound of between £2 billion and £3 billion per year (see for example E.ON 2012).

We concur that there is a risk of high costs for ECO and in this report we present analysis identifying factors that could result in costs at the upper end of government estimates.

Factors include:

- Suppliers may have to provide very high levels of subsidy to incentivise householders to install solid wall insulation in order to meet their targets.
- The solid wall insulation supply chain is not well developed and may struggle to meet the rapid increase in demand that is expected, which will push up costs.
- Many local authorities are unlikely to engage with ECO because they have limited resources and are focused on a range of competing priorities. This is a missed opportunity, since the cost of installing solid wall insulation can be reduced by 10 per cent by supporting multiple installations in local areas.
- Suppliers may have difficulties with the Affordable Warmth (AW) sub-target of ECO, if previous experience is any guide. Suppliers have struggled to meet the 'Super Priority Group' (SPG) sub-target of the current energy efficiency obligation – CERT – which directs resources to low-income and vulnerable households (see boxed text). It is likely that there were flaws in the design of the SPG target which resulted in costs rising to the upper end of government estimates. The same is therefore likely for AW.

The cost of existing energy efficiency obligations and the impact on energy bills

In March 2011, the Super Priority Group sub-target was introduced into the existing supplier obligation, CERT, in order that households most at risk of fuel poverty would receive energy efficiency measures.

Most suppliers will fail to achieve their SPG targets within the CERT obligation period. Suppliers interviewed by IPPR maintain that this is not due to a lack of effort. Examples of activities they have undertaken are included in this report. It appears likely that an assumption about the proportion of SPG households that are suitable for energy efficiency measures, made when the target was set, has not proved accurate. The target was therefore harder to achieve than the government expected.

⁵ Based on a current bill of £1,335 (Ofgem 2012a).

⁶ These estimates are given in the consultation stage impact assessment of the ECO and Green Deal. The design of the policy has altered since and the potential cost range will have changed but updated figures have not been published. The overall picture of very wide ranging estimates with a very high upper boundary will remain and these past estimates are therefore useful indicators.

As suppliers have struggled to meet their SPG target and sought to find eligible customers within a decreasing time window, their costs have risen. We show that, despite these increases, the cost of achieving the SPG target has remained within the government's expectations, albeit at the upper end. The Affordable Warmth target in ECO is structured in a similar way to the SPG target and so a similar outcome on costs can be expected.

Some suppliers have claimed that an increase in their costs for delivering CERT was a factor behind their recent decision to raise energy tariffs. We show that if the cost of the SPG target has increased by 85 per cent over the past year, as one supplier has claimed, this may be responsible for an increase of just £6.45, or 0.5 per cent, in the average energy bill.⁷ This compares to recent tariff increases by the suppliers of between 6 per cent and 11 per cent.

The wholesale cost of energy (in particular the cost of buying gas) is by far the most significant factor affecting energy bills. To a lesser degree, the cost of government policies, including CERT and support for renewable energy, has contributed to price rises.⁸ We present analysis in this report showing that in past years the cost of CERT has been significantly lower than government expectations.

Distributional outcomes of ECO

If the government's central cost estimate for ECO is correct up to 2020, the distributional impact of energy bill increases resulting from the policy will be regressive for the majority of households (those that do not install measures under the Green Deal or ECO). If costs are higher then the extent of the regressive distributional outcomes will be greater.

Fuel-poor households are most vulnerable to energy bill increases. Within ECO, provisions for low-income and vulnerable households are poorly targeted and the majority of support will go to households that are not fuel-poor. Over 2.5 million fuel-poor homes will not receive energy efficiency measures through ECO.

In this report, we argue for a new approach to targeting that could be much more efficient at reaching fuel-poor homes and more cost-effective than current policies (see boxed text).

The Low-Income, Low-Efficiency Area approach to tackling fuel poverty

The Low-Income, Low-Efficiency Area (LILEA) approach would involve measures being provided to all houses in certain geographical locations based on a combination of property and income-based proxies. This would mean that some more affluent households received support. But regional fuel poverty statistics show that in some postcode areas almost 50 per cent of households are in fuel poverty (DECC 2010a), indicating that a LILEA approach could help to reach many more

7 This assumes that the cost of other sub-targets within CERT (excluding SPG) have remained static and that the cost of CERT is now in line with government estimates.

8 Wholesale energy costs, as part of the average annual dual fuel energy bill, have risen from £490 to £620 over the past two years and currently make up 46 per cent of the average bill (Ofgem 2012a). The overall cost for environmental and social policies, according to one supplier, has increased by over 30 per cent in the past year, adding £19 to the average dual fuel bill, so that the total costs for environmental and social policies on the bill is close to £75 (see for example ECCC 2012a).

households than current policies, which only direct a quarter of current annual expenditure to the fuel-poor (Boardman 2010). This would bring additional benefits including economies of scale from installing energy efficiency measures into multiple properties in an area, and increased take-up of measures because individual households would not feel stigmatised by being singled out for support.

Conclusions and policy implications

The design of ECO and the Green Deal should be reviewed so that they are better equipped to reduce emissions and tackle fuel poverty at least cost. Improving the cost-effectiveness and targeting of ECO would allow the limited resources it puts towards tackling fuel poverty to be spread further. Greater transparency on costs is needed to protect consumers.

1. Reducing emissions at least cost

Placing less of an emphasis on solid wall insulation in ECO would result in a far lower risk of high costs for the policy and large bill increases for consumers. Furthermore, the Committee on Climate Change has recommended that the government allow low-cost energy efficiency measures, such as loft and cavity wall insulation, to count towards suppliers' ECO targets, because this will help to stimulate demand for these measures and ensure emissions are reduced in line with the UK's carbon budgets (CCC 2011).

The government should be open to a near-term review of which measures are eligible under ECO, including extending the policy to include loft and cavity wall insulations, based on an assessment of how effective the Green Deal is at stimulating demand for low-cost measures.

DECC has estimated that strong local authority engagement in ECO could bring down the costs of the policy by 10 per cent, or around £130 million a year, by supporting multiple installations of solid wall insulation in local areas. However, many local authorities will not engage strongly with ECO unless they are provided with additional resources (Scott 2011). Investing £40 million in local authority staff and resources in order to reduce ECO costs could achieve a net economic benefit of £90 million. A number of options for raising the necessary funds are discussed below.

The government should support local authority engagement with ECO by investing £40 million in local authority staff and resources.

2. Tackling fuel poverty cost effectively

Experience with the existing supplier obligation, CERT, suggests that the cost of the Affordable Warmth (AW) target in ECO will be high and some suppliers will fail to deliver their obligations. The suppliers' progress towards achieving the AW target should therefore be closely monitored in order that problems are quickly identified. A review of the cost and efficacy of the CERT Super Priority Group target, which is similar, should immediately be carried out as well. This will allow government to act quickly and adjust the eligibility criteria of AW should suppliers make only poor progress towards the target.

Government should closely monitor the suppliers' progress towards achieving the Affordable Warmth target in ECO to identify whether this target is deliverable and cost-effective. Government should also immediately launch a review of the viability

and cost-effectiveness of meeting the CERT Super Priority Group target to identify why most suppliers will fail to meet their obligations.

The Low-Cost, Low-Efficiency Area (LILEA) approach for targeting resources at fuel-poor homes could be significantly more efficient and cost-effective than current policies. The approach should be piloted as part of ECO to assess its efficacy before being more widely implemented.

The government should pilot a new area-based approach to target energy efficient improvements for fuel-poor homes based on income and property-based characteristics.

3. Increasing transparency on costs to protect consumers

Government and suppliers have recently made conflicting statements about the costs of the current supplier obligations and their impact on energy bills. Meanwhile, consumers have been left in the dark. The secretary of state will have the power to monitor the cost to the energy companies of delivering ECO. He should fully exercise this right, and to protect consumers, aspects of this data should be put into the public domain. This should be done in a way that is sensitive to how the competitive dynamic within the energy efficiency market could be affected.

The government should require the suppliers to submit detailed information on the costs of delivering their ECO obligations, which should be independently verified, for example by Ofgem. The average cost of carbon for each sub-target within ECO, aggregated across the suppliers, should then be published alongside data on the suppliers' performance against these sub-targets.

1. INTRODUCTION

Energy bills are a growing political concern in the UK. All six of the UK's largest energy suppliers have announced increases to their electricity and gas tariffs. The increases, ranging from 6 to 11 per cent, follow an average bill increase of 75 per cent between 2004 and 2010 as well as further increases in 2011.

The cause of bill increases is the subject of a lively debate, with suppliers and government offering different explanations. Part of the confusion comes about because there is little transparency about the costs which are included in bills. Nonetheless, we know that at present increases in the wholesale cost of gas are the main reason for price rises. To a lesser degree, the cost of government policies has also contributed to these increases. Whatever the reason, the poorest in society are worst affected by the upward trend.

In January 2013 a new policy called the Energy Company Obligation (ECO) will be introduced, which will help certain types of household to reduce their bills by installing energy efficiency measures. By doing this, ECO aims to reduce emissions and tackle fuel poverty.

ECO will be funded through energy bills. It is therefore vital that the policy is designed to be cost effective and fair, in order to protect consumers from unnecessary increases. This paper seeks to establish whether ECO will achieve its desired outcomes and result in a fair distribution of costs and benefits.

Our analysis begins in chapter 2 by outlining the design of ECO and the objectives it hopes to achieve. This is followed in chapter 3 by an examination of the potential cost of the policy and, in chapter 4, with a look at the effectiveness of its targeting. We conclude by putting forward a number of policy recommendations.

The findings in this report are based on analysis of policy literature, policy impact assessments produced by government, responses to government consultations from a range of stakeholders and statements by energy suppliers. This has been supplemented by interviews with 17 expert stakeholders representing a range of views on the issue (see the appendix for a list of interviewees).

2. THE ENERGY COMPANY OBLIGATION

On 1 January 2013 the Energy Company Obligation (ECO) will commence. ECO is a multibillion-pound programme, worth around £1.3 billion a year, to reduce carbon emissions and tackle fuel poverty by delivering energy efficiency improvements in the domestic sector. In this chapter we outline what the policy involves, why it marks a new approach to previous policies, and why it will make only a limited contribution to tackling climate change and fuel poverty.

2.1 What is the Energy Company Obligation?

ECO is the latest in a succession of obligations designed to improve the energy efficiency of the domestic sector that have been placed upon the main energy suppliers since 1994.⁹ The underlying approach is that suppliers are obliged to achieve certain targets by upgrading the energy efficiency of eligible households. Suppliers are expected to achieve their obligations by subsidising the installation of energy efficiency measures and to recoup their costs by increasing consumers' energy bills.

The obligations to be placed upon the suppliers under ECO will run from January 2013 to March 2015 and include two carbon-saving targets, one of which will include a rural sub-component, and a target for tackling fuel poverty (see boxed text following). The obligations are:

- A total carbon-saving target of 27.8MtCO₂ split into 20.9MtCO₂ (75 per cent) for the Carbon Saving Obligation (CSO) target and 6.8MtCO₂ (25 per cent) for the Carbon Saving Communities Obligation (CSCO) target, which will be focused on low-income areas. As part of a 'rural safeguard' at least 1MtCO₂ (15 per cent) of the CSCO target must be delivered to rural households. The total carbon emissions to be saved under ECO are 5.7 per cent of the total savings the UK is legally obliged to make over the ECO period.¹⁰
- The Affordable Warmth (AW) target will require energy suppliers to achieve a total reduction in space and water heating costs for low-income and vulnerable households of £4.2 billion.

The government expects suppliers to spend a total of around £1.3 billion (according to the central cost estimate) on ECO for each year of the programme. This consists of £760 million on the CSO, £190 million on the CSCO, and £350 million on the AW target (DECC 2012b). The total spending on tackling fuel poverty is therefore £540 million (the cost of the CSCO and AW targets combined). The cost of ECO is expected to be the same as suppliers currently spend on their energy efficiency obligations: the Carbon Emissions Reduction Target (CERT) and the Community Energy Savings Programme (CESP). CERT and CESP will end as ECO is introduced.¹¹

9 In 1994 the UK was the first country in the EU to place an obligation on energy suppliers (Rosenow 2012). Requirements were and continue to be placed on the largest energy suppliers, which currently consists of the 'big six' firms: British Gas, EDF Energy, E.ON, Npower, Scottish Power and SSE.

10 The UK is legally obliged to deliver 28 per cent savings from a 1990 baseline between 2013–2017. Taken as a proportion of this overall target, the total emissions to be saved from January 2013 to March 2015 is 486.85MtCO₂.

11 It is possible that CERT and CESP will be extended because suppliers are currently struggling to achieve their targets. This is discussed in detail in chapter 3.

What is fuel poverty?

'Fuel poverty' describes a household that needs to spend more than 10 per cent of its income on all fuel use to heat its home to an adequate level of warmth¹² (DTI 2001). At its core, the definition should be about the ability of a household to live without having to choose between 'eating and heating'.

A recent government-commissioned review of fuel poverty by Professor John Hills of the London School of Economics concluded that the current indicator is overly sensitive to fuel prices and the size of the dwelling (Hills 2012). The current indicator captures large numbers of people, including some wealthy households.¹³ This can distort debates about where resources should be targeted. A new indicator, the Low Income and High Costs (LIHC) indicator, was proposed in the Hills review and would be less sensitive to varying energy prices, but it may also have some drawbacks.¹⁴ People would be defined as living in fuel poverty if:

- they have required fuel costs that are above the median level, and
- were they to spend that amount then they would be left with a residual income below the official poverty line

On publishing the review, the government committed to adopting a new definition of fuel poverty (DECC 2012e).

2.2 A new approach

Compared with previous supplier obligations, ECO marks a radically different approach for two reasons: first, it will achieve carbon savings by focusing mainly on high-cost energy efficiency measures, such as solid wall insulation, instead of low-cost measures, such as loft insulation;¹⁵ second, it is the first obligation to include a specific objective to tackle fuel poverty. ECO is focused in this way because of how it links to the Green Deal, which will come in at the same time.

The Green Deal is a market-based instrument that will enable households to install energy efficiency measures at no upfront cost. Instead, measures will be paid for automatically from the energy savings the household achieves through a levy on their bills over a given time period.

The Green Deal by itself is unlikely to be able to support high-cost energy efficiency measures or be appropriate for fuel-poor households, which is why the ECO is needed. This is because these high-cost measures are unlikely to meet the Green Deal's 'golden rule', which stipulates that the savings achieved over the lifetime of installed measures must exceed the repayments. Improvements to fuel-poor households are unlikely to meet the golden rule because such homes are more likely to have solid walls, which are expensive to insulate; many tend to currently 'underheat' their homes and so are unlikely to reduce their energy use to the same degree as other households once

12 This is usually defined as 21°C for the main living area and 18°C for other occupied rooms.

13 According to some projections based on the current indicator, a third of all households in the UK would soon be defined as being in fuel poverty. Demonstrating the perverse nature of the current measure, this would include the Queen, who is captured by the definition because of the high cost of heating her estates.

14 It doesn't account for property-based characteristics, including dwelling size and energy efficiency performance. Also, it would be much more difficult to reduce fuel poverty than under the current indicator and impossible to eradicate it altogether.

15 All types of measures will be able to be installed under CSCO.

measures are installed; and fuel-poor households are less likely to have the capital to partially finance measures, which may sometimes be necessary under the Green Deal (DECC 2012c).¹⁶

It is notable that the support for high-cost energy efficiency measures under ECO differentiates it from most other major energy supplier obligations, including those in North America (York 2008), Europe (Eyre et al 2009) and previous obligations in the UK. Obligations have generally been designed to promote delivery of energy savings through the cheapest available measures (DECC 2012c). Other schemes promoting high-cost measures have taken a different approach: the successful KfW scheme in Germany, for example, was based around a loan programme (Kuckshinrichs et al 2010, Rosenow 2011, Schröder et al 2011).

The inclusion in ECO of a specific objective to tackle fuel poverty is also new. Because obligations on suppliers can produce inequitable outcomes (because of the way costs are passed through and because suppliers tend to focus delivery on higher-income households, which require lower subsidies), policies have tended to include measures to ensure lower-income households also benefit (Rosenow 2012). Nonetheless, the primary focus of previous energy efficiency policies has been reducing emissions.¹⁷ A tension exists in all supplier obligations that include measures to tackle fuel poverty because, as we discuss in chapter 4, the resulting energy bill increases place some households deeper in fuel poverty than would have been the case if the policies didn't exist at all.

2.3 ECO's limitations in tackling climate change and fuel poverty

ECO is designed to help the government achieve its statutory commitments to reduce carbon emissions and fuel poverty. These commitments are that the UK must reduce its emissions by 34 per cent by 2020 and 80 per cent by 2050, based on a 1990 baseline (Climate Change Act 2008), and that the government must ensure 'as far as reasonably practicable' that nobody lives in fuel poverty by 2016 (see DTI 2001). However, ECO will only make a limited contribution to either of these goals.

Reducing carbon emissions

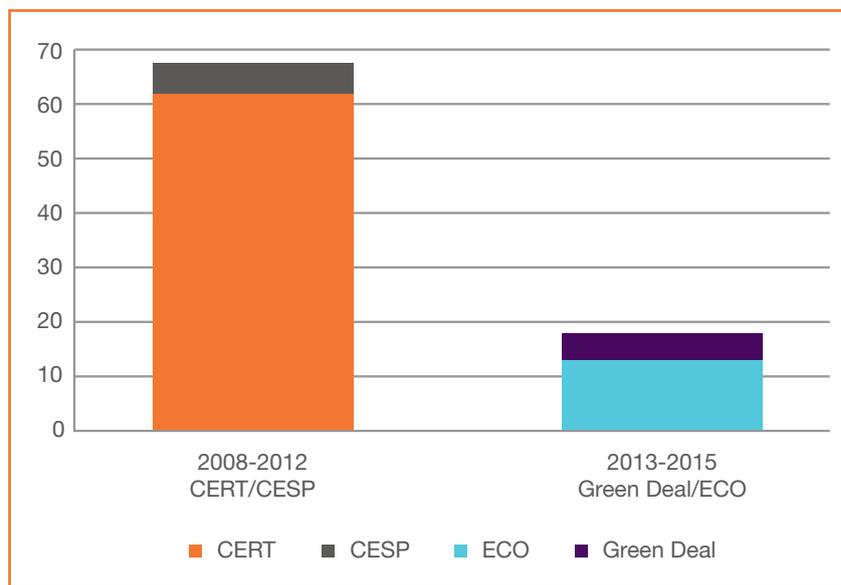
Homes contribute more than 25 per cent of Britain's overall greenhouse gas emissions (DECC 2012a). Making them more energy efficient offers the potential for significant emission reductions (AEA Energy & Environment et al 2008). Reducing emissions in this way is highly cost-effective compared with investing in low-carbon generation. For example, the Energy Efficiency Commitment (EEC) – the most recent evaluated obligation on suppliers, which ran from 2005 to 2008 – reduced carbon emissions at a *net benefit* of £51 for every tonne of CO₂ (Lees 2008). That is, energy savings were greater than the investment cost. That result compares to a cost of between £85 and £152 for every tonne of CO₂ reduced by offshore wind power (CCC 2008). Despite this potential, ECO and

16 Other reasons why Green Deal financing may not be appropriate for fuel-poor homes is that the perceived expense of taking on a Green Deal loan may deter those on lower incomes, particularly those with bad experiences of taking on debt, and investors are less likely to offer loans to households with a poor credit history.

17 While, after 2000, eradicating fuel poverty is mentioned in all of the consultation documents on the suppliers obligations as one of the objectives of the policies, the primary stated aim has remained the reduction of carbon emissions until very recently. This is very clear in the consultation document for Energy Efficiency Commitment (which ran from 2002–05), which stresses that the policy 'was not intended to specifically target the fuel-poor' (Defra 2004: 7) and that the 'primary aim [was] to make a significant contribution to the UK's legally binding target under the Kyoto protocol' (ibid: 5). This is reiterated more strongly in the 2006 CERT consultation, which states that the policy 'does not have a specific fuel poverty objective' and that provisions for low-income households were included for 'reasons of equity' (Defra 2006: 7), not to tackle fuel poverty.

the Green Deal together will achieve significantly lower annual emissions reductions than the current supplier obligations (only 26 per cent of the current effort; see figure 1.1).¹⁸ They will also fail to deliver much of the most cost-effective emissions reduction potential that exists, achieving only 40 per cent of the savings that could be achieved through loft insulation top-ups and cavity wall insulation (2MtCO₂ savings out of 5MtCO₂ savings potential)¹⁹ (CCC 2011).

Figure 2.1
Carbon savings under
CERT/CESP and ECO/
Green Deal



Source: Rosenow and Eyre 2012

Low levels of take-up of loft and cavity wall insulation are expected because they will not be offered to households on a subsidised basis (CCC 2011). Levels of demand for energy efficiency measures have been persistently low, even when they have been offered for free, because people are put off by factors such as the hassle involved in carrying out home improvements.²⁰ Moreover, under the Green Deal, households will have to take on debt to install measures, which is a less attractive proposition.

The government's independent advisor on reducing emissions, the Committee on Climate Change (CCC), has said that by failing to deliver higher levels of loft and cavity wall insulations, the Green Deal and ECO could undermine the UK's ability to meet its emission reduction targets (CCC 2011). This is because both the CCC's and DECC's long-term frameworks for achieving the targets require *all* lofts and cavity walls to be insulated over the next decade. They have recommended that government make low-cost measures available under ECO in order that the targets are achieved.

¹⁸ Note that this additional data not included in the IA may change the exact figures.

¹⁹ These figures were correct as of December 2011. The design of the Green Deal and ECO has changed slightly since this time and the amount of emissions savings expected to be achieved through low-cost measures will have increased. Nevertheless, the overall picture remains the same. In December 2011, the Green Deal and ECO were expected to deliver only 10 per cent of the technical potential of top-up loft insulation (700,000) that exists and 30 per cent of the technical potential of cavity wall insulation exist (1.7 million).

²⁰ For example, in a scheme in Kirklees in which all households in the area were offered free insulation but only 40 per cent took up the offer (Phillips and Scott 2012).

Tackling fuel poverty

It is widely accepted that improving the thermal efficiency of fuel-poor homes, as will occur through ECO, is a better approach to tackling fuel poverty than providing financial assistance to fuel-poor households directly (see boxed text) (Boardman 2010, Ekins and Lockwood 2011, Hills 2012). However, there are many more households that are fuel-poor than will receive support through ECO. The government estimates that ECO will result in 125,000 to 250,000 households across Great Britain being taken out of fuel poverty by 2023 (DECC 2012b) but the number of households in fuel poverty in England alone (according to the new definition proposed in the Hills review) is around 2.7 million – or 10 to 20 times larger than the ECO target. With the level of ambition it has set for ECO, the government appears less than committed to the goal of eradicating fuel poverty by 2016 (DTI 2001). We estimate that £17.5 billion of investment is needed to improve all currently fuel-poor homes in England. At the current level of expenditure this would take over 32 years to achieve.²¹

Policy approaches to tackling fuel poverty

Energy efficiency improvements provide a long-term, sustained solution for households suffering from fuel poverty, whereas financial support offers only short-term respite and must be provided on a repeat basis. As a result, financial assistance policies are significantly less cost-effective at tackling fuel poverty than energy efficiency policies (Hills 2012).

With the exchequer-funded policy ‘Warm Front’ coming to an end in March 2011, ECO will be the primary instrument for tackling fuel poverty by improving the energy efficiency of fuel-poor homes in England. A number of schemes to provide financial assistance to the fuel-poor are currently in operation and will continue to exist alongside the ECO. These are:

- **Winter fuel payments:** An annual, tax-free payment made to over-60s that is intended to help towards their winter heating costs. It is a lump sum and in most cases is paid automatically (to recipients who are on the state pension, for example). Expenditure on these payments was £2.8 billion in 2010/11, up from around £775 million in 1999/2000. As is discussed in chapter 4, winter fuel payments are poorly targeted, with only a fifth (19 per cent) of current recipients being fuel-poor.
- **Cold weather payments:** Intended to help pensioners and people on certain benefits to pay for extra heating costs during very cold weather, defined as a seven-day period over which the average temperature in an area is 0°C (freezing point) or below. A payment of £25 is paid automatically for each cold weather period between 1 November and 31 March. Expenditure varies depending on the weather. In 2011/12 an estimated 5.2 million payments worth £129.2 million were distributed.

²¹ Estimating the level of resources required to improve the energy efficiency of fuel-poor homes is challenging, mainly because most modelling work is based on the current definition. To arrive at a ballpark figure, we draw on recent modelling by Camco, which estimated that £6,500 would be required for the average fuel-poor home to be improved from an energy performance rating (EPC) of ‘E’ to ‘C’, which would move 87 per cent of households out of fuel poverty under the current definition. The total resources available under ECO for fuel-poor homes is assumed to be £540 million, which is the budget for the CSCO (£190 million) and AW targets (£350 million) combined. However, as we discuss in the next chapter, issues with targeting mean that much of this money will not go to fuel-poor homes.

- The **warm home discount scheme**: A four-year programme introduced in April 2011. It is run by the government and energy suppliers to provide rebates on the electricity bills of low-income and vulnerable households. Expenditure on this scheme will be £1.1 billion over four years.

Summary

The Energy Company Obligation is a major new policy to be introduced in January 2013, alongside the Green Deal, which will place an obligation on suppliers to improve the energy efficiency of the domestic sector. This new policy regime is important in several respects:

- ECO marks a radical change in approach from previous obligations in the UK and abroad because it focuses on high-cost energy efficiency measures and aims to tackle fuel poverty.
- Improving the energy efficiency of the housing stock is a cost-effective way for the UK to reduce carbon emissions. But ECO and the Green Deal will result in significantly less reduction in emissions than under previous obligations. This may jeopardise the UK's statutory emissions reduction targets.
- Improving the energy efficiency of fuel-poor homes is the most cost-effective and sustainable solution to fuel poverty, and this will be the focus of ECO. The government intends to adopt a new definition for fuel poverty that should enable resources to be targeted more effectively at households that are most in need. However, while ECO will enable improvements to be provided to 125,000–250,000 households across Great Britain by 2023, this number pales alongside the 2.7 million households in England alone are currently fuel-poor.

3. THE COST OF ECO

ECO is a new programme that aims to improve the energy efficiency of homes in Great Britain. In what marks a radical change from previous supplier obligations, ECO will oblige suppliers to deliver high-cost energy efficiency improvements and improve households that are fuel-poor. Households that are not eligible for support through ECO will have the option of installing measures at no up-front cost through the Green Deal.

Only a limited number of people will be able to benefit from ECO but the cost of the policy will be borne by all energy bill-payers. In this chapter we highlight several factors that could affect the cost of ECO and the impact it will have on bills.

3.1 How much will ECO cost and add to energy bills?

There is a great deal of uncertainty about the cost of ECO and the impact the policy will have on energy bills. This is because ECO will specify outcomes for suppliers to achieve in terms of carbon saved and heating costs reduced but will not specify how much suppliers should spend to achieve these goals.

DECC estimates the cost of ECO to suppliers will be within a range from £0.53 billion to £3.09 billion annually²² (DECC 2011a). This implies that the impact ECO will have on bills could be less than CERT and CESP – perhaps as low as £20 per household per year – or more, at up to £116.²³ DECC's central cost estimate for ECO is £1.3 billion, which would be an almost pound-for-pound replacement for CERT and CESP, making up around £50 of an average annual energy bill, or 4 per cent of the average dual-fuel bill. Some suppliers have claimed the cost of ECO could be at the upper limit of DECC's estimates, between £2 billion and £3 billion a year (see for example E.ON 2012). This would result in bill increases of between £75 and £113 per year.

According to DECC's central cost estimate, if bill savings from measures installed through ECO and the Green Deal²⁴ are included, the overall impact on bills during the first ECO obligation period, from January 2013 to March 2015, will be to add around £22. By 2018, the expected savings will have increased and the overall impact on bills will be neutral, after which time the policies will result in overall savings. In chapter 4 we discuss the distributional outcomes of bill increases from ECO.

Because consumers will foot the bill for ECO, any risk that the cost of the policy will be at the upper end of government expectations, or potentially even higher, should be fully considered. Below we look separately at factors that could affect the cost of the carbon savings and fuel poverty targets included in ECO.

3.2 Cost of the carbon savings target

ECO specifies that suppliers must achieve carbon savings of 27.8MtCO₂ over the course of the obligation period. This overall target includes three sub-targets: the Carbon Saving Obligation (CSO) (20.9MtCO₂ or 75 per cent of the overall target), the Carbon Saving Communities Obligation (CSCO) (6.8MtCO₂ or 25 per cent of the overall target), and a 'rural safeguard' (1MtCO₂ or 15 per cent of the CSC target). There is a risk that the cost of each component could be at the high end of the government's estimates.

22 These estimates are given in the consultation stage impact assessment of ECO and the Green Deal. The design of the policy has altered since this time and the estimates will have changed but updated figures are not given in the final stage impact assessment. The overall picture of very wide-ranging estimates with a very high upper boundary will remain, and these past estimates are therefore useful indicators.

23 This is based on an assumption of there being 26.4 million households (ONS 2012) and costs being passed through equally to each of these.

24 In the Green Deal and ECO policy impact assessment DECC does not separate bill savings achieved by ECO from those achieved by the Green Deal.

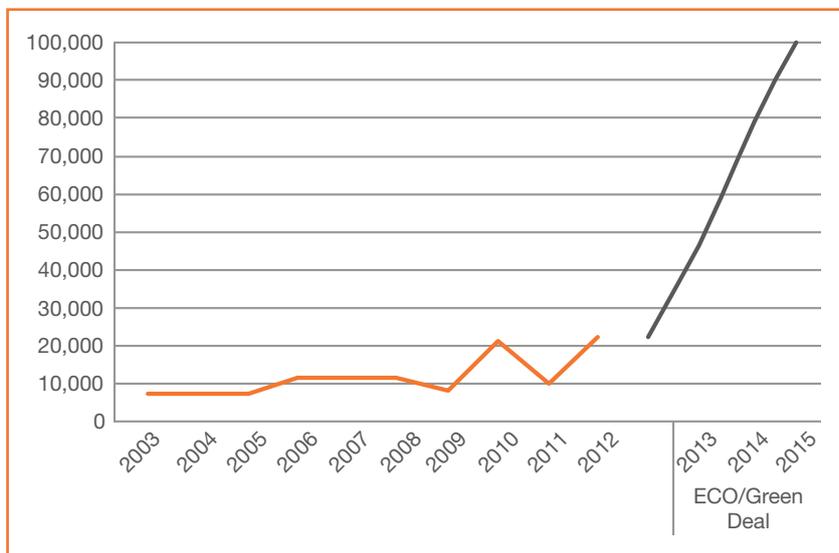
Carbon Saving Obligation

Suppliers will need to achieve the CSO by installing high-cost energy efficiency measures like solid wall insulation or ‘hard to treat’ cavity wall insulation in homes. The government estimates that the cost to suppliers of achieving this target will be around £760 million (DECC 2012b) but acknowledges that the actual cost will be affected by a number of factors.

The main factor that will affect the cost of the CSO is the level of subsidy suppliers will need to provide to households to incentivise them to install solid wall insulation. If suppliers are to achieve the CSO target, DECC projects that the rate at which solid wall insulation is installed will need to dramatically increase from its current level of around 20,000 installations a year to 100,000 a year in 2015. This is shown in figure 3.1 below.

To achieve this, suppliers will need to offer a subsidy to households covering most of the cost, with households paying the rest either from their own funds or through Green Deal financing. Given that there is currently little demand from private homeowners for solid wall insulation²⁵ and that the willingness of households to take on Green Deal financing is unclear, this assumption appears optimistic. Government has launched a number of initiatives to try and stimulate demand for the Green Deal, including a cash-back offer for households who install measures up to the value of £1,000 (DECC 2012d) and a £2.9 million communications campaign to help promote the scheme, which evidence suggests is vital to the success of energy efficiency schemes.²⁶ Nevertheless, significant uncertainty remains about the level of take-up the scheme will achieve.

Figure 3.1
Solid wall installations,
actual and projected



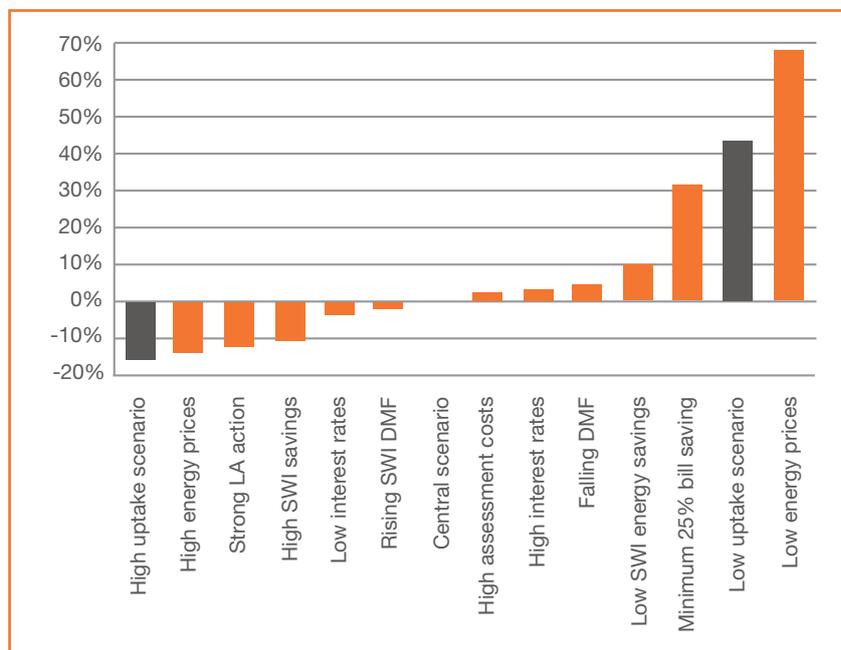
Source: based on DECC 2012b and annual reports on obligations by Ofgem (2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012d)

25 Consumers can be put off by the aesthetics of solid wall insulation and the potential bill savings the measure can produce are often outweighed by the hassle involved in having the measure installed (Platt 2011; see also *Scaling the solid wall* (Consumer Focus 2011).

26 A report by Green Alliance (Phillips and Scott 2012) describes how research into energy efficiency programmes in the US found that building brands at the national and state level was essential to the success of schemes. This was further demonstrated in research for the Green Deal Network, which examined potential Green Deal uptake in the first year of the policy with and without ‘central communications’. Using marketing assumptions about the coverage and frequency of exposure to messages that consumers require before they respond, the research found there would be 31 times more web hits, 49 times more calls to the Green Deal advice line and 75 times more home surveys with central communications. As a result, the Green Deal Network argued that communications about the Green Deal should ‘have a consistent national identity’.

DECC has analysed how different factors, including the rate at which solid wall insulation is taken up, could affect the cost of ECO (see figure 3.2). If the rate at which households take up offers for solid wall insulation is low, and in response suppliers offer large subsidies to try and increase the take-up, then the cost of ECO could rise by over 40 per cent. Conversely, if the rate at which offers are taken up is high then the cost could be around 12 per cent lower.²⁷

Figure 3.2
Variation in annual cost of ECO for different sensitivity scenarios



Source: DECC 2012b

The development of the solid wall industry could have important implications for the costs associated with the CSO. Because the industry is in its infancy, it is hard to predict how it will develop with any degree of certainty. Several stakeholders we interviewed expressed concern that the requirements of the obligation will place excessive pressure on the solid wall insulation supply chain, which is not well developed, leading to high costs and supernormal profits for businesses in the supply chain.

The costs of installing solid wall insulation under ECO could be reduced if local authorities and community groups were to engage strongly with the policy. This is because there is considerable scope to reduce costs by treating multiple properties at once (for example, by sharing scaffolding across installations) and local authorities and community groups are well placed to coordinate delivery in this way (Sustainable Development Commission 2010, WWF Scotland 2010). Local authorities can also integrate installations with other renovation works to produce cost efficiencies. DECC's analysis suggests that strong engagement by these groups could bring down the costs of ECO by more than 10 per cent, or £130 million a year, based on the central cost estimate for the policy²⁸ (see figure 3.2 above).

27 Specifically, the high take up scenario assumes that the decision making frequency for installing solid wall insulation increases over time as households become more familiar with the technology.

28 This figure relates to cost savings achieved in the owner-occupied and private rented sectors. DECC's central cost estimate for ECO includes the potential for cost savings in the social housing sector.

Some local authorities are due to launch ECO and Green Deal schemes (including Birmingham's Energy Savers scheme, Newcastle's NEWINRETRO and Re:New in London) but many may struggle to engage with these policies because of constraints on resources and capacity. This was demonstrated in a survey recently undertaken by Green Alliance, which found that 'climate change work has narrowed, is very weak or absent in 65 per cent of local authorities' (Scott 2011). It is possible that further decline in engagement may be halted: the Home Energy Conservation Act has recently been revamped and a requirement on local authorities to prepare and publish plans on energy efficiency improvements has been reintroduced. However, a recent report by the Committee on Climate Change makes clear that this requirement could go much further and may achieve little if additional resources are not provided to local authorities (CCC 2012). The potential for strong local authority engagement to reduce the costs of ECO therefore appears to be limited.

Carbon Saving Community Obligation and the rural safeguard

Suppliers are expected to spend £190 million altogether on the CSCO and rural safeguard (which is a sub-component of the CSCO). The CSCO takes an area-based approach to targeting that is similar to an existing obligation on suppliers, the Community Energy Saving Programme (CESP), albeit with slightly relaxed eligibility criteria, and so experiences with CESP can inform us about the likely costs of CSCO. Government expected the cost of CESP to be around £16/tCO₂ (DECC 2009) but British Gas has claimed that the average market price for delivering CESP throughout the obligation period was over 80 per cent higher. One reason for why the cost of CESP may have been high is that the scheme employed a complex system for achieving carbon savings (suppliers were rewarded with additional carbon savings towards their targets if they installed multiple energy efficiency measures into single properties) that was hard to deliver and which Ofgem has been slow to administer.²⁹ CSCO, however, does not employ the same carbon scoring system and therefore should not suffer from upwards pressure on costs.

One factor that may have affected the cost of CESP and which will also affect the cost of CSCO is – as with the CSO – the degree to which local authorities engage with the schemes. Local authorities were expected to play a role in the delivery of CESP, by granting permission for projects to go ahead. In many cases, local authorities had a greater role in the project by helping with scheme design, targeting, and in some cases providing partial subsidies towards measures. But stakeholders suggested that local authorities had difficulties engaging with CESP after they were hit by budget cuts and after targets to reduce carbon emissions and tackle fuel poverty (contained in the national indicator framework) were removed. We have noted already the factors that may restrict local authority engagement in ECO and the Green Deal: here, also, these could mean higher costs for CSCO. Overall, it is hard to determine the likely cost of CSCO, but there is a risk the cost could be higher than the central government estimate due in part to low local authority engagement.

The focus on rural households contained within the rural safeguard is a new approach for a suppliers' obligation which makes it hard to ascertain the accuracy of the government's cost estimates. The novelty of the target and the focus on a very small pool of eligible households both present risks of high costs.

²⁹ There is a currently a backlog of proposed CESP schemes waiting for accreditation by Ofgem.

3.3 Cost of the fuel poverty target

The Affordable Warmth (AW) target within ECO aims to address fuel poverty. Suppliers will be required to achieve a total reduction in lifetime notional space and water heating costs of £4.2 billion for low-income and vulnerable households. The government expects suppliers to spend around £350 million delivering AW, but again there is much uncertainty about this estimate.

The main risk for cost increases in AW arises on account of the way the policy is targeted. The low-income and vulnerable groups that will be eligible for measures under AW are very similar to those that are eligible under the Super Priority Group (SPG) sub-target within the Carbon Emissions Reduction Target (CERT)³⁰, which is the main suppliers' obligation currently in operation. CERT originally required suppliers to deliver 40 per cent of the targeted emission savings with households deemed to be in the 'priority group' (PG), which focused on people who are above 70 years old or receive certain benefits (DECC 2010b). The SPG target, which was introduced in March 2011, required suppliers to meet 37.5 per cent of their PG target (15 per cent of their total CERT target) by delivering measures to a subset of households that were considered to be at high risk of fuel poverty. Compared with PG, SPG has stricter eligibility requirements regarding recipients' household income and the benefits they receive. Suppliers' recent experiences with the SPG target suggest that identifying and providing measures to the households specified under AW could be challenging and result in high costs.

Delivering the CERT Super Priority Group target

Most suppliers have struggled to achieve their SPG targets, and because of this some will fail to achieve their overall CERT targets within the obligation period, which ends in December 2012.³¹ This will be the first time that a supplier has failed to deliver on their obligations. By looking at the performance of the suppliers against their SPG targets we can draw lessons about the challenges they may face delivering the AW target in ECO, and the implications this would have for ECO costs.

In June 2012, with six months remaining in the obligation period, less than 40 per cent of the SPG target had been achieved by the suppliers (Ofgem 2012c). Some suppliers have been more effective at achieving their SPG targets than others. Under CERT, it is the 'big six' domestic energy suppliers with a customer base in excess of 250,000 customers – British Gas, EDF Energy, E.ON, Npower, Scottish Power and SSE – that have obligations to fulfill. Table 3.1 shows that in March 2012 E.ON was significantly outperforming other suppliers, having achieved two-thirds (62 per cent) of its SPG target. At the other end of the scale, Scottish Power had only achieved 12 per cent of its target.

Ofgem recently granted suppliers an extension period until 31 January 2013 to report installations carried out in 2012 and has revised the proportion of SPG households that it assumes to be in social housing, which may help the suppliers to achieve their targets (Ofgem 2012b).

30 The specific criteria that the two policies (AW and SPG) use to target individuals are discussed in the following chapter. AW uses slightly more prescriptive targeting than SPG, which would mean fewer homes are eligible, and includes a wider variety of measures (such as new boilers and heating systems) which might mean that more homes are eligible.

31 To a lesser extent suppliers are also struggling to meet a target specifying they must achieve at least 68 per cent of their carbon target from March 2011 to January 2013 via insulation measures (DECC 2010b).

Table 3.1
Progress of suppliers
in reaching their CERT
target, 31 March 2012³²

Supplier	% of overall target achieved	% of PG target achieved	% of SPG target achieved
BG	81.5	89.8	20.0
EDF	83.2	89.6	21.3
E.ON	88.7	99.4	62.0
Npower	85.0	87.4	47.6
Scottish Power	80.9	82.1	12.2
SSE	77.7	79.9	27.5

Source: Ofgem 2012d

At least two of the suppliers that are struggling to meet their SPG obligations (British Gas and SSE) maintain that they have tried hard to achieve their targets but to little avail. The Local Government Authority has said that suppliers have ‘desperately [tried] to work with [local councils] to identify householders who qualify for the Super Priority Group’ (LGA 2012), which supports these claims. In the boxed text below, we detail approaches that British Gas has used to try to fulfil their obligation and how effective these have been. We also identify potential reasons why the SPG target has been hard to achieve and why some suppliers have performed better than others.

Challenges in achieving the SPG target

British Gas has claimed it has employed a variety of approaches to try to find SPG households, including working with third-party installers and setting up partnerships with social housing providers. They also claim that even if they have been able to identify a household as SPG, the majority (60 per cent) have not been suitable for measures.

Other approaches used by British Gas to find SPG households includes marketing, such as adverts, direct mail-outs, field sales and bill inserts. Reported response rates to these approaches appear to have been low. For example, the Department for Work and Pensions mailed approximately 4.2 million eligible SPG households (identified by the benefits they were on) to inform them that they could be eligible for support and passed on details of customers who responded to suppliers. From the contacts passed to British Gas that were interested in receiving insulation, 10,847 were successfully contacted. Of these, 60 per cent (6,451 customers) booked a survey and 545 had measures installed. In this example, British Gas therefore had a 5 per cent conversion rate from all those they were able to contact.

Stakeholders we interviewed suggested a number of reasons why most suppliers may have found the SPG target hard to achieve, although these are anecdotal and are unable to be verified, as there is no data available from those suppliers who have performed better with SPG. The reasons suggested were:

- Customers have little need to self-identify as SPG when they can get measures for free without doing so (currently everyone, regardless of how they are categorised under CERT, is offered free insulation by suppliers).

³² We cannot analyse the progress of the individual suppliers towards the CERT Extension insulation sub-target as this data is not published by Ofgem.

- Households have been put off from self-identifying as SPG because they need to submit sensitive personal documentation, such as bank statements, as evidence.
- Households have been put off from self-identifying as SPG out of fear of being stigmatised.

If these reasons are true it is possible that suppliers have delivered measures to SPG households but have not identified them as such, and are therefore further towards meeting their targets than the data suggests. Suppliers may also have delivered measures to SPG households through the Community Energy Saving Programme (CESP) that have not counted towards their CERT targets.

It is hard to explain why the SPG targets have proved more difficult for some suppliers to achieve than others because there is very little publicly available data on how the suppliers deliver their CERT obligations (on, for instance, the degree to which they work with partners and to whom they contract work).

The differing scale of the suppliers' obligations may partly explain their varied performance. In particular, British Gas has an obligation that is over twice the size of E.ON's.³³ However, this does not account for the low performance of Scottish Power and EDF, which have a smaller obligation than E.ON.

Stakeholders we interviewed suggested a number of possible reasons for E.ON's strong performance:

- E.ON beginning work on its obligations earlier
- paying more for leads from third-party installers
- partnering with third-party organisations (such as local authorities and registered social landlords) earlier and working more effectively with them
- marketing that addressed the question of why an energy supplier would help you save money on your bill which might have improved levels of trust with consumers
- being the first supplier to offer a cash-back offer to incentivise take-up
- E.ON might have been better at securing the necessary evidence that a household was SPG.

We will be able to make a more informed assessment of the efforts suppliers have taken if they fail to meet their CERT targets and Ofgem requires them to submit evidence of their 'best endeavours' in spring 2013.

Overall, it does appear that the SPG target has been very challenging. It seems likely that some of DECC's original assumptions that underpinned the target when it was set – concerning, for example, the proportion of the 5.6 million households identified as SPG according to income criteria whose homes were suitable for measures – may not have been accurate and that the target was simply harder to achieve than the government expected. If this is the case then similar challenges can be expected under AW. It is notable that another fuel poverty policy, Warm Front, struggled to achieve expected levels of take-up because the eligibility criteria for the policy were overly narrow (they were later

³³ Based on the suppliers customer numbers in the Energy Supply Probe (Ofgem 2008a).

relaxed in order to achieve greater levels of take-up). This shows there is a balance to be achieved between having overly prescriptive targets for fuel poverty policies and ensuring they are deliverable, which is a subject we return to in the next chapter.

Cost implications for the Affordable Warmth target

If suppliers experience similar challenges in achieving their AW target as they have with their CERT SPG target this could have implications for the costs of ECO. Although there is no publicly available, independent data source from which we can observe the suppliers' costs for delivering their CERT SPG target³⁴ we can draw conclusions about the cost of AW from statements the suppliers have made about their CERT costs.

Several suppliers have claimed that they have experienced sharp increases in their CERT costs in 2012. Because some suppliers are currently struggling to meet their CERT targets, this is not surprising: a supplier will have to pay more to find eligible customers in the relatively short time remaining before the policy deadline than they would if they had more time. SSE has claimed that their overall costs for CERT and CESP combined have increased by £100 million, or doubled, from 2011 to 2012 (ECCC 2012b). RWE Npower has reportedly claimed that they are paying 85 per cent more to fulfil their SPG target in 2012 than they did in 2011 (the equivalent of £35/tCO₂ in 2012 compared with £19/tCO₂ in 2011) (Beech 2012).

Despite recent increases, the cost of achieving the SPG target appears to be within government estimates. British Gas has claimed that in the fourth quarter of 2012 their cost for achieving the SPG target will be around 27 per cent higher than the cost for achieving the PG target. This is marginally higher than the greatest difference DECC expected (25 per cent) between the costs of achieving the two targets³⁵ but because costs have risen sharply in 2012 it is likely that the average difference across the obligation period (from March 2011) has been within DECC's estimates. As a way of increasing the amount of resources going to fuel poor homes through CERT, the SPG target appears to have been a cost-effective alteration to the policy.³⁶ However, this does not mean that the SPG target, and by inference the AW target under ECO, is the *most* cost-effective fuel poverty policy. An alternative approach which may be more cost-effective (the Low-Income, Low-Efficiency Area approach) is outlined in chapter 4.

In the past, it appears that suppliers' CERT costs have been significantly lower than government assessments. British Gas has claimed that their cost for delivering CERT was £11/tCO₂ in 2008 (ECCC 2012a), which is 38.9 per cent lower than the government estimate of £18/tCO₂. If this is representative of all of the suppliers then this shows that the obligation has been more cost-effective to deliver than expected. However, the lack of certainty around costs makes it hard to know what impact the policy has had upon bills.

34 Government has taken the view that suppliers pass on 100 per cent of their costs.

35 When DECC introduced the SPG target it stated: 'It is assumed that the costs of reaching houses in the SPG will be no higher than in the priority group. However, it is possible that it will be more costly to find these houses and persuade householders to take up measures. If administration costs were 25% higher in the SPG to account for this then cost to suppliers would be 4% higher' (DECC 2010).

36 The key measure for whether the SPG target has been cost-effective as a measure to tackle fuel poverty is if the increased cost of the target compared to the PG target has been matched by a similar or greater increase in the proportion of fuel-poor households which have received measures through the policy (as is discussed in detail in the following chapter, fuel poverty policies are often not well targeted, which means that resources often go to households that are not fuel-poor). Of those households that received measures through the PG target, 24 per cent were fuel-poor. If the cost of the SPG has been at the top end of DECC's estimates (that is, 25 per cent greater than PG) then to be cost-effective at least 30 per cent of the resources provided will need to have gone to fuel-poor homes. Because the SPG employs much narrower eligibility criteria than PG, it is very likely that it has achieved this.

There is an opportunity to avoid a repeat of this situation under ECO because the secretary of state will have the power to request and monitor cost data from suppliers.

Some suppliers have cited rising CERT costs, as well as other factors including the rising cost of buying wholesale energy and of transmitting and distributing energy, as a reason behind their recent decision to increase tariffs. While social and environmental costs have been increasing – some suppliers have claimed that their costs have risen by 30 per cent in the past year (see for example ECCC 2012) – CERT itself is unlikely to have played a major role in this. Even if SPG costs have increased by 85 per cent over the past year, as RWE Npower has claimed, the impact this will have had on bills is small. If we assume that the other CERT costs (non-SPG) have not changed³⁷ and the overall cost of CERT is now in line with government estimates, rising SPG costs may be responsible for around £6.45, or 0.5 per cent, being added to the average energy bill.³⁸ This compares to recent tariff increases by the suppliers of 6–11 per cent. The wholesale cost of energy (in particular the cost of buying gas) is by far the most significant factor affecting energy bills. It currently makes up 46 per cent of the average bill and was responsible for an average bill increase of £490–£620 over the past two years (Ofgem 2012a).

Summary

The ECO adopts a distinctly new approach for delivering energy efficiency improvements in the domestic sector, compared to previous supplier obligations. As a result, the cost of the policy is highly uncertain. DECC's central cost estimate for ECO is £1.3 billion a year, which would be an almost pound-for-pound replacement for existing energy efficiency policies and result in no additional cost on household bills. Like CERT and CESP, ECO would make up around £50 of the average annual energy bill. But the cost of ECO could be lower or higher, with estimates ranging from £0.53 billion to £3.09 billion a year, which means the impact on bills could be less than for current policies – perhaps as low as £20 per household – or more, at up to £116. According to the central cost estimate, if expected bill savings from measures installed through ECO and the Green Deal³⁹ are included then the overall impact on bills from January 2013 to March 2015 will be to add around £22.

We have identified several factors which could mean the cost of ECO is at the upper end of the government's estimate. These are:

- To achieve a very sharp acceleration in the amount of solid wall insulation installed, as is necessary to meet the targets within the policy, suppliers may need to offer very large subsidies to households. Also, the solid wall insulation supply chain may not be prepared for the increased demand, which will push up costs.
- The likelihood of strong engagement from local authorities, who by supporting multiple installations in local areas could reduce the cost of installing solid wall insulation by 10 per cent, is low because many have limited resources and are focused on a range of competing priorities.

37 The costs of achieving an insulation sub-target within CERT may have also risen, but we have insufficient cost data to capture this in our analysis. The overall picture will remain the same, however.

38 Based on electricity consumption of 4MW/year and gas consumption of 16.0MW/year (<http://www.ofgem.gov.uk/Markets/RetMkts/rmr/smr/Documents1/SMR%20update%2029-10-12.pdf>); government expected CERT cost of £57 (<http://www.decc.gov.uk/assets/decc/consultations/certextension/121-iacertextension.pdf>); current average energy bill of £1,335. <http://www.ofgem.gov.uk/Markets/RetMkts/rmr/smr/Documents1/SMR%20update%2029-10-12.pdf>0020

39 In the Green Deal and ECO policy impact assessment, DECC does not separate bill savings achieved by ECO from those achieved by the Green Deal.

- Costs will be high if suppliers struggle to find eligible fuel-poor households under ECO, as they have struggled with the Super Priority Group (SPG) target in CERT. Suppliers' difficulties in achieving their SPG targets may have occurred because of how the target was designed, rather than because of a lack of effort. The cost of the SPG target appears to have risen sharply over recent months but remains within government estimates and is likely to have been a cost-effective alteration to the policy for getting more resources to fuel-poor homes.

In the past, suppliers' costs for delivering their obligations may have been significantly below government expectations. Because of this, estimates about the costs that make up energy bills have been incorrect and suppliers' operational costs or profit margins may have been higher than was assumed. ECO presents an opportunity to improve the monitoring and transparency of suppliers' costs.

4. WHO WILL BENEFIT FROM ECO AND WHO WILL LOSE OUT?

The cost of ECO will be borne by all energy bill-payers, but only some types of households will be eligible to receive measures and therefore be partly insulated from energy bill increases. In this chapter, we look at the distributional outcomes of the energy bill increases that will occur because of ECO and who is likely to receive support, focusing in particular on the provision that will be available for the most vulnerable, fuel-poor households.

Distributional outcomes of ECO

If the cost of ECO is in line with the government's central estimate, energy bill rises from the policy in 2020, across all households, are expected to be broadly proportionate as a percentage of average incomes in each income decile group (DECC 2012b: 67).⁴⁰ However, if only those households which do not receive measures through the Green Deal or ECO are included – which includes the majority of households – then the increase to energy bills as a proportion of income will be slightly regressive, with those on the lowest incomes feeling the cost of the policy the most. This is shown by the blue line in figure 4.1. If the cost of ECO is at the higher end of government estimates, as evidence in the last chapter suggested is possible, then the extent of the regressive distributional outcomes will be greater.

Figure 4.1
Distributional impact of the change to energy bills from ECO



Source: DECC 2012b

The AW obligation, CSCO and rural safeguard will all direct resources towards lower-income households, and those that receive energy efficiency measures will be partially protected from bill increases. However, many fuel poor households will not receive measures but will instead be cast into a greater depth of fuel poverty by bill increases

⁴⁰ There are a number of potential flaws with DECC's analysis that we do not focus on in this report but could affect the distributional outcomes of ECO. First, it focuses on the distributional impacts of ECO in 2020, at which point ECO is expected to have reduced energy bills by, on average, £20. However, in the first few years the policy will *add* around £20 to the average bill, increasing the potential for regressive distributional outcomes during this early period. Also, DECC has assumed, because suppliers will be allocated their obligation on the basis of the amount of energy they have sold, that suppliers will pass their costs on to consumers on a consumption (ie per kWh) basis. However, suppliers have discretion about how to pass through costs and they have an incentive to pass greater costs through to customers who are least likely to switch, thereby enabling them to offer better deals to more cost-sensitive customers. Because vulnerable and low-income groups are over-represented among non-switchers (Ofgem 2008a) there is, therefore, the potential for outcomes from ECO to be more regressive than DECC predicts. There are licence conditions in place that should ensure suppliers offer tariffs that are reflective of their costs, which would mean their costs are passed through as intended. However, these requirements are not being effectively enforced (Platt 2012). It is also worth noting that the Fuel Poverty Review commissioned by DECC concluded that, even if the proposed definition is adopted, the Green Deal and ECO 'would be expected to increase fuel poverty' (Hills 2012: 112).

resulting from ECO. This is because fuel-poor homes are unlikely to receive measures through the Green Deal (because they will not be eligible under the requirements of the 'golden rule'⁴¹) and ECO will only enable improvements to be provided to 125,000 to 250,000 fuel-poor homes across the whole of Great Britain, while around 2.7 million households in England alone are currently fuel-poor (according to the Hills definition). Just in England, around 2.5 million fuel-poor households will not receive support through the Green Deal and ECO. Poor targeting within ECO, as discussed below, means that the figure may be significantly higher.

There are additional reasons why lower-income households are less likely to receive measures that could protect them from bill increases than those on higher incomes.

First, a greater proportion of solid wall insulation provided by suppliers through the CSO will go to larger properties, which can be assumed to be occupied mainly by households on higher incomes. This is because installations in larger properties are more cost-effective due to economies of scale and therefore are expected to be the focus for suppliers.⁴² DECC's analysis projects that uptake of solid wall insulation in large detached houses will be 24 per cent of the technical potential of all installations by 2022, compared to only 6 per cent in large terraced homes and 7 per cent in small terraced homes (DECC 2012b: 69).

Second, households in the private rented sector include high proportions of low-income households (Boardman 2010) who often live at a greater depth of fuel poverty than households in other sectors (ECCC 2012c) but are unlikely to receive measures under ECO or the Green Deal.⁴³ This is mainly because of a dilemma that exists within the tenant-landlord relationship.⁴⁴ Since a landlord does not benefit financially from energy savings in the property there is little incentive for them to arrange for energy efficiency improvements. Similarly, a tenant is not incentivised to spend money on improving their property because the lifetime value of this will be gained by the landlord, even if their own energy bills are reduced in the short run. The barrier this poses to uptake of measures was demonstrated in a recent evaluation of CERT that showed, while 13 per cent of all homes are in the private rented sector, only 5 per cent of households in this sector received assistance from the programme (Ipsos MORI et al 2011).⁴⁵ Regulations are intended to be introduced which are aimed at improving the energy efficiency of some properties in the private rented sector, but they will not have an effect during the first ECO period.⁴⁶

41 See page 9

42 British Gas suggests this may be harder to achieve in practice than DECC's modelling suggests. Nevertheless we base our analysis on DECC's modelling.

43 Households in the private rented sector who are eligible for support under the AW target may stand a better chance of receiving measures than those who are not. This is because AW is for private tenure properties only, and because private rented homes have lower energy efficiency standards than other tenures they will be attractive to suppliers. The ability of suppliers to pay for a new boiler where someone is in the AW group will help to engage landlords and assist those living in the very worst properties.

44 Additional barriers include the hassle of installing measures (for example, the landlord may use the loft space and be unwilling to clear it) and the tenant not being in a position to make decisions about altering the building.

45 CESP has showed similar patterns of low-uptake in the private rented sector (CAG et al 2011).

46 Government intends to introduce regulation so that, from April 2016, domestic landlords will not be able to unreasonably refuse requests from their tenants for consent to make energy efficiency improvements, where financial support is available (for example through the Green Deal and/or ECO): see http://www.decc.gov.uk/en/content/cms/tackling/green_deal/gd_industry/private_rented/private_rented.aspx. From April 2018, all private rented properties (domestic and non-domestic) should be brought up to a minimum energy efficiency standard rating, likely to be set at EPC rating 'E'.

Outcomes for fuel poverty

The households that are most vulnerable to increases in their energy bills are those that are fuel-poor, or indeed those that will become fuel-poor as a result of bill increases. As was discussed in chapter 2, the current definition of fuel poverty is flawed because it captures people on high incomes in large properties. The government has therefore committed to introduce a new definition. Ultimately every household in the UK should have the right to a warm home without having to choose between ‘eating and heating’. The definition of fuel poverty should enable policymakers to target resources at households that do not have this right, as well as those who are burdened by excessive energy bills but do not have the resources to improve their situation, for example by moving home or installing energy efficiency measures.

Targeting of provision in ECO

A comprehensive database specifying which households are fuel-poor does not exist and would be very difficult and expensive to create. Because of this, all recently implemented fuel poverty policies have used proxies to identify fuel-poor homes. ECO continues this approach.

Proxies have tended to be based on individuals’ circumstances and include whether individuals in a household receive certain benefits, have an income below a certain threshold, or are over 70 years old (the only exception to this is CESP, which is discussed below). However, the efficiency with which these proxies target fuel-poor homes is not high.⁴⁷ For example, only around 20 per cent of recipients of winter fuel payments and cold weather payments and 28 per cent of the recipients of the warm home discount are fuel-poor. As a result, less than a quarter of current annual expenditure on fuel poverty goes to the fuel-poor (Boardman 2010). Research suggests that targeting of fuel poverty policies could be significantly improved if property-based characteristics are included within targeting proxies (Hills 2012, Ekins and Lockwood 2011). We advocate a method for doing this, the ‘Low-Income, Low-Efficiency Area’ approach, below.

Table 4.1
Targeting efficiency of
the main GB fuel poverty
policies

Scheme name	Targeting efficiency	
	% of recipients who are fuel-poor	% of fuel-poor that are eligible
‘Warm Front’ pre-Apr 2011	26% ¹ –40% ²	35% ² –53% ³
April 2011–Sep 2012	not known	77% ³
Winter fuel payments	19% ⁴	50% ⁴
Cold weather payments	~20% ⁹	not known
Supplier obligations		
EEC 2005–08, PG	22% ¹	58–70% ⁵
CERT 2008–12, PG	24% ⁶	not known
CERT 2008–12, SPG	not known but higher than PG	not known
CESP	>22.4% ⁷	not known
ECO Affordable Warmth	37.2% ¹⁰	51.8% ¹⁰
ECO Carbon Saving Communities	26.9% ¹⁰	12.4% ¹⁰
Warm home discount	28% ⁸	not known

Sources: 1: BERR 2008; 2: NAO 2009; 3: DECC 2011b; 4: Boardman 2010; 5: Lees 2008; 6: Sunderland and Croft 2011; 7: CAG et al 2011; 8: Hills 2012, based on archetypal modelling for hypothetical supplier-funded rebates; 9: assumed to be in the range of winter fuel payments and CERT because of similar eligibility criteria; 10: Probert et al 2012.

Note: The figures are dated but the overall picture remains the same (Hills 2012).

47 In 2006, about 50 per cent of all fuel-poor households were pensioners, but only 19 per cent of all pensioner households were in fuel poverty; in 2006, about 58 per cent of fuel-poor households were on means-tested benefits, but only 13 per cent of all households on means-tested benefits were fuel-poor; and in 2007, about 63 per cent of fuel-poor households were on a low income (set at 60 per cent of average household income), but only 54 per cent of all households on a low income were in fuel poverty (Boardman 2010).

ECO will employ targeting methods that are similar to previous policies and can be expected to deliver similar levels of resources to fuel-poor homes. There is insufficient evidence on past policies to determine precisely how resources will be distributed under ECO, but we are able to make some inferences.⁴⁸

- **AW:** AW is specifically intended to address fuel poverty. It will target a group of individuals that is similar to the Super Priority Group (SPG) in CERT but excludes social housing and so can be expected to achieve a lower level of efficiency at targeting fuel-poor homes.⁴⁹ The targeting efficiency of the SPG group is not known, but it is based on tighter eligibility criteria than the PG group in CERT – therefore AW will achieve a targeting efficiency that is higher than the PG target. Of those that have received support through the PG target, only 24 per cent are fuel-poor.
- **CSCO:** CSCO adopts a similar targeting approach to CESP, with slightly more relaxed eligibility criteria, and can be expected to deliver measures to a similar proportion of fuel-poor homes.⁵⁰ Exact figures for the proportion of fuel-poor homes that received measures under CESP do not exist. We estimate that up to 76 per cent of recipients of support through the scheme were *not* fuel-poor, but acknowledge that the actual figure could be lower than this.
- **The ‘rural safeguard’:** This specifies that suppliers must achieve 15 per cent of the CSCO by installing measures in a rural area⁵¹ and combines the targeting approach of AW and CSCO.⁵² The rural safeguard is therefore likely to achieve a targeting efficiency that is broadly comparable to these other targets (over 24 per cent).

There is no evidence to suggest the targeting efficiency of ECO will be significantly greater than previous energy efficiency supplier policies, which have resulted in only a quarter of resources being distributed to fuel poor homes. We conclude that it is highly likely that a large majority of the support provided to low income and vulnerable households under ECO will go to households that are not fuel poor.

Targeting by ‘Low-Income, Low-Efficiency Area’

There is clearly a case for trying to improve the targeting efficiency of policies so that more resources reach fuel-poor households. However, the desire to improve targeting efficiency must be balanced with the need to ensure that policies remain deliverable because, as discussed in the last chapter, highly prescriptive targets that are challenging to achieve (such as the SPG target under CERT) can lead to significantly higher costs.

48 Only the AW component of ECO is specifically intended to address fuel poverty, but we consider each aspect of the policy focused on providing measures to lower-income and vulnerable households. The carbon savings target does not specifically target low-income or vulnerable households and is therefore excluded from our analysis.

49 The SPG target focuses support on individuals earning under £16,190 and receiving benefits including income-based jobseeker’s allowance; income-related employment and support allowance (that includes a work-related activity or support component) or income support that includes pensioner premium, disability or severe disability premium; and award of child tax credits that also includes an element for a disabled, or severely disabled child or young person, and child under the age of five (DECC 2010b, ENDS 2010). This will be slightly expanded under AW to include those on certain elements of working tax credit under a household income of £15,860 and those in receipt of certain means-tested benefits with children aged 19 years or under in full-time education.

50 CESP focuses support on low-income areas in the bottom 10–15 per cent of the income distribution. Analysis showed that just above 20 per cent in those areas are fuel-poor (CAG et al 2011). However, because much of the support was provided to social housing, where levels of fuel poverty are higher, we expect the targeting efficiency to be greater than this. CSCO adopts broadly the same targeting criteria to CESP but relaxes the target in England from the bottom 10 per cent to the bottom 15 per cent of the income distribution.

51 As part of the rural safeguard, suppliers must provide measures to ‘households that are either in a rural area and in receipt of one of the qualifying benefits for AW or in a rural area which is within or adjacent to a qualifying low-income area.’

52 British Gas believes that this is a mistake in DECC’s impact assessment and that only those households on AW benefits and in a rural area will qualify. This would mean that the targeting efficiency will be similar to the AW target.

One approach that could more efficiently target fuel-poor homes while keeping costs down is for energy efficiency improvements to be provided to all homes in areas that are known to include a large proportion of low-income residents and energy-inefficient homes (originally proposed in Boardman 2012). We refer to this approach as a ‘Low-Income, Low-Efficiency Area’ approach, or LILEA.

The ‘Low-Income, Low-Efficiency Area’ approach to tackling fuel poverty

A LILEA approach would involve targeting groups of houses in certain geographical locations. It differs from CESP, which is an area-based scheme, by taking account of property characteristics as well as incomes. There is substantial evidence that by incorporating property-based proxies⁵³ the targeting efficiency of fuel poverty policies can be significantly improved (Boardman 2010, Hills 2012).

There is not currently a comprehensive national database of individual property characteristics, although proxy data sets can be used relatively effectively and aggregated to neighbourhood level. These could be cross-referenced with data on incomes to identify target areas for a LILEA scheme, at a geographic scale of street-level or above. All households in these areas would then be provided with energy efficiency measures.

The LILEA approach would mean that some more-affluent households receive support. But regional fuel poverty statistics show that in some postcode areas almost 50 per cent of households are in fuel poverty,⁵⁴ indicating that significantly higher-efficiency targeting could be achieved than is the case through current policies.

The LILEA approach brings additional benefits. As was discussed in the last chapter, installing energy efficiency measures into multiple properties in an area can significantly reduce costs. Also, the costs to suppliers of identifying households as eligible for support would disappear, as all households in a prespecified area would be eligible. An additional benefit is that individual households have sometimes been reluctant to take up measures under existing targets (specifically the CERT SPG) because they have felt stigmatised – this concern is likely to be assuaged with the LILEA approach because all households in an area would receive support. In fact, research has shown that households are more likely to install measures like solid wall insulation if a neighbour has installed it first, so LILEA approach could increase levels of take-up.

Councils would be well placed to identify target areas for the LILEA approach by drawing on their local knowledge and seeking opportunities to integrate energy efficiency schemes with other regeneration and development initiatives, maximising economies of scale and making best use of available resources.

53 For example, judging whether properties are constructed of solid walls and assessing whether they are rural or not.

54 See http://www.decc.gov.uk/en/content/cms/statistics/fuelpov_stats/regional/regional.aspx

Summary

The costs and benefits associated with ECO will be distributed to households in different ways. In this chapter we have shown:

- Across the majority of households (those that do not receive measures under the Green Deal or ECO) the impact of energy bill increases due to ECO will be regressive up to 2020, with lower-income households feeling the cost the most. If the costs of ECO are at the higher levels of what is expected, as evidence in chapter 3 suggests is possible, energy bill increases will be more regressive.
- Households that receive measures through the Green Deal and ECO will be protected from bill increases but lower-income households are likely to be under-represented. This is because they are more likely to live in smaller properties, which are less likely to receive solid wall insulation through ECO, and/or live to in the private rented sector, which is less likely to receive improvements.
- This will be partially offset by the AW, CSCO and rural safeguard targets, which will direct resources to lower-income households and result in more equitable outcomes from ECO. However, most of the resources will not to go to fuel-poor homes because the policy is poorly targeted.
- An area-based approach that takes into account property and income-based characteristics, which we have called the 'Low-Income, Low-Efficiency Area' approach could result in improved targeting of fuel-poor homes without unduly pushing up costs.

5. CONCLUSIONS

ECO is a programme worth up to £3.1 billion a year to deliver energy efficiency improvements in the domestic sector, which will be achieved by placing obligations on the major energy suppliers from January 2013. The policy marks a radical change from previous supplier obligations by focusing on high-cost energy efficiency measures like solid wall insulation and because it aims to tackle fuel poverty. ECO will work alongside the Green Deal, which enables households to install energy efficiency measures at no up-front cost.

The government is right to aim to reduce carbon emissions and tackle fuel poverty by improving the energy efficiency of homes, because this is cost-effective and provides a long-term solution to fuel poverty – but ECO but will make only a limited contribution to either of these goals.

ECO and the Green Deal combined will deliver only 26 per cent of the emissions reductions achieved by the current obligations on suppliers, and will not deliver much of the lowest-cost emissions reductions available. The Committee on Climate Change has said that the UK's ability to meet its legally binding emission reduction targets is at risk because a high proportion of the available loft and cavity wall insulation potential will not be delivered by ECO and the Green Deal.

The scale of resources available through ECO is insufficient to tackle fuel poverty. By 2023, 125,000 to 250,000 fuel-poor homes in Great Britain will be improved by the ECO – but 2.7 million households in England alone are currently fuel-poor according to the Hills definition of fuel poverty (Hills 2012). Around £17.5 billion in investment is needed to improve the energy efficiency of fuel-poor homes in England.

Only certain types of household will be able to benefit from measures under ECO but all will bear the cost of the policy through increases in their energy bills. The likely cost of the ECO and the impact it will have on bills is highly uncertain and there are risks that it could be at the upper end of the government's estimates.

DECC estimates that ECO will be an almost pound-for-pound replacement for current energy efficiency policies, making up around £50 of an annual household energy bill up to 2016. But the impact on bills could be less than for current policies – perhaps as low as £20 per household – or more, at up to £116 a year. If take-up of measures is low and suppliers need to offer large subsidies to households to install solid wall insulation then costs could be as much as 40 per cent higher than the government's central estimate. Strong engagement from local authorities could bring down the costs of installing solid wall insulation, but many will struggle to engage without additional resources.

Experiences from the current supplier obligation, CERT, suggest that suppliers will struggle to achieve the fuel poverty (Affordable Warmth) target in ECO, which will result in higher costs. Suppliers have tried hard to meet their SPG target within CERT but most will fail; this may be because assumptions embedded in the policy design, such as the number of households that can be classified as SPG and whose homes were eligible for measures, were optimistic. Suppliers' costs have risen recently as they struggle to meet their CERT targets, although they remain within government estimates across the whole obligation period. In the past, suppliers' costs for delivering their obligations may have been 38.9 per cent lower than government estimates.

The costs of ECO will be passed on through energy bills and will result in regressive distributional outcomes for those households that do not receive measures through ECO and/or the Green Deal up to 2020. Households that receive measures will be partly insulated from bill increases. Families living in smaller houses or in the private rented sector, which includes a greater proportion of lower-income families, will be less likely to receive measures. However, the inclusion of the Affordable Warmth and Carbon Saving Communities Obligation targets will direct resources towards low-income households.

Fuel-poor homes are the most vulnerable to the energy bill increases which will result from ECO. The majority of support available to fuel-poor homes through ECO will go to homes that are not actually fuel-poor, because the policy is badly targeted. Over 2.5 million fuel-poor households will not receive measures through the policy. A promising approach for improving the targeting of resources and reducing costs is to target areas that contain high proportions of low-income households and energy inefficient properties, which we refer to here as the 'Low-Income, Low-Efficiency Area' approach, or LILEA.

Policy implications

Policies to reduce carbon emissions must do so at a pace that is line with the UK's statutory obligations to tackle climate change, at least cost to consumers. Special measures must also be implemented to protect those who are most vulnerable to energy bill increases: the fuel-poor. Improving the cost effectiveness and targeting efficiency of ECO would enable more fuel-poor homes to receive support. Based on these principles, we make a number of recommendations for ECO.

1. Reducing emissions at least cost

The focus of ECO on high-cost measures creates risks of high costs for suppliers and large energy bill increases for consumers. This is because high levels of subsidy may need to be provided to encourage consumers to take up solid wall insulation. Also the solid wall insulation supply chain is in its infancy and may struggle to achieve the required increase in output, which will increase costs.

Moreover, according to the government's own modelling, ECO and the Green Deal combined will not deliver most of the lowest-cost emissions reduction potential which exists in the domestic sector, such as loft insulation top-ups and cavity wall insulation. The Committee on Climate Change (CCC) has stated that if all potential loft and cavity wall insulation is not delivered by the end of the decade then the UK will not be able to achieve its legally binding carbon reduction targets (CCC 2011).

The CCC has recommended that in order to achieve emissions reductions in line with the carbon budgets, the government should allow low-cost energy efficiency measures to count towards suppliers' ECO targets (ibidCCC 2011). This would allow households to receive a combination of Green Deal finance and subsidies to install these measures, which would better incentivise take-up of measures than the current approach.⁵⁵ Analysis by the CCC suggests that there is scope for sufficient loft, cavity and solid wall insulation required to meet the carbon budgets within the £1.3 billion the government predicts will be spent on ECO. Including loft and cavity insulation within ECO would also reduce the risk of the policy incurring high costs and consumers receiving large bill increases.

55 There is a risk that Green Deal offerings in the market not linked to ECO subsidies would be disadvantaged, but the CCC thinks this can be overcome.

The government plans to review the Green Deal and ECO a year after the policies have been introduced. This should include an assessment of consumer demand for measures, and government should be open to reviewing which measures are eligible under ECO if demand for low-cost measures is low.

The government should review the level of consumer demand for loft and cavity wall insulation through the Green Deal a year after the policies have been introduced. If demand is low then it should consider making these measures available through the ECO. Government must demonstrate it has a realistic and deliverable plan for achieving all low-cost energy efficiency measures, in line with what is required to meet the UK's carbon budgets.

DECC has estimated that strong local authority engagement in ECO could bring down the costs of the policy by 10 per cent, or around £130 million a year, by supporting multiple installations of solid wall insulation in local areas. If this occurs, consumers' energy bills would be lower and the distributional outcome of ECO would be less regressive. Local authorities can also play an important role in delivering energy efficiency schemes, for example because they have unique knowledge of their local area's needs and circumstances and are able to draw on established local networks, partnerships, services and delivery partners (DECC 2012f).

However, many local authorities will not adequately engage with ECO unless they are provided with additional resources (Scott 2011). Also, with the loss of national targets to reduce emissions and tackle fuel poverty, local authorities may not prioritise energy efficiency schemes. To encourage engagement, energy efficiency schemes could be promoted as a way to stimulate local economic development.

There is a strong economic case for investing in the capacity of local authorities to engage in ECO. There are 407 local authorities in Great Britain.⁵⁶ If each was provided with funding for a full-time staff member to develop energy efficiency schemes on an annual salary of £35,000, this would cost £14.25 million. Funding for recruitment costs, overheads, training and data and research costs would increase this sum. If we assume a total investment in local authority capacity of £40 million and that DECC's estimated savings of £130 million were achieved in full then the net benefit from this investment would be £90 million. A number of options for raising the necessary funds are discussed below.

The government should support local authority engagement with the ECO by investing £40 million in local authority staff and resources. Local authorities should be encouraged to embed their activities on energy efficiency into regeneration and local development schemes, building on best practice to identify and develop opportunities for local economic growth, including job creation and skills development.

2. Tackling fuel poverty cost-effectively

The AW target within ECO is similar to the SPG target in CERT. Most suppliers will fail to achieve their SPG targets within the current CERT obligation period. Suppliers interviewed by IPPR maintain that this is not due to a lack of effort. It appears likely that an assumption about the proportion of SPG households which are suitable for energy

56 353 in England (<http://www.communities.gov.uk/newsroom/factsandfigures/local/facts/localgovernment/?id=1958689>), 32 in Scotland (<http://www.scotland.gov.uk/Topics/Government/local-government>) and 22 in Wales (<http://www.wlga.gov.uk/english/governance-in-wales/>).

efficiency measures, made when the target was set, has not proved to be accurate and so the target has been harder to achieve than the government expected. Across the CERT obligation period, the cost of the SPG target has been within government estimates – but it has increased significantly in recent months.

There is a strong risk that the cost of the AW target will be high and that some suppliers will fail to deliver their obligations. Because of this, suppliers' progress towards achieving the AW target should be closely monitored. A review of the cost and efficacy of the CERT SPG target should be carried out immediately. This will allow government to act quickly and adjust the targeting criteria of AW in the event that suppliers' progress towards the target is poor.

Government should closely monitor energy suppliers' progress towards achieving the Affordable Warmth target and immediately launch a review of the CERT Super Priority Group target to identify why most suppliers will fail to achieve it.

A new targeting method for improving the energy efficiency of fuel-poor homes that could be highly cost-effective is the 'Low-Cost, Low-Efficiency Area' (LILEA) approach. This would involve measures being provided to all properties in areas known to include high proportions of low-income residents and energy-inefficient properties. It could be significantly more efficient at getting resources to fuel poor homes than current policies without resulting in burdensome costs for suppliers, thereby limiting increases to energy bills. Local authorities would be well placed to identify target areas.

LILEA is an innovative approach and should be piloted to assess its efficacy before being more widely implemented. As a first step, the CSCO sub-target within ECO could be reformed to enable local authorities to identify priority geographical areas for support. The proposed approach could be trialled, with suppliers focusing their activities in these areas and outcomes, in terms of up-take of measures and the number of recipients who are fuel-poor, monitored. Over time, if the new approach proves successful, the government could improve the interaction between CSCO and AW within ECO. CSCO could be expanded so it is at a larger scale than AW, and AW could be made into a primarily reactive instrument, providing measures for those who fall outside designated areas and/or are in distress.

The government should pilot a new area-based approach to target energy efficiency improvements for fuel-poor homes by enabling local authorities to identify priority areas, based on income and property-based characteristics, which could receive support under the CSCO.

3. Increasing cost transparency to protect consumers

Government and suppliers have recently made conflicting statements about the costs of the current supplier obligations. Meanwhile, consumers have been left in the dark about how much the policies add to their energy bills. Also, because the costs of the obligations have not been monitored, we do not know how cost-effective they have been – in the past, the impact of the policies on energy bills may have been overestimated. These occurrences should not be repeated with ECO.

The secretary of state will have the power to monitor the cost to the energy companies of delivering ECO. This right should be fully exercised. In order to protect consumers and support informed public debate about the cost of government policies on energy bills, aspects of this information should be put into the public domain. This must be done in

a way that is sensitive to the competitive dynamic within the energy efficiency market, so that unintended consequences do not result. This can be achieved by publishing aggregated costs across the suppliers.

The government should require the suppliers to submit detailed information on the costs of delivering their ECO obligations, which should be independently verified, for example by Ofgem. The average cost of carbon for each sub-target within ECO, aggregated across the suppliers, should then be published alongside data on the suppliers' performance against these sub-targets.

4. Energy efficiency regulations for the private rented sector

Those who live in the private rented sector are arguably the biggest losers from energy efficiency supplier obligations. They pay for the obligations through their energy bills but are very unlikely to receive any measures in return, due to the 'landlord-tenant' dilemma (see page 25). High proportions of low-income households live in the private rented sector.

The most effective way to make sure households in this sector are protected against energy bill increases caused by ECO is to introduce regulations stipulating that these properties must achieve a certain level of energy efficiency performance. Such regulations will not only ensure these properties get the improvements they need, they will also create demand for measures through the Green Deal and ECO and therefore underpin the success of these policies.

The government has announced that it intends to introduce regulations on energy efficiency for properties in the private rented sector but they do not go far enough or fast enough.

If the proposed policies are implemented, from April 2016, domestic landlords will not be able to unreasonably refuse requests from their tenants for consent to make energy efficiency improvements, where financial support is available (such as through the Green Deal and/or ECO). The impact of this policy is likely to be limited because tenants will rarely request improvements for fear of being evicted by their landlord. Nevertheless, it is a step in the right direction and there is no reason why it cannot be implemented earlier.

From April 2018, all private sector rented properties will need to be brought up to a minimum energy efficiency standard rating, likely to be set at EPC rating 'E'. With ECO and Green Deal finance available to support improvements, this could also be brought forward. A long-term, tiered approach, stipulating ever-higher levels of improvements to be achieved by certain dates (say, 'E' rating by 2016, 'D' rating by 2020, 'C' rating by 2025), should also be adopted.

Regulations stipulating that landlords cannot refuse requests from tenants to undertake energy efficiency improvements where financial support is available should be implemented at the earliest opportunity.

Regulations stipulating that landlords achieve an EPC 'E' rating for their properties by 2018 should be brought forward and a long-term trajectory for increasingly greater efficiency improvements should be set.

References

- AEA Energy & Environment, Ecofys and the Carbon Consortium (2008) *Review and update of UK abatement costs curves for the industrial, domestic and non-domestic sectors*, Didcot, AEA Energy & Environment. <http://downloads.theccc.org.uk/AEAUpdateofUKabatementtCh6.pdf>
- Beech M (2012) 'Suppliers ready to publish CERT costs but not alone', Utility Week website, 26 September 2012. http://www.utilityweek.co.uk/news/news_story.asp?id=197471&title=Suppliers+ready+to+publish+Cert+costs+-+but+not+alone
- Boardman B (2010) *Fixing fuel poverty : challenges and solutions*, London: Earthscan
- Boardman B (2012) *Achieving zero*, Oxford: Environmental Change Institute, University of Oxford
- CAG Consultants, Ipsos MORI et al (2011) *Evaluation of the Community Energy Saving Programme: A report on the findings from the process and householder experience research streams*, London: DECC
- Camco (2012) *Energy Bill Revolution Campaign Report*, London: Camco for Transform UK, Co-operative Group, Consumer Focus. http://www.energybillrevolution.org/wp-content/uploads/2012/02/Energy-Bill-Revolution_full-report.pdf
- Committee on Climate Change [CCC] (2008) 'The Costs of Decarbonising Electricity Generation: Technical Appendix to Chapter 5', London
- Committee on Climate Change [CCC] (2011) 'Proposals for the Green Deal / Energy Company Obligation', letter to Chris Huhne MP, London
- Committee on Climate Change [CCC] (2012) *How local authorities can reduce emissions and manage climate risk*, London
- Consumer Focus (2011) *Scaling the solid wall*, London. <http://www.consumerfocus.org.uk/publications/scaling-the-solid-wall>
- Department of Business, Enterprise and Regulatory Reform [BERR] (2008) 'Fuel poverty statistics: Detailed tables, 2006 – Annex to fuel poverty strategy', London. <http://webarchive.nationalarchives.gov.uk/+http://www.berr.gov.uk/files/file48038.pdf>
- Department of Energy and Climate Change [DECC] (2009) *Impact Assessment of proposals for implementation of the Community Energy Saving Programme (CESP)*, London
- Department of Energy and Climate Change [DECC] (2010a) 'Fuel poverty sub-regional statistics 2010'. http://www.decc.gov.uk/en/content/cms/statistics/fuelpov_stats/regional/regional.aspx#
- Department of Energy and Climate Change [DECC] (2010b) *Extending the Carbon Emissions Reduction Target to December 2012: Impact Assessment*, London
- Department of Energy and Climate Change [DECC] (2011a) *The Green Deal and Energy Company Obligation: Consultation Document*, London
- Department of Energy and Climate Change [DECC] (2011b) *Amendments to the eligibility criteria for the Warm Front scheme: Impact Assessment*, London
- Department of Energy and Climate Change [DECC] (2012a) '2011 UK greenhouse gas emissions, provisional figures and 2010 UK greenhouse gas emissions, final figures by fuel type and end-use', statistical release, 29 March 2012. <http://www.decc.gov.uk/assets/decc/11/stats/climate-change/4817-2011-uk-greenhouse-gas-emissions-provisional-figur.pdf>

- Department of Energy and Climate Change [DECC] (2012b) *Final Stage Impact Assessment for the Green Deal and Energy Company Obligation*, London
- Department of Energy and Climate Change [DECC] (2012c) *The Green Deal and Energy Company Obligation: Government Response to the November 2011 Consultation*, London
- Department of Energy and Climate Change [DECC] (2012d) 'Hundreds of pounds up for grabs with £125m green deal cash back offer', press release, 19 October 2012. http://www.decc.gov.uk/en/content/cms/news/pn12_127/pn12_127.aspx
- Department of Energy and Climate Change [DECC] (2012e) 'Written ministerial statement on fuel poverty', 18 September 2012. http://www.decc.gov.uk/en/content/cms/news/wms_edfuelpov/wms_edfuelpov.aspx
- Department of Energy and Climate Change [DECC] (2012f) *Guidance to English Energy Conservation Authorities Issues Pursuant to the Home Energy Conservation Act 1995*, London
- Department for Environment, Food and Rural Affairs [Defra] (2004) *The energy efficiency commitment from April 2005 – consultation proposals*, London
- Department for Environment, Food and Rural Affairs [Defra] (2006) *The Energy Efficiency Commitment April 2008 to March 2011: Initial consultation*, London
- Department for Trade and Industry [DTI] (2001) *The UK Fuel Poverty Strategy*, London
- E.ON (2012) 'The Green Deal and Energy Company Obligation', response by E.ON. http://www.eon-uk.com/EON_GD_ECO_consultation_response.pdf
- Ekins P and M Lockwood (2011) *Tackling fuel poverty during the transition to a low-carbon economy*, York, Joseph Rowntree Foundation
- ENDS (2010) 'DECC finally confirms CERT extension', ENDS Report website, 30 June 2010. <http://www.endsreport.com/24004/decc-finally-confirms-cert-extension>
- Energy and Climate Change Committee [ECCC] (2012a) 'Further memorandum submitted by Phil Bentley, Managing Director, British Gas'. www.publications.parliament.uk/pa/cm201213/cmselect/cmenergy/writev/consumer/m04a.htm
- Energy and Climate Change Committee [ECCC] (2012b) 'Consumer Engagement with Energy Markets', corrected transcript of oral evidence. <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenergy/c554-i/c55401.htm>
- Energy and Climate Change Committee (2012c) *Fuel poverty in the private rented and off-grid sectors*, London: The Stationery Office
- Eyre N, Pavan M and Bodineau L (2009) *Energy Company Obligations to Save Energy in Italy, the UK and France: What have we learnt?* ECEEE 2009 Summer Study, Côte d'Azur: ECEEE. http://www.ecee.org/conference_proceedings/ecee/2009/Panel_2/2.164/
- Hills J (2012) *Getting the measure of fuel poverty: Final report of the Fuel Poverty Review*, London: DECC
- Ipsos MORI, CAG Consultants and the Building Research Establishment (2011) *Evaluation of the delivery and uptake of the Carbon Emissions Reduction Target*, London: DECC. <http://www.decc.gov.uk/assets/decc/11/funding-support/3339-evaluation-of-the-delivery-and-uptake-of-the-carbo.pdf>
- Kuckshinrichs W, Kronenberg T and Hansen P (2010) 'The social return on investment in the energy efficiency of buildings in Germany', *Energy Policy*, 38(8): 4317–4329

- Lees E (2008) *Evaluation of the Energy Efficiency Commitment 2005–08*, Wantage: Eoin Lees Energy
- Local Government Association [LGA] (2012) *Response to the Consultation on the Green Deal and Energy Company Obligation*, London
- National Audit Office [NAO] (2009) *The Warm Front Scheme*, London
- Office for National Statistics [ONS] (2012) 'Families and households, 2012', statistical release, 1 November 2012. http://www.ons.gov.uk/ons/dcp171778_284823.pdf
- Ofgem (2003) *A review of the first year of the Energy Efficiency Commitment – A report for the Secretary of State for Environment, Food and Rural Affairs*, London
- Ofgem (2004) *A review of the Energy Efficiency Commitment to the end of the second year – A report for the Secretary of State for Environment, Food and Rural Affairs*, London
- Ofgem (2005) *A review of the Energy Efficiency Commitment 2002–2005*, London
- Ofgem (2006) *A review of the first year of the Energy Efficiency Commitment 2005–2008*, London
- Ofgem (2007) *A review of the second year of EEC 2005–2008*, London
- Ofgem (2008) *A review of the Energy Efficiency Commitment 2005–2008*, London
- Ofgem (2008a) *The Energy Supply Probe: Initial findings report*, London
- Ofgem (2009) *A review of the first year of the Carbon Emissions Reduction Target*, London
- Ofgem (2010) *A review of the second year of the Carbon Emissions Reduction Target*, London
- Ofgem (2011) *A review of the third year of the Carbon Emissions Reduction Target*, London
- Ofgem (2012a) *Supply Market Report update: October 2012*, London
- Ofgem (2012b) 'Carbon Emissions Reduction Target ('CERT') Super Priority Group: suppliers' proposal for 'SPG Percentage', letter, 29 October 2012. <http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/Documents1/Carbon%20Emissions%20Reduction%20Target%20Super%20Priority%20Group%20suppliers%20proposal%20for%20SPG%20percentage.pdf>
- Ofgem (2012c) *CERT Update 17, September 2012*. http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/CE/ Documents1/OfGem%20CERT%20Q17%20June%202012_v03.pdf
- Ofgem (2012d) *A review of the fourth year 2012 of the Carbon Emissions Reduction Target (CERT) programme 2008–2012*, London
- Phillips R and Scott F (2012) *Neither sermons nor silence: the case for national communications on energy use*, London: Green Alliance
- Platt R (2011) *Green Streets, Strong Communities*, London: IPPR. <http://www.ippr.org/publication/55/7703/green-streets-strong-communities>
- Platt R (2012) *The true cost of energy: How competition and efficiency in the energy supply market impact on consumers' bills*, London: IPPR. <http://www.ippr.org/publication/55/9040/the-true-cost-of-energy-how-competition-and-efficiency-in-the-energy-supply-market-impact-on-consumers-bills>

- Probert LJ, Loveday DL and Haines V (2012) 'Practicable means of fuel poverty identification in England: a mixed methods approach', poster presented at the UKERC Summerschool. www.ukerc.ac.uk/support/tiki-download_file.php?fileId=2574
- Rosenow J (2011) *Different Paths of Change: Home Energy Efficiency Policy in Britain and Germany*, ECEEE 2011 Summer Study, Belambra Presqu'île de Giens: ECEEE
- Rosenow J (2012) 'Energy Savings Obligations in the UK – A History of Change', *Energy Policy*, 49: 373–382
- Rosenow J and Eyre N (2012) 'The Green Deal and the Energy Company Obligation – will it work?' conference paper, 9th BIEE Academic Conference 'European Energy in a Challenging World: The impact of emerging markets', 19–20 September 2012, Oxford. http://eng.janrosenow.com/uploads/4/7/1/2/4712328/rosenow-eyre-2012-the-green-deal-and-the-energy-company-obligation_.pdf
- Schröder M, Ekins P, Power A, Zulauf M and Lowe R (2011) *The KfW experience in the reduction of energy use in and CO2 emissions from buildings: operation, impacts and lessons for the UK*, London: UCL Energy Institute, University College London and LSE Housing and Communities, London School of Economics. <http://sticerd.lse.ac.uk/dps/case/cp/KfWFullReport.pdf>
- Scott F (2011) *Is localism delivering for climate change? Emerging responses from local authorities, local enterprise partnerships and neighbourhood plans*, London: Green Alliance. <http://www.green-alliance.org.uk/uploadedFiles/Publications/reports/Is%20localism%20delivering%20for%20climate%20change%20-%20FINAL.pdf>
- Sunderland L and Croft D (2011) *Energy poverty – risks, conflicts and opportunities in the development of energy poverty alleviation policy under the umbrella of energy efficiency and climate change*, ECEEE 2011 Summer Study, Belambra Presqu'île de Giens: ECEEE
- Sustainable Development Commission (2010) *The Future is Local: Empowering communities to improve their neighbourhoods*, London. <http://www.sd-commission.org.uk/publications.php?id=1093>
- WWF Scotland and the Energy Agency (2010) *Achieving our potential: an analysis of area-based approaches to improving energy efficiency in Scotland's homes*, Little Dunkeld. http://assets.wwf.org.uk/downloads/achieving_our_potential.pdf
- York D (2008) *What's Working Well: Lessons from a National Review of Exemplary Energy Efficiency Programs*, Asilomar, CA: American Council for an Energy Efficient Economy

APPENDIX

LIST OF INTERVIEWEES

- Sally Andrews, pensioner welfare division, Department for Work and Pensions
- William Baker, head of fuel poverty policy, Consumer Focus
- Will Broad, environmental programmes, Ofgem
- Marcus Brooks, Green Deal team, DECC
- Andrew Burke, policy officer, Sustainable Environments, National Housing Federation
- Abigail Burrridge, senior advisor, Local Government Association
- Ute Collier, team leader, Buildings, Carbon Footprint & Devolved Administrations, Committee on Climate Change
- Sofia Gkiiousou, policy and external relations manager, Energy UK
- Alice Gunn, policy, SSE
- Pedro Guertler, head of research, Associations for the Conservation of Energy
- Chetan Lad, head of CERT and policy, British Gas New Energy
- Eoin Lees, independent consultant
- Steve McBurney, head of energy efficiency, environmental programmes, Ofgem
- Alistair McGirr, public affairs, SSE
- Steven Millward, CERT manager, SSE
- Peter Smith, external affairs manager, National Energy Action (NEA)
- Dave Timms, UK climate and energy campaigner, Friends of the Earth