

RESEARCH REPORT

Evaluation of the delivery and uptake of the Carbon Emissions Reduction Target

Undertaken by Ipsos MORI, CAG consultants and BRE

October 2011

The views expressed in this report are those of the authors, not necessarily those of the Department for Energy and Climate Change, nor do they reflect government policy. Some of the findings presented in this report are based on qualitative research which was not designed to be representative of views across the UK. The recommendations made are based on the views of the respondents involved in this research.

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1. Executive Summary

1.1 Research background

The Department of Energy and Climate Change commissioned Ipsos MORI, CAG Consultants and the Building Research Establishment (BRE) to conduct a retrospective evaluation of the Carbon Emissions Reduction Target (CERT).

From April 2008 to December 2012 CERT is the main legislative driver for improving the energy efficiency of existing households in Great Britain and contributes to the UK's legally binding emissions reductions commitments. Since April 2008 it has placed an obligation on the six major gas and electricity suppliers to meet a carbon emissions reduction target. This target is set by DECC and requires at least 40 per cent of the carbon savings to be met in Priority Group households (who are on certain benefits and/or over 70 years old). Ofgem administers the programme, determining the individual carbon emissions reduction obligation for each supplier, and monitors compliance¹.

1.2 Research approach

The research focussed on how CERT policy has been delivered, and how, why, and to what extent energy efficiency measures offered under CERT have been taken up by households, focusing particularly on insulation and heating measures. This research formed one of several work-streams being conducted by DECC to understand the delivery and effects of CERT.

This research comprised two main strands:

- a process evaluation, comprising 65 in-depth interviews with key delivery stakeholders, a national workshop and desk research; and
- research with householders, comprising a nationally representative face-to-face survey (1,613 households), and face-to-face in-depth interviews with 47 householders who had taken up CERT measures (CERT customers) and 30 who had not (CERT non-customers).

Across both strands there was an investigation of CERT at a national level (Great Britain) and at a more detailed local level through four small case-studies spread across England and Scotland.

1.3 Research objectives

The research had a number of objectives which are outlined in full in the main report. The headline findings are structured around the following key questions:

- How is CERT being delivered in practice?
- How are measures offered under CERT taken up by households?
- What are the main effects of measures offered under CERT?
- What are the successes and limitations of CERT?

¹ Further information on CERT can be found on the DECC website (http://www.decc.gov.uk/en/content/cms/what_we_do/consumers/saving_energy/cert/cert.aspx)

It should be noted that the ability of this evaluation to attribute current attitudes and behaviours around energy efficiency to CERT is constrained by the fact it was planned retrospectively and so there is no baseline comparison available.

Headline findings

1.4 How is CERT being delivered in practice?

This evaluation aimed to explore exactly how the energy suppliers have delivered their CERT obligations, going beyond the high-level information which is published by Ofgem and the Energy Savings Trust (EST). Data on the exact size and scale of different delivery routes, and associated costs, was not made available for the research due to commercial confidentiality concerns of energy suppliers. Therefore, the following section outlines the *relative* size, importance and nature of different CERT delivery routes for insulation (including professionally-installed loft and cavity wall insulation, Do-It-Yourself loft insulation, and solid wall insulation), and heating measures, based on the evidence available.

1.4.1 Professionally-installed loft and cavity wall insulation

Ofgem figures show that over two million households received professionally-installed loft insulation through CERT schemes between April 2008 and March 2011, while 1.6 million households received professionally-installed cavity wall insulation². The Ofgem estimates show that, in each case, about 70% of these were private households receiving a direct offer (through their local authority, an installer/managing agent, an energy supplier or a retail store), about 25% were social tenants receiving measures through their Registered Social Landlord (RSL), and an estimated 5-10% received insulation in conjunction with a national Government scheme (e.g. Warm Front in England, the Energy Assistance Package in Scotland, or the Home Energy Efficiency Scheme in Wales).

Energy suppliers generally contracted delivery partners to deliver professionally-installed home insulation measures by setting an explicit price per tonne of carbon saved. Other contracts were specified in terms of measures, but the price per measure was again largely driven by carbon savings. The carbon price set by energy suppliers sometimes differed between Priority Group and non-Priority Group recipient households. While the relative prices depended on the market and progress towards targets, the carbon price was generally higher for Priority Group households (or mixtures of households with a higher proportion of Priority Group).

A variety of delivery routes were used to market these offers to householders, as outlined below. However, the customer research found that householders were not well aware of the wide range of offers available and respondents who had taken up CERT measures were often unable to recall the organisation, or person, who had approached them. The delivery routes are ordered according to the approximate relative scale of delivery, based on information from energy suppliers, managing agents and Energy Savings Trust Advice Centres/Energy Savings Scotland Advice Centres (hereafter referred to as advice centres).

² CERT Update June 2011 (Ofgem) – this applies to all delivery figures included within this section.

Firstly, around 70% of professionally-installed measures were delivered to private households. The majority of these households were reported to be owner-occupiers. A wide range of stakeholders reported that CERT delivery to private rented households was problematic, owing to the incentive for CERT investment being split between the tenant and the landlord.

- **Offers in conjunction with or endorsed by the local authority:** This research suggests that one of the largest delivery routes for private householders was through local schemes, supported and 'badged' by the local authority (for both Priority Group and non-Priority Group households). The research found that some of these schemes involved only a few partners (an energy supplier, an installer or managing agent and/or the local advice centre), while others were more complex, with a range of partners and drawing in other funding streams. The simpler schemes tended to rely primarily on local-authority endorsed mail-outs (e.g. included with council tax bills, and offering incentives in the form of council tax rebates), but sometimes included door knocking approaches by installers or managing agents.

More complex and intensive schemes, such as Warm Zone schemes, involved a wider range of local partners, including representatives from RSLs, the health service, fire service, and/or benefits agency. These tended to be driven by tackling fuel poverty and wider social objectives, and often focused on particular geographic areas. Door-knocking was common for this delivery route: stakeholders involved in local schemes reported that costs varied according to the intensity of door-knocking. The case-study research found that some local authorities had contributed matched funding to these schemes, e.g. the Universal Home Insulation Scheme (UHIS) in Scotland which offered free insulation to all households in a small number of areas, including non-Priority Group households which did not qualify for free measures through CERT. Some schemes also referred Priority Group customers to national Government funding schemes (see below).

Direct offers by installers and managing agents: The available evidence suggests that CERT offers to householders from installers or managing agents, without the direct involvement of energy suppliers or local authorities, formed another significant delivery route. These offers were publicised primarily through the advice centres, but also through advertising (by the larger installers), employee schemes and door knocking. Advice centre respondents reported that the deals offered by major installers often offered the best value for customers (see below). However, some advice centres and energy suppliers reported that local generation of leads ('active selling') tended to generate more jobs than national advertising campaigns. One advice centre reported that potential insulation jobs were traded with installers/managing agents for a 'lead fee' (typically £25-30 per lead) which fluctuated according to the market and when energy suppliers were pushing to meet targets. It was suggested that in some cases measures delivered via this route were installed first, and the attributed carbon savings then sold on to managing agents after completion.

- **Direct offers by energy suppliers:** offers to private households directly from energy suppliers were also significant, particularly offers to the supplier's own energy customers. At the time of this evaluation, five out of the six major energy suppliers promoted national offers for professionally-installed insulation direct to households, for both Priority and non-Priority Group customers. The other energy supplier targeted offers to their own customers only, while at least one of the suppliers with a national offer also offered preferential deals for their own customers. Offers were publicised to suppliers' own customers through energy bill mail-outs and company websites. Four out of the six major energy suppliers also ran

major advertising campaigns on energy efficiency as part of their brand positioning in the energy market as a whole. National offers were also publicised via the advice centres. Advice centre respondents reported that the best value deals tended to be national offers targeted at energy suppliers' own customers.

- **Offers marketed through major retail stores:** Several energy suppliers marketed professionally-installed insulation to both Priority and non-Priority Group customers in partnership with a major supermarket or DIY store. Marketing materials show that other services were often also promoted (energy supply and/or DIY insulation materials) by the same retail partner. Stakeholders involved in delivering these schemes reported that they were developed because customers placed trust in these retail brands. However, a managing agent involved in a supermarket scheme reported that customer care procedures required by supermarkets were quite onerous, leading to relatively high costs compared to other ways of generating leads (e.g. council-endorsed mailings). This delivery route was generally not considered by energy suppliers or installers to have generated particularly high volumes of delivery, or high margins, but was recognised as being important in developing partnerships for the forthcoming Green Deal.

Secondly, around 25% of professionally installed CERT measures were **delivered to social housing tenants (primarily Priority Group) through Registered Social Landlords (RSLs)**. RSLs, which include local authorities in their role as landlords, have legal responsibilities to meet 'Decent Homes' or equivalent standards for social housing, and have therefore tended to support energy efficiency improvements in their properties, often as part of wider renovation programmes.

Energy suppliers considered this route to have been cost-effective owing to economies of scale and the availability of matched funding from other sources (e.g. housing renovation funds). Some installers, managing agents and advice centre staff suggested that the social housing route has been less important for CERT than predecessor obligation policies, both because measures have already been installed in many properties, and because the inclusion of those aged 70+ in the Priority Group reduced the need to identify Priority Group customers living in social housing (to meet targets). However, energy suppliers anticipated that their delivery strategies would need to change to meet super Priority Group targets introduced in the CERT extension in 2010, and may require a renewed emphasis on work with RSLs.

Finally, a minority of professionally installed CERT measures were **delivered in conjunction with other Government funding schemes** (e.g. Warm Front in England, the Energy Assistance Package in Scotland, or the Home Energy Efficiency Scheme in Wales). N.B. this does not include offers funded through local authorities (such as UHIS in Scotland, where Government funding was allocated to local authorities). Only some Priority Group customers, from both private and social tenure, were eligible for these Government schemes. Local authorities and advice centres reported that customers were referred to these schemes through the range of delivery routes outlined above, but particularly through schemes involving local authorities, RSLs and advice centres.

1.4.2 Do It Yourself (DIY) loft insulation

Ofgem figures show an estimated 1.4 million additional households received 'Do It Yourself' (DIY) loft insulation materials subsidised through CERT up to March 2011. This was delivered almost entirely through retail sales to private householders by DIY stores, with a small proportion being offered free to private households through special offers. These offers were primarily marketed

through national media and in-store advertising, promoting highly-subsidised rolls of loft insulation, particularly during periods of cold weather. One supplier offered online sales of DIY materials, in conjunction with a builders' merchant. The DIY delivery route appears to have been the main source of materials for 'loft top-up' insulation. A wide range of stakeholders reported that offers for professional installation of loft top-up insulation were not generally attractive to customers: loft top-ups had a lower carbon saving and therefore lower score than 'virgin' loft insulation, but involved a similar amount of work to install, so would usually be offered at a higher price than virgin loft insulation. A wide range of stakeholders commented that DIY loft insulation provided more choice for consumers (e.g. lower costs and a wider range of insulation materials), but that a potential disadvantage was lack of quality assurance on the effectiveness and safety of installation.

1.4.3 Solid wall insulation

Ofgem estimates show that only 39,700 GB households had solid wall insulation measures installed through CERT, by March 2011. This was delivered almost entirely through partnerships with social housing providers, often in conjunction with social housing renovation programmes (e.g. Decent Homes). The beneficiaries were therefore most likely to be primarily in the CERT Priority Group.

1.4.4 Heating measures

The delivery of heating measures through CERT has been on a much smaller scale than delivery of insulation. Ofgem figures show that overall 70,000 households had fuel switching (to gas central heating) delivered through CERT by March 2011, while about 5,000 heat pumps were also delivered.

CERT has not delivered high numbers of boiler replacements: installers and energy suppliers reported that they had little incentive to replace boilers under CERT, as only replacement of 'G-rated' boilers qualified for CERT support, but the cost of providing the required Energy Performance Certificate (EPC) for a boiler installation (about £100) exceeded the CERT subsidy available for these jobs from energy suppliers. Ofgem introduced optional alternatives to the EPC requirement in the latest CERT supplier guidance in February 2011. Stakeholders did report however, that some CERT schemes referred Priority Group customers on to Government schemes - where they were eligible - to obtain further assistance with heating, including boiler replacement (e.g. Warm Front in England, the Energy Assistance Package in Scotland and Home Energy Efficiency Scheme in Wales).

1.5 How are measures offered under CERT taken up by households?

The evaluation also explored the types of householders who have taken up CERT measures and reasons why, and the factors preventing other householders from installing energy efficiency measures.

1.5.1 Uptake of measures under CERT

The national household survey found that overall 39% of respondents reported receiving one or more measures offered under CERT since April 2008: 21% said they received professionally-installed loft (or top-up loft) insulation; 16% reported receiving cavity wall insulation; and 14% DIY loft insulation. As would be expected, a far smaller proportion of respondents reported receiving solid wall insulation over the CERT period (2%). These figures are somewhat higher than Ofgem estimates of delivery, which is likely due to over-claiming (e.g. recall of measures installed before

April 2008, or taken up under an alternative scheme), but the *relative* uptake of different measures broadly matched these estimates. Therefore, the survey results can still be used with confidence for providing insight about the relative uptake of energy efficiency measures, the motivations to do so, and the effects of installation.

The national household survey identified a number of difference between CERT customers (who had received major insulation, heating or microgeneration measures) and the overall sample (which represented the national profile of GB households):

- CERT customers were more likely to be **owner-occupiers** compared to the overall sample, and live in **semi-detached properties outside metropolitan areas**. This may be partly explained by the relative ease of encouraging uptake of measures in more affluent and/or suburban areas, as reported by delivery stakeholders, and lower cost of delivering measures in these areas. In addition, it may reflect the lower engagement levels of social renters with the CERT scheme, identified through in-depth interviews with householders and local delivery stakeholders. These householders were not always aware that they had received measures through CERT – e.g. if delivered as part of wider refurbishment work. The survey identified far fewer private renters who had taken up measures compared to the national profile, reinforcing installers' feedback on the challenges of delivering to this sector.
- It was also noted that CERT measures were more likely to have been taken up by '**post-family**' households compared to the national profile of households. This reflects targeting of CERT measures to older people within the Priority Group, as well as the typical age range of owner-occupiers living outside of metropolitan areas.

1.5.2 Effective CERT delivery routes

Factors determining the most effective delivery routes (based on perceptions of delivery stakeholders and householders) were related to both the source and channel of communication about an offer. Delivery stakeholders and householder respondents were in agreement about the importance of the **local authority** as the source of communication about an offer, or at least being seen to endorse the offer (e.g. mentioned in material about offers from installers / managing agents). local authority endorsement was considered crucial to reassure householders of the scheme's credibility and therefore drive uptake. Most of CERT customer respondents had taken up CERT measures through a scheme with local authority backing.

Findings from the in-depth interviews with delivery stakeholders and CERT customers suggested **visible and proactive promotion** of CERT offers was also crucial in driving uptake. Respondents in areas where there had been localised schemes reported that door-knocking, telephone calls and the frequent sight of installers' vans increased their awareness and engagement with CERT measures and offers. It was felt that such an approach created a 'social norm' in localised areas, which led many people in a neighbourhood to follow others and install measures.

Other sources and channels of communication were considered less effective. Many householder respondents (both those who had and had not taken up measures), recalled seeing promotion of energy efficiency measures by energy suppliers through television advertising, leaflets, or the inclusion of offers alongside bills. However, many respondents expressed cynicism towards these offers, as they could not understand why energy companies would want to help consumers reduce their energy use, and were uncertain whether the suggested savings would actually be experienced within their specific property if they took them up. Consequently, the offers were not

considered to have generated take-up of measures among the in-depth interview respondents; none of the CERT customers interviewed said they had responded to one of these promotions.

1.5.3 Key drivers of uptake

Expected cost savings were the most commonly reported reason for take up of insulation measures - mentioned by 79% of CERT customers in the national household survey. The second most important reason found by this research was making the home warmer and easier to heat - mentioned by 21% of CERT customers surveyed, but also raised as a key reason in the in-depth interviews.

A desire for '**helping the environment/ step towards being greener**' was mentioned by 16% of CERT customers surveyed as a reason for taking up CERT measures, and 5% said more specifically that they were driven by a desire to reduce their carbon dioxide emissions. The in-depth interviews found that protecting the environment was only a *key driver* for a few CERT customer respondents (most commonly more affluent homeowners). That said, for many other respondents who had taken up measures, there was a reported sense that being more 'energy efficient' and reducing waste was the 'right thing to do', above and beyond associated cost savings.

Many respondents who had taken up measures said once aware of the low or zero cost, they felt they had little to lose from taking them up. This was particularly true for customers living in social housing, who may have received measures in a very passive way, with no cost passed on to them and very little engagement with the offer itself (e.g. measures installed as part of wider refurbishment work). The in-depth interviews only identified a very few cases where Priority Group customers living in social housing had been offered CERT measures and turned these down - due to the perceived hassle of clearing the loft space. Likewise, installers reported that the 'easiest' jobs to generate were those for over-70s within the Priority Group, partly because measures were usually offered to them for free. However, perceived high cost of measures as appears to be a remaining barrier to take up: respondents who had not taken up measures reported this as a main reason why not.

1.5.4 Key barriers to uptake

Findings from the in-depth interviews suggested that **perceptions of high upfront costs, and a low awareness of both CERT offers and eligibility for offers**, were the key barriers to further uptake (both amongst respondents who had taken up some measures and those who had not installed any insulation measures). For cavity wall and loft insulation the key barrier reported in the national household survey by respondents who had not installed these measures was a perception that they could not afford upfront costs (21% and 27% respectively). In the case of solid wall insulation the major reported barrier was lack of awareness of this as an energy efficiency measure (31%). Other barriers mentioned by certain groups of respondents in the in-depth interviews included concerns about the aesthetics of the measures (most commonly mentioned by inhabitants of period properties) and expectations around the hassle of preparing the property (older householders and younger families most commonly).

The research also identified a number of physical barriers to delivery of measures, related to area and property type:

- The national household survey identified **low delivery in metropolitan areas**, which installers suggested was due to difficult, and more costly, access to properties in these areas (e.g. higher parking charges). This is also likely to reflect some of the other most common factors that were reported to inhibit take-up, including a greater prevalence of younger people, period buildings, flats and terraces (i.e. more 'difficult to treat' properties).
- The national household survey also found that uptake of CERT has been low in **flats** (when compared to the national profile). This is likely to reflect the higher prevalence of mixed tenure and younger people living in flats.
- Delivery to **remote rural areas** has also faced challenges according to stakeholders. Installers have found it difficult to make these installations cost-efficient due to the distances involved between properties and areas.

1.6 What are the main effects of measures offered under CERT?

The evaluation explored whether CERT customers had experienced any benefits within their homes as a result of installing energy efficiency measures and reported energy use behaviours since installation.

1.6.1 Benefits of CERT measures felt by customers

Although expected cost savings were mentioned most often as the reason for taking up measures originally, the most commonly reported benefit of installing CERT measures was **experiencing a warmer home** (mentioned spontaneously by over 50% of CERT customer respondents in the national survey). Although only a few in-depth interview respondents said they knew for certain that the installation of measures had led to cost savings or reduced the effect of a rise of their fuel costs (due to the difficulty of assessing this against rising prices and a harsh winter), many said they suspected that this was the case. There was also some evidence that a lack of awareness about energy consumption (kWh) levels, as opposed to the overall cost of fuel bills, made it difficult for respondents to discern the degree to which they have saved money as a result of CERT measures.

1.6.2 Behaviours and attitudes of CERT customers

The key effect on household behaviour reported by respondents was **how they heat their homes**. Some in-depth interview respondents reported that, since installing insulation measures, they were able to have their heating on for a shorter amount of time, and a few respondents reported that they were able to turn their thermostats down. None of the householders involved in this research said they had increased their energy use, by turning their thermostats up or having their heating on for longer, as a result of having an energy efficiency measure installed.

CERT customers interviewed did not think that the delivery of energy efficiency measures had impacted on their behaviours in any other way. It was not considered to have led them to take further steps to reduce their energy consumption, or to be more environmentally-friendly in other aspects of their lives.

The national household survey did not find any differences between the energy use behaviours or environmental attitudes of respondents who had taken up measures and those who had not.

1.7 Likelihood of measures being taken up in absence of CERT

This research can only give an indication of the extent to which measures might have been taken up without CERT, based on retrospective perceptions of respondents who had taken up CERT measures. Some respondents who had taken up measures under CERT claimed they would have installed the measures anyway at full cost. However, this was reported with the benefit of hindsight, and having experienced the positive benefits of the measures - predominantly warmer homes, and for a few, slower rises in fuel bills. It is also important to note that most respondents were unsure about the true cost for each of the measures (without CERT subsidy), and most took up measures in response to a direct offer (e.g. with door-step marketing). Taking this into account, it seems unlikely that many customers (aside from the most environmentally aware) would have sought out or installed energy efficiency measures in the absence of CERT.

1.8 What are the successes and limitations of CERT?

The successes and limitations of CERT, as identified by energy suppliers, installers, managing agents, RSLs, industry representatives and local authorities are presented below.

1.8.1 Main successes of CERT

- The energy supplier stakeholders reported that the flexibility and stability provided by CERT and its predecessor schemes (since 2002) had driven the delivery of carbon savings using the most cost-effective measures and most cost-effective routes that they could identify, subject to satisfying Ofgem and legislative requirements. When contracting delivery partners for professionally-installed home insulation schemes, energy suppliers generally set the price per tonne of carbon saved by installed measures. This effectively created a commodity market, encouraging new entrants and innovative approaches to reaching households (including Priority Group households, for which installed measures often had a higher carbon price, depending on progress towards targets).
- The energy supplier stakeholders reported that CERT had particularly boosted delivery of cavity wall insulation, professionally-installed loft insulation and DIY loft insulation. In support of this finding, research by the Energy Efficiency Partnership for Homes (EEPH)³ suggests that CERT has significantly increased the delivery of home energy efficiency measures in Great Britain, particularly Compact Fluorescent Lamps (CFLs), loft insulation and cavity wall insulation.
- Many stakeholders commented that CERT had supported significant growth in the insulation industry. Another study conducted in 2008 by EEPH⁴ estimated that there would be about 10,000 jobs in insulation installation in 2010, up from 5,000 in 2005.
- When asked directly, most of the major energy suppliers stated they would not have delivered energy efficiency measures at all without CERT. Others felt they might have done so on a smaller scale.
- There was universal agreement amongst stakeholders involved in delivery of CERT and CESP that CERT has been a more cost-effective way of generating carbon savings than the

³ 2050 road map for energy efficiency in housing, Energy Efficiency Partnership for Homes (EEPH) (2010)

⁴ An assessment of the size of the UK energy efficiency market, Energy Efficiency Partnership for Homes (2008)

CESP, both in terms of the types of measures delivered and the administrative cost of running the schemes.

- Stakeholders reported that they believed CERT has contributed to reductions in fuel poverty by improving home energy efficiency, particularly through delivery via area-based schemes or partnerships with social housing providers and other Government schemes.

1.8.2 Limitations of CERT

- Many stakeholders reported that CERT has created an insulation market that is largely dependent on subsidy, and has set-up an expectation amongst many householders that insulation should be a cheap or free service;
- Industry representatives felt the highly-subsidised market has had perverse consequences for parts of the energy efficiency industry, e.g. small installers and builders merchants, who have difficulty accessing CERT funding;
- Insulation industry stakeholders reported they have been reliant on the supplier obligation, and suppliers' investment decisions. Difficulties have been caused by peaks and troughs in delivery profiles e.g. when CERT rules change or suppliers near their targets;
- The competitive and commercial nature of CERT has meant that suppliers and other stakeholders have been reluctant to share information, particularly on delivery costs. Local authority and RSL representatives believed this has created a lack of transparency which affects not only them but also Ofgem and DECC's own policy making processes;
- While the quality of delivery of CERT was generally reported by stakeholders and householders involved in this research to be good, there were some technical failures. Stakeholders reported that about 14% of monitored jobs revealed some form of problem, although Ofgem advised that this also includes very minor problems. In particular, stakeholders mentioned the lack of a common code of practice for installers of loft insulation (although Ofgem noted that this is currently being developed with industry), and the practice of installers 'selling on' some jobs to managing agents and energy suppliers after completion;
- CERT regulates for outcomes but is market led in delivery, with obligated parties free to determine how best to meet their obligations within the rules of the scheme. It was felt the unforeseen consequences of this include that some householders in low-delivery areas may have been paying for CERT through their fuel bills without benefiting directly themselves from professionally installed insulation measures. In particular, proportionally few people living in houses which are hard to treat, off-gas grid, or in areas with a restricted supply chain have benefited these measures. Although the scheme as a whole is thought to have made a positive long term impact on fuel poverty (e.g. through Warm Zone-style schemes), some households in fuel poverty may not have (yet) benefited directly by taking up free / subsidised insulation measures. However, it should be recognised that other policies targeting fuel poverty will have reached many such households (e.g. Winter Fuel and Cold Weather Payments);
- Both a common criticism and a positive aspect of CERT has been that it has focused on 'the low-hanging fruit' - that is, those measures that were cheapest to deliver in the easiest to treat properties. A consequence of this is that delivery has been lower for some housing types: for example the national household survey showed that CERT customers were more

likely to live in houses than flats. However, it should be noted that the number of flats does not equate to the number of potential installation jobs due to shared walls and lofts. Similarly, CERT offers have not been equally available to all locations: the national household survey showed that CERT customers were less likely to live in metropolitan areas. It is recognised that the opportunities for further delivery of insulation measures are likely to become more difficult and costly to deliver.

8.1.1 Views on implication for future policy

Finally, suggestions from stakeholders about how a future energy company obligation should be designed, based on perceptions of strengths and limitations of CERT, are summarised as follows:

- **Provide clarify on objectives of future policy**, in particular, whether the primary objective is to save carbon, reduce fuel poverty or stimulate delivery of certain measures.
- **Ensure a supplier obligation is used alongside other policy tools** to drive carbon saving, including improved standards for energy-using appliances, specifications for new boilers and heating systems and building regulations for new housing and extensions. It was also felt by a wide range of stakeholders that introduction of minimum standards for private rented properties would be the only effective way of overcoming the 'split incentive', whereby energy efficiency measures primarily benefit the tenant but require investment by the landlord.
- **Take forward successful aspects of CERT, in particular:**
 - The stable and long-term framework created by CERT, EEC1 and EEC2, which was considered essential by many stakeholders for development of delivery partnerships;
 - The flexibility of CERT and its responsiveness to market conditions, which allows suppliers and other partners to innovate and find the most cost-effective way of meeting their targets, as technologies and costs change over time.
- **Provide a smooth transition and gradual phasing of changes** from CERT to a future supplier obligation, with early information about the proposed plans so that industry could prepare for future changes and reduce uncertainty.

1.9 Overall summary of findings

Overall this research has found that the CERT supplier obligation has provided a flexible framework which has stimulated cost-effective delivery of lower cost home energy efficiency measures, particularly loft and cavity wall insulation. As a continuation of previous supplier obligations, it was felt by stakeholders to have formed part of a long-term framework which has facilitated the development of innovative delivery channels and partnerships. While CERT has not been driven directly by the needs of fuel poor households, stakeholders felt that it has made some positive long-term impact to reduce fuel poverty. However, they did not believe that CERT has managed to deliver measures which are more costly or problematic for geographical or technical reasons (i.e. solid wall insulation, hard to treat properties, very rural areas).

2. Introduction

2.1 Background

This research report details findings and conclusions from an evaluation of the Carbon Emissions Reduction Target (CERT), which focused specifically on the delivery process and uptake of energy efficiency measures by households.

From April 2008 to December 2012 CERT is the main legislative driver for improving the energy efficiency of existing households in Great Britain and contributes to the UK's legally binding emissions reductions commitments. Since April 2008 it has placed an obligation on the six major gas and electricity suppliers to meet a carbon emissions reduction target (based on their number of customers), through delivery of energy efficiency measures to households. This target is set by DECC and for reasons of equity requires at least 40 per cent of the carbon savings to be met in Priority Group households (who are on certain benefits and/or over 70 years old). The overall carbon emissions target was set at 185m tonnes of carbon dioxide (CO₂) emissions (subsequently extended to 293 Mt CO₂ under the CERT extension).

Ofgem administers the programme, determining the individual carbon emissions reduction obligation for each supplier, and monitors compliance⁵.

CERT runs until December 2012 (having been extended from a March 2011 end) and follows on from the Energy Efficiency Commitment (EEC), which ran from 2002-05 (EEC1) and 2005 – 2008 (EEC2).

At the end of 2012, the Government has announced the launch of a new framework to promote uptake of energy efficiency measures in the form of the Green Deal. The Green Deal will establish a new market for energy efficiency measures, at the heart of which will be a new financing mechanism. Green Deal finance will promote a cost-effective response to government's aims on energy efficiency and place the emphasis for paying for energy efficiency measures with the beneficiary – with the energy bill savings offsetting any costs. It will be supported by a new obligation on larger energy suppliers (which will supersede CERT and CESP) focused on the needs of the lower income and most vulnerable as well as hard to treat (e.g. solid wall) housing where energy saving solutions are more costly.

2.2 Research objectives

The Department of Energy and Climate Change (DECC) commissioned Ipsos MORI, CAG Consultants and the Building Research Establishment (BRE) to conduct research into CERT delivery and uptake, with particular focus on insulation and heating measures. The research focused on how CERT policy has been delivered, and how, why, and to what extent energy efficiency measures offered under CERT have been taken up by households. This research forms one of a number of work-streams being conducted by DECC to understand the delivery and effects of CERT.

⁵ Further information on CERT can be found on the DECC website (http://www.decc.gov.uk/en/content/cms/what_we_do/consumers/saving_energy/cert/cert.aspx)

The key research objectives for this evaluation are set out below. A full list of the detailed evaluation questions is included in Appendix 1:

1. How is CERT being delivered in practice?
2. How have suppliers reacted to the CERT policy framework?
3. How is delivery of CERT measures monitored and quality assured by suppliers?
4. How do suppliers view the future with regards to these type of measures?
5. How are measures offered under CERT taken up by customers?
6. What is the impact of measures offered under CERT on behaviour?

2.3 Overview of methodology

There were two main strands to this research: an examination of the CERT delivery process with stakeholders led by CAG Consultants; and research with householders (CERT 'customers' who have taken up measures and 'non-customers') led by Ipsos MORI. Within both strands of the research there was an investigation of CERT at a national level and within four small in-depth case-study areas across Great Britain. The four case-study locations were chosen to reflect a range of CERT delivery models, levels of CERT activity and types of households. They were not selected to be best-practice examples and include areas where there have been both successes and limitations to delivering CERT.

A brief summary of the research programme is presented below. A more in-depth account, including details of recruitment, interview guides, case-study locations and the full set of quantitative results, is included in the appendices.

The research with stakeholders involved:

- 11 scoping interviews with key stakeholders, including DECC, Ofgem and the major energy suppliers, to map out the delivery of CERT and identify stakeholders to engage in the main stages of the evaluation;
- 40 in-depth interviews with CERT delivery stakeholders. These focused on CERT at a national level and have gathered information on delivery, quality and supply issues;
- A workshop attended by 30 stakeholders from a broad mix of remits, including installation, regulation, advice, and delivery (including energy suppliers, housing associations, local authorities and third sector bodies);
- Desk research within four case-study areas to map CERT delivery at a very local level; and
- In-depth interviews with 16 stakeholders involved in delivering CERT at the local level (four in each of the four case-study areas), including the local energy advice centre, the local authority and two local delivery partners.

The research with householders involved:

- A nationally representative face-to-face omnibus survey with 1,613 households (adults responsible for household decisions) across Great Britain. This gathered quantitative evidence on uptake of CERT, the drivers and barriers to uptake and energy efficiency behaviour and attitudes of customers and non-customers.
- 77 in-depth in-home interviews across the four case-study areas (19-20 in each area). These were conducted across a range of customers (including Priority and non-Priority Groups) and non-customers and cover a variety of delivery routes, household types and lifestyles.

The case-study areas were selected to provide coverage of urban, suburban and rural areas, a range of household and property types and a variety of CERT delivery approaches (including intensive area-based approaches and areas where residents could have heard of CERT offers through national promotions but where no local marketing took place). Further detail on how the areas were selected is provided in Appendix 2. The final four case-study areas were defined by the following characteristics:

Area	Demographic profile	CERT marketing and delivery profile
A	<ul style="list-style-type: none"> - Rural area in SW England - Medium affluence - Older population - Mainly detached properties - Mainly owner-occupiers - Close-knit community 	<ul style="list-style-type: none"> - No intensive local area marketing - Covered by district-wide programme led by district council - National offers available
B	<ul style="list-style-type: none"> - London suburb - Mix of incomes - Mainly flats and terraced properties - Significant proportion of social housing tenants 	<ul style="list-style-type: none"> - No intensive local area marketing - Local newspapers and local magazines promoting national offers
C	<ul style="list-style-type: none"> - Urban area in Scotland - Deprived area - Mainly flats and terraced properties - Mix of social housing and owner-occupiers 	<ul style="list-style-type: none"> - Intensive local area marketing in conjunction with another Government scheme - National offers available
D	<ul style="list-style-type: none"> - Urban area in North of England - Mix of incomes - Older population - Mainly semi-detached properties - Close knit community 	<ul style="list-style-type: none"> - Intensive local area marketing through partnership approach involving range of organisations, including local council (forming a Warm Zone) - National offers available

More detailed accounts of the profile of each of the case-study areas is included in Appendix 2.

2.4 Constraints and limitations of this research

This evaluation of CERT was designed retrospectively and was not built in from the outset of the scheme. This means that there is no baseline against which to compare current attitudes towards, and levels of uptake of, energy efficiency measures. This poses a challenge attributing particular attitudes, behaviours and levels of uptake to CERT with a high degree of certainty. Some conclusions have been drawn about the impacts of CERT through retrospective interviews with stakeholders and comparing the attitudes and reported behaviour of a sample of customers with non-customers. However, these are not sufficient to robustly indicate what would have happened in the absence of CERT, and are vulnerable to hindsight having changed respondents' perceptions of what would have happened anyway.

2.5 Presenting the findings of the evaluation

2.5.1 Terminology used in the report

The report uses the following terminology to describe the different groups of participants involved in each of these stages of the research:

CERT customers: Respondents from the national household survey were considered CERT customers if they said they had received a major insulation measure or micro-generation technology at a subsidised price since April 2008. For the in-depth interview respondents this was limited to major insulation measures (loft, cavity wall and solid wall insulation) due to the small proportion of the population who had received micro-generation measures under CERT (it should be noted that only one solid wall insulation customer was included in the qualitative sample, reflective of the low take-up of this measure nationally. In addition, most customers interviewed were from the Priority Group, and therefore likely to be living in social housing where solid wall insulation might not have been offered due to the housing type and higher cost).

Opt-out customers: The in-depth interviews included some respondents who recalled receiving an offer, or seeing information, about discounted insulation measures (likely to be through CERT) but choose not to take it up.

Priority Group customers: Under CERT, Priority Group customers are defined as anyone living in a household where at least one member is in receipt of certain benefits (in some cases linked to household income), or where there is an inhabitant aged 70+. This definition was used to identify Priority Group customers for the in-depth interviews. Ipsos MORI's omnibus does not collect information about age of other household inhabitants and so, for the purposes of this analysis, respondents have been included in the 70+ Priority Group only if they themselves are aged 70 or over.

Please see Appendix 2d for further detail on these two groups of participants.

Super Priority Group customers: The CERT extension introduced a new Super Priority Group, focusing on vulnerable groups at high-risk of fuel poverty, which is a sub-group of the existing Priority Group.

Energy suppliers: this refers to the six major suppliers who have been obliged to meet the requirements of the CERT programme- British Gas, npower, E.ON, EDF energy, Scottish Power and Scottish and Southern Energy.

2.5.2 Report structure

The findings from the different strands of research are presented in the following chapters to address the evaluation's key objectives, as follows:

- 3. How is CERT being delivered in practice?**– this chapter addresses **objectives 1, 2 and 3**, and presents the players involved in delivering CERT, the measures that have been delivered and the ways in which leads have been generated.
- 4. Strengths and Weaknesses of CERT delivery models** – this chapter also addresses **objectives 1 and 2**, and brings together the perceptions of both householders and stakeholders to explore what has worked well and what has worked less well in terms of the different ways in which CERT measures have been delivered.
- 5. How are measures offered under CERT taken up by households?**– this chapter addresses **objective 5** and uses data from the national household survey to present a national picture of who has taken up CERT measures and combines this with the qualitative findings to explore what has driven uptake among particular consumers. It also explore the barriers to further uptake of CERT measures.
- 6. What are the main effects of measures offered under CERT on customers?** – this chapter addresses **objective 6** and presents findings about the perceived impact of taking up measures on the attitudes and behaviours of customers.
- 7. What are the main effects of measures offered under CERT on the energy efficiency market?** – this chapter also addresses **objective 2**, and presents findings about the wider impacts of CERT and perceptions of how the market may have developed in the absence of the scheme.
- 8. Views on implications for future policy** – this chapter addresses **objective 4**, and discusses how the future energy market may evolve according to stakeholders and the lessons they think should be learned from CERT for any future energy company obligation.

3. How is CERT being delivered in practice?

This chapter outlines the players involved in delivering insulation and heating measures under CERT, the ways these players have worked together, the measures that have been delivered and the ways in which leads have been generated. It draws on desk research and in-depth interviews with stakeholders (at a national and case-study area level).

3.1 The key players in CERT

The central players in CERT were the six large energy suppliers, who carry the CERT obligation: British Gas, EDF, E.ON, npower, Scottish Power, Scottish and Southern Electricity. CERT required these companies to generate a given level of carbon savings through Ofgem-approved energy efficiency schemes aimed at households in Great Britain.

CERT delivery of insulation and heating measures has involved a wide range of other stakeholders, in addition to the energy suppliers, as outlined below. Their interrelationships are discussed in section 3.2 below.

- **Installers** - these companies install insulation and/or heating measures in domestic households. A few major companies offer national coverage, while many are more regionally or locally based. One interviewee represented a consortium of small installers which work together to improve their access to CERT funding from energy suppliers.
- **Managing agents** - a number of private companies and social enterprises act as intermediaries or 'brokers' between the energy suppliers and installers, particularly on behalf of smaller installers who do not have a direct relationship with a supplier. The managing agents play a role in packaging Priority Group and non-Priority Group jobs into the ratios sought by particular energy suppliers. It was reported that in some cases installers delivered jobs on a speculative basis and then 'sold' the carbon savings to a managing agent. In these cases, the supplier might have known little about the installation company which delivered the job. Managing agents sometimes also initiate, coordinate and/or market CERT schemes, bringing in a range of partners.
- **Energy advice centres** - the Energy Savings Trust (EST) contracts local energy agencies to act as energy advice centres (ESTACs or ESSACs in Scotland). Many are social enterprises or former public-sector organisations. In recent years, these contracted organisations have been permitted by the EST to act as managing agents in their own right, as well as acting as energy advice centres on behalf of EST.
- **Monitoring agents** - a few companies offer monitoring services to the energy suppliers, to assist them in meeting Ofgem's requirements for independent monitoring of CERT delivery. At least one managing agent has its own monitoring business.
- **Local authorities** - many local authorities have been involved in CERT offers to some degree. Their roles range from endorsement of local offers, participation in local partnerships and part-funding of CERT schemes, through to direct deals with energy suppliers and management of CERT-funded measures to tenants in council-owned housing.

- **Partnership bodies** - many local CERT schemes are run by partnership bodies with representation from a range of partners including local authorities, the local energy advice centre and/or a managing agent, one or more installers, local community groups, other public services and one of the energy suppliers. Some, but not all, of these partnership bodies are members of the Warm Zones initiative, a not-for-profit network promoting area-based programmes to tackle fuel poverty and energy use.
- **Registered social landlords** - not only local authorities, but most registered social landlords (RSLs) have undertaken or still undertake energy efficiency measures for their housing, often funded through CERT deals with an energy supplier, a managing agent or an installer.
- **Private landlords** - some private landlords also take up CERT offers that improve energy efficiency for their tenants.
- **Supermarkets** - most of the major supermarkets now work with one of the energy suppliers to market CERT-supported energy efficiency measures to their customers.
- **'Do It Yourself' (DIY) retailers and builders' merchants** - most of the major DIY retail chains also market energy efficiency offers to their customers, supported through CERT by one of the energy suppliers. Most of these offers involve DIY measures which do not require professional installation. At least one major builders' merchants chain also markets CERT-subsidised products.
- **Voluntary and community groups** - some of these groups contribute to the delivery of local CERT schemes. For example, some voluntary groups play a role in identifying people at risk from fuel poverty and make referrals to a local CERT scheme.
- **Health, Fire and Benefits services** - some local partnership schemes also bring in other public services which can help to generate referrals to CERT schemes, while benefiting from cross-referrals themselves (e.g. identification of vulnerable people).
- **Manufacturers of appliances, lighting and heating/insulation materials** - some energy suppliers have made direct deals with manufacturers, to gain carbon savings from improvements in the energy efficiency of appliances and lighting, or the embodied energy and/or performance of insulation materials such as glazing. These arrangements are largely outside the scope of this research.

3.2 How have these players worked together on CERT?

3.2.1 What types of relationships have developed?

Complex, multi-layered and diverse arrangements have evolved over the fifteen year period covered by CERT and its predecessors (the Energy Efficiency Commitment 1 (EEC1), and Energy Efficiency Commitment 2 (EEC2)). Figure 1 illustrates some of the intermediaries that can be involved between an energy supplier (who holds the CERT obligation to save carbon) and a household (which has energy efficiency measures installed, subsidised or paid for by an energy supplier under CERT).

Figure 1 - Examples of how CERT is delivered through partnership arrangements

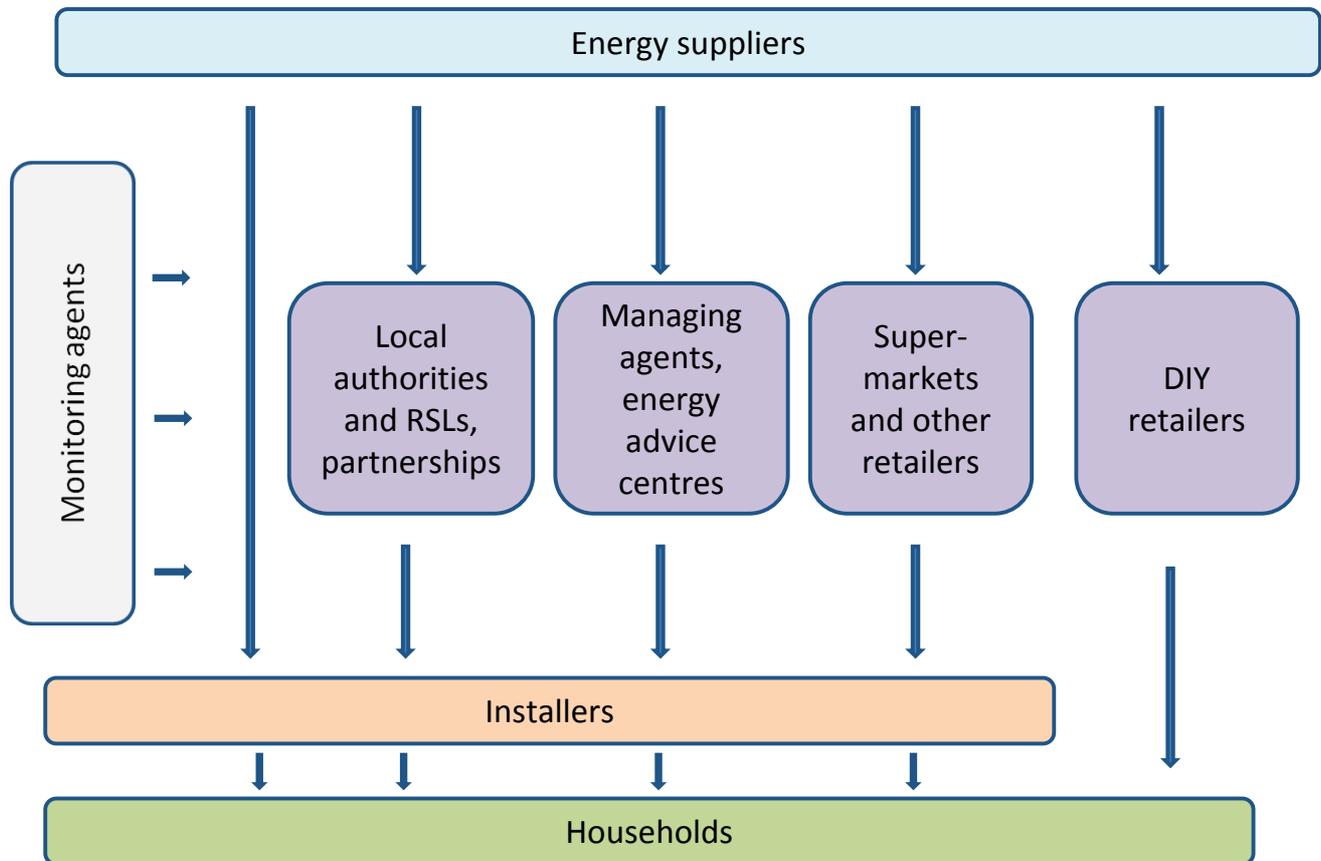


Figure 1 above shows some, but not all, of the ways in which the key players have worked together to deliver insulation and heating measures. In the main, relationships have been driven and initiated by energy suppliers. For professionally-installed insulation schemes, energy suppliers contracted partners to deliver CERT measures by setting a price per tonne of carbon saved. The carbon price set by energy suppliers sometimes differed between Priority Group and non-Priority Group recipient households, depending on the market and their progress towards targets. The carbon price has generally been higher for measures delivered to the Priority Group.

All the energy companies contracted to buy insulation jobs (and associated carbon savings) directly from installers. Some energy suppliers reported that they only contracted with 'preferred installers', while others reported that they contracted with both installers and managing agents. One of the energy suppliers also delivers some insulation directly to households through its insulation and heating business.

Some energy suppliers also contract directly with local authorities, RSLs, supermarkets and/or DIY retailers - or with groups of these partners - and achieve a proportion of their carbon savings through these partnership routes. These intermediaries in turn generally contract installers to deliver measures to households.

3.2.1 What are the drivers for these relationships?

Each energy supplier's CERT strategy has been influenced by their corporate strategy and their approach to the domestic retail energy market (e.g. regional coverage; approach to environmental issues; approach to quality; link with other business streams etc). For example, one company chooses to keep a low profile on energy efficiency work, to avoid the risk of poor delivery by installers compromising its high ranking on websites for potential new energy customers. Another company chooses a higher public profile for its CERT work because it sees commitment to low carbon energy and environmental issues as important selling points in the energy market.

The energy suppliers have - at times - explicitly competed to fund energy efficiency opportunities (e.g. those tendered by local authorities or energy advice centres). In other cases the energy suppliers reported that they pursued innovative approaches to delivering CERT (e.g. through work with manufacturers or retail partners). Some of these were reported by particular energy suppliers to offer cheaper carbon savings, because fewer energy suppliers have spotted these opportunities and therefore there was less competition in these markets.

The balance of power between the energy suppliers and their delivery partners has been influenced by the extent to which the suppliers have met their CERT targets for a given reporting period. Many installers interviewed perceived the energy suppliers to drive the market when they were far from their CERT targets, but to halt purchase of completed insulation jobs when their targets had been reached. Some energy suppliers contracted installers by the quarter, while others contracted for a whole year, giving the installers flexibility as to when jobs could be delivered.

3.3 What measures have been delivered by CERT?

A breakdown of the estimated number of measures delivered by CERT is given in Figure 2 below. These figures show that the four measures delivered on the greatest scale through CERT have been Compact Fluorescent Lamps (CFLs), professional loft insulation, cavity wall insulation and DIY loft insulation. Real time displays (RTDs), which were recently approved as a CERT measure, have also been delivered on a wide scale but have contributed lower carbon savings than the other measures.

Beyond these five main measures, significant numbers of solid wall insulation and fuel switching measures have also been delivered. Small numbers of heat pumps and solar water heating schemes have been delivered through CERT, and one small-scale Combined Heat and Power (CHP) scheme.⁶ Home Energy Advice packages are also beginning to be delivered, on a small scale (see section 3.8.4 below).

⁶ Under the CERT extension, delivery of renewables was restricted to the Super Priority Group - to avoid duplication with Feed in Tariffs and the Renewable Heat Incentive.

Figure 2. Estimated number of measures installed under CERT between April 2008 and March 2011 (rounded to nearest '000)

CERT category - and contribution to CERT carbon savings ⁷	Measure	Estimated number of measures installed ('000)
Insulation - 61%	Professional loft insulation	2,022
	Cavity wall insulation	1,583
	DIY loft insulation	1,426 ⁸
	Solid wall insulation	39
Lighting - 26%	Compact Fluorescent Lamps	297,003
Heating - 7%	Fuel switching ⁹	70
	Boiler replacement	Not available
Appliances - 5%	Various	Not available
Microgeneration and Combined Heat and Power (CHP) - 1%	Heat pumps	5
	Solar water heating	0.5 ¹⁰
	Small-scale CHP	0.001
Behavioural - 1%	Real time displays	2,256
	Home Energy Advice (HEA)	29

Source: CERT Update, Ofgem, June 2011¹¹. These represent estimated activity, as reported by the energy suppliers, and do not constitute fully approved, finalised Figures.

Interviews with energy supplier representatives indicated that insulation activity represented between 50% and 80% of their CERT obligation. For five out of six energy suppliers, this included an element of DIY insulation: the remaining supplier does not fund DIY loft insulation. This is broadly consistent with the 2nd CERT annual report from Ofgem which showed three companies generating 45-60% of their obligation from insulation, and the remaining three generating 70-75% of their obligation (including carryover from EEC2)¹². The remainder of their CERT obligation was primarily generated from lighting, with smaller contributions from heating, appliances, microgen/CHP and behavioural measures.

Under the CERT Extension, all six energy companies are required to deliver 73.4 lifetime tonnes of CO₂ through professionally-installed insulation measures, equivalent to about 68% of the CERT Extension obligation. The overall contribution from professionally-installed insulation (loft, cavity and solid wall) is therefore expected to rise.

⁷ The carbon saving figures include carryover from EEC2, while the estimated numbers of measures installed exclude carryover from EEC2.

⁸ The estimated number of DIY-insulated lofts is calculated using Ofgem's figures for the amount of DIY loft insulation sold (71.4 m² of material) and DECC's estimate of material required to insulate an average loft (50m² per household).

⁹ Fuel switching is defined, for the purposes of CERT, as the delivery of a central heating system (primarily mains gas but also potentially oil-fired or liquefied petroleum gas (LPG)) to a household which previously had no central heating system.

¹⁰ 2,046 m² of solar panels, converted using DECC's standard conversion factor of 4m² per household.

¹¹ Ofgem CERT Update available here:

<http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/CU/Documents1/CERT%20Update%20Q11.pdf>

3.4 How have leads been generated?

The stakeholder interviews, case studies and workshop findings suggested that the main methods of generating leads for national and regional CERT offers have been:

- National advertising by the energy suppliers, managing agents and the major installers (e.g. billboards, media, websites, mailouts);
- Marketing materials sent out with customer bills (for energy companies' own customers);
- Advertising by EST, including its website and 0800 helpline (which is serviced by local energy advice centres on contract to EST); and
- Marketing by retail partners, both food and DIY retailers, including in-store displays and leaflets.

These interviews indicated that CERT leads have also been generated at a more local level by:

- Door knocking/mailings by installers and managing agents to self-generate leads;
- Door knocking/mailings by installers, managing agents and local partnership bodies such as Warm Zones, as part of schemes endorsed by the local authority and/or other local partners;
- Mailings/door knocking by local authorities themselves;
- Referrals by registered social landlords;
- Referrals by other local partners, particularly through Warm Zone or similar partnerships (e.g. PCTs, Fire Services, Benefits agencies, community and voluntary groups); and more recently,
- Mailings and door knocking by installer/local authority partnerships using the findings from installer-led thermal imaging surveys to inform consumers about their properties.

Little information was available on the balance between these different methods of generating leads for professional insulation measures.

Energy advice centres reported that their CERT referrals were based on the customer's own circumstances (e.g. their energy supplier, whether they were members of the Priority Group, location etc), the pricing of available offers and the predicted waiting time for these offers. Several advice centres reported that their referrals were highly price sensitive: where eligible, customers were directed to free offers (e.g. offers for members of the Priority Group, or for dual-fuel customers of a particular energy supplier); other customers tended to be referred to good value offers from installers rather than offers direct from energy suppliers which tended to be more expensive.

One energy advice centre reported that the market value of a lead or referral (determined primarily by the price set by energy suppliers for carbon savings through installed measures) was typically £25-30, but that this price rose to as much as £90 in the North of England during 2010, when suppliers urgently needed to meet their targets - before the CERT Extension was announced.

Evidence from installers, energy advice centres and managing agents indicated that the rate of conversion from a referral to a completed installation varied from as low as 20-25% (for website referrals and installers with weak customer care systems), to a more typical rate of 35-50% through to rates as high as 60-70% (for schemes offering free measures, with sustained local marketing).

3.5 What are the CERT delivery routes for insulation and heating?

The following section outlines the relative importance and nature of different CERT delivery routes for insulation (including professionally-installed loft and cavity wall insulation, Do-It-Yourself loft insulation, and solid wall insulation), and heating measures, based on the evidence available. Confidentiality concerns made it difficult to develop a full picture of CERT delivery, in particular with regards to costs, size and scale of different delivery routes.

3.5.1 Professionally-installed loft and cavity wall insulation

Over two million households received professionally-installed loft insulation through CERT schemes up to March 2011, while 1.6 million households received professionally-installed cavity wall insulation¹³ - some households will have received both. Ofgem estimates show that, in each case, about 70% of these were private households receiving a direct offer (through their local authority, an installer/managing agent, an energy supplier or a retail store), about 25% were social tenants receiving measures through their Registered Social Landlord (RSL), and an estimated 5-10% received insulation in conjunction with a national Government scheme (e.g. Warm Front in England, the Energy Assistance Package in Scotland, or the Home Energy Efficiency Scheme in Wales).

A variety of delivery routes were used to market these offers to householders, as outlined below. The delivery routes are ordered according to the approximate scale of delivery, based on anecdotal information from energy suppliers, managing agents and energy advice centres.

Firstly, this section examines delivery routes for the 70% of professionally-installed measures delivered to private households. The majority of these households were reported to be owner-occupiers. A wide range of stakeholders reported that CERT delivery to private rented households was problematic, owing to the incentive for CERT investment being split between the tenant and the landlord.

- **Offers in conjunction with or endorsed by the local authority:** This research suggests that one of the largest delivery routes for private householders was through local schemes, supported and 'badged' by the local authority (for both Priority Group and non-Priority Group households). The research found that some of these schemes involved only a few partners (an energy supplier, an installer or managing agent and/or the local advice centre), while others were more complex, with a range of partners and drawing in other funding streams. The simpler schemes tended to rely primarily on local-authority endorsed mail-outs, sometimes included with council tax bills (and offering incentives in the form of council tax rebates). The case study research also found that these schemes sometimes included door knocking approaches by installers or managing agents.

¹³ CERT Update June 2011 (Ofgem) – this applies to all delivery figures included within this section.

More complex and intensive schemes, such as Warm Zone schemes, involved a wider range of local partners, including representatives from RSLs, the health service, fire service, and/or benefits agency. These tended to be driven by tackling fuel poverty and wider social objectives, and often focused on particular geographic areas. Door-knocking was common for this delivery route: stakeholders involved in local schemes reported that costs varied according to the intensity of door-knocking. The case study research found that some local authorities had contributed matched funding to these schemes (e.g. to cover loft clearance or scaffolding costs, to fund loft top-ups or to extend eligibility for free measures to those over 60). Some schemes also referred Priority Group customers to national Government funding schemes (see below). In Scotland, the Universal Home Insulation Scheme (UHIS) offered free insulation (including loft top-ups) to all households in a small number of target areas, enabling the relevant local authority to make a universal offer to all households in these areas, even when households did not qualify for free measures through CERT.

- **Direct offers by installers and managing agents:** The available evidence suggests that CERT offers to private householders by installers or managing agents, without the direct involvement of energy suppliers or local authorities, formed another significant delivery route. These offers were publicised primarily through the advice centres, but also through advertising (by the larger installers), employee schemes and door knocking, targeted at areas considered to have good potential for uptake of CERT measures.
- **Direct offers by energy suppliers:** CERT offers to private households made directly by energy suppliers were also significant, particularly offers to the supplier's own energy customers. At the time of this evaluation, five out of the six major energy suppliers promoted national offers for professionally-installed insulation direct to households across Great Britain, for both Priority and non-Priority Group customers. The other energy supplier made a targeted offer to their own customers only, while at least one of the suppliers with a national offer also offered preferential deals for their own customers. Offers were publicised to suppliers' own customers through energy bill mail-outs and company websites. Four out of the six major energy suppliers also ran major advertising campaigns on energy efficiency as part of their brand positioning in the energy market as a whole. National offers were also publicised via the advice centres.
- **Offers marketed through major retail stores:** Several of the energy suppliers marketed professionally-installed insulation measures to both Priority and non-Priority Group customers in partnership with a major supermarket or DIY store. Marketing materials show that these suppliers often also promoted other services (energy supply and/or DIY insulation materials) through the same retail partner.

Secondly, this section considers the 25% of offers delivered to social tenants. Registered Social Landlords (RSLs), which include local authorities in their role as landlords, have legal responsibilities to meet 'Decent Homes' or equivalent standards for social housing, and have therefore tended to support energy efficiency improvements in their properties.

- **Offers made through RSLs:** This route has primarily been used to deliver measures to Priority Group customers living in social housing. Energy suppliers considered it to have been cost-effective owing to economies of scale and the availability of matched funding from other sources (e.g. housing renovation funds). Installation of CERT measures through this route was often driven by wider renovation programmes. Some installers, managing

agents and advice centre staff suggested that the social housing route has been less important for CERT than predecessor obligation policies. They believed this because measures had already been installed in many social housing properties, and because the inclusion of those aged 70+ in the Priority Group reduced the need to identify Priority Group customers living in social housing (to meet targets). However, energy suppliers anticipated that their delivery strategies would need to change to meet Super Priority Group targets introduced in the CERT extension in 2010, and may require a renewed emphasis on work with RSLs.

Finally, this section considers the delivery of CERT measures in conjunction with Government funding schemes:

- **Offers in conjunction with national Government funding schemes:** An estimated 5-10% of households received insulation in conjunction with a national Government scheme providing assistance with insulation or heating (e.g. Warm Front in England, the Energy Assistance Package in Scotland, or the Home Energy Efficiency Scheme in Wales). This category does not include offers funded through local authorities (such as UHIS in Scotland, where Government funding was allocated to local authorities). Only some Priority Group customers, from both private and social tenure, were eligible for these Government schemes. Local authorities and advice centres reported that customers were referred to these schemes through the range of delivery routes outlined above, but particularly through schemes involving local authorities, RSLs and advice centres.

3.5.2 Do It Yourself (DIY) loft insulation

An estimated 1.4 million additional households received 'Do It Yourself' (DIY) loft insulation materials subsidised through CERT up to March 2011. This was delivered almost entirely through retail sales to private householders by DIY stores, with a small proportion being offered free to private households through special offers. These offers were primarily marketed through national media and in-store advertising, promoting highly-subsidised rolls of loft insulation, particularly during periods of cold weather. One supplier offered online sales of DIY materials, in conjunction with a builders' merchant. The DIY delivery route appears to have been the main source of materials for 'loft top-up' insulation. A wide range of stakeholders reported that offers for professional installation of loft top-up insulation were not generally attractive to customers: loft top-ups had a lower carbon score than 'virgin' loft insulation, but involved a similar amount of work to install, so would usually be offered at a higher price than virgin loft insulation.

3.5.3 Solid wall insulation

Only 39,700 GB households had solid wall insulation measures installed through CERT, by March 2011. This was delivered almost entirely through partnerships with social housing providers, often in conjunction with social housing renovation programmes (e.g. Decent Homes). The beneficiaries were therefore most likely to be primarily in the CERT Priority Group.

3.5.4 Heating measures

The delivery of heating measures through CERT has been on a much smaller scale than delivery of insulation. Overall 70,000 households had fuel switching (to gas central heating) delivered through CERT by March 2011, while about 5,000 heat pumps were also delivered.

CERT has not delivered high numbers of boiler replacements - installers and energy suppliers reported that they had little incentive to replace boilers under CERT, as only replacement of 'G-rated' boilers qualified for CERT support, but the cost of providing the required Energy Performance Certificate (EPC) for a boiler installation (about £100) exceeded the CERT subsidy available for these jobs from energy suppliers. In response to this problem, Ofgem introduced optional alternatives to the EPC requirement in the latest CERT supplier guidance (February 2011). Stakeholders reported however, that some CERT schemes referred Priority Group customers on to Government schemes - where they were eligible - to obtain further assistance with heating, including boiler replacement (e.g. Warm Front in England, the Energy Assistance Package in Scotland and Home Energy Efficiency Scheme in Wales).

3.6 How did the target customer audience differ across the delivery routes?

CERT offers to Priority Group and non-Priority Group customers have been markedly different, as have the delivery routes used to reach them. Offers to Priority Group customers have generally been free, while offers to non-Priority Group customers have generally been charged at a subsidised rate (typically £99-199 per measure, for both cavity and loft insulation). The delivery routes used to reach these different groups are outlined below:

Priority Group (on benefits): Research with delivery stakeholders found this group has been targeted through three main delivery routes: work with RSLs (including local authority housing); area-based schemes which target areas of fuel poverty (as identified by the local authority and other local partners); and CERT offers run in conjunction with other Government schemes such as Warm Front/EAP/HEES which are targeted at vulnerable groups.

Fuel poverty was the principle driver for the establishment of one area-based scheme examined in the research. The scheme therefore focused on the areas of highest deprivation first, although all households in the area have now been notified about the scheme. This scheme works with local partners (e.g. Benefits Agency, Carers Forum, Primary Care Trust, Fire Service) to generate energy efficiency referrals and to provide a broader range of services for vulnerable households, through cross-referrals.

Priority group (over-70s): The 'over-70s' component of the Priority Group were reached through many CERT delivery routes, including national offers by suppliers/installers and local area-based schemes. They have also formed a component of social housing and Government schemes. Both stakeholder and customer research indicated that this group was relatively easy to recruit to CERT.

Able to pay: non-Priority Group, or 'Able to pay' customers in private housing have been reached by both national and local offers from the energy suppliers, installers, agents and retailers. One local authority respondent reported that installers and area-based initiatives have sometimes needed to target these customers to achieve the ratio of Priority to non-Priority Group jobs specified by the energy suppliers. Area-based schemes which were driven by fuel poverty objectives (e.g. Warm Zones), often targeted more vulnerable members of the 'Able to pay' category. For example, all four case-studies identified examples of local authorities contributing capital funds to extend free insulation to vulnerable 'able to pay' customers (e.g. people over 60 years old, parents with young children and/or those on lower incomes).

Super Priority Group: The Super Priority Group, which was introduced in August 2010 for the CERT Extension, represents a subset of low income households considered to be at high risk of fuel poverty and therefore includes significant overlap with the Priority Group (on benefits).

Evidence about routes used to reach this group specifically was not available for the evaluation. Most stakeholders predicted that the CERT Extension targets for the Super Priority Group would be difficult to meet, as identification of this target group required more information about the circumstances of each household (including eligibility for particular benefits). Several energy suppliers commented that they - and the installers - would need to adjust their strategies to meet the targets for this group.

The energy suppliers and other stakeholders interviewed (installers, Warm Zones, local authorities) reported that under earlier supplier obligations (e.g. EEC2), the 50% Priority Group target was harder to meet than the non-Priority Group target. They reported that this changed with the introduction of CERT legislation in 2008: whilst CERT significantly increased the scale of the overall carbon saving target, it reduced the Priority Group target to 40% of this total, and extended the Priority Group to include people over the age of 70 in addition to those on certain benefits¹⁴. Under CERT, the energy suppliers have tended to set ratios for their installation partners, specifying the ratio of 'Priority Group' to 'non-Priority Group' jobs required, depending how close they have been to their target for each group. Delivery stakeholders reported that - under CERT - 'Priority Group' targets were not necessarily harder to meet than 'non-Priority Group' targets: sometimes the opposite could be the case, depending on the ratios required by the energy suppliers, which in turn was determined by how close the energy suppliers were to their targets for each group.

3.7 Which delivery routes were used for which measures and tenures?

A CERT scheme, as submitted to Ofgem, might have included delivery of measures by more than one delivery route. Ofgem has analysed CERT scheme submissions to provide an approximate breakdown of the delivery routes proposed by the energy suppliers, categorised by type of insulation measure. The approximate breakdown of CERT delivered via different routes over the period April 2008 to September 2010 is presented below. This is based on schemes submitted for approval by suppliers to Ofgem and expected delivery of measures.

- For **professionally-installed loft insulation**, an estimated 70% was delivered through promotion to private householders (through the variety of approaches outlined in section 3.4 above). About 25% of professionally-installed loft insulation was delivered through partnerships with social housing providers, and between 5-10% was delivered in conjunction with Government schemes (e.g. Warm Front, EAP, HEES).
- The routes used to deliver cavity wall insulation were similar to those for professionally-installed loft insulation: nearly 70% was delivered through promotion to private householders, just under a quarter through social housing schemes, and nearly 10% in conjunction with Government schemes.
- As might be expected, DIY loft insulation was to be delivered almost entirely through retail sales by DIY stores, with a small proportion being offered free to private households on special offer. By inference, DIY loft insulation would only be bought by private households.

¹⁴ Further detail about the CERT Priority group requirements are available here: http://www.decc.gov.uk/en/content/cms/funding/funding_ops/cert/cert.aspx

- In contrast, solid wall insulation measures were delivered almost entirely through partnerships with social housing providers. This was consistent with reports from some stakeholders that solid wall insulation measures tended to be jointly driven by renovation needs in social housing, with CERT funding effectively topping up funds from other sources (e.g. Decent Homes).

These findings suggested that the majority of CERT cavity wall and loft insulation were installed in private households (which make up the majority of GB households overall). Applying the rough proportions above to the estimated total numbers of measures delivered to March 2011- as presented in Figure 2 - an estimated 1.4 million private households had loft insulation professionally-installed through CERT, while an estimated 1.4 million private households had installed CERT-subsidised DIY loft insulation by March 2011. The total number of private households receiving CERT-subsidised loft insulation was therefore estimated at around 2.8 million, while the number of social housing tenants receiving CERT-subsidised loft insulation was estimated to be at about 0.5 million. Housing statistics show that there are an estimated 21.3 million owner-occupied and private rented households in the UK, compared to 4.5 millions social rented households¹⁵, so around 13% of private households have received CERT-subsidised loft insulation compared to 11% of social rented households. The slight predominance of private households is backed up by the national household survey findings generated by this research (see section 5.2.1 for more details). Stakeholder views suggested that there may be various explanations for the slightly lower CERT share for social rented housing, ranging from the fact that many socially-rented buildings will already have been insulated by earlier supplier's obligations, to the fact that there are a greater proportion of flats within social housing, which are less likely to be suitable for low-cost measures under CERT.

CERT-funded solid wall insulation has been smaller scale and has primarily benefited social housing tenants (around 40,000 households).

3.8 Effects of CERT design and scoring

3.8.1 What were the effects of CERT design on energy efficiency delivery routes?

One of the main features of CERT has been the diversity of energy efficiency delivery routes that have been established. The scheme was designed to allow innovation, rather than be prescriptive as to how energy companies should achieve domestic energy efficiency savings. Feedback from DECC and Ofgem suggested that the range of delivery routes had been broader than expected, ranging from: work with appliance and glazing manufacturers; distribution of CFLs; national insulation offers; co-delivery with other Government schemes; and area-based delivery of insulation, heating or microgeneration. The energy supplier respondents reported they valued this flexibility, as it allowed them to develop new delivery routes that generated carbon savings in the most commercially advantageous way for their particular company. For some types of measures, particularly professionally-installed home insulation schemes, energy suppliers sometimes set a price for carbon savings from installed measures when contracting partners to deliver measures to households. The commercial interpretation of CERT rules by energy suppliers was not always welcomed by DECC and Ofgem, and changes have been made to these rules to restrict or end delivery of measures that were felt to be ineffective in meeting CERT objectives (e.g. restriction of

¹⁵ Source: ONS housing returns, Q2 2009. <http://www.statistics.gov.uk/cci/nugget.asp?id=1105>

CFLs to retail-only routes from January 2010, and subsequent exclusion of CFLs from the CERT extension phase).

Many of the stakeholders interviewed felt the flexibility of CERT, and the time frame over which CERT and previous supplier obligations have been delivered, encouraged the development of innovative and cost-effective delivery routes. However, some of the energy suppliers commented that CERT was becoming progressively more prescriptive, particularly through amendments introduced for the CERT-Extension to 2012. For example, some energy suppliers felt that the requirement for 68% of the CERT-Extension target to be delivered through professionally-installed insulation may limit their delivery approaches.

The flexibility of CERT also meant energy suppliers were able to deliver the obligation in ways that generated additional business benefits, e.g. through the establishment of in-house boiler and insulation capacity; or through developing partnerships with retail stores that could help them to market their mainstream energy supply business. Therefore, the energy companies had effectively competed with each other to meet their CERT targets in the most cost-effective way.

Those stakeholder respondents involved in delivering CERT (e.g. installers, managing agents, local authorities) generally reported that administration of CERT schemes by the energy suppliers worked smoothly and without excessive delays. Some managing agents commented that delays and management costs were lower for CERT than for some government programmes (e.g. Warm Front, HIS). Some local authorities and housing associations, led by the Local Government Association, have called for the energy suppliers to provide a 'single pot' of funding which local partners could bid into to fund energy efficiency programmes¹⁶. But some energy advice centres commented that the bureaucracy surrounding tendering and delivery would make a 'single pot of funding' less efficient than CERT.

3.8.2 What have been the effects of CERT targets?

Many stakeholders reported that CERT targets caused 'stop-start' demand for insulation measures, causing problems for the insulation industry and other delivery partners. For example, several installers and energy advice centres mentioned that demand for insulation was high in 2010 as the suppliers pushed to meet their targets for CERT, prior to announcement of the CERT extension. This demand was reported to have stopped abruptly when the suppliers reached their targets. There were reports of installation companies having to lay off staff, and losing skills and experience that they needed to re-acquire when demand increased again.

A further impact of CERT targets was energy supplier instigated requirement for contractors to meet relevant ratios for Priority and non-Priority Group jobs. Many stakeholders reported that this has contributed to the 'stop-start' nature of CERT: a given energy supplier may stop buying Priority Group carbon savings (i.e. insulation or heating jobs) from contractors because they had reached their target for this group. Until a new target came into force, this limited contractors' ability to do further marketing or door-knocking, as this would generate further Priority Group leads as well as non-Priority Group leads.

¹⁶ From Kyoto to Kettering, Copenhagen to Croydon. Published by the Local Government Association, 2009. <http://www.lga.gov.uk/lga/aio/2400550>

3.8.3 What have been the effects of the CERT scoring system?

Geographical impact of CERT scoring

CERT scores are based on assumed carbon savings which do not take into account any variation in climate across Great Britain. Representatives of the Scottish Government involved in this research, emphasised that the heating season in Scotland and Northern England is longer than in other parts of the country, with the consequence that actual carbon savings will be greater than average. CERT scores therefore understated the potential carbon savings from delivery of energy efficiency measures in Scotland and Northern England. This was felt to exacerbate other geographical barriers to CERT delivery such as the higher cost for installers to deliver measures in remote rural areas, and the lack of DIY retail stores in many remote areas.

Scoring for heating and insulation measures

There have been limits to the types of measures that the energy suppliers supported through CERT. Many stakeholders commented that, as a market-based scheme, CERT has inevitably been used to fund relatively low-cost measures which generated relatively high scores, based on their lifetime CO₂ savings. Installers commented that carbon scores - and hence available CERT subsidies - were not generally high enough to cover their costs for loft top-up insulation or solid wall insulation (unless costs were part-met from renovation funds).

Many stakeholders commented that 'top-up' loft insulation could not be delivered by professional installers through CERT as cost-effectively as 'virgin lofts' and cavity wall insulation. The carbon saving for these jobs was typically 25-30% of that for virgin lofts¹⁷ (meaning installers would get paid less for the job by energy suppliers and managing agents), while installers commented that installation costs were only slightly lower. Installers reported that these costs were generally passed on to customers – so households only in need of 'top-up' loft insulation faced the choice of paying a higher price than for insulation of a 'virgin loft', or buying and installing DIY insulation. Some local authority schemes, such as UHIS in Scotland, tackled this issue by funding free loft-top-ups from other sources.

Scoring for fuel switching

Some energy suppliers and policy groups commented that the simplification of scoring for fuel switching which had recently been introduced, by agreement between Ofgem and the suppliers, had significantly reduced the incentive for its delivery. Previously the energy suppliers received higher carbon scores depending on the consumer's original fuel use, which provided a good incentive for switching to gas from electrical heating systems as these had the highest carbon usage. Scottish policy commentators were concerned that there is now little incentive for CERT to deliver fuel switching to off-grid customers in rural areas.

Scoring for behaviour change measures

Home Energy Advice packages have recently been introduced into CERT as a behaviour change energy efficiency measure. However, the monitoring requirements for Home Energy Advice

¹⁷ Source: Ofgem - Information for Project Managers - CERT spreadsheet v10.
<http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/InfProjMngrs/Pages/InfProMngrs.aspx>

packages were reported by suppliers and managing agents to have discouraged installers and other local delivery partners from delivering this measure. As this was one of the first behaviour change measures to be given a carbon score, Ofgem required careful monitoring to ensure that carbon savings have been realised.

The measure was supported by some of the RSLs and community partners interviewed, who felt that behaviour change was a key aspect of carbon reduction, which was not sufficiently promoted by CERT. Additionally, several delivery partners commented that householders needed more education on how to make the most of their home energy systems after CERT measures were installed. However, a few other stakeholders, including one supplier, felt that saving carbon through technical solutions was more reliable.

Scoring for boiler replacement

Several stakeholders mentioned that the CERT scoring attached to 'G'-rated boiler replacement was not sufficiently attractive to drive significant numbers of these measures. Ofgem previously required installers to provide an Energy Performance Certificate as part of these measures, the cost of which (at about £100) outweighed the CERT subsidies available from suppliers (typically £50 or so) although the requirements have been amended since February 2011.

3.9 Views on cost-effectiveness of CERT

The majority of stakeholders interviewed felt that CERT has been effective in delivering energy efficiency measures on a large scale, particularly loft and cavity insulation. However, they consistently reported that CERT mainly delivered low-cost measures which have been relatively easy to deliver - 'the low hanging fruit'. Most stakeholder respondents commented that the insulation jobs that have been left are generally more complex, and they expected the costs of identifying potential customers and delivering measures to increase over time.

The actual costs of delivering CERT were considered commercially sensitive by suppliers and other respondents. Therefore, the costs of nationally-promoted CERT offers were not made available for the evaluation, and only a few examples of delivery costs for area-based schemes could be identified.

For example, in case-study area D, the intensive local area scheme has delivered over 14,500 loft and cavity wall insulation measures at a value of over £3.4 million (an average of £234 per measure). The local authority contributed £250,000 per year over 3-4 years to the capital cost of measures, to extend eligibility for free measures, and made a revenue contribution of £50,000 for staffing. The remaining funding has largely been provided by the energy supplier, with some financial contributions from other local partners: the local authority estimates that £4 of CERT funding is received for every £1 of local authority funds.

Similarly, the schemes operating in case-study area A involved capital inputs of £246,000 over several years by the local authority, primarily to extend eligibility for free measures. Local authorities in Scotland have also made significant contributions to Universal Home Insulation Scheme (UHIS) schemes, which have been designed to complement CERT and extend CERT-style offers to a wider audience.

There was a consensus amongst stakeholder respondents that the delivery of loft and cavity wall insulation was a highly competitive market (in the main, determined by the prices set by energy suppliers for delivery of carbon savings from installed measures). Margins for installers and prices

for consumers were both low. For example, it was reported that - prior to CERT - cavity wall insulation used to cost households around £1,000 but industry costs have since come down, presumably due to economies of scale. The current unsubsidised cost of cavity wall insulation was typically quoted by stakeholders as being around £500-600, while loft insulation was quoted as costing £300-500. With the energy supplier subsidies stimulated by CERT, both professionally-installed loft insulation and cavity wall insulation have been made available to Priority Group customers for free, and offered to non-Priority Group customers for £75-250. Some local authorities surveyed by the Government Offices in the North West and South East reported having subsidised these offers further, from their funds, to around £50.

3.10 How is CERT delivery monitored and quality assured?

Ofgem supplier guidance¹⁸ required energy suppliers to commission independent technical monitoring for 5% of professionally-installed insulation measures, and utilisation monitoring for 1% of DIY loft insulation. In addition, customer satisfaction surveys were required for 1% of professionally-installed measures. Technical monitoring was required for microgeneration measures installed under the Microgeneration Certification Scheme standard¹⁹. In practice, findings from stakeholder interviews and case study research suggested that many area-based projects and delivery partners undertook additional monitoring and customer feedback in addition to that commissioned by the energy companies. For example, the HIS scheme in Scotland required 20% of jobs to be self-monitored by installers, in addition to independent technical monitoring by the energy suppliers of 5% of jobs. Similar rates were reported for Warm Zone schemes.

The findings of this technical monitoring were generally regarded as confidential by the energy suppliers, and were not shared with the research team. Section 3.10.1 below presents qualitative views on the nature of quality issues identified.

It was reported that quality control for cavity wall insulation was also provided through accreditation and guarantee schemes. The manufacturers of cavity wall insulation systems trained and licensed particular installers to use their systems, and provided product guarantees, subject to correct installation. On top of these product guarantees, the Cavity Insulation Guarantee Agency (CIGA) provided householders with 25 year guarantees for defective workmanship and materials in cavity wall insulation installed by registered contractors. It also operated a self-certification scheme (the Cavity Wall Insulation Self Certification Scheme) in partnership with the British Board of Agreement (BBA): cavity wall insulation installers registered with BBA provided self-certification for compliance with building regulations. They were subjected to audits and checks by the BBA, which were more frequent for larger installers. CIGA's view, backed up by comments from one Scottish installer involved in the Home Insulation Scheme (HIS), was that cavity wall installations were already well-inspected and controlled, because of the multiple level of inspections undertaken.

Some installers and managing agent respondents mentioned the range of qualifications held by their home energy assessors and surveyors. Some assessors completed the 3-day City and Guilds

¹⁸ Carbon Emissions Reduction Target (CERT) 2008-2012 - Supplier Guidance - Version 3.
<http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/InfProjMngns/Documents1/CERT%20supplier%20guidance%20V3.pdf>

¹⁹ <http://www.microgenerationcertification.org/installers/what-is-the-mcs>

Energy Awareness training, while others trained more extensively as Domestic Energy Assessors or technical surveyors for cavity wall and loft insulation. There did not appear to be a consistent standard required for those 'door knocking' for initial leads, or those undertaking pre-installation surveys. Several installers/managing agents mentioned that good technical surveys led to higher conversion rates from referrals to installations.

A further aspect of quality assurance for CERT mentioned by Ofgem was that energy suppliers were asked to provide address-level data to identify households where insulation measures have been professionally-installed (from 1st October 2009). Ofgem reported that this was primarily intended to avoid duplication with CESP but, implicitly, also reduced the risk of multiple claims for installation on a given property. Some representatives of the insulation industry said they were keen to see similar requirements imposed on DIY insulation sales. However, DIY retailers interviewed were resistant to this because of the implementation costs that they would bear. They also queried the value of the results given the nature of how these audits were generated i.e. only those consumers who accepted someone into their home. Only one of the energy suppliers interviewed stated they currently collected address-level data for DIY sales, because these sales were ordered over the internet for home delivery.

3.10.1 What quality issues have been reported for CERT delivery?

Most stakeholders interviewed felt that delivery of energy efficiency measures under CERT was generally of a good quality. But a small minority raised particular issues and concerns. General quality issues mentioned by organisations involved in CERT delivery, or identified through desk research, included the following:

- Several delivery stakeholders reported positive feedback was captured by customer satisfaction surveys. This is consistent with the findings from the customer research reported in Chapter 4;
- However, at the stakeholder workshop, delivery stakeholders estimated that there was an overall failure rate of about 14% on technical monitoring of professionally-installed insulation. Other stakeholders felt this figure was in the correct ballpark. Ofgem, while unable to provide a concrete figure, advised that this estimate of 14% includes failure on minor grounds (e.g. mortar colour in drill-holes not matching the wall), as well as those on major grounds (e.g. householder being unable to produce CIGA certificate; fire or condensation risk because of loft or cavity wall insulation not being properly fitted). Ofgem reported they are currently working to analyse the rates of major failure, leaving out minor issues, and indicated that suppliers should be aiming for a 0% fail rate. Ofgem reported that if a fail rate reaches 10% they require the energy supplier concerned to provide full details of what they are doing to reduce this back towards zero, and work closely with them on this. One energy supplier, which placed a great deal of emphasis on rectifying minor issues, suggested their failure rate stood closer to 17% if these rectified jobs were also included.
- Builders' merchants representatives reported the potential risk of double-counting of carbon savings if DIY materials were bought by installers who then claim carbon savings for a professionally-installed job. Ofgem has recently introduced new requirements to avoid this risk (e.g. limits on the number of rolls bought at a time and dyeing or marking of DIY material).

- Press reports cited examples of cavity walls being recommended for insulation by assessors when these walls had potential damp problems and were not suitable for CWI ²⁰;
- Installers quoted examples of inappropriate referrals by home energy assessors, leading to a low conversion rate into delivered jobs (e.g. 50% conversion rate from referral to delivery of measures, or lower). They felt that these problems could be reduced if assessors had more technical knowledge or, ideally, if a technical survey could be undertaken at the same time as the home energy assessment (e.g. checking that cavities are clear and checking the depth of existing loft insulation). .
- Energy advice centres and installers reported problems with contractors - and customers - not keeping appointments, requiring repeat visits to the same property;
- Several energy advice centres and monitoring agents mentioned variations in the quality of customer service (e.g. level of information and contact with customer to inform them about the next steps in their 'customer journey'). These stakeholders reported that a short, straightforward customer journey was important to ensure a good conversion rate from referrals to delivery of measures;
- Energy suppliers and managing agents mentioned variations in the skills and experience of installation crews, particularly for loft insulation, at times of high demand for and delivery of CERT measures (e.g. during cold snaps in winter; and when the suppliers have been keen to reach their targets),
- Several local authorities cited examples of installers targeting areas where they knew a major area-based campaign was being run, with some door-knockers falsely claiming to be authorised by the local authority even though they were not linked to the campaign themselves.

All the energy companies interviewed reported having codes of practice for their contractors, although their contractual arrangements with these contractors varied. Some suppliers said they have an approved list of contractors, and can drop a contractor from this list if they repeatedly fail to deliver to the required quality.

²⁰ See Which report: 'Holes in insulation advice'; 28 March 2011. (<http://www.which.co.uk/news/>)

4. Strengths and weaknesses of delivery models

This chapter discusses the perceived strengths and weakness of the delivery routes through which CERT measures have been promoted and delivered to householders. It draws on the in-depth interviews conducted with both householders (CERT customers and non-customers) and stakeholders (at a national and case-study area level).

4.1 Preferred delivery model

The in-depth interviews with householders and local delivery stakeholders identified three ideal elements for a successful CERT delivery route: the involvement of a local authority or housing association; the active promotion of an offer within a small geographical area; and the involvement of a local partnership of organisations. The evidence for this is discussed below before a wider exploration of the strengths and weaknesses of a variety of different CERT delivery models.

4.1.1 Local authority involvement

It was clear from the in-depth interviews with CERT customers that the involvement of the local authority, or for some the housing association, was very important for engendering the trust of householders in a particular offer or scheme. This confirmed the sentiment of stakeholders who also reported the value of local authority involvement. One installer stakeholder reported local authority endorsement could increase uptake by as much as 20%.

“We get higher take-up rates on all council-backed schemes – we can point to a number of schemes where this happens. Conversion rates tend to be a lot higher. We don’t have any hard and fast quantitative evidence of this, but I would say typically we might get 40% take-up doing a leaflet drop in an area, whereas with a council-backed scheme we might get 60%.”

Installer stakeholder

From a householder perspective, if the local authority, or housing association, was not directly involved in delivering the measures, their visible backing and endorsement of the offer was vital. For instance, if measures were offered directly by local installers but the leaflets or letters about the offer were sent from the local authority, or as a minimum included their logo, this was reassuring for householders. The involvement of these organisations also reduced scepticism about the credibility of offers for heavily-discounted, or free measures. Householder respondents said that they valued having the opportunity to ring the local authority to check that the offer was genuine.

“I knew if the council was in the scheme there wasn’t going to be any hidden charges.”

Non-Priority Group, Age 45-69, Homeowner, CERT Customer, Case-study area D
(interview 54)

4.1.2 Small area delivery

A comparison of the four case-studies²¹ in this research suggests that a successful method for delivering CERT has been to have a very concentrated effort across a small area, or neighbourhood. The area-based schemes in case-studies C and D were felt, by householders, to have been widely taken up due to having a very visible presence in the area. It was reported that once the first installations had been made, reports of the benefits quickly spread by word-of-mouth, and other residents expressed interest in the scheme. As well as exerting some peer pressure on other people in the neighbourhood to take part, this was also considered to have reassured many customers, as they could see that others in their area had measures installed without any problems.

“There were so many houses in the area getting done. ... Once you’ve seen the van you just followed suit.”

Non-Priority Group, Homeowner, Customer, Case-study area D
(interview 45)

“Why block it up? Will you get condensation? Will you get damp walls? Some of those questions were answered, so I thought OK I’ll give it go. Plus a lot more people were getting it done, and you cannot think I’m right and they’re all wrong.”

Priority Group, Age 70+, Homeowner, Customer, Case-study area D
(interview 42)

Several delivery stakeholders similarly commented that intensive delivery in a small area can generate increased take-up through ‘word of mouth’ marketing and people seeing the vans in the street and deciding to take up the offer because their neighbour has done so.

4.1.3 Partnership approach

Partnership approaches involving a range of different organisations were advocated strongly by stakeholders. They felt that the involvement of a range of local partners (including organisations such as benefit agencies and the fire brigade) could generate multiple benefits and added value, both by facilitating cross-referrals between agencies working with vulnerable households, and by bringing in other sources of funding to extend the offer to customers. Stakeholders reported that partnerships involving social housing providers had been cost-effective due to the economies of scale they offered. It was also reported that, over time, small-area approaches could encourage a whole range of community representatives to be involved in promoting measures to householders (e.g. hairdressers, post offices, GP surgeries etc).

Stakeholders also felt there were many positive impacts from the additional funding made available through CERT partnerships with other government-led schemes. For instance, UHIS has been particularly successful in generating good take-up of free insulation in Scotland (e.g. in Dunfermline). Stakeholders reported that other schemes, such as Warm Front, EAP and HEES, have been able to offer a range of help to vulnerable people at risk of fuel poverty, including major investments in boilers and central heating systems.

²¹In depth interviews with CERT customers and non-customers were conducted in North Shields (Newcastle), Teignbridge (East Devon), Sydenham (Lewisham, London) and Duddingston (Edinburgh).

4.2 Strengths and weaknesses of all CERT delivery routes

The strengths and weaknesses of the different delivery routes are summarised in Figure 4 below. This brings together the opinions of a range of stakeholders and householders involved in the in-depth interviews. The cost-effectiveness of the different schemes is addressed within the table although this is based on stakeholders' perceptions rather than hard cost data, which was not available due to commercial sensitivities.

Figure 4: Strengths and Weaknesses of CERT delivery models

Delivery route	Strengths	Weaknesses
Promotion to private householders		
i) Promotion in conjunction with, or endorsed, by a local authority	<ul style="list-style-type: none"> - Involvement of local authority encourages take-up according to both stakeholders and householders - Door-knocking approach is common for this delivery route and felt to be very effective by both stakeholders and householders - These schemes often focus on areas with high levels of fuel poverty, to meet local authority objectives, but can also be successful in more affluent areas - local authority stakeholders have often been able to contribute some match funding (e.g. to cover loft clearance or scaffolding costs where necessary, or to extend eligibility for free measures to those over 60) 	<ul style="list-style-type: none"> - Local area stakeholders suggested marketing costs vary, depending on the intensity of door-knocking - Access to these schemes varies, depending on how pro-active the local authority is - The availability of local authority funding to support these schemes has been reduced by public sector spending cuts
ii) National, regional or local offers by installers and managing agents	<ul style="list-style-type: none"> - Competitively priced offers - High levels of referrals to this route by energy advice centres and the EST's Grant and Information Database - Perception that, aside from door-knocking, other ways of promoting these offers (e.g. mailouts) are relatively cheap to administer 	<ul style="list-style-type: none"> - Local door knocking by independent installers and managing agents tends to generate lower take-up than schemes which have the backing of the local authority or a similar trusted body. This was consolidated by the views of householders about their preferred way of being approached - Stakeholders reported some poor practices by installers falsely claiming to have authorisation from the local council.
iii) National offers by energy suppliers	<ul style="list-style-type: none"> - Targets wide range of householders - High level of referrals through energy advice centres for this route due to good offers made to energy supplier customer base - Perception that administration and marketing costs are lower than for partnership schemes 	<ul style="list-style-type: none"> - Nearly all householders involved in the in-depth interviews had seen adverts from energy suppliers (via television, billboards, their bills or on accompanying leaflets). However, many expressed cynicism towards these direct offers; they presumed there must be a 'catch' as they could not understand the rationale for these companies to help consumers reduce

		<p>their energy use.</p> <ul style="list-style-type: none"> - Householders who had seen these offers also felt the benefits they promised (for warmth and financial savings) were standardised for an average property and home and unlikely to be experienced by their particular property and household. - Stakeholders reported these offers to not be as cheap as those promoted through other routes - One stakeholder suggested the use of a third party company to conduct the installations, rather than the energy supplier themselves, could be confusing for householders. There was a perception that this could lead to a lower conversion rate, for this delivery route particularly, between leads and installed measures
iv) National offers for professionally-installed measures through supermarkets	<ul style="list-style-type: none"> - Target non-Priority Group - Perception among stakeholders that customers place trust in retail brand - Potential to use loyalty card data to identify potential customers (although not worth doing this for low-margin cavity and loft insulation measures) 	<ul style="list-style-type: none"> - Comments from energy suppliers and installers suggest that CERT deals available through supermarket stores are not currently generating particularly high volumes or high margins (but they are recognised as being important in enabling the players to position themselves for the forthcoming Green Deal) - An installer involved in a supermarket scheme reported that the customer care procedures imposed by the supermarkets can be quite onerous, leading to relatively high costs compared to other ways of generating leads (e.g. council-endorsed mailshots)
v) Promotion in a retail store – DIY loft insulation	<ul style="list-style-type: none"> - This route broadens the choice available for consumers - Insulation materials have been promoted at very low prices (e.g. £1-3 a roll, or - for a limited time - a penny a roll, compared to unsubsidised prices reported at £30 per roll). These promotions are the decision of the retail store who receive a basic cost per square meter from the energy suppliers. - DIY stores offer several different types of loft insulation, not just mineral wool but also insulation boards (suitable for loft storage), sheep's wool and recycled bottles 	<ul style="list-style-type: none"> - There is insufficient control over whether and how DIY loft insulation is installed - Some trade organisations were concerned that the high level of subsidy for DIY loft insulation has undercut small local installers who cannot buy materials at these prices - Scottish policy-makers were concerned that people living in remote rural areas have poor access to DIY stores, and so are disadvantaged in accessing this delivery route

Promotion to social tenants		
Partnerships with social housing providers (SHPs)	<ul style="list-style-type: none"> - Cost-effective due to opportunity for economies of scale - Effective targeting of Priority Group - Easy engagement with tenants due to established relationship with social landlord - Match-funding from renovation programmes can help fund costlier measures e.g. solid wall insulation 	<ul style="list-style-type: none"> - Some smaller SHPs have experienced difficulties accessing CERT funding - SHPs reported that the timing of CERT targets do not fit neatly with renovation timetables, e.g. Decent Homes, and although some measures would be best installed when a property is void this is not allowed under CERT. - SHPs warned that some CERT work may not be truly additional if certain improvements are required to meet legislative requirements for social housing. - Perceived to be a more expensive delivery route than others.
Promotion in conjunction with other Government funding streams		
Promotion in conjunction with a Government programme	<ul style="list-style-type: none"> - These schemes tend to focus on a specific area meaning they share strengths of area-based schemes (see above) - Evidence from one of the case studies suggests that these schemes can generate significant benefits for vulnerable people due to matched funding which extends the scope and reach of the offers 	<ul style="list-style-type: none"> - These programmes are likely to be affected by public sector cuts i.e. severe cuts to Warm Front - Anecdotal evidence from stakeholders suggests that the administration costs of some of these Government schemes can be quite high, and that delivery backlogs have developed at times (e.g. for Warm Front)

While the different CERT delivery routes, and their relative strengths and weaknesses, were set out clearly by stakeholders, it is important to note that many householder respondents could not clearly recall the way in which they had been approached or the organisation that had approached them. Many householders interviewed assumed they had been contacted by their local authority, but the stakeholder research conducted in the same locations showed it was often a private installation firm working on behalf of a supplier or local council. In case-study area C (where there was a concentrated local area delivery approach) it was particularly apparent that many customers did not know which organisation was funding, managing or delivering the scheme. Some stakeholders felt this lack of clarity about the source of the offer was a limitation of CERT.

“There has been a lot of confusion for clients because different people are offering them measures. ... Competition between energy suppliers has helped keep prices low but probably does more harm than good, it causes so much confusion.”

Organisation involved in various area-based schemes

This concern led several stakeholders to stress the importance of customer care and providing a smooth customer journey. They suggested that this could take the form of ‘progress’ calls to let the customer know what was going to happen next and by ensuring consistency for the customer by having the same person to make the initial contact, conduct the home energy assessment and book the installation. However, while some customers themselves said they would have preferred a clearer idea as to the background of the scheme, where the finance was coming from and who was going to be delivering their installation, this was not considered a prominent barrier to uptake.

4.3 Effective ways of generating leads across different delivery routes

Chapter 3 outlined the various ways in which leads have been generated to offer CERT measures to householders. A range of these have been used across the delivery routes set out in the table above. The in-depth interviews with householders found that respondents had experienced many of these approaches, including most commonly: leaflet or letter drops; cold-calling at the doorstep; an unsolicited telephone call; and through advertising in local newspapers and magazines.

When considering the success of different approach routes, it is important to note that the vast majority of CERT customers interviewed were actively approached. That is, they had become customers because of the way in which they were engaged by installers, local authorities or other delivery bodies. They had not proactively sought out information on energy efficiency measures and schemes themselves. In particular, CERT customers felt that the face-to-face promotion of CERT measures had been very effective. Some respondents thought they would not have taken up the offers without the face-to-face contact, as they would not have had the time, and/or inclination, to follow up written information they had seen or received.

Householders involved in the in-depth interviews (including both CERT customers and non-customers) described more passive ways in which they had seen offers, such as receiving a generic leaflet or mailshot. Many did not believe this was the most effective way of engaging their attention with offers and none of the CERT customers interviewed in the in-depth interviews had received measures as a result of responding to one of these advertisements (although this can not be extrapolated to reflect the take-up of such offers more widely given the qualitative sample involved). There was a more positive reaction among householders who had seen an advert for a CERT offer within a document which they already frequently read. For instance, some customers in case-study area B responded to adverts they had seen in the local newspaper, or in a magazine distributed to local carers.

“There was also something in the local paper. That’s what brought it to my attention. You get so many fliers you just put them in the bin, but when I heard about it in the local press I thought it was worth looking into.”

Non-Priority Group, Homeowner, Customer, Case-study area D
(interview 45)

4.4 Most effective delivery route

Stakeholders and householders agreed that concentrated marketing within a small local area, with backing from their local authority, was the most effective delivery route for CERT measures. The cost effectiveness of different marketing strategies have not been analysed however due to limited available data. While a concentrated area-based approach was preferred it was suggested by stakeholders to be likely to have a higher cost per dwelling than other routes.

5. How are measures offered under CERT taken up by householders?

This chapter discusses the uptake of CERT measures and identifies, from the national household survey and in-depth interviews, the householders most likely to have had energy efficiency measures installed. It considers the barriers which have prevented further take up and the ways in which other householders could be encouraged to take-up offers under the scheme.

5.1 Levels of uptake of CERT measures

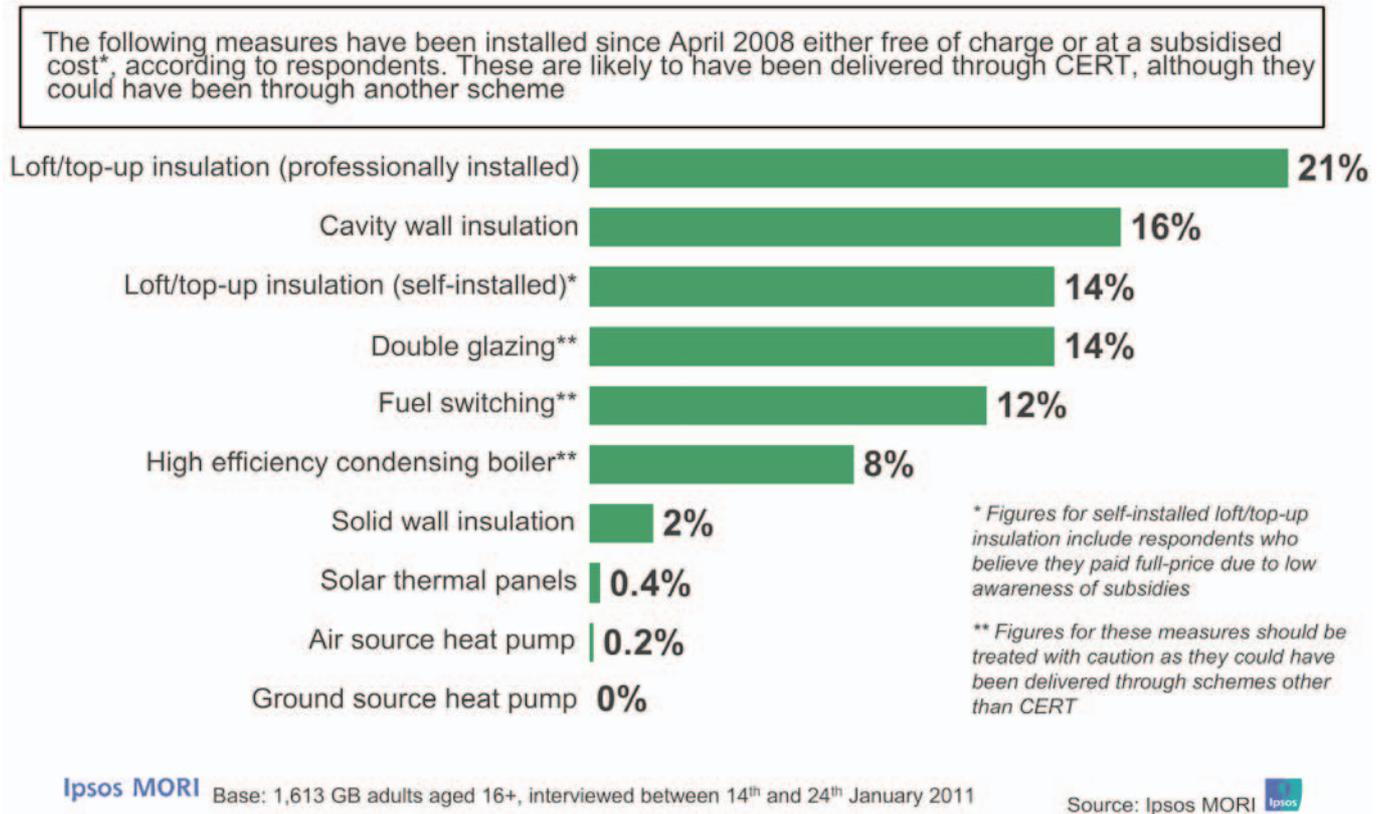
The national quantitative household survey²² produced indicative figures for uptake of CERT measures to date across the general population. Overall, 39% of surveyed households reported they had taken up subsidised energy efficiency measures²³ since April 2008. As Figure 5 shows, the survey indicated that professionally-installed loft (or top-up loft) insulation was the most commonly delivered measure (21% of households), with a lower proportion of households reporting they had received cavity wall insulation (16%), and far fewer receiving solid wall insulation (2%).

Whilst it is likely that these have been delivered through CERT, this cannot be guaranteed, given the range of other schemes which have promoted and/or subsidised energy efficiency measures for domestic households in this time period (April 2008 onwards). Also, whilst respondents were asked about measures they had taken up since April 2008 it is possible that the figure reflects wider uptake if recall of this time period was not accurate (i.e. householders recalled measures installed prior to April 2008). The take-up figures may therefore have a degree of over claim which is difficult to quantify. Nonetheless, the relative uptake of different measures recorded by the survey matches the estimated activity reported in the Quarter 10 CERT update (see Figure 3), and is therefore considered reliable.

²² A nationally, and regionally, representative survey of 1,613 heads of household was conducted between 14th and 20th January 2011. Interviews were conducted face-to-face using Ipsos MORI's omnibus.

²³ The CERT customer omnibus data is based on the 39% respondents who say they have received the following measures at a subsidised price: loft/top-up insulation (professionally-installed); cavity wall insulation; solid wall insulation; solar panels for heating; ground source heat pump; air source heat pump. Respondents who have self-installed DIY loft insulation, regardless of known level of subsidy, have also been included as CERT customers (they do not necessarily know they received this at a subsidised rate). The HEED database has been used to verify that these respondents do not differ substantially in profile or attitude to those who are definitely CERT customers. Further details are included in Appendix 2.

Figure 5: Take-up of energy efficiency measures (national household survey data)



Reported levels of installing subsidised double-glazing, fuel-switching and high efficiency condensing boilers since April 2008 was relatively high (14%, 12%, 8% respectively), and these measures in particular are problematic in attributing to CERT due to other schemes offering these measures at reduced costs in the same time period (e.g. boiler scrappage scheme). The national household survey showed installation of microgeneration measures was very low. This again matches the estimated activity reported by energy suppliers (see Figure 2).

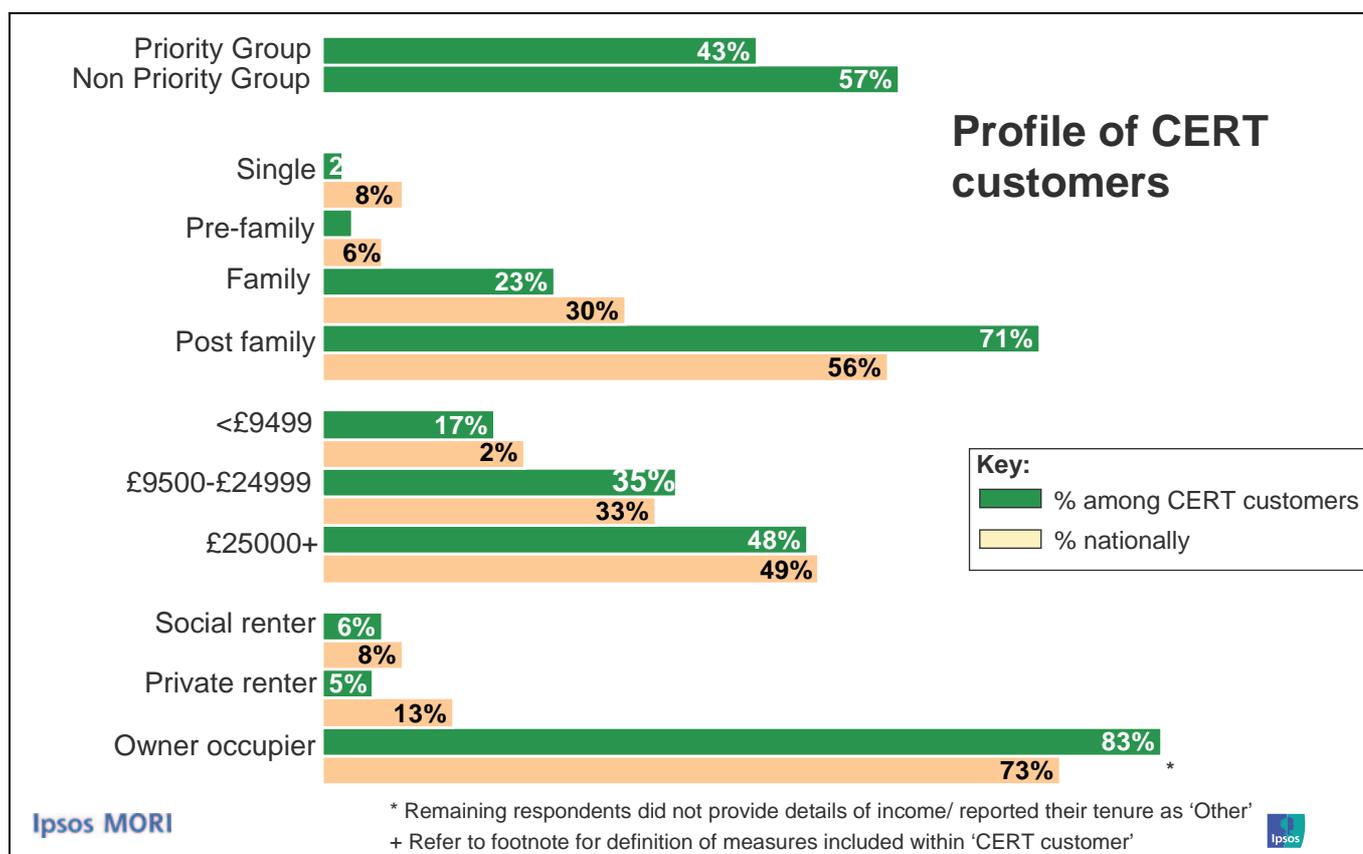
Given the challenges of attributing some energy efficiency measures to CERT, the findings focus only on the experiences, behaviours and attitudes of householders who reported they had installed major insulation (loft, cavity and solid wall) or microgeneration measures – referred to hereon as CERT customers.

5.1.1 How do CERT customers compare to the overall population?

This section explores how similar or different the CERT customer group identified in the national household survey are to the national population. It presents survey data suggesting the types of people most likely to be CERT customers according to attributes such as their life-stage, income, tenure and type of property. Figure 6 below breaks down the CERT customer group to show how some of their key attributes compare to the prevalence of these types of people across the national population²⁴.

²⁴ Where comparisons are made between the CERT customer group and the national profile, the national population data is taken from the weighted national household survey which is nationally and regionally representative.

Figure 6: Profile of CERT customers (national household survey data)



Tenure of CERT customers

Looking firstly at the tenure profile of CERT customers (shown in Figure 6) against the profile of householders overall, the proportion of social renters who were CERT customers (6%) was in line with the proportion who were social renters in the overall survey sample (8% - representing the national population). There were, however, fewer private renters amongst CERT customers than across the overall sample (5% compared to 13%). This confirms known barriers about encouraging uptake of energy efficiency measures in the private rented sector, as highlighted by a range of stakeholders during this research.

“When sending out letters offering free insulation [through UHIS scheme], even then we get a low response. A lot depends on the area - areas with high private-rented sector or high deprivation tends to be low take-up; more affluent areas have higher take-up”.

Scottish local authority comment

The survey showed that CERT customers were more likely to be owner occupiers (83% compared to 73% in the overall sample). This mirrored the suggestion from some stakeholders that uptake of measures was easier to generate in more affluent areas with higher proportions of owner-occupiers (who would generally be ‘able to pay’ rather than Priority Group customers). The in-depth interviews suggested that owner-occupier householders were far more likely to be engaged with CERT measures and offers compared to social renters (who may have received CERT measures as Priority Group customers). Respondents who were social renters were sometimes unsure whether this work had been carried out, possibly because energy efficiency measures were installed as part of a wider raft of refurbishment work. This may explain why the survey found a

slightly higher proportion of CERT customers to be owner-occupiers (83%) than might be expected from Ofgem reporting that 70% of measures were delivered to private households.

Life-stage of CERT customers

The national household survey showed that CERT customers were more likely to be in a post-family life-stage than householders across the population as a whole. This reflects the targeting of households with residents aged 70+ to meet Priority Group targets as well as the distribution of owner-occupiers living in suburban areas. The in-depth interviews also showed that older people were more likely to be engaged with energy efficiency and likely to want to improve their homes in this way. The national household survey showed fewer families to be among the CERT customer group than across the general population. The in-depth interviews with non-customers living in family households suggested that this may be due to the perceived hassle of the installation as well as the assumed cost of the measures.

Income of CERT customers

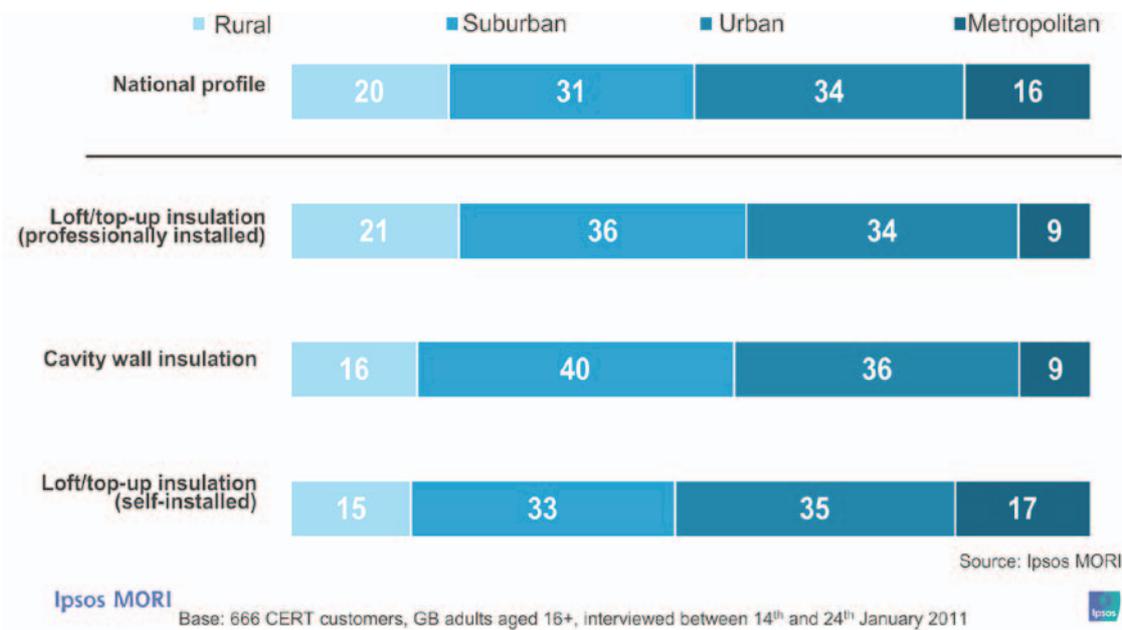
The **income profile** of CERT customers captured through the survey does not differ from the spread of incomes across the national population as a whole.

Type of area inhabited by CERT customers

The national household survey also showed there were differences between the types of area and property inhabited by CERT customers when compared with the national population. Figure 7 shows the uptake of the major CERT insulation measures across different types of area.

It is evident that metropolitan areas²⁵ have generally had lower levels of take-up. Although 16% of all householders lived in these areas, only 9% of householders who reported taking up professionally-installed loft insulation or cavity wall insulation lived in metropolitan areas.

²⁵ Metropolitan areas are London, Birmingham, Glasgow, Manchester, Bristol, Liverpool, Nottingham, Leeds and Sheffield.

Figure 7: Area type profile of CERT customers (national household survey data)

Interviews with installers suggested a key reason for low levels of CERT delivery in metropolitan areas was the difficulty they faced accessing densely populated areas (including parking charges, the congestion charge in London and streets which are too narrow for 'cherry-picker' lifts). The lower delivery in metropolitan areas was also thought to reflect some of the most common barriers that inhibit take-up, including a greater prevalence of younger people, period buildings, flats and terraces (i.e. more 'difficult to treat' properties). In contrast, the proportion of households who reported installing DIY loft insulation in metropolitan areas was higher (17%) – perhaps suggesting this was seen as the only option by some households.

The survey data does not suggest that delivery in rural areas has been significantly lower than might be expected based on the national profile (16% of households are in rural areas). However, some stakeholders felt there were clear barriers to CERT uptake in rural areas. Higher CERT delivery costs in remote areas were mentioned, particularly in the Highlands and Islands of Scotland, leading to higher prices charged for delivery and less coverage by installers due to whole areas being missed out. Stakeholders reported the higher delivery costs to arise from high transport costs, and the difficulty in coordinating bulk orders. Some success at overcoming this barrier has been achieved through the UHIS scheme in Scotland, which offered free insulation to parts of the Highlands and Islands. One energy supplier said they seek to overcome this reluctance to deliver in remote areas by offering installers the flexibility to charge different amounts for rural installations rather than insisting on a flat offer across the UK.

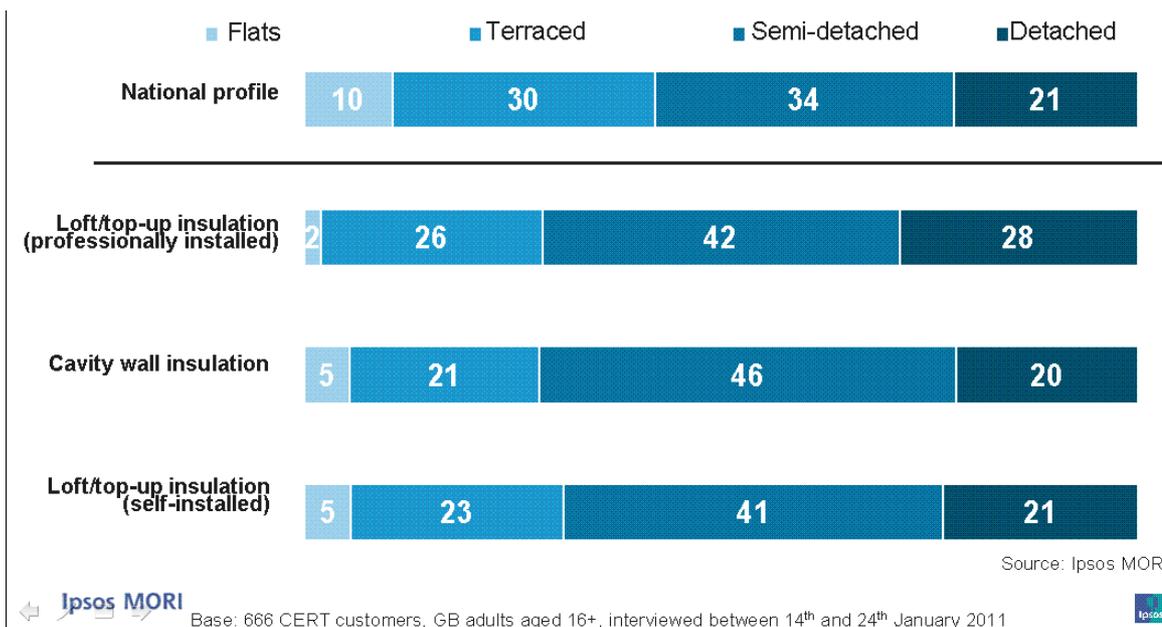
Representatives of the Scottish Government argued that CERT calculations figures should take account of different climatic conditions, and housing types in remote parts of Scotland. This was because greater carbon savings were felt to be generated through installations in these circumstances.

The issues facing delivery across different geographical areas have also been documented in a number of studies, particularly focusing on the reasons for lower CERT delivery in London²⁶ and Scotland²⁷.

Type of property inhabited by CERT customers

The national household survey also found differences in take-up of measures according to property type (as shown in Figure 8), with CERT customers more likely than average to live in semi-detached properties. A very similar pattern was exhibited for cavity wall and loft insulation. These findings were reinforced by findings from research with stakeholders, who stated that CERT measures were commonly delivered, due to ease, in concentrated blocks of similar housing (in particular blocks of social housing). Looking at the delivery of CERT measures to flats; whilst 10% of the national household survey population live in flats, less than 5% of insulation installations have taken place in these properties (however, not all flats will require measures due to shared walls and lofts, as well as greater proportion of newer properties, so this should be interpreted with caution).

Figure 8: Property type profile of CERT customers (national household survey data)



A number of delivery stakeholders reported that it was challenging to deliver CERT to blocks of flats as they were often mixed tenure (commonly a mixture of privately-owned housing, private rented properties and social housing), had communal areas and were located in buildings unsuitable for some measures (for instance some cavity wall systems which could not be used effectively in high-rise blocks). These stakeholders felt that getting necessary agreement from different parties for installation of energy efficiency measures was too complex and time-

²⁶ Lagging Behind - a report for the Greater London Authority, December 2009. <http://www.london.gov.uk/who-runs-london/the-london-assembly/publications/environment/lagging-behind-insulating-homes-london>

²⁷ Securing our share - a CERT strategy for Scotland, 2009. <http://www.scotland.gov.uk/Publications/2009/06/12132543/0>

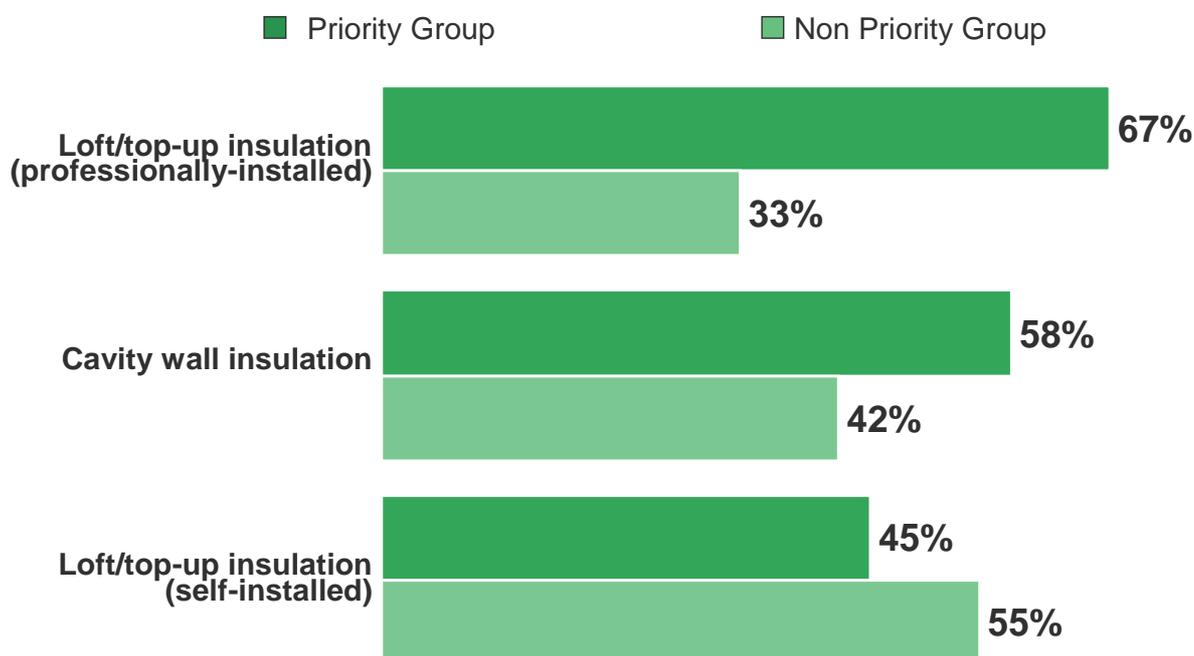
consuming for these properties. However, in the eventuality of mixed funding sources being available (e.g. funding from a local authority for the social tenants) delivery to blocks of flats could be made easier and more appealing for installers as it reduced the number of different parties that needed to be convinced of the need for energy efficiency measures.

Other factors which may distinguish CERT customers, such as attitudes to the environment, are discussed later in this chapter when analysing the drivers and barriers to uptake.

5.1.2 How does uptake of the different measures vary across CERT customers?

Figure 9 shows how uptake of the most commonly installed CERT measures (loft and cavity wall insulation) differed across Priority and non-Priority Group households. For all insulation measures, other than self-installed loft insulation, the greatest proportion of customers were Priority Group. For solid wall insulation, only installed by 2% overall, around three quarters were Priority Group customers (24 out of 34 customers in total). This probably reflects the higher cost and low awareness of solid wall insulation (see section 5.4.2), and also fits Ofgem's estimate that solid wall insulation has been almost entirely delivered through partnerships with social housing providers at no cost to householders (see page 3.5.3).

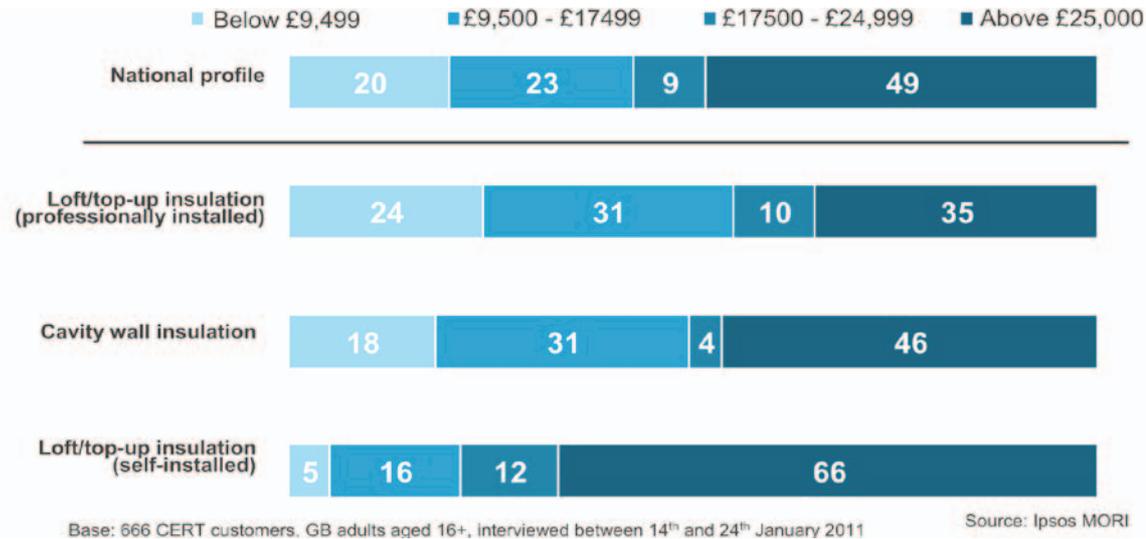
Figure 9: Take-up of major CERT insulation measures across the Priority and non-Priority Groups (national household survey data)



The survey found differences in take-up of some measures across households by income. The greatest distinction between households with different incomes was for DIY loft insulation as shown in Figure 10 below. Two thirds (66%) of CERT customers who had self-installed loft-insulation had an income of £25,000 or more, compared to just 5% with an income below £9,499. The scale of the delivery of free, professionally-installed loft insulation to many of the Priority Group, particularly social tenants, offers an explanation for this trend. Indeed, the higher income group (earning a household income of £25,000 or over) were under-represented in take-up of professionally-installed loft insulation according to the survey – nearly half (49%) of households are

within this income bracket nationally but just over a third (35%) are CERT customers for this measure.

Figure 10: Difference in take-up of CERT insulation measures across income groups (national household survey data)



5.2 What is driving uptake of CERT measures?

This section explores the drivers which encourage certain types of householder to take up energy efficiency measures under CERT.

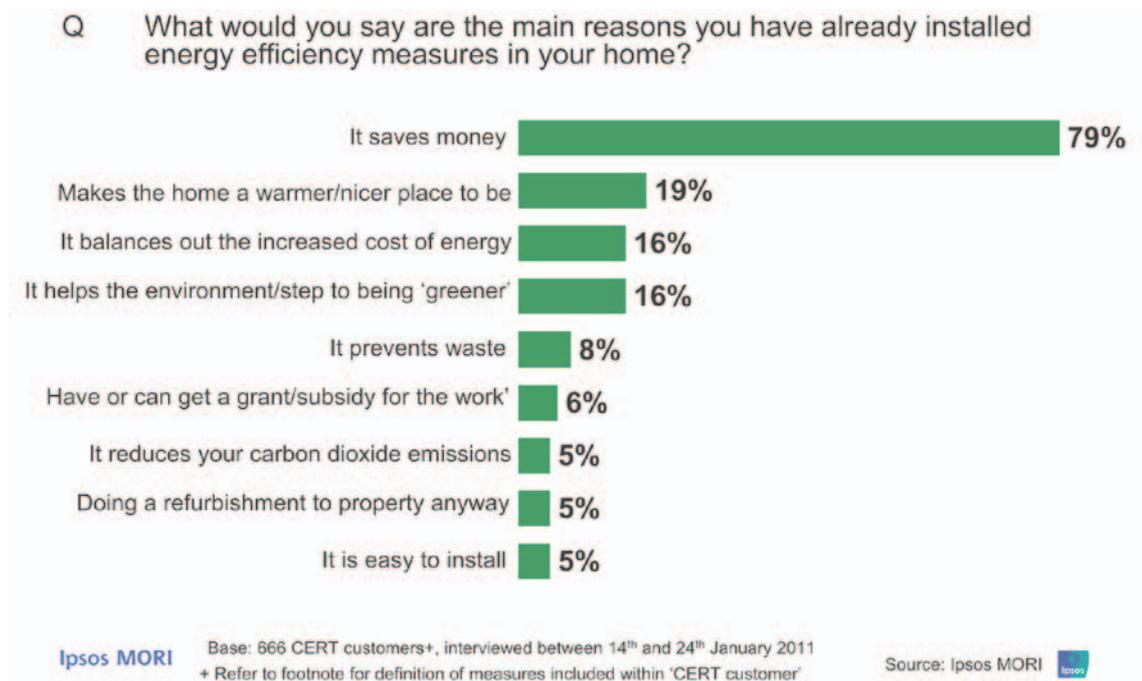
5.2.1 Cost savings

Four in five (79%) CERT customers surveyed said cost savings were one of the main reasons they installed CERT measures within their home (see Figure 11). While cost is likely to always be a primary driver of uptake, the timing for this research (February 2011), with rapidly rising fuel prices following a harsh winter, may have inflated the perceived importance of cost savings even further. Indeed, 16% of CERT customer respondents explicitly said one of their main reasons for taking up measures was because ‘it balances out the increased cost of energy’.

5.2.2 Thermal comfort

Improving the thermal comfort of homes was also a common reason for uptake of CERT measures amongst customers surveyed. One in five (19%) mentioned they installed measures to ‘make the home a warmer/nicer place to be’. Findings from the in-depth interviews suggested that this was particularly motivating for respondents if their homes were difficult to keep warm due to the age or size of the property, or due to the inefficiency of the heating system. The presence of young children, disabled or elderly residents in a household (often occupying the property at all times of the day, rather than just morning and evenings), also accentuated the perceived need to heat the home effectively and efficiently.

Figure 11: CERT customer motivations for installing energy efficiency measures (national household survey data)



5.2.3 Environmental motivations

Figure 11 shows that 'helping the environment/ step towards being greener' was mentioned by 16% of CERT customers as one of their main reasons for installing energy efficiency measures. One in twenty (5%) said more specifically that they were driven by a desire to reduce their carbon dioxide emissions. The in-depth interviews found that protecting the environment was only a *key* driver for a few CERT customer respondents (most commonly more affluent homeowners). That said, for many other respondents who had taken up measures, there was a reported sense that being more 'energy efficient' and reducing waste was the 'right thing to do', above and beyond associated cost savings. The types of respondent who were most likely to mention the environment as a motivation for installing energy efficiency measures are discussed further in section 5.2.4 and illustrated in Figure 13.

Findings from both the national household survey and in-depth interviews suggested that these drivers for uptake of CERT measures specifically were no different to those which motivated domestic energy efficiency behaviours more generally (such as boiling only the necessary quantity of water, reducing the temperature of the washing machine etc).

5.2.4 Difference in motivations across CERT customers

The in-depth interviews suggested that the drivers of uptake did differ across Priority and non-Priority Group respondents. The motivations of achieving cost savings, thermal comfort and environmental benefits appeared to be most pronounced for non-Priority Group owner occupiers. Whilst these benefits of energy efficiency measures were also recognised by social renters (likely to fall within the Priority Group), uptake across these households was far more passive. Most (Priority Group) CERT customers living in socially-rented accommodation said they were used to having improvements conducted on their property and considered themselves to have nothing to lose by accepting CERT measures which were professionally-installed for free. Moreover, in many cases social renter CERT customers reported that the installation was not presented as a choice to

them, but rather they were simply informed that they would be having energy-efficiency measures installed in their home and would need to allow access for this work to be carried out. Stakeholders interviewed agreed that Priority Group customers living in socially rented properties were easier to deliver measures to, although there was a suggestion from one installer that they could sometimes be uncertain about why it would be offered for free.

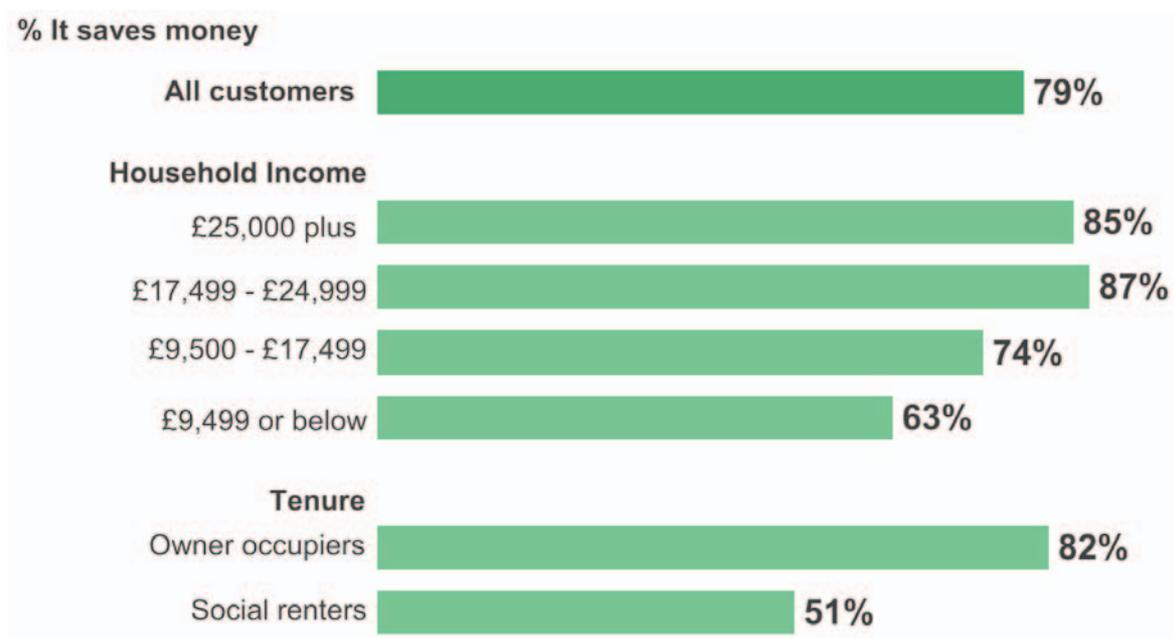
“Priority Groups get it for free so this involves a different kind of sell. It makes it easier [in some ways], although for some there is real suspicion about what you are offering.”
Installer stakeholder

The lack of active engagement with CERT amongst social tenants was particularly evident in one of the case-study areas where the housing stock had been widely renovated in recent years and tenants (including both social tenants and some owner occupiers) said they had become accustomed to home-improvements being made for them.

Although the national household survey did not show any differences in motivations for uptake between Priority Group and non-Priority Group respondents, it did highlight some clear differences across CERT customers based on factors such as income, tenure, size of household and level of education attained. These generally complement the in-depth interview findings, and are summarised as follows:

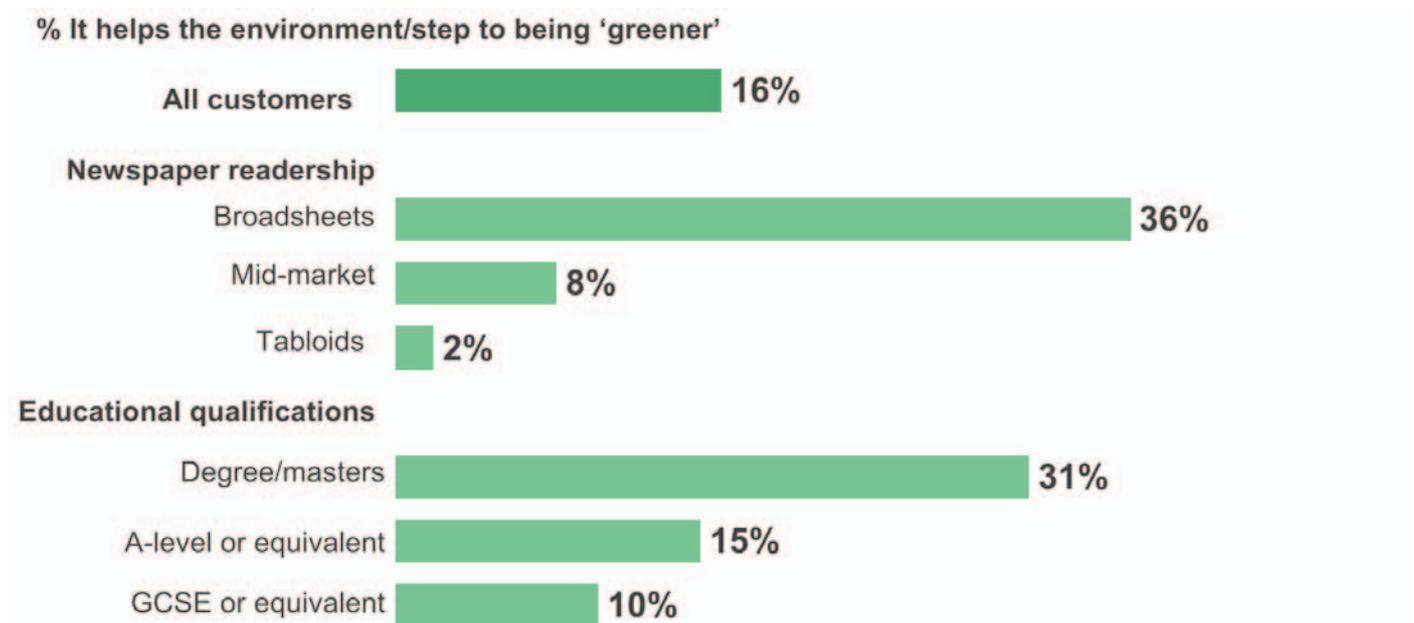
Expected cost saving on fuel bills – this was most frequently mentioned by CERT customers from higher income and owner-occupier households (see Figure 12). The in-depth interviews suggested that higher income households, who generally received part-subsidised as opposed to free measures, needed the financial motivation of an expected saving to make an upfront contribution towards the cost of installing measures. These households were also less likely to have been under-heating their homes.

Figure 12: CERT customers most likely to be motivated by cost savings (national household survey data)



Environmental benefits – CERT customers with higher levels of educational attainment and readers of broadsheet newspapers were those most likely to spontaneously say they took up CERT measures to help the environment (see Figure 13). The in-depth interviews found that protecting the environment was only a *key driver* for a few CERT customer respondents (most commonly more affluent homeowners).

Figure 13: CERT customers most likely to be motivated by environment (national household survey data)



The in-depth interviews highlighted that, for many other respondents who had taken up measures (and in particular older customers), there was a sense that being more 'energy efficient' and reducing waste was the 'right thing to do', above and beyond associated cost savings.

"I do think how much it's going to cost me but... because I'm a much older person I was brought up not to waste things unnecessarily and that has grown up with me and I'm like that in anything I do. I don't like wasting things or using things for the sake of using them."

Priority Group, Aged 70+, Homeowner, non-CERT customer, Case-study area B (interview 31)

A comparison of the attitudes and awareness of respondents towards CERT schemes across the different case-study locations also suggested that the nature of the area may have affected uptake of measures. The research suggested uptake of measures in close-knit communities (e.g. case-study areas A and D compared to area B) was greatly encouraged through word-of-mouth recommendations between family, friends and neighbours, and the visibility of measures being installed in neighbouring houses / streets. The perceived success of engaging householders within a community setting has been discussed further in Chapter 4 (although the impact of this on actual numbers of CERT measures delivered cannot be answered by this research).

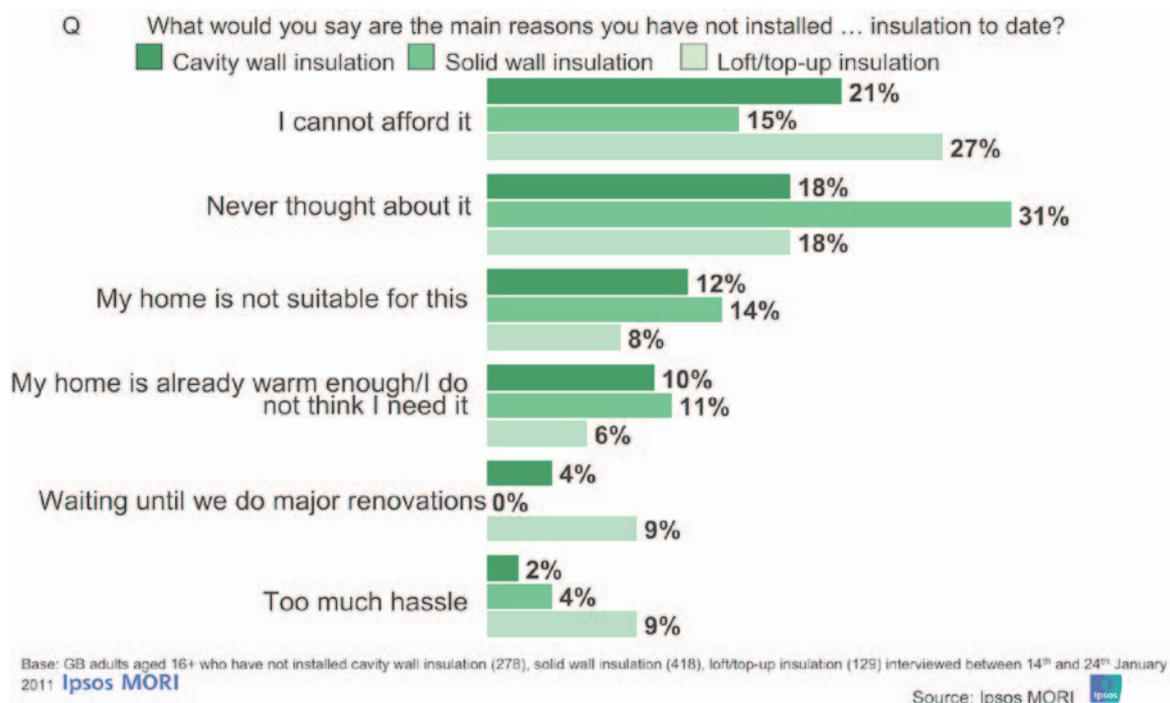
The national household survey did not reveal any differences in the reasons for uptake across the different types of CERT measures

5.4 Barriers to further uptake of CERT measures

The national household survey and in-depth interviews explored the reasons that some householders had not taken up any energy efficiency measures and why some CERT customers had not taken up more measures.

The barriers to take-up of the major insulation measures mentioned by surveyed householders are shown in Figure 14 and discussed below.

Figure 14: Barriers to take-up of domestic energy efficiency measures (national household survey data)



5.4.1 Upfront costs

The perceived (high) upfront cost of energy efficiency measures was identified as a key barrier to uptake amongst non-customer respondents in the national household survey (see Figure 14). Cost was the most frequently mentioned barrier to installing loft insulation (27%) and cavity wall insulation (21%). The in-depth interviews suggested that a lack of awareness of offers for discounted, or free, measures was likely to be creating this barrier. There was also some evidence from a few respondents that householders may overestimate the cost of installing energy efficiency measures.

For the non-Priority Group, and owner-occupiers in particular, there was a considerable lack of awareness amongst respondents about their eligibility for discounted measures. The offers were commonly assumed by this group of respondents to only be available to households occupied by elderly or disabled residents or on very low incomes, and not to most owner-occupiers.

"I didn't go down that route [looking for offers] I just assumed I wouldn't qualify. ... I don't think these things are designed to help people like me. We don't earn a lot of money but we're not a low income family."

Non Priority Group, Under 45, Homeowner, Non-CERT Customer, Case-study area D
(interview 50)

"I know there was a scheme a while ago, the same as the loft insulation scheme, for cavity walls. But I never took up the offer, because I thought we might be pushing our luck. It was free if you were on benefits, but then we were working, so we didn't really pursue it. I don't think anyone actually knocked on the door and said 'would you like this'? So I guess I didn't get in touch."

Non-Priority Group, Under 45, Homeowner, Opt-out customer, Case-study area C
(interview 16)

A number of delivery stakeholders interviewed also identified this as a barrier to further take-up amongst the non-Priority Group.

"The only barrier is making everyone aware of grants available regardless of their status. Not just people on benefit that qualify for grants."

Organisation involved in various area-based schemes

Some stakeholders reported that unanticipated costs had prevented some leads being converted into jobs. For instance, some installers reported experiences of customers being put off if they were quoted one 'headline' price initially (e.g. £199 for loft insulation) but were then quoted a higher price once extras have been included (e.g. excess meterage; ventilation). They reported that some schemes had therefore used slightly higher headline prices with no excess charges to avoid this problem. Some of the CERT customers interviewed described this situation happening to them, although this did not impact their decision to go ahead with the installation.

5.4.2 Lack of awareness of measures and suitability for property

The national household survey suggested that cost was not however the most frequently mentioned barrier to taking up solid wall insulation. Approaching one third (31%) of respondents who had not installed solid wall insulation said it was because they had 'never thought about it'. Although fewer households cited cost as a barrier to solid wall insulation (15%) than the other insulation measures, this is likely to have been due to low levels of awareness about solid wall insulation, and its cost, generally.

The in-depth interviews found that many respondents who lived in solid-walled homes were aware of this fact about the fabric of their property. However, they had often only heard of cavity wall insulation, and assumed there was nothing that could be done to insulate solid walls. Furthermore, the few respondents who were aware of solid wall insulation knew little about it and assumed it could only be installed on the outside of the wall which was not appealing to them for aesthetic reasons.

5.4.3 Lack of motivation to improve energy efficiency

For most householders, 'energy efficiency' meant either improving the warmth of their property or reducing their energy usage to save money on bills. As discussed earlier in this chapter, only a few householders changed their behaviours or installed measures primarily for the environmental

benefits. Many of the non-CERT customer respondents were therefore householders who considered their homes to already be warm enough, or felt they could (easily) afford the level of energy they used. These respondents reported they saw few or no reasons to take up energy efficiency measures. Stakeholders involved in trying to generate leads for CERT measures agreed there was a perceived lack of need to improve energy efficiency amongst some householders.

“From a marketing perspective, there is a barrier of customer inertia. This is an ongoing challenge. Energy costs are not the biggest worry in the world for lots of people, in spite of price rises. Continuous effort is needed to identify suitable properties and provide attractive offers.”

Installer stakeholder

Around one in ten survey respondents said they had not installed cavity wall insulation (10%) or solid wall insulation (11%) because they felt their home was warm enough already. There was some indication from in-depth interviews that some householders living in mid-terraces or flats believed they benefitted from having less external wall space and therefore found it easy to heat their home.

5.4.4 Concerns about aesthetics

While not raised as an issue at all for loft insulation, some non-CERT customers interviewed in the case-study areas expressed concerns about the expected impact of cavity wall insulation on the look of their home. These concerns could generally be quickly overcome following an explanation by the interviewer that the insulation was piped in from the outside of the property rather than by drilling holes through internal wall.

When solid wall insulation was described by the interviewers to householders who were previously unaware of it, more immutable aesthetical concerns were raised. Nearly all householders disliked the idea of changing the look of their interior walls or many were put off by the impact it would have on the look of their building from the outside. This was a particularly strong concern for those living in period properties, partly because they wanted to maintain the original character of their building but also due to limitations placed on them in relation to making home improvements. For instance, part of case-study area B was a conservation area where residents believed they were not allowed to make any external changes to their properties.

Some of the non-CERT customer respondents in this area said they had wanted to make energy efficiency improvements, as their old, large houses were draughty and difficult to heat. However, several also cited prohibitively expensive quotes for double-glazed sash windows, or other measures sympathetic to their property, which had prevented them from making changes.

5.4.5 Concerns about the ‘hassle-factor’

As indicated by the quantitative survey results, perceived disruption was a barrier to installing measures for a small number of respondents, but this was more likely to be given as a reason for not installing loft insulation (9%) than the other insulation measures (cavity wall insulation 2%, solid wall insulation 4%). Many respondents in the in-depth interviews said they used this part of their home as a storage space, and clearing the loft out was mentioned as a considerable barrier, particularly by elderly respondents. In a very few cases, respondents said this had prevented from taking up free loft-insulation offered to them.

“The only thing I wouldn't let them do was renew the insulation in the loft. And if you looked in my loft you'd know why! There's so much stuff up there...”

Priority Group, Aged 70+, Homeowner, CERT Customer, Case-study area C
(interview 12)

Stakeholders reported that some CERT schemes included a service offering loft clearance in order to encourage take-up. However, installers frequently mentioned that they found householders were not interested in this 'extra' offered to them. Householders in the in-depth interviews commented that it was not simply the process of clearing the loft that was a barrier, but the need to sort and organise the content of the loft in order to do this. This means that loft clearance services were not appealing to householders as they did not prevent the need to spend time and effort sorting the contents in advance.

Only a minority of non-CERT customer respondents raised concerns about installers leaving a mess in the home as a reason for not installing measures, and these were more likely to be mentioned in relation to internal solid wall insulation, in the context of whether the room would be left in the same condition as it was found.

5.4.6 Other barriers

The in-depth interviews also found that lack of information on the benefits offered by cavity wall insulation led some non-CERT customers to be uncertain about the appeal of it for them. A few respondents expressed views that a property's walls should 'be allowed to breathe' and should therefore not be filled in, and questioned whether insulation would create problems with damp. However, some of these respondents said they had ignored their concerns about cavity wall insulation because the measure was being offered for free, or because they received reassurances before they agreed to the installation.

One external barrier reported by some social housing tenant respondents was a perceived lack of Council or Housing Association funds to roll out measures to all social housing. Several social tenants referred to there being a hold on further home improvements, due to cuts in the local authority budget. In most cases, these tenants said they had expressed a desire for having measures such as double-glazing, loft insulation and wall insulation, but had been told that they would need to wait until budgets allowed.

5.4.7 Barriers for different types of householder

The in-depth interviews found that different groups of householders were most likely to be affected by different barriers, as shown in Figure 15.

Figure 15: Most common barriers for uptake of CERT measures across different householders

Barrier	Householders most affected
Upfront cost	Non-Priority Group Homeowners
Trust in offer/perceived relevance of offer	Non-Priority Group Homeowners
Awareness of measure and suitability for property	Older properties
Lack of need to improve energy efficiency	Non-Priority Group, more affluent, terraced properties and/or newer properties, no environmental motivations

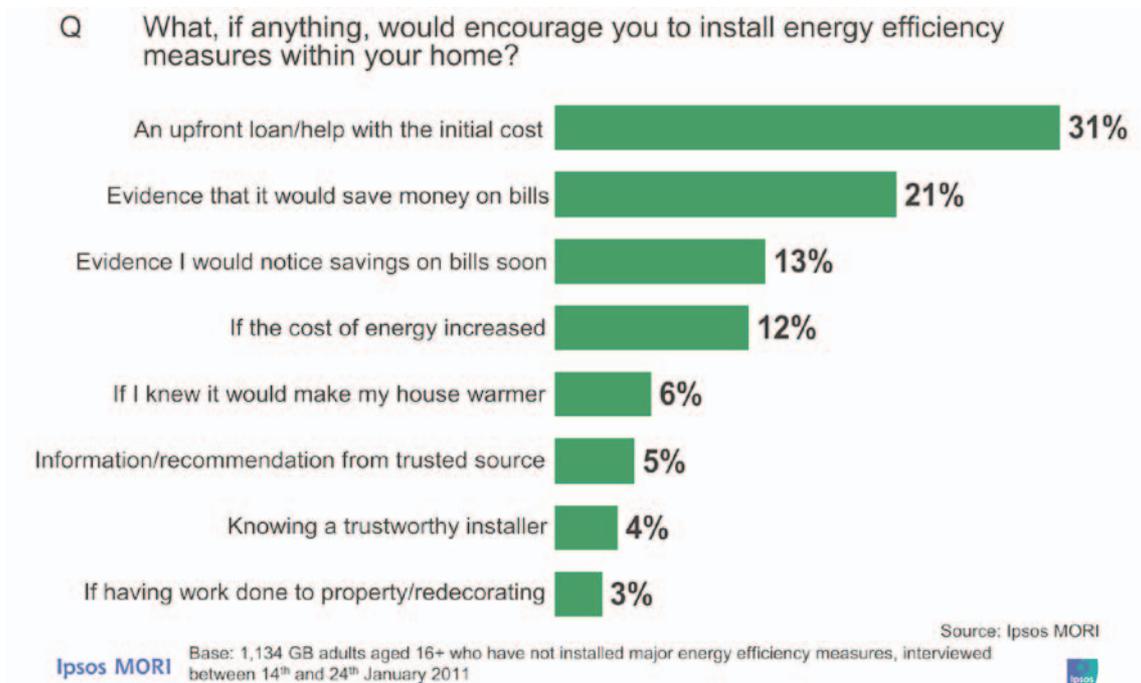
Aesthetics	Non-Priority Group Period properties
Hassle-factor	Older householders Young families

5.5 Overcoming barriers to take-up

The most common factor mentioned by all respondents in the national household survey (Figure 16) which would encourage take-up of energy efficiency measures was help with the initial cost (31% of overall sample). The other key factors mentioned were also financially driven; one in five (21%) said they would need to see evidence that it would save money on bills, while one in eight (13%) said they would need to see evidence that they would notice savings on bills ‘soon’. Finally, 12% said they would consider installing energy efficiency measures if the cost of energy increased.

As already discussed, the two most common reasons for installing energy-efficient measures were to have reduced bills and to create a warmer home. Therefore, it was perhaps unsurprising that many non-CERT customers expressed a desire for greater information or clarity on the benefits they would see from the measure. The in-depth interviews revealed this was an important factor in weighing up whether it would be worth the disruption installation might cause, and whether they would recoup the initial cost in bill savings.

Figure 16: Factors which would encourage take-up of domestic energy efficiency measures (national household survey data)



CERT delivery stakeholders commonly reported that the perceived cost of the measures, and lack of certainty about the savings on bills offered by the measures, was a barrier to take-up. A number of local authorities have therefore marketed CERT offers through council tax mailings, offering a discount on the offer price in the form of a rebate on council tax. The Climate Change (Scotland)

Act requires Scottish local authorities to introduce council tax rebate schemes. While EST's research²⁸ on council tax rebate schemes suggests that this is an effective form of marketing, some stakeholders felt that this method of marketing did not generate particularly high take-up of CERT measures. The in-depth interviews did not cover anyone who had been offered this type of incentive and so this research is not able to add further insight about the impact of tax rebate schemes for householders.

Many delivery stakeholders (such as local authorities, RSLs and energy advice centres) also felt that greater national-level branding and marketing of CERT could have helped to increase take-up, as they perceived customer awareness of the scheme to be very low. In particular, stakeholders felt this could help increase awareness of the degree of subsidy included in offers to 'able to pay' customers within the non-Priority Group.

During the in-depth interviews, householders mentioned what had been most persuasive in encouraging them and also suggested other ways in which they could have been encouraged to take-up energy efficiency measures:

- Related to having clear evidence about the benefits offered by these measures, several CERT customer respondents in case-study area D said seeing photographs of thermal imaging had helped convince them of the potential to improve the thermal efficiency of their homes.
- A number of CERT customer respondents stressed the added credibility of offers from either their local authority or housing association, or at least offered in partnership with them (e.g. if the offer came from an energy supplier).
- Customers who had experienced an active approach, with someone explaining the detail of the measure, how and why it was being offered, the benefits it could bring and, importantly, answering questions and concerns, felt this was likely to be the most successful way of engaging other householders.
- A few householders mentioned that seeing demonstration homes could provide them with reassurance about how their property would look post-installation, and could therefore encourage installation of measures (especially cavity / solid wall insulation).
- Many householders said receiving tailored information which provided them with the expected cost savings created by the measures for their specific property would encourage take-up of measures.

The data presented in Figure 16 above also highlights the desire of householders to receive information from a trusted source (5%) and to have the option to use a known installer to conduct the work (4%).

²⁸ Changing Climate, Changing Behaviour: Delivering household energy saving through fiscal incentives, Energy Savings Trust (accessible here - <http://www.energysavingtrust.org.uk/uploads/documents/aboutest/fiscalupdate.pdf>)

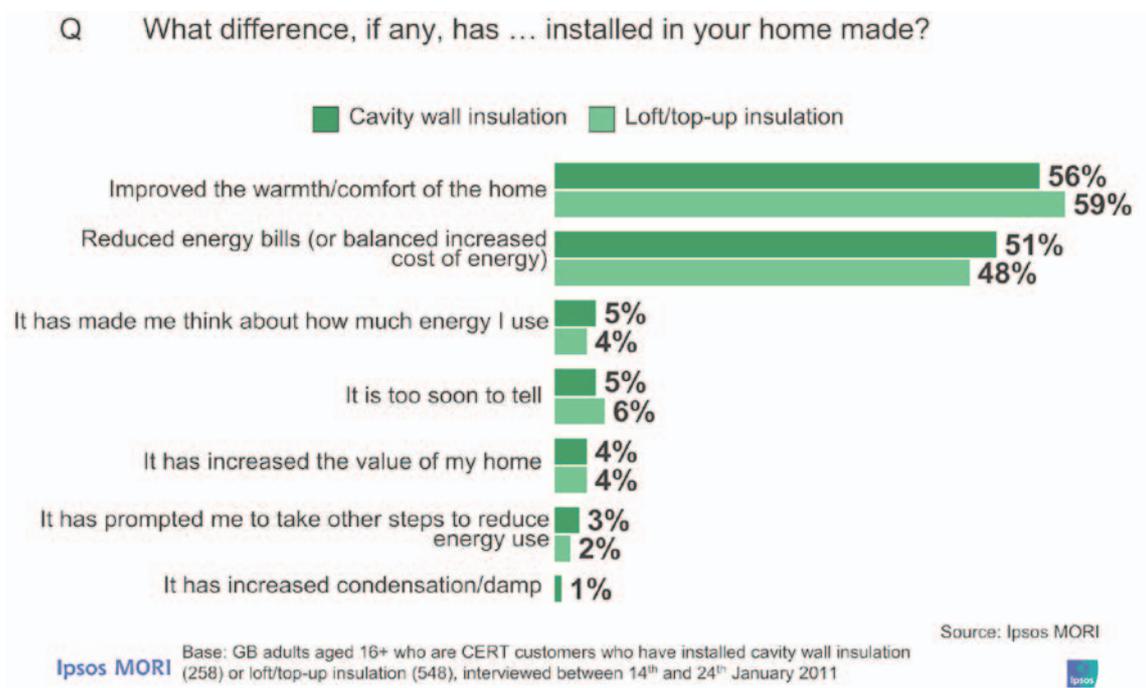
6. What are the main effects of measures offered under CERT on customers?

This chapter explores the perceived impact of CERT measures on the attitudes and behaviours of customers, as well as the benefits they reported having experienced within their households as a result of the installations.

6.1 Perceived benefits of CERT measures

The national household survey found that by far the two most common effects that CERT customer respondents spontaneously said they had experienced as a result of CERT measures were **improved warmth of their home** and a **reduction in energy bills**. Figure 17 shows the reported effects experienced by respondents who had received two of the major insulation measures, cavity wall and loft/top-up insulation.

Figure 17: Benefits of insulation measures – mentioned spontaneously (national household survey)



For both loft and cavity wall insulation customers, the improved warmth of their home was more frequently mentioned than reduced energy bills.

However, as Figure 17 illustrates, the take-up of CERT measures was not considered to have had many wider effects for consumers in relation to their behaviour around energy consumption. Just one in twenty (5% for cavity wall insulation and 4% for loft insulation) said that installing this had resulted in them considering the amount of energy they or their household uses, while less than 5% said they had gone on to take other steps to reduce their energy use.

Although only around one in twenty customers (5% for cavity wall and 4% for loft insulation) said the measure had made no difference, there were a further one in ten (9% for cavity wall and 10% for loft insulation) who could not say what difference it had made.

These findings were broadly supported by the in-depth interviews, in which some customers mentioned benefits, either relating to the increased thermal comfort of their home, or to their energy bills, while others were less sure that they could identify any changes following the installation.

"You're brainwashed aren't you to take. I had it done, and then I realised it didn't make any difference. The house wasn't any more warmer or anything. We didn't notice any difference in the energy we're using."

Priority Group, Aged 70+, Homeowner, Customer, Case-study area D
(interview 53)

6.1.1 Warmer homes

In-depth interview respondents who had energy efficiency measures installed under CERT had a general sense that their home felt warmer or stayed warm for longer after turning the heating off. Some respondents also cited other ways they could see the measures were improving the energy-efficiency of their home. For instance, finding that their attic space was very cold following the installation of loft insulation or seeing the difference visually, such as the snow on their roof taking longer to melt than on neighbours' homes that did not have loft insulation.

*"When you go up there it's icy cold, when my son goes up there he says, it's b****dy freezing up there, I said "yeah good isn't it". My heat's not going out through the roof".*

Priority Group, Aged 45-69, Homeowner, Customer, Case-study area B
(interview 37)

6.1.2 Impact on energy bills

While many respondents in the in-depth interviews said their home felt warmer, many found it difficult to assess whether the measure(s) they had installed had affected their energy bills. Respondents felt this was primarily due to the rises in energy prices over recent years. A common perception was that increases in gas and electricity prices had cancelled out any savings they might have seen as a result of the CERT measure.

However, although respondents felt changes in fuel prices made it difficult for them to measure the exact effect of the loft or cavity wall insulation, many still believed that increases in their bills had been lessened by the measure. These respondents said their bills had remained relatively stable and put this down to the insulation balancing out the rises in energy prices.

"Although the unit costs of gas and electricity are going up, I've been able to hold onto the same direct debit amount for the last two years."

Non-Priority Group, Aged 45-69, Homeowner, Customer, Case-study area B
(interview 39)

Another common reason in-depth interview respondents often felt they could not give a view on whether the measure had led to cost savings was because of a lack of engagement with energy bills. This is supported by findings from other research on billing²⁹, which found that customers predominantly looked at the headline total of the bill (in terms of the cost) but did not give much attention to the consumption in kWh³⁰. This made it difficult to keep track of their total energy use over time and to make a judgement about the potential impact of the measure.

Respondents who were pre-payment customers were the most likely to be able to discuss the effect of measures on their energy bills, as they could easily monitor the amount of money they added to their pre-payment card each week.

“The bills are cheaper. They definitely came down. I put money in every week, with me card. Normally I used to put about 30 odd, 40 pound odd a week, and now I just put twenty.”

Priority Group, Benefit-recipient, Customer, Case-study area D
(interview 47)

In-depth interview respondents also referred to the particularly cold winters over the previous two years as having made it difficult to see the benefits of the CERT measure. They felt that colder than average temperatures had masked any savings resulting from improvements in energy efficiency, due to the additional time their heating had to be on.

6.2 Likelihood of customer recommendations for energy efficiency measures

The views of respondents towards the CERT measures they had installed were predominantly very positive, both for wall³¹ and loft insulation. Most found the installation process simple and not too much of a disturbance. In this sense customers' experience often exceeded the expectations they initially had about the length of time the measures would take to install, the hassle that might be involved for them and the impact it could have on the look of the property,

Only a very few households mentioned any negative experiences and these were generally related to minor difficulties, such as the effort required to clean out the loft before installation, or the mess left behind after installation.

The highly positive experiences of CERT customers were reflected in their expected levels of advocacy for energy efficiency measures it delivered. The national household survey showed that the majority of CERT customer respondents would recommend the measures they had installed to others; three in four (76%) said they would speak highly of the difference it made to their home, while one in four (24%) would speak highly of the measure(s) without being asked. This latter group could be considered strong advocates as they would proactively promote the installation of

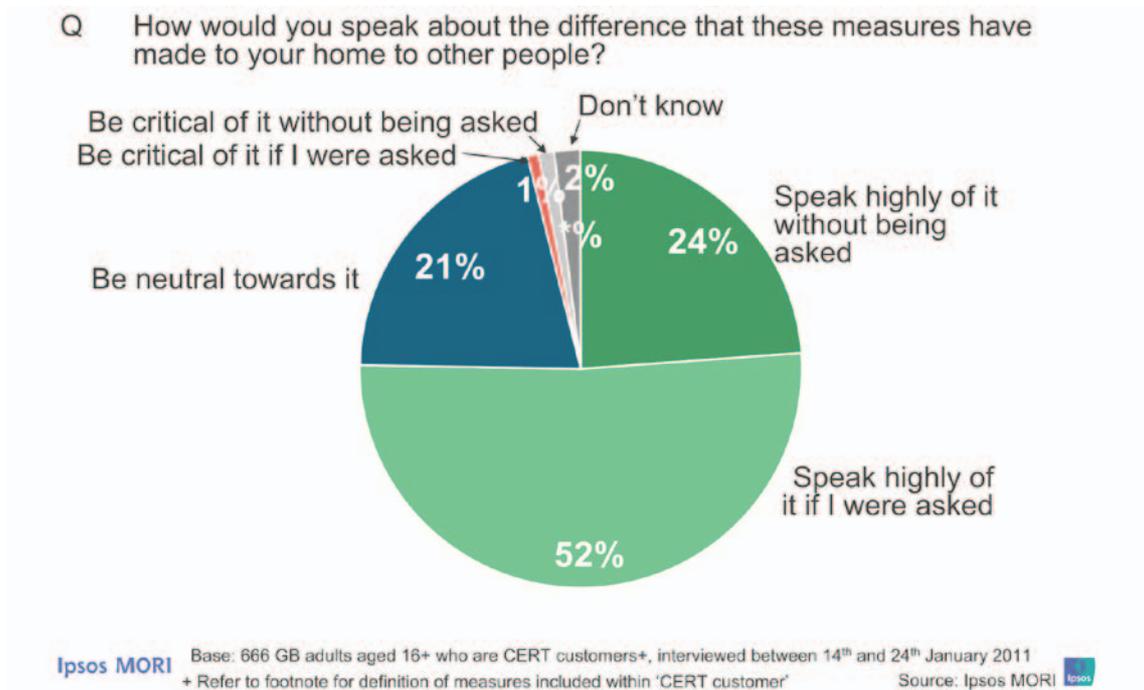
²⁹ Attitudes to Billing (2010), Ipsos MORI/Consumer Focus, Research on Consumption Comparison Information (ongoing), Ipsos MORI/DECC

³⁰ This echoes the findings of other studies Ipsos MORI have conducted on energy bills

³¹ It should be noted that only one solid wall insulation customer was included in the qualitative sample for this research.

these measures to others. This is extremely important given that word of mouth was such a strong influencing factor in whether people take the measures up. While some customers said they would be neutral if asked, just 1% would be critical.

Figure 18: CERT customer advocacy for domestic energy efficiency measures (national household survey data)



6.3 Behaviours and attitudes of CERT customers

6.3.1 Impact of CERT measures on domestic energy use

The key way in which installation of CERT measures appeared to have affected customer behaviour was through changing the way that people heated their homes. A fair number of customers in the in-depth interviews talked of how they used their heating less following installation of measures, for example not turning it on in the mornings, or no longer using electric or gas heaters in certain parts of the home. A few also mentioned that they were now turning down their thermostat.

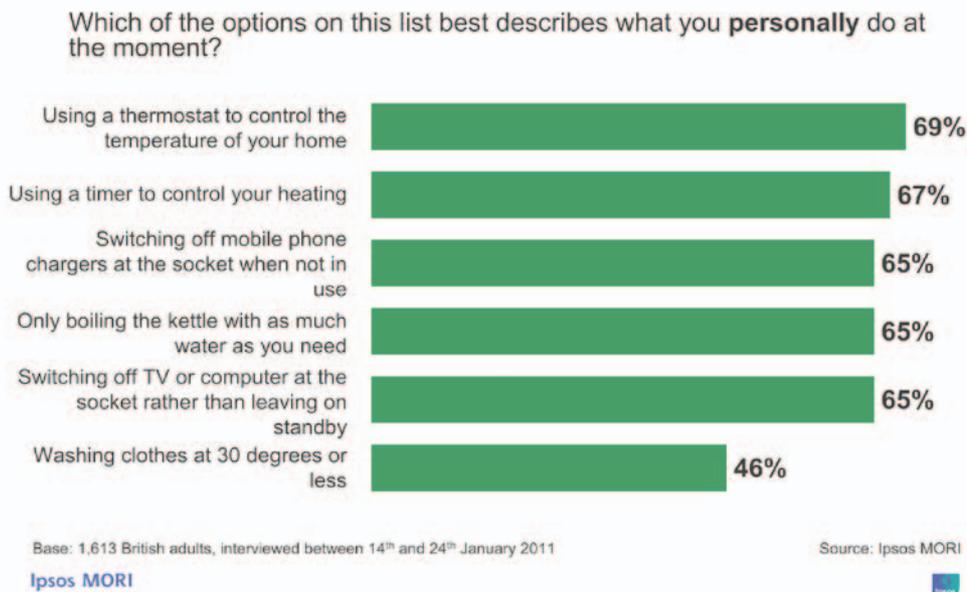
It is worth noting that these changes following installation were mentioned less by older customers, for whom these actions were generally already part of their lifestyle in an effort not to unnecessarily waste energy and money.

Furthermore, it was difficult for some customers to draw a distinction between their normal behaviour (before installation) and any changes resulting from the insulation they received. Some customers, who regulated their home's temperature using the thermostat, found it difficult to recall whether they had turned this down after receiving cavity wall insulation, for example. Others could not think of any examples of how it had impacted on their behaviour but thought that it might have done so subconsciously.

Moreover, there was little evidence from the in-depth interviews that receiving subsidised loft or cavity wall insulation would encourage people to invest in more expensive measures such as solar panels or domestic wind turbines (without significant financial support).

While CERT measures appeared to have had some impact on customers' behaviour, the findings from the in-depth interviews suggested this was largely only in relation to how they went about heating their home, rather than other wider environmental behaviours. This was true across all types of measure and for both Priority and non-Priority Groups. This supports the results of the national household survey which showed that only 3% of cavity wall customers and 2% of those receiving loft insulation believed that installing measures had prompted them to take further action to reduce their energy use. The survey also found that there was no difference between the energy efficiency behaviours practiced within the home by CERT customers and the overall sample (the overall findings for this are shown in Figure 19 below).

Figure 19: Claimed practice of domestic energy efficiency behaviours (national household survey data)



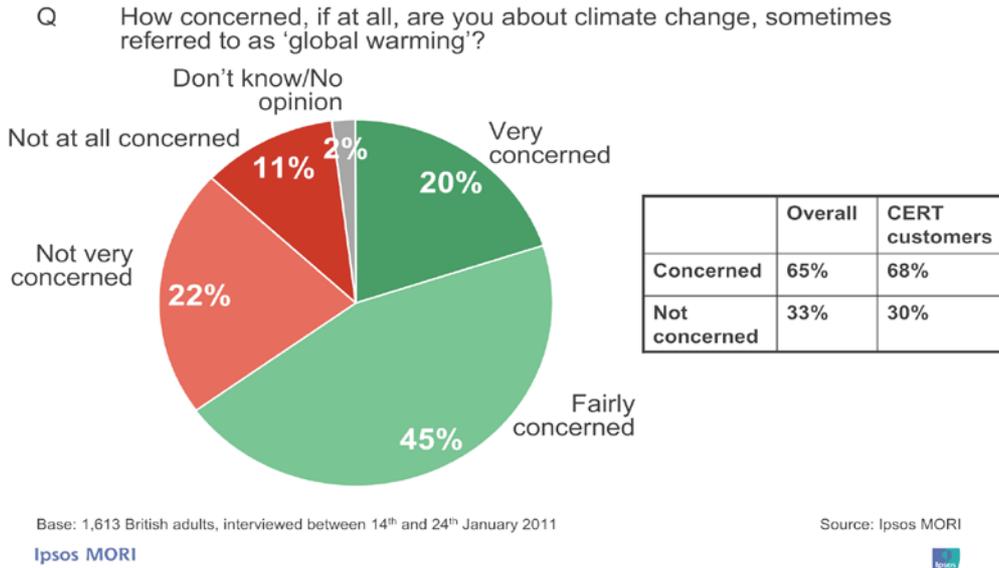
The in-depth interviews found that many respondents felt practising these behaviours was the 'right' thing to do based on information absorbed from public information campaigns or passed on by school-aged children. These were not behaviours that customers said they had adopted as a result of any heightened awareness created by the installation of energy efficiency measures. It is also worth noting that many householders considered these to be habitual behaviours and choices which were often carried out without a conscious rationale.

While the research showed installing energy efficiency measures does not lead to other environmentally conscious behaviours, neither, does it seem to result in any damaging 're-bounce' effects. No respondents spoke of turning their thermostat up as a result of their fuel bills being more affordable, or of opening windows to cool a room's higher temperature.

6.3.2 Comparing CERT customer and non-customer attitudes towards the environment

The national household survey and in-depth interviews revealed that CERT customers were no more likely than non-customers to say they were concerned about climate change (see Figure 20).³²

Figure 20: Attitudes towards climate change (national household survey data)



The perceptions of CERT customer respondents also matched those of the overall survey sample with regards to the causes of climate change, as shown in Figure 21 below.

Figure 21: Attitudes towards cause of climate change (national household survey data)

Climate change is...	% All householders (1,613)	% CERT customers (666)
...entirely caused by natural processes	7	8
...mainly caused by natural process	11	11
...partly caused by natural processes and partly caused by human activity	50	51
...mainly caused by human activity	21	21
...entirely caused by human activity	4	4
There is no such thing as climate change	5	2

³² Please note that the most effective way to measure the impact of CERT measures would be to conduct a before and after study and so these findings should be treated with some caution.

The in-depth interviews consolidated these findings; a range of views towards climate change were expressed across householders regardless of whether they had taken up measures or not. Older householders, including older Priority Group customers, were among the most likely to attribute climate change to natural causes and to deny a strong link between domestic energy usage and global environmental impacts.

“I’m sure the temperatures will go up and then they will go down...originally we had icebergs melting, it’s only coming round again... We’re old enough to remember really hot summers and really cold winters. It’s evened out now.”

Non-Priority Group, Homeowner, Customer, Case-study area A
(interview 65)

“It’s quite a new thing global warming still, I don’t understand how they can be quite so convinced about it, to me there doesn’t really seem to be enough information.”

Non-Priority Group, Under 45, Homeowner, Non-Customer, Case-study area B
(interview 40)

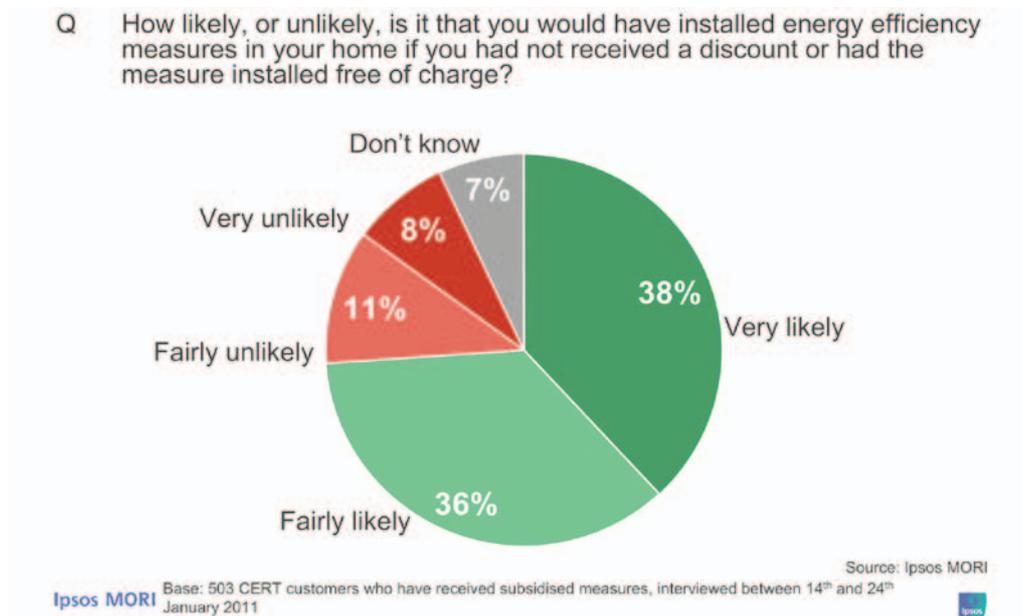
While the national household survey could not measure whether or not the installation of CERT measures had impacted on the environmental attitudes of customers (due to the lack of a baseline measurement), the in-depth interviews found that customers had not changed their environmental outlook as a result of receiving energy efficiency measures. In some cases customers claimed that they had become more environmentally-aware of recent years but attributed this to public information campaigns and media coverage rather than their uptake of measures under CERT.

6.4 Likely uptake of measures in absence of CERT

The majority of CERT customers in the national household survey reported that they would have taken up measures in the absence of the subsidised offer (see Figure 22). However, the in-depth interviews provided further insight - almost all CERT customer respondents reported a positive experience of having measures installed and few were aware of the true unsubsidised cost of measures. This finding should therefore be treated with caution as it is likely to include over-claim. Customers were likely to be speaking with the benefit of hindsight and without full information about the unsubsidised costs of these measures.

The barriers mentioned by non-CERT customers and opt-out customers, including concerns about anticipated disruption and adverse side-effects from energy efficiency measures, should also be considered. These are likely to have been potential barriers for many customers, prior to being made aware of or offered measures by the scheme. Additionally, it was recognised by stakeholders that CERT had created awareness and made it easy for householders to obtain energy efficiency measures. For many, energy efficiency measures would not be top-of-mind (or available) in the absence of CERT.

Figure 22: Likelihood of take-up of energy efficiency measures in the absence of CERT (national household survey data)



Findings from the in-depth interviews suggested the customers who would be most likely to do this in the absence of CERT, or regardless of the level of subsidy, were those motivated to take up CERT measures for purely environmental reasons and/or on higher incomes. This was also supported by the national household survey - 82% customers from households with a total income in excess of £25,000 said they would be likely to do this compared with 60% of customers from households with a total income less than £9,499. Some customers from higher income households said they wanted a warmer home irrespective of the cost.

Interestingly, for customers who had received loft-insulation, many of them said that if they had needed to pay full price, they would have been likely to install this themselves rather than having it professionally-installed. The installation of DIY loft insulation is an interesting measure to consider as very few householders were aware that they had purchased this at a subsidised rate and so the impact of increased, non-subsidised prices, is difficult to predict.

Overall however, the grants and subsidies attached to CERT measures were described by nearly all customers involved in the in-depth interviews as a key driver of uptake, regardless of income.

7. What are the main effects of measures offered under CERT on the energy efficiency market?

This chapter considers the wider impacts that the CERT programme has had on the energy efficiency market.

7.1 What is the impact of CERT on the market for delivering energy efficiency measures?

7.1.1 What is the scale and state of the market for energy efficiency measures?

Delivery of home energy efficiency across Great Britain remains a major challenge according to many of the stakeholders involved in this research. One energy supplier summarised the continuing need to tackle energy efficiency in Great Britain:

‘Energy efficiency is something that the country needs to do. We spend so much more energy than in some other countries (e.g. Sweden). This is largely to do with building regulations - we have [a] major catch-up to do.’
Energy supplier stakeholder

The ‘2050 road map for energy efficiency in housing’³³, prepared for the Energy Efficiency Partnership for Homes in 2010, presented estimates of the current status of energy efficiency technologies. By 2010:

- About 8.8million out of 17.4 m cavity wall homes had been insulated (leaving a balance of about 8.6 million cavity wall homes still un-insulated);
- About 6.9 million out of 23 million homes with lofts had more than 150mm of loft insulation (leaving a balance of about 16 million homes with inadequate loft insulation);
- Only 200,000 out of 6.6 million solid wall homes had been insulated (leaving a further 6.4 million or so un-insulated).

Despite the millions of homes still in need of further insulation, the installers consulted in this research had a sense that insulation jobs were getting more difficult to generate, and more difficult or costly to deliver. A medium-sized installer in South East England made the following comments:

‘We’re at a crossroads now, really, becoming less viable commercially. A lot of cavities have been done (both private and social) and there tend to be reasons why those that are not filled can’t be done - e.g. there are damp problems or the cavities are filled with rubble. And since there’s no CERT funding for loft top-ups, we’re also hunting for virgin lofts - not many of them left either. The only part of the insulation market with a future is solid wall insulation - but will this take off? Anyone working on insulation is too narrow now - we need to get into renewables, and finish the residual insulation on the back of that.’
Installer stakeholder

³³ www.eeph.org.uk

A number of stakeholders felt that CERT had ‘pushed’ subsidised measures at consumers, without creating natural demand for these measures. They commented that there was still apathy about taking up energy efficiency measures, even with high levels of subsidy and free delivery for many customers. One energy supplier commented that:

"There is still a lot of insulation to do, but we need to engage households more. CERT doesn't require much engagement with households, really. But the Green Deal requires consumers to start to demand this stuff, so this will [have to] change."

Energy supplier stakeholder

There was considerable concern within the insulation industry that insulation measures would receive less extensive subsidies under the Green Deal and future Energy Company Obligation, and that there could be a major fall-off or hiatus in demand for loft and cavity insulation when CERT comes to an end. Typically, stakeholders predicted that the price of cavity wall or loft insulation for ‘able to pay’ customers could rise from the current £100 to about £500. While Green Deal financing might mean that this could be delivered at no upfront cost to the consumer, they felt that customers would be likely to draw comparisons with current low-cost CERT offers.

7.1.2 To what extent would suppliers and the market deliver measures in the absence of CERT?

Most of the energy suppliers said that they would not have delivered energy efficiency measures at all in the absence of CERT, while others said that they might have done so on a smaller scale. One supplier commented that:

"We would have done [this] but nowhere near this scale. We would have reacted to natural demand not obligations. This might have worked out better - engaging customers as a response to rising energy bills."

Energy supplier stakeholder

The impact of CERT has varied between different types of heating and insulation measures, as discussed below.

Loft and cavity wall insulation

There was consensus amongst stakeholders that CERT funding from the energy suppliers was highly significant within the market for loft and cavity wall insulation, and is currently driving demand for these products. Representatives from the insulation industry reported that demand for these insulation measures was very sensitive to CERT targets and policy. Many stakeholders voiced fears that demand would fall suddenly when CERT subsidies came to an end.

It is difficult to estimate the size of the insulation market without an energy company obligations, as an energy company obligation has been in place for the past 15 years: first the Energy Efficiency Standards of Practice (EESOP) (1994-2002), followed by the Energy Efficiency Commitment 1 (2002 to 2005), EEC2 (2005-2008) and then CERT (from April 2008). .

Some energy suppliers and insulation industry representatives pointed out that loft and cavity wall insulation measures were delivered, albeit at a much smaller scale, prior to the introduction of CERT and the previous supplier obligations. For example, an evaluation of the Energy Efficiency

Commitment 2 by Lees³⁴ stated that about 100,000 cavity wall insulation measures were delivered under EESOP, rising to 250,000 per year under EEC1, 450,000 per year under EEC2. The '2050 road map for energy efficiency in housing'³⁵, prepared for the Energy Efficiency Partnership for Homes (EEPH) in 2010, estimated that about 550,000 cavity wall installation jobs were done in 2010. This represents a five-fold increase on pre-EEC levels. Similar rises can be seen in the number of loft insulation jobs delivered over this period.

These figures on market trends should be analysed in the context of changes in the underlying market: while rising fuel prices and economies of scale in production and delivery might suggest that the natural market size would have increased over time, a counterbalancing factor would be that the 'cherry picking' of low cost, easy jobs under the CERT programme which could lead to remaining jobs having higher delivery costs.

Solid wall insulation

Solid wall insulation has been delivered on a much smaller scale under CERT than cavity and loft insulation measures: 35,800 measures had been delivered up to the end of December 2010. Solid wall insulation delivery has also been stimulated by the Community Energy Savings Programme (CESP) obligation which heavily weights the scoring for solid wall insulation systems. To date few CESP schemes have yet been delivered, but the scale of solid wall delivery by CESP should eventually exceed delivery through CERT-supported schemes.

The delivery route analysis presented in Chapter 3 indicated that most CERT-supported solid wall insulation had been delivered through partnerships with social housing providers. A few stakeholders commented that CERT-supported solid wall schemes sometimes provided top-up support for renovation projects that were primarily driven by other factors (e.g. where some form of external cladding was required to improve water tightness or appearance).

Delivery stakeholders suggested that the funds available through CERT, as determined by the scores attributable to solid wall insulation, were not sufficient to cover the whole cost of installing solid wall insulation. Together, these factors suggest that CERT has not had a particularly large impact on this market, and that a low level of solid wall insulation would continue to take place without CERT support. But both CERT and CESP have helped to 'kick-start' the market for solid wall insulation, identifying technical issues and encouraging contractors to train and register to install these technologies.

Heating

CERT has not had a great impact on the market for energy efficient heating measures, with the possible exception of fuel switching. Stakeholders mentioned that the simplification of the scoring system under CERT compared to EEC2, which used to allocate different carbon scores for switching from different fuel sources, had the effect of reducing the incentive for delivery of heating systems to 'off-grid' customers. The simplification was generally welcomed nevertheless.

³⁴

<http://www.ofgem.gov.uk/Sustainability/Environment/Policy/EnvAdvGrp/Documents1/Eoin%20Lees%20EEC2%20evaluation%20presentation.pdf>

³⁵ www.eeph.org.uk

Delivery of boiler replacements through CERT has been low, as it was reported that the CERT incentives for replacement of 'G-rated' boilers were generally outweighed by the cost of providing an 'Energy Performance Certificate' to meet Ofgem requirements. While stakeholders reported that the 'boiler scrappage' scheme was successful in stimulating householders to upgrade their boilers, there has been little CERT-supported activity in this area.

Relatively small numbers of heat pumps and solar thermal measures have been delivered. Ofgem and industry partners reported that the development of carbon scores for some of these technologies had been time consuming, and heating industry representatives felt that there were still questions to be resolved as to the extent to which further field trials were needed for particular technologies.

Lighting

Several stakeholders commented that CERT has helped to transform the market for energy efficient lighting. While many criticisms have been levelled at the dominance of CFL distribution in the early stages of CERT, it was pointed out that this activity has helped to reduce electricity consumption for lighting, broadening the distribution of CFLs and preparing the way for legislation phasing out of incandescent bulbs.

7.1.3 How is CERT viewed vs the Community Energy Savings Programme (CESP)?

The Community Energy Savings Programme is an energy company obligation running in parallel with CERT over the period 2009 to 2012. CESP is much smaller than CERT, as the overall CESP obligation is 19.25 million tonnes of CO₂ compared to the overall CERT obligation, recently extended to 293 million tonnes of CO₂. CESP is also less flexible and more closely targeted than CERT, being designed to promote a whole-house, 'street by street' approach to energy efficiency measures - including solid wall insulation - in specific deprived neighbourhoods.

There was a strong consensus among stakeholders that CERT was significantly more cost-effective than CESP, both in terms of cost per tonne of carbon saved and also in terms of administration costs. This is partly because the CESP scoring scheme has driven the delivery of higher cost measures such as solid wall insulation, but also because CESP schemes have tended to be complex and time-consuming to develop. Despite the difference in scale between the two obligations, several suppliers commented that the management time consumed by CESP was similar to that required for CERT.

Many stakeholders felt that the relative flexibility of CERT was preferable to the complex and fairly rigid rules applying to CESP. For example, CESP areas were defined in terms of the 'Lower Super Output Areas' used for the 1991 Census, and there was no flexibility to adjust the boundaries of these areas to fit the geography of local communities. The roll-out of cost-effective national offers, and innovative agreements with manufacturers, has been possible under CERT but not under CESP. However, CERT has been more clearly defined as a carbon saving programme, with fuel poverty aspects, while CESP was not primarily designed as a carbon saving programme, but rather a pilot scheme designed to test the delivery of solid wall insulation, a 'whole house approach' and partnership working in areas of deprivation.

7.2 Wider impacts of CERT

The Energy Efficiency Partnership for Homes has published a report emphasising the importance of energy efficiency jobs within the UK economy³⁶. The report found that:

- The energy efficiency industry was estimated to support around 75,000 manufacturing jobs in the UK. However, most of these jobs were in the production of double-glazing materials, and there were only a few thousand UK jobs in the manufacture of insulation materials;
- There were predicted to be about 10,000 insulation installer jobs in 2010, up from 5,000 in 2005. Around half of these were loft insulation installers, with cavity wall installers being the next biggest category.

Stakeholders agreed that CERT has created employment by supporting the expansion of the insulation industry. These jobs include assessors and surveyors as well as installers, and jobs in the production of double glazing, mineral wool and other insulation materials. Some installers commented that the delivery of loft and cavity wall insulation has become a highly competitive market, with low margins and relatively low pay.

Stakeholders in the insulation industry reported that the 'stop/start' nature of CERT demand has caused problems. Take-up of energy efficiency measures is reported to be much higher during the winter months. Some energy suppliers attempted to smooth out seasonal variations by contracting installers across a whole year, giving them the freedom to schedule jobs when convenient. The developing nature of the CERT policy was also considered to have created a 'stop/start' industry, with several stakeholders mentioning that there was a major slowdown in the summer of 2010, related to CERT targets being met (before the announcement of the CERT extension) as well as the recession. Installation stakeholders said many installation firms had to lay off staff (e.g. one company mentioned cutting back from 11 to 3 or 4 crews), but expected that increased capacity may be needed again to meet CERT extension targets. Some stakeholders also commented that the 'roller coaster' of CERT-generated activity has an impact on skill levels and training requirements, as skilled staff are lost during downturns and new staff (often recruited from the construction industry) have to be trained when the market turns up again.

7.3 Successes of CERT

The main objective of CERT was to save carbon in the domestic energy sector, and it was generally agreed that it has succeeded in doing this. The energy suppliers reported that gas sales have fallen as a result of CERT and the previous supplier obligations, which has in itself created a need for innovation. As one supplier commented:

"Whatever you say about CERT/CESP, we have delivered carbon reductions .e.g. we have seen a 6% reduction in gas consumption amongst our customers... We're going to replace the lost revenue with another business. That for me is one of the key successes of CERT."
Energy supplier stakeholder

³⁶ 'An assessment of the size of the UK energy efficiency market'; Energy Efficiency Partnership for Homes (2008)

Many stakeholders commented that the stability created by the series of supplier obligations, which have operated since 1994, has allowed the development of partnerships between the suppliers, local authorities, social landlords and other parts of the energy efficiency industry. The flexibility of CERT has allowed energy suppliers to identify innovative ways of delivering carbon savings (e.g. through work with appliance manufacturers to reduce the energy consumption of consumer electronics or televisions). The design of CERT was felt to have encouraged energy suppliers to find the cheapest way to meet their carbon saving obligations - the delivery of CFLs through CERT was one such approach, as was the more recent introduction of real-time devices.

Some of the energy suppliers have pursued energy efficiency as a market in itself. One has developed its own insulation business, adding to its existing boiler servicing and supply business. Other supplier stakeholders said they tend to view their CERT obligation more as a burden than an opportunity. Some DIY retailers also reported that they were building business strategies around environmental issues and the home energy efficiency market.

Other successes of CERT, which are set out in this report, can be summarised as follows:

- The energy supplier stakeholders reported that CERT had particularly boosted delivery of cavity wall insulation, professionally-installed loft insulation and DIY loft insulation. In support of this finding, research by the Energy Efficiency Partnership for Homes (EEPH)³⁷ suggests that CERT has significantly increased the delivery of home energy efficiency measures in Great Britain, particularly Compact Fluorescent Lamps (CFLs), loft insulation and cavity wall insulation.
- Many stakeholders commented that CERT had supported significant growth in the insulation industry. Another study by EEPH³⁸ predicted that there would be about 10,000 insulation installer jobs in 2010, up from 5,000 in 2005.
- There was universal agreement amongst stakeholders involved in delivery of CERT and CESP that CERT has been a more cost-effective way of generating carbon savings than CESP, both in terms of the types of measures delivered and the administrative cost of running the schemes.
- Stakeholders reported that they believed CERT has contributed to reductions in fuel poverty by improving home energy efficiency, particularly through delivery via area-based schemes or partnerships with social housing providers and other Government schemes.

³⁷ 2050 road map for energy efficiency in housing, Energy Efficiency Partnership for Homes (EEPH) (2010)

³⁸ An assessment of the size of the UK energy efficiency market, Energy Efficiency Partnership for Homes (2008)

7.4 Limitations of CERT

This report has set out a number of limitations of CERT which are summarised here:

- Many stakeholders reported that CERT has created an insulation market that is largely dependent on subsidy, and has set-up an expectation amongst many householders that insulation should be a cheap or free service;
- Industry representatives felt the highly-subsidised market has had perverse consequences for parts of the energy efficiency industry (e.g. small installers and builders merchants, who have difficulty accessing CERT funding);
- Insulation industry stakeholders reported they have been reliant on the supplier obligation, and suppliers' investment decisions. Difficulties have been caused by peaks and troughs in delivery profiles e.g. when CERT rules change or suppliers near their targets;
- The competitive and commercial nature of CERT has meant that suppliers and other stakeholders have been reluctant to share information, particularly on delivery costs. Local authority and RSL representatives believed this has created a lack of transparency which affects not only them but also Ofgem and DECC's own policy making processes;
- While stakeholders and householders involved in this research generally reported the quality of delivery of CERT to be good, there were some technical failures. Stakeholders reported that about 14% of monitored jobs revealed some form of problem, although Ofgem advised that this included very minor problems. The complexity of CERT delivery arrangements may contribute to this failure rate: in particular, stakeholders mentioned the lack of a common code of practice for installers, and the practice of installers 'selling on' some jobs to managing agents and energy suppliers after completion;
- CERT regulates for outcomes but is market led in delivery, with obligated parties free to determine how best to meet their obligations within the rules of the scheme. It was felt the unforeseen consequences of this included householders in low-delivery areas paying for CERT through their fuel bills without benefiting directly themselves. In particular, few people living in houses which are hard to treat, off-gas grid, or in areas with a restricted supply chain were felt to have benefited from CERT. Conversely, those customers of non-obligated suppliers may have benefited without paying through fuel bills (although this is a minority of the population). Although the scheme as a whole is thought to have made a positive long term impact on fuel poverty (e.g. through Warm Zone-style schemes), some households in fuel poverty may not have benefited directly from CERT by taking up free / subsidised insulation measures. However, it should be recognised that other policies targeting fuel poverty will have reached many such households (e.g. Winter Fuel and Cold Weather Payments);
- Both a common criticism and a positive aspect of CERT has been that it has focused on 'the low-hanging fruit' - that is, those measures that were cheapest to deliver in the easiest to treat properties. A consequence of this is that delivery has been lower for some housing types: for example the national household survey showed that CERT customers were more likely to live in houses than flats. However, it should be noted that the number of flats does not equate to the number of potential installation jobs due to shared walls and lofts. Similarly, CERT offers have not been equally available to all locations: the national

household survey showed that CERT customers were less likely to live in metropolitan areas. The opportunities for further insulation measures are likely to be more difficult and costly to deliver.

7.5 Overall summary of findings

Overall this research has found that the CERT supplier obligation provided a flexible framework which has stimulated cost-effective delivery of lower cost home energy efficiency measures, particularly loft and cavity wall insulation. As a continuation of previous supplier obligations, it was felt by stakeholders to have formed part of a long-term framework which has facilitated the development of innovative delivery channels and partnerships. While CERT has not been driven directly by the needs of fuel poor households, stakeholders felt that it has made some positive long-term impact to reduce fuel poverty. However, they did not believe that CERT has managed to deliver measures which are more costly or problematic for geographical or technical reasons (i.e. solid wall insulation, hard to treat properties, very rural areas).

8. Views on implications for future policy

This chapter discusses the lessons which can be learned from CERT. It presents the views of stakeholders in answer to two key questions; the elements of the scheme which they feel should be maintained within any future ECO; and their broader expectations for future market opportunities.

8.1 Learning from CERT for future energy company obligations

This section presents the suggestions from stakeholders, based on their perceptions of the strengths and limitations of CERT, for how a future energy company obligation should be designed.

8.1.2 Clarify objectives of future policy

CERT objectives were originally carbon saving, with an element of fuel poverty reduction and socio-economic targeting (via the Priority Group). However, the evaluation has highlighted a shift in emphasis during the life of the programme, partly in response to experience with delivery (e.g. CFLs), and partly due to evolving government policy (e.g. increasing emphasis on delivery of professionally-installed insulation). This has led to increasingly complex targets and rules, effectively 'retrofitting' some aspects of policy.

Energy suppliers and policy stakeholders felt clarity on policy objectives was a pre-requisite for effective policy design. In particular, clarity was felt to be needed as to whether the primary objective of the ECO is to save carbon, to reduce fuel poverty or to stimulate delivery of certain measures.

8.1.3 Ensure that supplier obligations fits with other policy tools

Stakeholders commented that some policy objectives were best met using regulation rather than the future ECO. In particular, they felt that regulations should continue to be used to drive carbon saving through:

- improved standards for energy-using appliances;
- improved specifications for new boilers and heating systems; and
- improved building regulations for new housing and extensions.

A wide range of stakeholders supported the introduction of minimum standards for the energy efficiency of private rented properties, as proposed in the current Energy Bill. They felt that this would be the only effective way of overcoming the 'split incentive' problem for private rented properties, in that energy efficiency measures primarily benefit the tenant but require investment by the landlord.

Conversely, a review of the literature revealed some examples of supplier obligations being extended to other sectors. For example: the 'White Certificate' systems in Belgium (Flanders), France and Italy impose obligations on energy suppliers in a range of sectors, not just the domestic sector³⁹. The evaluation of EEC2 by Eoin Lees⁴⁰ recommended that DECC should consider introducing energy efficiency obligations for small businesses and organisations. While larger organisations are increasingly required to reduce carbon through the CRC Energy Efficiency Scheme⁴¹, there is no such requirement on organisations which are too small to participate effectively in 'cap and trade' schemes.

8.1.4 Take forward successful aspects of CERT

Stakeholders mentioned two particular aspects of CERT which they felt should be taken forward in the future ECO:

- The stable and long-term framework created by CERT and its predecessors, EEC1 and EEC2, was considered by many stakeholders to be essential to allow the development of partnerships and innovation (there was concern, however, that recent changes to the CERT rules have created a 'stop-start' environment for the insulation industry). Most stakeholders would like to see the ECO and Green Deal create a stable, long-term policy framework for the energy supply and energy efficiency and renewable energy industries.
- The flexibility of CERT, and its responsiveness to market conditions, was also felt to be a strength by many stakeholders. They felt that at least some element of market flexibility should be incorporated into the ECO, to allow suppliers and other partners to innovate and find the most cost-effective way of meeting their targets. This would also prolong the relevance of the overall policy framework, by allowing flexibility as technologies and costs change over time.

8.1.5 Improve design and delivery of future supplier obligation based on learning from CERT

There was some support for a gradual move away from a subsidised energy efficiency market, at least for loft and cavity wall insulation, to reduce the level of market distortion and stop-start activity that was seen under CERT. However, there was considerable concern about the negative economic impact of the sudden removal of CERT subsidies, and so a high level of support for a smooth transition and gradual phasing of changes was captured. For instance, stakeholders from the installation industry stressed that, energy suppliers should be allowed to carry-forward savings from CERT and CESP to the new obligation, to reduce transition problems for installation industry.

Above all, there was a call for early information about the proposed plans so that industry could prepare for future changes. Stakeholders also called for firm commitments to these plans, where possible, to reduce future uncertainty.

³⁹ Energy efficiency policies around the world - review and evaluation. World Energy Council, 2008.

http://www.worldenergy.org/documents/energyefficiency_final_online.pdf

⁴⁰ 'Evaluation of the Energy Efficiency Commitment 2005-2008', prepared for DECC by Eoin Lees Energy, 2008.

⁴¹ For details of the CRC Energy Efficiency Scheme (formerly the Carbon Reduction Commitment) see:

http://www.decc.gov.uk/en/content/cms/emissions/crc_efficiency/crc_efficiency.aspx

Design of the future Energy Company Obligation

Stakeholder suggestions for the design of the future ECO, drawn from their experiences with CERT, were as follows:

Geographic targeting: A number of stakeholders felt that the ECO should include more geographical targeting and reporting than CERT. This might involve setting targets, or at the least reporting progress, by region or devolved felt that this was simpler and created fewer distortions than a complex scoring and weighting system as used in CESP and in some elements of CERT. However, if the objectives of the obligation relate primarily to carbon savings, there was recognition that continued use of carbon targets might still be appropriate.

Intensive local marketing: The ECO should encourage intensive local marketing, as most stakeholders and householders considered this to be the most effective way of generating take-up.

Local authority involvement: The design of the ECO should encourage the involvement of local authority and/or community partners, as stakeholders and householders confirmed that this encouraged confidence in the credibility of the offers.

Holistic approach: Several stakeholders felt that the ECO should cover both energy efficiency and renewable energy, taking forward elements of the 'whole house approach' advocated by CESP, rather than the 'piecemeal' approach to delivery which tended to happen under CERT. This is discussed further below in section 8.2.

Delivery of the future Energy Company Obligation

Stakeholders also had a number of suggestions for delivery of the future ECO, drawn from their experiences with CERT, as follows:

Encourage partnership development: This evaluation found that smaller players felt unable to navigate the system and unable to create the partnerships they wanted to with energy suppliers. Partnership development could perhaps be facilitated by organising more joint events or meetings between suppliers and local authorities. It could also be encouraged by providing assistance to small social housing providers and installers to form consortia, develop connections with suppliers and be guided through the ensuing negotiations.

Coordinate delivery in rural areas: This evaluation found that the delivery of energy efficiency measures under CERT in rural areas has been low due to the lack of cost-effectiveness for installers to travel large distances for single installations. Stakeholders reported that local co-ordination of installations by a local energy centre could make this more attractive to the industry.

Improve transparency: Transparency and future learning could be improved by requiring energy suppliers to submit to the regulator and/or publish more details of scheme delivery. This would both inform government policy making, and help open up negotiations between potential partners by sharing good practice.

Technical specification: To avoid delivery of the ECO being held up by technical specification issues (e.g. development of carbon scores for new technologies; requirement for field trials), many stakeholders recommended that there should be adequate resourcing of the authority responsible for regulating these aspects of the scheme.

Codes of practice for installers: All the energy companies interviewed reported having codes of practice for their contractors under CERT, although their contractual arrangements with these contractors varied. Some suppliers said they had an approved list of contractors, and could drop a contractor from this list if they repeatedly failed to deliver to the required quality. Many stakeholders felt that there should be a common code of practice for installers, to be followed by all suppliers. Development of this code could be led by government, or alternatively by the insulation industry or by the suppliers themselves, but it should be agreed by all these parties.

Industry standards: Many stakeholders called for the government and delivery industries to improve the coverage and robustness of industry standards for the range of technologies delivered through the ECO, including loft, cavity wall and solid wall insulation. Representatives of insulation industry bodies mentioned that work is underway with DECC to develop robust accreditation system for loft and solid wall insulation, in preparation for the Green Deal and future Energy Company Obligation. One monitoring agent commented that accreditation for solid wall insulation was particularly needed, since solid wall installations need to be inspected during the installation process rather than on completion. Both an energy supplier and an industry body respondent commented that a more robust accreditation system for cavity wall insulation was also needed, both to improve the independence of accreditation and also to reduce the need for technical monitoring, and the duplication between different types of inspections.

Quality assurance and monitoring: Several energy suppliers and other policy stakeholders commented that they would like to see more independent accreditation of both cavity wall and loft insulation, and more of a drive to improve standards. These respondents reported that although CIGA is an 'independent body', it draws its members from the insulation industry and works closely with that industry. They also reported that CIGA has close ties with the National Insulation Association (NIA). The NIA, in turn, was concerned about the possible impact of costly regulatory systems on the low-margin insulation industry. It was felt that more public sharing of findings from technical and customer satisfaction monitoring would also help to drive up quality.

Void properties: Registered social landlords (RSLs) would like to be able to install measures in void properties as this is the most cost and time efficient way of rolling out energy efficiency alongside other renovations. This has not been possible under CERT, but could be included in delivery arrangements for the ECO.

Energy efficiency advice: Many stakeholders were concerned that the future ECO should find ways of ensuring that good energy efficiency advice forms part of scheme delivery to households. This is important both to ensure that consumers are using the technology properly (e.g. heating controls) and to ensure that the technologies achieve their intended carbon savings. This evaluation has shown that the current scoring and monitoring requirements for 'Home Energy Advice Packages' are not sufficiently attractive for this to be delivered on a significant scale. If this could be addressed under a future obligation, so that the delivery of this was attractive for suppliers, Home Energy Advice Packages could be used as an opportunity to provide advice on water efficiency and other sustainability issues.

8.2 Future market opportunities

This section presents the discussions held with stakeholders about their expectations, wishes and concerns for future market opportunities. Particular areas which were mentioned by stakeholders as having potential for growth in the energy efficiency market were:

Holistic approach: The design of the ECO should consider ways of encouraging a more holistic or 'whole-house' approach (e.g. boiler upgrades, energy efficiency, renewable electricity and

renewable heat), while maintaining the priorities in the energy hierarchy ('lean-clean-green'). Some stakeholders commented that these are seen as more 'sexy' than insulation. Stakeholders, and some householders, believed that selling insulation as a pre-requirement for investment in renewables could be an effective approach.

Clearer communication on costs and branding: Consumer uptake could be encouraged by clearly communicating the true market cost of measures and by making the discounting under the ECO more evident. This evaluation found that householders tended to estimate that costs were higher than they were under CERT. It was felt that transparency around costs would also help to demonstrate the discount being offered through the future obligation. National branding of the future obligation and Green Deal was also suggested by stakeholders as a means of increasing awareness and uptake. Thermal imaging was also identified as a powerful promotion tool.

Public education on particular technologies: Further information about the effectiveness of cavity wall insulation is needed to overcome fears about reducing necessary ventilation. Householders interviewed for this research felt that demonstration homes could help to overcome their concerns about the aesthetics of internal and external wall insulation and the process of installation (e.g. no drill holes being needed on internal walls). The findings of the national household survey pointed to a particular need for a public education campaign about solid wall insulation.

Market for particular measures: Stakeholders recognised that the future market for insulation would increasingly be for properties which are 'hard to treat' (e.g. solid wall, high-rise) or which have some complication which puts them out of range of current CERT schemes (e.g. mixed tenure; scaffolding requirements; problematic cavities). It was suggested that these measures would probably be tackled first through social housing, as this is easier and offers economies of scale, but that 'hard to treat' private sector housing would eventually need to be tackled too. Stakeholders felt that changes to building regulations might need to play a role in this process, in addition to minimum standards for social or private rented housing. Stakeholders expressed some concerns about the future market for particular measures:

- **Loft and cavity wall insulation** - future jobs are likely to be higher cost to consumers than current CERT offers, primarily because of reduced subsidy but also because cheaper jobs have already been delivered under CERT. If these customers have not taken up offers under CERT, stakeholders questioned whether they would be likely to do so under ECO and the Green Deal;
- **Loft top-ups** - the number of virgin lofts is declining, so tackling loft top-ups will increasingly be an issue. CERT has effectively only delivered these through DIY sales, or through funding by other stakeholders (e.g. Scottish Government, local authorities). Stakeholders questioned how the ECO will encourage loft top-ups, and what priority it will attach to them;
- **Solid Wall Insulation** - this was reported to be a highly costly measure to install unless economies of scale can be generated (e.g. delivery for a whole block or a whole terrace). Stakeholders questioned how often it would be able to satisfy the 'Golden

rule'⁴² proposed for the Green Deal and whether some elements of the ECO contribution would be needed to achieve this. Stakeholder wanted local coordination of delivery to be encouraged in order to help achieve the required economies of scale.

- **Renewable heat and electricity** - stakeholders believed that renewable heat and electricity – through a Green Deal/ECO combination - offers potential to incentivise higher-cost energy efficiency measures. One approach would be to require energy efficiency measures to be completed first as a pre-condition or concurrent requirement for the funding of renewables.

Some stakeholders also saw potential growth in the following markets:

- **The energy services model** - some energy suppliers mentioned the potential for this model, through which suppliers offer broad energy services in return for some sort of charge (e.g. 'given the energy load of your dwelling, we can put in a heat pump and get your bills down a bit, reclaiming the cost from your meter');
- **Working with manufacturers** to promote more energy efficient electrical appliances, exceeding current standards, in order to tackle rising electricity demand; and
- **Behavioural measures** - energy supplier stakeholders interviewed differed in their perspective on the importance of behaviour change. One supplier felt strongly that energy efficiency was better tackled through technical solutions rather than relying on changes to behaviour (e.g. make a device switch itself off automatically, rather than rely on someone remembering to switch it off). But another supplier cited evidence⁴³ that behaviour change can bring about the biggest savings, triggered by devices like real-time displays which engage and educate consumers. Some stakeholders felt that there was potential for promoting energy efficiency in parallel with other sustainability initiatives (waste, water efficiency). For example, energy assessment visits could be broadened to cover these other sustainability issues, encouraging the adoption of a wider range of sustainability measures and behaviours (e.g. water-saving initiatives).

In conclusion, stakeholders saw considerable potential for delivery of energy efficiency and renewable energy measures through a future Energy Company Obligation. The design of this obligation should draw on lessons learned from previous obligations, including both CERT and CESP. While the long-term framework and market flexibility provided by CERT have stimulated cost-effective and large-scale delivery of lower cost energy efficiency measures, careful design of the ECO and the accompanying Green Deal could: reduce the 'stop-start' impact of policy changes on industry; ensure appropriate targeting to meet policy objectives; encourage more consistent industry standards; promote more holistic approaches to sustainable energy in the domestic market; and encourage behaviour change by consumers. Greater transparency in the monitoring and reporting of ECO, compared to CERT, would also contribute to the ongoing development of good practice.

⁴² The key principle, or golden rule, for accessing Green Deal finance is that the charge attached to the bill should not exceed the expected savings, and the length of the payment period should not exceed the expected lifetime of the measures. <http://www.decc.gov.uk/assets/decc/legislation/energybill/1010-green-deal-summary-proposals.pdf>

⁴³ Challenge 100: Tackling fuel poverty for 100 families, in 100 homes, in 100 days'. Report prepared by E.ON in 2010 http://www.eon-uk.com/Challenge_100_Full_Report_-_October_2010.pdf

Appendices

APPENDIX 1: Research objectives and detailed evaluation questions

APPENDIX 2: Detailed methodology

2a. Rationale for research approach

2b. Stakeholder process evaluation

2c. Consumer impact evaluation – National household survey

2d. Consumer impact evaluation – Qualitative case-study interviews

2e. Case-study area locations

APPENDIX 3: Discussion guides

APPENDIX 4: National omnibus questionnaire

APPENDIX 1: Research objectives and detailed evaluation questions

1. How is CERT being delivered in practice?
 - How do suppliers currently plan for, market and deliver CERT offers to customers (including strategies for Priority and non-Priority groups)?
 - What drives suppliers to adopt different delivery models for CERT?
 - What are the strengths and weaknesses of different delivery models?
2. How is delivery of CERT measures monitored and quality assured by suppliers?
 - What processes and checks are in place and how are they administered (e.g. by suppliers, partners, installers)?
 - How do factors such as seasonality affect pricing of offers, and supply, quality of measures installed?
3. How do suppliers view the future with regards to these type of measures?
 - To what extent would suppliers market / deliver energy efficiency measures without CERT?
 - How is CERT viewed vs other supplier obligations such as the Community Energy Savings Programme (CESP) by suppliers, and why?
 - How do suppliers see the future market and opportunities with regards to energy efficiency measures / energy services?
4. How are measures offered under CERT taken up by customers?
 - Who is taking up CERT measures and who is not (amongst Priority Group and non-Priority Group)?
 - How are CERT measures perceived by customers and by potential customers?
 - How might uptake and perceptions differ if CERT measures were delivered as a branded offer to customers?
 - What factors prompted customers to take up measures at this time (including role of EST etc)?
 - Do customers feel they would have installed measures without CERT offers?
 - Do measures and offers meet customer expectations (e.g. about how the product pays back)?
 - What prevents take-up of different measures? What is the relative importance of different factors and how does this differ amongst different groups of customers?
5. What is the impact of measures offered under CERT on behaviour?
 - How do customers feel they have changed behaviour following installation of CERT measures, in terms of energy use in the home and more widely?
 - How do responses differ between different types of household (including Priority / non-Priority Group)?
 - How do different delivery routes affect this (e.g. if measures are bought from retail outlets are they actually installed etc)?

APPENDIX 2: Detailed methodology

2a. Rationale for research approach

Research with customers involved a **mix of quantitative and qualitative research techniques**. This was required to provide both a:

- robust, and nationally representative, picture of uptake of CERT measures across Great Britain, including a detailed understanding of the take-up across different groups of the population; and a
- detailed understanding of the experiences of CERT customers and the impact of CERT measures on their attitudes and behaviours.

The process evaluation with stakeholders took a purely qualitative approach.

A **national level and local case study approach** was required in both elements of the evaluation in order to provide both an understanding of how;

- CERT has been delivered across Great Britain, including the strengths and weaknesses of its many delivery routes from a stakeholder and consumer perspective; and how
- CERT has been delivered on the ground, and the specific issues which are encountered in particular types of area.

Customer research **focused on owner-occupiers and social renters**. Private renters were included within the national omnibus study, however they were excluded from the qualitative research given the challenges of identifying these respondents and also due to the very specific nature of the barriers which this sector faces in relation to energy efficiency.

2b. Stakeholder process evaluation

The stakeholder consultation process had four elements:

- Scoping interviews (November/December 2010)
- Stakeholder workshop (January 2011)
- National stakeholder interviews (February/March 2011)
- Case study stakeholder interviews (February/March 2011)

A total of 65 interviews were held (excluding the stakeholder workshop): 11 scoping interviews, 38 national stakeholder interviews and 16 case-study interviews. Details of the methodology for each of these stages are set out below.

Scoping interviews

During the scoping phase of the study, meetings or telephone interviews were held with 11 stakeholders:

- Ofgem;
- the 6 energy suppliers and the Energy Retail Association;
- representatives of the Energy Savings Trust, the National Insulation Association, and the Energy Efficiency Partnership for Homes.

Stakeholder workshop

The national stakeholder workshop held in Birmingham on 20th January was attended by 30 stakeholders across the following sectors:

- Large installers
- Managing agents
- Monitoring agents
- Registered social landlords
- Local authorities
- Third-sector energy agencies
- National consumer, regulatory and advice bodies
- Energy suppliers

It proved challenging to secure attendance of small installers as they did not feel able to leave their businesses for a day to attend the workshop. These organisations were therefore approached for interview, at both national and case-study level.

National stakeholder meetings and interviews

A total of 38 interviews were held with national stakeholders, following the stakeholder workshop. Nine of these were face to face meetings with:

- The CERT manager for each of the 6 energy suppliers;
- Representatives of Ofgem's CERT team;
- Representatives from DECC and the Scottish Government.

29 out of the 38 interviews were telephone interviews with a wide range of stakeholders representing:

- Policy organisations (7)
- Industry organisations (5)
- Registered Social Landlords (3)
- Local authorities (3)
- Installers, including consortium of smaller installers (2)
- Managing agents (2)
- Third-sector energy agencies (2)
- DIY retailers (2)
- Energy agency delivering 2 supermarket schemes (1)
- Monitoring agents (1)
- Manufacturers (1)

Case study stakeholder interviews

A total of 16 stakeholder interviews focused specifically on the case study areas: four stakeholders in each of the four case study areas. Across the case studies as a whole, the stakeholders were drawn from:

- Energy advice centres (4)
- Local authorities (4)
- Installers, including 1 smaller installer (3)
- Partnership programmes (2)
- Other partners (3)

2c. Consumer research – National omnibus survey

A nationally, and regionally, representative sample of 1,613 adults across Great Britain were interviewed face-to-face between 14th and 20th January on Ipsos MORI's omnibus survey. Data have been weighted to the known population.

The following definitions have been used as proxies for identifying CERT customers and Priority Group customers within the national omnibus sample.

2d.1 Defining CERT customers

Respondents from the national omnibus survey were considered CERT customers if they said they had received any of the following measures at a subsidised price:

- Loft/top-up insulation (professionally-installed);
- Cavity wall insulation;
- Solid wall insulation;
- Solar panels for heating;
- Ground source heat pump;
- Air source heat pump.

Respondents who had self-installed DIY loft insulation, regardless of known level of subsidy and including those who said they paid full price, have also been included as CERT customers (there is very low awareness of the subsidies attached to DIY materials sold in-store).

This produced a sample of 666 respondents who were likely to be CERT customers.

This sample of likely CERT customers from the national omnibus survey was cross-checked against the records held on the HEED database. 141 of the 666 likely CERT customers were confirmed as definite CERT customers through this cross-check. HEED could not be used to verify all 666 likely CERT customers identified through the omnibus given the limitations of the database outlined in Appendix 2b above.

The small sub-sample of 141 definite CERT customers was compared against the wider group of 666 likely CERT customers. This comparison confirmed that the profile and attitudes of these two groups do not substantially differ. It was therefore decided to use the wider likely group of CERT customers for the purposes of presenting data on attitudes and behaviours as this allows greater subgroup analysis.

2d.2 Defining the Priority Group

Priority Group respondents were defined as respondents living in households where at least one member of the household is in receipt of the following benefits, as per CERT Priority Group eligibility criteria:

- council tax benefit
- housing benefit
- income support
- income based jobseekers allowance
- attendance allowance
- disability living allowance
- disablement pension which includes a constant attendance allowance
- war disablement pension which includes a mobility supplement or a constant attendance allowance
- state pension credit
- child tax credit (where the household income is £17,499 or less)
- working tax credit (where the household income is £17,499 or less)

The CERT amendment Order July 2009 updated the income threshold from £15,592 (set originally) to £16,040 whilst also providing for the inclusion of “an income-related employment and support allowance under the Welfare Reform Act 2007”. The CERT extension order July 2010 amended the income threshold to £16,190. Ipsos MORI’s omnibus collects income data in set bands with the closest to the CERT definition being £17,499.

Under CERT, the Priority Group includes any households where there is an inhabitant aged 70+. Ipsos MORI’s omnibus does not collect this information and so, for the purposes of this analysis, respondents have been included in the Priority Group if they themselves are aged 70+.

2d. Consumer research – Qualitative case-study interviews

80 respondents were recruited to take part in 1-hour in-depth in-home interviews across the four selected case-study locations. Due to respondent last-minute cancellations, 77 of these interviews were achieved (19/20 in each area). All the interviews were conducted by the Ipsos MORI research team.

The discussion guides used for these interviews are included as Appendix 3.

Recruiting respondents for in-depth in-home interviews

Across all the areas the interviews covered a range of property types, tenures and social grades. Three broad consumer groups were also represented:

- **CERT customers** –those who had installed loft, cavity or solid-wall insulation since April 2008 and who stated they had not paid full price for the measure(s)

- **Opt-outs** – those who were aware of a local offer for subsidised CERT measures but had chosen not to take these up (only applicable in areas where active targeting has taken place)
- **Non-customers** - those who have not taken up CERT measures (they may be aware or unaware of the availability of subsidised CERT measures)

Across these three groups a mix of both Priority and non-Priority Group respondents were interviewed.

The following tables set out the different types of consumer interviewed in each of the case-study locations.

Case-study area A

Total interviews	Customer	Non customer	Priority	Non-priority	Social grade	Tenure	Housing
19	14	5	9	10	A/B/C1	All owner-occupiers	Semi-detached / terraced

Case-study area B

Total interviews	Customer	Non customer	Priority	Non-priority	Social grade	Tenure	Housing
19	9	10	15	4	Mix	Mix	Semi-detached / terraced

Case-study area C

Total interviews	Customer	Non customer	Opt-out	Priority	Non-priority	Social grade	Tenure	Housing
19	9	5	5	10	9	C1/C2/D/E	Mix	Semi-detached / terraced

Case-study area D

Total interviews	Customer	Non customer	Opt-out	Priority	Non-priority	Social grade	Tenure	Housing
20	15	2	3	10	10	C1/C2/D/E	Mix	Semi-detached / terraced

2e. Locations for case-study approach

The four case-study areas were chosen through the selection process set out in the chart overleaf. A decision was taken to select areas objectively in this manner to provide a detailed understanding of the barriers and limitations to CERT delivery.

Stage	Suggested criteria at each stage
1. Set initial criteria for selection of broad geographical areas (LAs)	<ul style="list-style-type: none"> - Penetration of CERT measures - Potential for CERT measures
2. Select shortlist of Local Authorities from those drawn on criteria	<ul style="list-style-type: none"> - Geographic spread - Urban / rural range
3. Set criteria for selection of smaller areas within shortlisted LAs	<ul style="list-style-type: none"> - Penetration of owner-occupiers - Mix of housing type - Urban / rural range - Mixed levels of deprivation
4. Select 4 final case-study areas	<ul style="list-style-type: none"> - Range of delivery models

The criteria for Stage 1 were set using the HEED database managed by the Energy Savings Trust. The penetration of CERT measures was determined from % households with loft insulation/cavity wall insulation in LA area.

Ideally the data on the potential for CERT measures to be delivered in an area would be the % *households with potential for loft insulation/cavity wall insulation in 2008*. Coupled with the penetration data this would have enabled areas of high potential and high delivery (success stories) and areas of high potential but low delivery (areas with barriers) to be identified. However, this data was not available for 2008 through HEED at the time.

Therefore data from the HEED database showing % *under-insulated homes in 2010 – that is homes with less than 100mm of loft insulation and/or unfilled cavity walls* was used to identify two broad types of LA area

- **CERT saturated areas** where there is high penetration of CERT measures (above 15% of households have energy efficiency measures installed) and low proportion of under-insulated homes (below 10% under-insulated homes)
- **Areas with potential for more CERT activity** where there is low penetration of CERT measures (below 10% of households have energy efficiency measures installed) and high proportion of under-insulated homes (above 20% under-insulated homes).

It should be noted that the HEED data does not have complete and up-to-date data on the number of CERT measures installed. There is a coverage gap, with only around 50% of households entered in some areas, and only installations in Year 1 and 2 (April 2008 – March 2010) have been entered to date. However, this was still considered a useful guide to selecting areas.

The final case-study areas selected, in Stage 4 of the process outlined above, were selected using the following criteria:

- include a few thousand households (e.g. Middle Super Output Area), depending on most appropriate size based on range of delivery models and concentration of CERT customers
- allow an area in England to be closely matched in terms of demographic profile to an area in Scotland. This was to allow an investigation whether, given similar contextual factors, CERT delivery has faced different issues in England and Scotland (albeit at a very headline level). This would provide some indication as to whether varying policy frameworks for delivery CERT are having an impact on customer uptake and experiences
- one case-studies should include an area where CERT has been delivered with another Government scheme (e.g. Home Insulation Scheme in Scotland)
- reflect a broad range of delivery models

A summary profile of each of the four case-study areas is presented below. Each summary presents the demographic and household profile of the area as well as the profile of CERT delivery.

Case study A

Rationale for selecting area A

This case-study focused on a rural area of medium affluence. While this area was chosen because it had not been the subject of intensive area-based marketing and was not a priority area for the current area-based scheme, it had been included in a district-wide door-knocking programme in 2008/9.

The case-study area focused on a small village a few miles outside a market town, in a setting which is rural but fairly well-populated and not remote.

Profile of area A

At the time of the 2001 Census, the adult population of the case study area was about 4,800 people, of which 19% were aged 70 or over. There were just over 2,200 households in the area. The housing stock was dominated by detached houses and bungalows (50%), with significant numbers of semi-detached properties (25%) and terraced houses (19%). The case-study area contains housing estates but very few flats (3%).

The majority of households were owner occupiers (86%), with relatively little social housing (6%) and private-rented accommodation (6%). Census data from 2001 shows moderate levels of affluence, with the majority of households being in socio-economic groups AB (34%) and C1 (33%), and the remainder being in groups C1 (18%) and DE (17%).

Delivery of CERT in area A

Residents in the case-study area have had access to a wide range of national offers put forward by the suppliers and the larger installers. As in the other case study areas, these had been advertised through mailings, TV adverts, leaflets accompanying customer bills, through the EST helpline and the activities of a local energy agency (contracted to EST as the local Energy Saving Trust Advice Centre (ESTAC)).

The local branch of a major installer reported that, prior to the schemes below, the company tended to follow up leads supplied by the energy suppliers. But leads started to dry up when the energy suppliers were close to their targets (under the previous energy obligation scheme), so - under CERT - they looked for other ways of generating insulation work and welcomed the development of Scheme A1 with the local Council.

There have been two main local initiatives under CERT:

- **Scheme A1** was a scheme developed by the local District Council with one of the major installers. It ran from January 2008 to August 2010. A local Housing Condition Survey was used to identify priority areas. The installer subcontracted two surveying companies to undertake door knocking across the whole of the District, including the case study area. The scheme was promoted through marketing activities carried out by the Council including newspaper advertisements and mailshots, with additional support from a telesales team. Loft insulation was offered at £199 for able to pay customers, while cavity wall insulation was offered at £99. At the beginning of the project, the Council provided additional funding for free offers to the over 60s and people on lower incomes. Scheme A1 was wound down when Scheme A2 was set up.
- **Scheme A2** is a partnership scheme developed by a group of local authorities, succeeding a previous partnership programme and smaller projects such as Scheme A1. The local authorities tendered for an energy supplier to provide CERT funding for the scheme. The management group has responsibility for management of delivery and reports and consists of a small group which includes representatives from local authorities and the local energy agency. The local energy agency manages marketing of the scheme on behalf of the local authorities and the energy supplier. The scheme has been marketed through television adverts, newspaper advertisements, radio, events and mail shots to properties in certain council tax bands. Community partners help to promote the scheme and target hard-to-reach vulnerable clients. Some of these partners include 'Care and Repair', the Citizens Advice Bureau and RNIB. The Energy Saving Trust receives leads through phone calls to the EST advice line or through the website which are entered on to the energy supplier's referral system and allocated to an insulation contractor. The local authorities extend the CERT offer by subsidising insulation for those over 60 and those on incomes below £18,000 per year. The cost of measures to this group is £79 for loft insulation, and similarly £79 for cavity wall insulation. Able to pay customers pay £170-200 for loft insulation (depending on the size of their property) and £150 for cavity wall insulation. Door knocking was not originally included in the project design but is now being piloted (outside the case study area).

In parallel with Scheme A2, local installers were still active in generating their own leads. While running Scheme A2, the local energy agency was also contracted with EST to deliver advice services (as the ESTAC). This advice service provides impartial recommendations to customers, including referrals to Scheme A2 where appropriate.

DIY loft insulation has also been available through DIY retailers near the case study area.

Take-up in area A

Across Schemes A1 and A2, the District Council estimated that 203 measures (loft or cavity wall) had so far been installed in the case study area. This implied that up to 9% of households in the area have received measures under this scheme, although the true figure will be lower because some households will have received two measures. For the District as whole, the Council estimated that a total of 3018 properties had received one or more measures to date from Schemes A1 and A2.

The in-depth interviews with residents within this case-study area revealed a relatively high level of knowledge about the schemes operating there. Respondents spontaneously mentioned financial help being offered by the Council to older residents, although this was generally thought to have been available to those aged 70+. There were also common mentions of the installer van circulating, and of leaflet drops which were followed up by telephone calls.

Success factors in area A

Housing in the case-study area had good potential for CERT measures:

'[this District] is a great area [for CERT]- a lot of housing estates in a small geographic area, fairly well populated, through classed as rural.' (local installer)

The installer and the Council felt that door knocking was one of the main factors behind the success of Scheme A1.

Scheme A2 was reported to have been noted by DECC as having developed a successful marketing brand. Scheme A2 has diverted enquiries away from the local Council and towards the local energy agency, which has reduced the Council's workload.

The Council and the local energy agency felt that funding for vulnerable households has contributed to the success of local schemes. The Council's cumulative contribution to Schemes A1 and A2, across the District, has been nearly £246,000. The majority of this cost was used to subsidise offers to vulnerable households, with a minor contribution towards scheme marketing costs. The Council commented that this funding helped to target people who fall just outside the Priority Group, and also helped the energy supplier to meet their targets (for the non-Priority Group).

The Council reported that mailshots were more successful when the local authorities mailed out to customers directly, rather than the energy supplier sending out letters. The envelope was marked with a local authority post stamp, and the letter included the local authority logo, to emphasise that the scheme was endorsed by the customer's own Council.

A local installer mentioned that, when monitoring jobs for quality assurance purposes, his company often hears feedback from customers on the reduced need for heating after measures are installed.

Barriers to delivery in area A

The Council reported that uptake of Scheme A2 had been less high than expected, despite the development of an attractive marketing brand. The Council attributes this to the lack of door knocking.

'The hard bit is finding the people who are interest in having insulation in their homes. The customer is only interested in the low price of the measure. ... They have 28 different cancellation codes, including not wanting to clear the loft, to not answering the door' (local energy agency)

Case study B

Rationale for selecting area B

This case-study focused on a suburban area in London. The case-study was selected to illustrate CERT delivery and take-up in an urban setting, in an area which had not been the focus of intensive area-based marketing. The customer research focused primarily on people who would qualify for the Priority Group, in receipt of benefits.

The local Council has undertaken a large number of successful intensive energy efficiency programmes covering other parts of their area. To date, these initiatives have tended to focus on more deprived wards which at risk of fuel poverty, while some other work by the Council's partners has focused on more affluent wards, in order to generate non-Priority Group customers. However, the case-study area was intentionally chosen to be outside these areas, providing a contrast with area-based initiatives in the other case studies.

Profile of area B

At the time of the 2001 Census, the adult population of the case study area was just over 6,500 people, of which 10% were aged 70 or over. The housing stock was dominated by flats (56%) and terraced houses (30%) with fewer semi-detached houses (10%) and detached (3%) houses. Part of the area was covered by a Conservation Area, consisting mainly of Victorian and Edwardian brick-built properties. The majority of households were owner-occupiers (52%) with a significant proportion of social housing tenants (34%) and a few private rented tenants (13%).

The majority of households were in the AB (28%) or C1 (36%) socio-economic groups, with a lower proportion being C2 (13%) or DE (23%). The customer research targeted households in the C2DE socio-economic group, covering some living in large semi-detached Edwardian properties and some in small pre-fabricated terraced properties.

Delivery of CERT in area B

It was a criterion for selection that this area had not been targeted by intensive area-based marketing schemes. However, residents in the case-study area have had access to the wide range of national and regional CERT offers put forward by the suppliers and by the larger installers. As in the other case-study areas, these had been advertised through mailings, TV adverts, leaflets accompanying customer bills and through the local EST energy advice centre (ESTAC), reached via the EST helpline and website. A number of more local CERT offers have also been available, including:

- Cavity and loft insulation available across the Council area through Scheme B1 (a major partnership programme). The case-study area has not been targeted for intensive marketing by Scheme B1, but there has been some marketing via a carers network and other local groups;
- Insulation and heating measures delivered through Decent Homes programmes run by local housing associations and social landlords;
- Insulation offers made by installers, following up leads from the Council or ESTAC or 'door knocking' at their own initiative, sometimes with a letter giving endorsement by the Council or Scheme B1;
- DIY loft insulation available through DIY retailers near the case study area;
- Warm Front and similar regional grants, covering heating and insulation measures, delivered to small numbers of private householders satisfying eligibility criteria.

When people have been approached by an installer, both the Council and other delivery partners reported that some of them ring the Council to check whether the offer being made can be trusted (e.g. whether a Council letter is genuine).

While the Council's intensive area-based programmes have not affected the case-study area, all households in the case-study area would have received articles publicising energy efficiency offers in the Council magazine and a letter publicising these offers in early 2010. The Council has also provided information through local community groups, local assemblies, libraries and through its website. It has signposted enquirers - including any from the case-study area - to Scheme B1, Warm Front, the Energy Advice Centre or other offers as appropriate.

Take-up in area B

Take-up of CERT measures across London has generally been low⁴⁴. Results from the HEED database up to end March 2010 show that only 5% of CERT measures had been delivered in London, despite the city having 15% of England's population. Accurate data on take-up in the case study area is not yet available from HEED.

In-depth interviews with householders in the case study area were consistent with fairly low take-up. Among the CERT customers in the area, most were social renters and had heard about the programme through their housing association. A few of these customers mentioned 'Decent Homes' specifically. One CERT customer had heard about the offers available through the carers network. There were no mentions of Warm Front although some residents did say that London Warm Zone used to operate in the area but was no longer available. There was very limited awareness of CERT among private householders with no recall of the Council magazine article or direct mail. There was also no recall of any communication from the local ESTAC.

Success factors in area B

The Council, installers, energy suppliers and the ESTAC had made offers available in the case study area, albeit without an intensive marketing campaign targeted at this area.

⁴⁴ Fairer CERT funding for London - A briefing. prepared by Fernow (Westminster City Council) and Kolm-Murray (LB Islington); 2011.

For example, households interviewed in the case study area mentioned having received information about energy efficiency offers through the Council magazine. One customer had taken up an offer through a carers network.

Barriers to delivery in area B

Much of the housing in the case study area is unsuitable for low cost measures such as cavity wall insulation and/or double glazing (e.g. Victorian/Edwardian brick-built properties with solid walls; period properties in Conservation areas).

Some properties have already had measures delivered (e.g. through earlier social housing programmes), while others which appear suitable turn out not to be so (e.g. an installer mentioned a street with 'unfilled cavity walls' in or near this area, where test holes revealed that the cavities were in fact filled with rubble).

This local installer explained that, where properties have solid walls, his teams are effectively looking for 'virgin lofts' only - as top-up loft insulation is not cost-effective under CERT.

The installer also reported that the heavily discounted prices for DIY loft insulation can make potential customers suspicious of the subsidised offers for professionally installed loft insulation.

The installer, Scheme B1 and the ESTAC all mentioned relatively high delivery costs for some properties (e.g. flats which require access using scaffolding or 'cherry-pickers'; awkward access roads; parking).

Some of the social tenants interviewed wanted to install energy efficiency measures but had been told it was not possible at the moment. This appears to be partly because a major social landlord is currently transferring ex-council housing stock to a housing association, which has complicated the delivery of renovation and energy efficiency programmes for their tenants. Public sector cuts are also having an impact on the extent to which the local authority can contribute funding for energy efficiency measures to its residual housing stock.

Case study C

Rationale for selecting area C

This case-study focused on a small part of an urban area in Scotland. The case-study was selected to illustrate CERT delivery and take-up in an urban setting, in conjunction with a Scottish Government scheme. The case study area was used to pilot a door-step approach to reaching households under the Scottish Government's Energy Assistance Package (EAP) in 2010. Lessons were learnt from delivery of the pilot EAP scheme (e.g. about the cost-effectiveness of door knocking when marketing different types of measures).

Profile of area C

At the time of the 2001 Census, the adult population of the case study area was nearly 3,200 people, of which 20% were aged 70 or over. The housing stock was dominated by flats (52%) and terraced houses (29%) with relatively few semi-detached houses (14%) and detached houses (5%). As in many other parts of urban Scotland, the flat types in the study area included '4 in a block' flats, '6 in a block' tenements and deck-access maisonette flats which were formerly council-owned.

The majority of households were social housing tenants (47%) or owner-occupiers (45%) with very few private-rented tenants (3%). This is a deprived area: Census data from 2001 shows the majority of households being in socio-economic group DE (54%), with remainder being C1 (22%), C2 (16%) or AB (8%).

Delivery of CERT in area C

Residents in the case-study area have had access to a wide range of national and Scottish CERT offers put forward by the suppliers, by the larger installers and by the Scottish Government. As in the other case study areas, these had been advertised through mailings, TV adverts, leaflets accompanying customer bills and through the local Energy Saving Scotland Advice Centre (ESSAC), which can be reached via the ESSAC helpline and website.

The case-study area has not been selected as a target area for the Scottish Government's Home Insulation Scheme (HIS) or Universal Home Insulation Scheme (UHIS), which have complemented CERT delivery in other parts of Scotland. However, it was the focus of a small-scale pilot to investigate the potential for door-knocking-type approaches to assist delivery of the Energy Assistance Package (EAP) which used eligibility criteria similar to the Priority Group. This involved:

- Door-knocking on every property, to undertake a Home Energy Check and develop referrals for eligible customers to a range of services ranging from energy efficiency advice (EAP Stage 1) through benefits/tariff advice (EAP Stage 2) to insulation (EAP Stage 3) or heating measures (EAP Stage 4);
- The offer of benefits and tariff advice (EAP Stage 2) to all households in the study area, as they were at risk of fuel poverty;
- Referral of social tenants to their landlords, where they were in need of insulation or heating measures (EAP Stages 3 or 4), since social landlords in Scotland are required to meet the heating and thermal comfort requirements of the Scottish Housing Quality Standard. This requires all their stock to have effective insulation and heating measures and additional energy efficiency measures, where technically feasible, necessary to achieving a minimum NHER rating of 5 or SAP rating of 50.
- Referral of private tenants and owner occupiers, where appropriate, for Stage 3 insulation measures (primarily funded by CERT, as these were mainly Priority Group customers), for Stage 4 heating measures (funded by the Scottish Government) or for the Home Insulation Scheme (providing loft top-up funded by the Scottish Government).

Social housing within the case study area has been the focus of major improvements over the last 20 years. The local Council and other social landlords have undertaken major renovation programmes, which have usually included energy efficiency measures. This has largely been driven by the Scottish Housing Quality Standard. Social housing insulation programmes may themselves have been supported through CERT and earlier supplier obligations. Many social housing tenants have had measures installed without any engagement on their part.

The Council has regularly publicised energy efficiency offers through the Council magazine, which is sent to every household. The Council also provides this information on its website. The local ESSAC runs an energy efficiency marketing scheme with the local Council and several neighbouring councils, which offers council tax rebates as an incentive. The ESSAC also undertakes 'hotspot' marketing, but this has not covered the case study area.

DIY loft insulation has also been available through DIY retailers near the case study area.

Take-up in area C

Take-up of CERT measures across the Council area has been fairly low overall. The HEED database suggests that only 8% of households have CERT measures installed, but just under 18% of the housing stock is estimated to be 'under-insulated'. Accurate data on take-up in the case study area is not yet available from HEED.

The in-depth interviews conducted with residents in the area revealed that there was a great deal of uncertainty about who had approached them about subsidised energy efficiency measures. In some cases, householders reported that they had been contacted more than once by different companies offering them different deals. Social renters in this area also mentioned that their properties undergo frequent refurbishment which means they are sometimes unsure of the work being conducted on any particular visit.

While CERT take-up through the EAP pilot was relatively low, the Scottish Government reports that the project did encourage take-up of social tariff checks and benefits advice under EAP Stage 2. As many households in the area already had gas central heating, the potential for take-up of EAP Stage 4 (heating measures) was limited.

Success factors in area C

The EAP pilot combined EAP, CERT, HIS and other funding offers to give the best deal to each customer. It covered a range of fuel poverty interventions, including energy advice.

The intensive door-knocking approach was modelled on that developed for the Scottish Government's Home Insulation Scheme, and used energy assessors who had been involved in that programme and held the City and Guilds qualification in Energy Awareness.

The local ESSAC works closely with both the Council and EST. An 0800 number is used consistently in energy efficiency marketing (e.g. the Council website refers people to this number). This number is used to market the council tax rebate scheme on behalf of the local Council and other neighbouring councils - offering the best available deal with £50 off council tax as well.

It is likely that the majority of Council-owned properties have had cavity wall and/or loft insulation and top-ups installed, as the Council has been progressing these works over the last 20 years. Most of this has been funded by Scottish Government grant funding (now EAP), matched with funding from CERT or earlier supplier obligations to maximise take-up and delivery. Through these programmes, the Council has been able to fund energy efficiency measures for council tenants, if they do not have Priority Group status. This has helped to overcome difficulties with mixed tenure blocks.

The ESSAC commented that the need for door knocking depends on the nature of the offer, and the nature of the area being targeted. Door knocking is particularly useful for engaging areas with transient populations and for dealing with multiple ownership issues (e.g. '4 in a block' or '6 in a block' flats).

Barriers to delivery in area C

The Scottish Government attributed the low take-up of CERT funded measures in this EAP pilot to the predominance of social tenants, who were referred to their social landlords rather than being referred to a CERT offer. The low take-up may be overstated as some of these tenants may have already benefited from CERT, or an earlier supplier obligation, via earlier insulation/renovation programmes led by their social landlords.

Several of the householders interviewed during the study were unclear as to whether measures had been installed in their properties, and if so by whom. This was particularly true of older people, and may be consistent with the high level of social housing in the area.

The Scottish Government did not find intensive door knocking to be a cost-effective way of generating referrals for the lower cost EAP measures (e.g. energy efficiency advice (Stage 1); benefit/tariff checks (Stage 2)). This learning was incorporated into EAP.

A local installer commented that there tended to be a low conversion rate from referrals to installed jobs, where the initial Home Energy Check did not involve a technical survey (e.g. inspection of the loft and cavity walls). Conversion rates can typically be as low as 50%. Where a technical survey is undertaken during the first visit, conversion rates for insulation improve.

The Council and the local ESSAC commented that it can be time-consuming and difficult to get approval for installation of measures to mixed tenure blocks. The situation in Scotland is helped by the Tenement Act which specifies that, if the deeds are silent about improvements, permission is needed from a majority of owners rather than 100%.

Case study D

Rationale for selecting area D

This case-study focused on an urban area, outside London, which has been targeted by an intensive area-based scheme. The scheme (referred to here as D1) has taken a broad-based partnership approach, similar to those used in other nearby areas. While development of the scheme was originally driven by fuel poverty objectives, as embodied in the Council's Affordable Warmth strategy, reducing carbon emissions has also become an important driver.

Profile of area D

The case study is an urban Middle Super Output Area (MSOA) with an adult population of just under 5,200 people. The population profile shows a relatively low proportion (9%) of 16-24 year-olds and a relatively high proportion of older people, with 34% being above the age of 60. There are approximately 2,700 properties in the area, with the predominant property type being semi-detached house/bungalow. This type of property makes up 61% of the housing stock; 16% of properties are flats or maisonettes; 72% of properties are owner-occupied and 22% are social-rented homes, meaning relatively few (5%) in the private rented sector.

The case study area has mixed affluence, with households being spread fairly evenly spread across the socio-economic groups: AB (19%); C1 (28%); C2 (21%) and DE (33%).

Delivery of CERT in area D

Residents in the case-study area have had access to the wide range of national and regional CERT offers put forward by the suppliers and by the larger installers. As in the other case study areas, these had been advertised through mailings, TV adverts, leaflets accompanying customer bills and through the local EST energy advice centre (ESTAC), reached via the EST (Energy Saving Trust) helpline and website.

Scheme D1 is the main CERT scheme operating in the case study area. It covers the whole of the Council area, with CERT funding from an energy supplier, additional funding and in-kind support (staff time, premises etc) from the local council and a separately funded health scheme (funded through another energy supplier's social commitment). The scheme is delivered in partnership with a number of local organisations, including the main Registered Social Landlord (RSL), the Primary Care Trust (PCT), the Benefits Agency, EST and Fire Service. Cross-referrals are made between these agencies.

Each partner has their own objectives underlying the programme, but they work together to achieve common goals. For example, from the perspective of the Benefits Agency, the scheme helps to reduce heating costs and fuel poverty. The PCT supports the scheme because of potential health benefits, while the Fire Service supports the scheme in order to identify vulnerable people in the community. The local authority shares all these objectives and also aims to achieve carbon savings through the scheme, as does the energy supplier.

The main measures offered through the scheme are cavity wall and loft insulation, which are offered at £99 per measure to those in the able-to-pay category. Council capital funding is used to extend eligibility for free measures to those over 60 years old and households with a dependent child under 6 years old.

A three-stage process is used to engage customers in Scheme D1:

1. A letter, including the Council's logo and the scheme logo, is sent, highlighting the offers available and inviting householders to call to make an appointment for an assessment
2. A follow-up visit is made by a scheme assessor. If possible, an assessment is completed on the doorstep. If there is no response, a freepost postcard is left, inviting people to send their contact details to the project team so that an assessment can be arranged.
3. If, after multiple visits, no response has been received, a large leaflet is left which includes a self-assessment form (a simplified version of the assessment used by the doorstep assessor) which can be completed and returned by the householder.

In addition to this, a range of promotional activity is carried out, including outreach events (some in conjunction with partners such as the benefits agency), displays in supermarkets and shopping centres, press advertising and promotion through schools. The EST make referrals to the scheme and they also carry out promotional work in the area, including targeted work with some of the major employers, maildrops, outreach events, PR and press communications.

Both Scheme D1 and EST tailor their promotional work to the characteristics of individual areas within the scheme area. For example, where there are higher percentages of AB households, the free measures for households with under-6's are emphasised. In less affluent areas, the benefits eligibility criteria are emphasised.

The Council have made a capital contribution toward the cost of measures of £250,000 per year and a revenue contribution of £50,000 towards staffing of the scheme. In addition, unquantified in-kind contributions have been made in the form of staff time, accommodation, equipment and overheads. The Council has estimated that for every pound they put in the scheme, four pounds of CERT funding is received.

In parallel with Scheme D1, other installers undertake door-knocking to generate their own leads. As explained below, this can cause confusion amongst households, particularly if this activity 'piggy-backs' on marketing activity undertaken by Scheme D1.

There are no retail outlets offering CERT-subsidised products within the MSOA itself but there are two large DIY retail outlets selling insulation, heating and lighting products within a short distance.

Take-up in area D

Scheme D1 was established in 2008. By December 2010:

- Every property in the MSOA had received a letter about the offers available through the scheme;
- 1,760 properties had been assessed (either completed by one of the scheme's assessors or completed and returned by the householder);
- 275 cavity walls had been insulated;
- 318 lofts had been insulated.

This suggests that up to 33% of households in the MSOA had CERT measures installed as a result of this scheme - although the actual figure will be lower because some households may have received both measures.

Of the 1,760 homes which have been assessed within the MSOA:

- 689 were in the CERT non-Priority Group (or 'able-to-pay') category - of which 320 households were eligible for free measures through Council funding contributions;
- 638 were in the Priority Group; and
- 329 were in social housing.

The assessments also include health questions and, where appropriate, referrals were made to the Health through Warmth scheme, which provides additional subsidies for heating and insulation measures in cases where there are health problems which are exacerbated by cold and/or damp conditions. Across the scheme as a whole, this has resulted in: 105 Boiler replacements; 49 Central heating systems; 19 Boiler repairs; 14 Warm front voucher applications; and 575 Benefits checks

Income and benefits assessments are included as part of the scheme, and referrals made to the benefits agency. Across the scheme as a whole, this has helped residents to claim an extra £3.4m in benefits.

The assessments also include a question about whether smoke alarms have been fitted, and referrals are made to the Fire Service, who install free smoke alarms for qualifying households. It is not known how many households in the area have benefited as a result of these referrals.

The in-depth interviews with householders in this area found widespread awareness of the Warm Zone branding – it was spontaneously mentioned by some and was recognised by most on further prompting. The name of the installer in the area was also recognised by CERT customers in the area involved in this research. The interviews also revealed awareness of advertising in local newspapers, and radio advertising. However, there was no mention by CERT customers of the wider partnership of services being offered in the area e.g. through the Benefits Agency etc.

Success factors in area D

Across the Council area as a whole, the Scheme D1 programme team estimated that the scheme has:

- Contacted all 94,000 domestic properties to inform residents about the programme and the insulation measures and benefit checks available;
- Completed assessments of over 48,000 domestic properties to identify need for insulation measures and ability to pay;
- Installed over 14,500 insulation measures (cavity wall and loft) in over 11,700 domestic properties, at a value of over £3.4m;
- Saved residents an estimated £1.8m per annum on fuel bills as a result of the insulation measures and decreased energy consumption.;
- Saved over 293,000 tonnes of CO₂ emissions (over the lifetime of the insulation measures) as a result of the insulation measures and decreased energy consumption.

Scheme D1 clearly demonstrates the multiple benefits and added value which can be achieved by adopting a partnership approach to delivery. The cross-referrals by the agencies involved enable the scheme to more effectively target vulnerable households and the additional funding available from the Council and health scheme means that more of these households can benefit from the scheme.

A further success factor in the scheme is seen to be the simplified customer journey. In the case study area, the person doing the initial door knocking also does an eligibility check. A second visit to complete the technical assessment is undertaken as soon as possible. In a nearby rural area, Scheme D1 has streamlined the process further so that the eligibility check and technical survey are undertaken during a single visit. This means that additional appointments are unnecessary and lessens the chances of households dropping out from the scheme due to delays or lack of availability.

Scheme D1 has considerable quality assurance and monitoring systems, including 5% technical monitoring by a scheme assessor, customer satisfaction surveys with 2% of customers, and self-assessment of 20% of installed measures by contracted installers. The scheme manager reported that recent surveys show that 98% of customers are satisfied with the scheme, despite the potential disruption from insulation works. Failures tend to be relatively minor (e.g. wrong colour of patch mortar following cavity wall insulation). Where technical failures are identified, the installers are required to rectify them within 2 weeks, although the scheme manager reported that the repairs are currently being carried out within 3 days. When failure rates rise, the scheme works closely with the relevant installer, providing refresher training and/or 'toolbox talks' (talking to them on the job). The scheme manager reported that, when problems have persisted, they have asked the installer to remove certain teams from the work.

Barriers to delivery in area D

One of the major challenges referred to by a number of stakeholders in the scheme has been the activities of competing installer companies in the area. The areas being targeted by Scheme D1 are made public and this allows competing installers to 'piggy-back' on the promotional work being carried out. Stakeholders reported that this has led to confusion amongst householders, which Scheme D1 seeks to overcome by emphasising their close relationship with the Council.

Although the low cost of the measures (£99) is seen as helping to drive take-up, conversely it was suggested by a number of stakeholders that some householders are suspicious of free or discounted measures, or fear being stigmatised by taking up such offers. The scheme manager suggested that the high volume of activity in concentrated areas and the broadening of the eligibility criteria for free measures, helps to reduce such fears.

The scheme manager also reported that there are significant challenges in generating take-up in the private rented sector. To try and overcome this, they promote the offers through the Council's strategic housing officer, who is responsible for the accredited landlords programme.

The PCT representative reported that there are difficulties in getting take-up amongst ethnic minority communities in the area, although the precise reasons behind this were not well understood.

The scheme manager reported no problems with finding installers but the installers have experienced difficulties with the costs of materials. It was suggested that there are only two major manufacturers of insulation materials so costs have had a tendency to rise quite quickly (8-10% rises per year were reported). The scheme manager reported that this has caused particular problems for the smaller, local company to whom they refer some of their work.

A further issue raised by the scheme manager related to problems with the HEED database. It was suggested that where there are errors in the database (e.g. measures being recorded against the wrong address). This can result in them being unable to claim CERT funding for some measures, and they are unable to appeal in such cases.

APPENDIX 3: Discussion guides

3a. Stakeholder consultation discussion guides

The following discussion guides were used for the various phases of the stakeholder consultation

- Guide A – energy company interviews (national)
- Guide B – DECC/Ofgem (national)
- Guide C – policy and sectoral organisations (national)
- Guide D – delivery partners (national)
- Guide H – retail partners (national)

- Guide E – main partners (case studies)
- Guide F – other partners (case studies)
- Guide G – energy advice centres (case studies)
- Guide I – DIY retail stores (case studies)

Two of the discussion guides are provided here as an example. The duplication across the guides means there is little merit in presenting all 9 guides.

Guide A - energy company interviews

KEY EVALUATION QUESTIONS
1. How are you delivering CERT in practice?
<ul style="list-style-type: none"> • What are the objectives of your involvement in CERT?
<ul style="list-style-type: none"> • Can you give us an overview of how you currently plan for, market and deliver CERT offers to customers (prompt re approaches for Priority/non-Priority/super Priority groups, and different types of measures)?
<ul style="list-style-type: none"> • What factors influence your adoption of different delivery models and geographical coverage for CERT? (Prompt using checklist of delivery models; also prompt re urban/rural/remote rural areas; and range of housing types)
<ul style="list-style-type: none"> • What are the strengths and weaknesses of different delivery models in terms of meeting your objectives? (Probe types of measures and Priority/non-Priority/super Priority groups).
<ul style="list-style-type: none"> • Are there any innovative approaches to CERT delivery which have been particularly effective? Why?
<ul style="list-style-type: none"> • To what extent do you feel that there is unrealised potential for delivering energy efficiency measures across Great Britain?

KEY EVALUATION QUESTIONS
<ul style="list-style-type: none"> How well do you feel that CERT is realising this potential? Why has CERT delivery been low in some areas, and how could barriers to delivery be overcome? (Note - discussion of target groups covered under 5 and 6 below).
<ul style="list-style-type: none"> How cost-effective do you feel that CERT has been in delivering energy efficiency measures, compared to other energy efficiency schemes and other supplier obligations? How could it have been made more cost-effective?
<ul style="list-style-type: none"> Has your company been involved in trading its CERT obligation or transferring savings and, if so, what are the factors that influence this and what are the pro's/con's for you?
2. How do you and your delivery partners monitor the delivery of CERT measures and assure quality?
<ul style="list-style-type: none"> What processes and checks do you and your partners have in place to monitor and assure quality of CERT delivery, and how are they administered?
<ul style="list-style-type: none"> What challenges are faced in ensuring the delivery of quality-assured CERT measures, and what are your approaches to managing these challenges (e.g. seasonal variations)?
<ul style="list-style-type: none"> To what extent has your CERT delivery been constrained by supply chain issues, and if so how? (probe re different types of measures and delivery routes)
<ul style="list-style-type: none"> How do CERT rules, and changes in these rules, affect your delivery of CERT (e.g. meeting CERT targets; working with your supply chain; assuring quality)?
<ul style="list-style-type: none"> How could quality assurance for delivery of CERT, or future suppliers' obligations, be improved?
<ul style="list-style-type: none"> Are there any other ways in which the effectiveness of CERT administration could be improved?
3. How do you view the future with regards to these type of measures?
<ul style="list-style-type: none"> How do you view CERT vis a vis the Community Energy Savings Programme (CESP) and earlier suppliers' obligations, and why? (prompt for differences in partnership approaches, scoring systems, flexibility, target areas, types of measures, market penetration etc)
<ul style="list-style-type: none"> How do you see the future market and opportunities with regards to energy efficiency measures / energy services, and how has CERT influenced this?
<ul style="list-style-type: none"> Are there any delivery models which will be less or more relevant in future, and why?(prompt for implicit assumptions about future scenarios)
<ul style="list-style-type: none"> What features, and transition arrangements, would help a new suppliers' obligation to meet its likely objectives of promoting energy efficiency measures to those households unable or unlikely to benefit from the forthcoming Green Deal?
4. To what extent would you and your delivery partners have been likely to deliver energy efficiency measures without CERT?
<ul style="list-style-type: none"> How does the design of CERT, and your response to it, shape what consumers are offered?
<ul style="list-style-type: none"> To what extent do you feel that CERT delivers what consumers need? Is distribution

KEY EVALUATION QUESTIONS
reasonably fair? Are costs for consumers reasonable?
<ul style="list-style-type: none"> What effects does the CERT scoring system have (carbon scores and uplifts)? Does it have any unintended consequences? (prompt re incentives for different types of measures or delivery routes)
5. How are measures offered under CERT taken up by customers? (Note: this topic will be covered in-depth by customer research)
<ul style="list-style-type: none"> How are measures offered to customers? How are customers identified / targeted? (probe for Priority/non-Priority/super Priority groups)
<ul style="list-style-type: none"> What prevents take-up of different measures? (Prompt for range of measures, delivery routes, marketing approaches, supply chain issues, CERT rules and other factors that may affect take-up). What is the relative importance of different factors and how does this differ amongst different groups of customers? (Prompt for Priority/non-Priority/super Priority groups)
<ul style="list-style-type: none"> How far does CERT reach people on low incomes, those living in social housing, private rented housing and those living in poor quality housing - and what effects does it have on these groups? To what extent is CERT assisting the highest energy users (e.g. those living off gas grid in areas with a longer heating season)?
6. What is the impact of measures offered under CERT on behaviour? (Note: this topic will be covered in-depth by customer research)
<ul style="list-style-type: none"> Are you aware of any evidence that customer behaviour/response, after delivery of measures, is affected by the use of different delivery routes?

Guide E - main case study partners

Introduction: we are undertaking this interview as part of our evaluation of CERT on behalf of the Department of Energy and Climate Change (DECC). This area is one of four case study areas which have been chosen to explore how CERT has been delivered within contrasting areas across the UK. Some of the case study areas have had high levels of CERT delivery, while others have been chosen because delivery has been less intensive in these areas.

The purpose of this interview is to find out more about how CERT measures have been delivered in this case study area, and also to hear your overall perspective on CERT.

Confidentiality: We will take notes of this interview and will check our notes with you afterwards to ensure that we have an accurate record of the interview. While the case study area will be identified in our report to DECC, we will anonymise comments wherever possible and will not share the interview record with DECC. Our report will not attribute comments to specific stakeholders, unless we have already cleared this with the relevant stakeholder. Similarly, we will

not publish confidential data, but will draw on any data you provide in our analysis and present it in a form that cannot be identified (e.g. as an average for several case studies).

KEY EVALUATION QUESTIONS
1. How are you involved in delivering CERT in practice?
<ul style="list-style-type: none"> • What is role of organisation in CERT delivery? • How is CERT delivery work arranged within your organisation - is it a distinct unit / division, or does it involve different parts of the organisation? • What area do you cover with regards to CERT delivery - e.g. all of local authority etc? • How does the case study area fit with the range of CERT schemes you have been involved with? (e.g. do you work on other CERT schemes outside the case study area?) • Can you describe the CERT delivery model(s) in the case study area? Who are the other partners? How do you work with them?
<ul style="list-style-type: none"> • How have you and your organisation been involved in delivering CERT in or around the case study area? (Probe - timeframe, partners, how partnerships developed, delivery model(s), geographical area(s), Priority/non-Priority/super Priority groups, types of measures, marketing approach, funding arrangements, cost to consumer) • What are the key factors affecting your approach to delivering CERT offers in the case study area? (Probe - relationships with suppliers or other partners; local context; political priorities; commercial factors) • How has your involvement changed since the start of CERT (April 2008)?
<ul style="list-style-type: none"> • Could you provide any documentation on these schemes? (e.g. case studies, weblinks, reports, examples of marketing materials, evaluation studies)
<ul style="list-style-type: none"> • What were the key factors affecting the evolution and design of the scheme(s)? (Probe - links with other initiatives; match funding; existing relationships with suppliers or other partners; local context; political priorities; commercial considerations) • Which organisations have led the design of the scheme? Who / what else has influenced this, and in what ways? • How has this changed since the start of the scheme?
<ul style="list-style-type: none"> • What are the strengths and weaknesses of the delivery model(s) your organisation has used, vis a vis your objectives for CERT? (Prompt with relevant questions for each type of partner - e.g. for installers - working with different types of partners; contracting directly vs indirectly with the energy suppliers).
<ul style="list-style-type: none"> • Are you aware of any innovative approaches to CERT delivery which have been particularly effective, within the case study area / your schemes or others? Why?

KEY EVALUATION QUESTIONS

- What are the drivers / success factors for delivery of CERT scheme(s)?
- What do you feel were the barriers to delivery of your CERT scheme(s), and how could these be overcome? (Note - hold detailed discussion of target groups, which is covered under question 26 below).

- What are the costs of delivering CERT for your organisation? Can you provide any further information on this? What about costs for other organisations - suppliers, installers etc?
- How does this vary between schemes / measures / priority group and non-priority group / areas / compared to other schemes?
- To what extent do costs of delivering different elements / measures / target groups / areas affect what is actually delivered? Who decides this?
- What do you feel that cost-effectiveness means in relation to CERT delivery (e.g. what types of benefits/outputs/outcomes should be balanced against what types of cost)? How cost-effective do you feel that your CERT scheme(s) were in delivering energy efficiency measures in or around the case study area, compared to other energy efficiency schemes and other supplier obligations? How could it/they have been made more cost-effective? What is the evidence for this?

2. How are measures offered under CERT taken up by customers in your scheme(s)?

(Note: this topic will be covered in-depth by customer research)

- How have measures been offered to customers within the case study area? How have customers identified / targeted? (prompt for Priority/non-Priority/super Priority groups)
- How do customers respond to offers / scheme(s)? How does this vary amongst different groups / house types / areas?
- What levels of have you achieved amongst different groups? Can you share any research findings on this, within or near the case study area?
- How does this compare to other schemes promoting energy efficiency measures? How does it compare to the retail/DIY delivery route for CERT?
- How do you think this would differ if CERT was a branded offer? Would it be easier or more difficult to deliver? Why?
- What promotes / drives / encourages take-up of different measures?
- What prevents take-up of different measures? (Prompt for range of measures, delivery routes, marketing approaches, supply chain issues, CERT rules and other factors that may affect take-up).
- What is the relative importance of different factors and how does this differ amongst different groups of customers? (Prompt for Priority/non-Priority/super Priority groups)

KEY EVALUATION QUESTIONS	
▪	How far is your scheme reaching people in the case study area who are on low incomes, those living in social housing, private rented housing and those living in poor quality housing - and what effects does it have on these groups?
3.	What is the impact of measures offered under CERT on behaviour? (Note: this topic will be covered in-depth by customer research)
•	What difference has CERT made for householders in this area?
•	Do you know how your scheme has actually influenced customer behaviour, once measures have been installed? (e.g. increased thermal comfort vs energy and fuel bill savings) Can you share any research/findings on this? How does this vary for different schemes / delivery approaches / measures?
4.	How is delivery of CERT measures monitored and quality assured in your CERT schemes delivered in this area?
	What processes and checks are in place to check the quality of delivery of CERT measures within your scheme(s) and how are these administered? Are these locally or nationally designed and administered?
•	To what extent has the quality of delivery of CERT measures been an issue in delivering the scheme(s)? What impact has this had on costs; take-up; supply-chain?
	To what extent has the delivery of your CERT scheme(s) been constrained by supply chain issues, and if so how? (probe re different types of measures and delivery models; probe seasonal variations) Is this a local or national issue?
•	How could quality assurance for delivery of CERT, or future suppliers' obligations, be improved?
	Are there any other ways in which the effectiveness of CERT administration could be improved?
5.	How has CERT affected the delivery of energy efficiency measures?
•	Does your delivery of energy efficiency measures, and your offer to customers, for CERT-funded scheme(s) differ from other energy efficiency schemes you are involved with? If so, what are the main differences and why?
•	To what extent do you feel that CERT delivers what consumers need to improve energy efficiency / quality of homes, within your scheme(s)?
•	Is distribution reasonably fair across geography and different household/building types?
•	How much do customers pay? Are costs for consumers reasonable?

KEY EVALUATION QUESTIONS
<ul style="list-style-type: none"> What effects does the CERT scoring system have (carbon scores, uplifts, ratios of Priority to non-Priority group customers)? Does it have any unintended consequences for your scheme(s)? (prompt re incentives for different types of measures or delivery routes)
6. How do you view the future with regards to these type of measures? (optional - depending on relevance to interviewee)
<ul style="list-style-type: none"> How do you view CERT vis a vis the Community Energy Savings Programme (CESP) and earlier suppliers' obligations, and why? (prompt for differences in partnership approaches, scoring systems, flexibility, target areas, types of measures, market penetration etc)
<ul style="list-style-type: none"> How do you see the future market and opportunities with regards to energy efficiency measures / energy services, and how has CERT influenced this?
<ul style="list-style-type: none"> Are there any delivery models which are likely be less or more relevant in future, and why?(prompt for implicit assumptions about future scenarios)
<ul style="list-style-type: none"> What features, and transition arrangements, would help a new suppliers' obligation to meet its likely objectives of promoting energy efficiency measures to those households unable or unlikely to benefit from the forthcoming Green Deal? What are the wider benefits of CERT in this area? Job creation?

3b. Discussion guide for in-depth case-study area interviews with CERT customers

Primary Objectives

To look at experiences of the CERT programme and what impact, if any, it has had on the way that customers subsequently use energy.

More specifically to:

- Explore perceptions of the energy efficiency measures offered under CERT;
- Provide insight into participants' reactions to the energy saving measures;
- Examine the impact of the intervention on participants' attitudes to the environment and their behaviour with regard to energy usage

Timing

- The interviews will last for 1 hour.

Across the interviews being conducted for this stage of the research the aim is to understand:

- How CERT energy efficiency measures are perceived by customers and why taken up
- How customers feel they have changed behaviour following installation of CERT energy efficiency measures, in terms of their energy use in the home and more widely

- How the responses differ between different types of household (including Priority / non-Priority Group)
- How different delivery routes affect the take up of measures, attitudes and behaviours
- How broader environmental attitudes differ between customers and non-customers

Note to interviewers:

- *Ask respondent to show you rooms/appliances/areas of their home when they are discussing the energy efficiency measures they have installed or when they are describing the barriers to taking further action. IF APPROPRIATE*
- *If participant has installed more than one CERT energy efficiency measure ask them to respond to questions about each measure separately – tease out any differences in expectations and impacts of the different measures.*

Discussion sections	Notes	Approx timing
1. Introductions	This section orientates the participants and prepares them to take part in the interview. It also warms the respondent up and provides contextual information.	2 mins
2. Energy efficiency measures	This section explores the energy efficiency measures which have been installed within the home – this could include both CERT and non-CERT measures. It provides important information about the factors which lead to uptake of measures and the relative importance of these. It also explores the expectations people have for the impact of energy efficiency measures.	15 mins
3. Experience of CERT	This section explores the process customers have been through to have CERT measures installed. It gathers feedback on how customers found out about the CERT offer, the suitability of the information they received and the ease of the installation process. It also explores the extent to which customers would be advocates for these measures.	20 mins
4. Reactions to energy efficiency measures	This section explores whether customers feel they have benefited from the energy efficiency measures delivered under CERT	5 mins
5. Impact on energy use	This section looks at what impact the installation has had on customers' attitudes to energy use and how they perceive their energy behaviours have changed.	10 mins
6. Attitudes towards environment and climate change	This section explores customers' attitudes towards the environment and climate change specifically. It examines whether customers feel their attitudes have changed at all as a result of having the measures installed	5 mins
7. Summing up	This section draws out the key messages and brings the discussion to an end.	3 mins

Total: 60 mins

Discussion area

1. Introductions

Interviewer introduction

- Moderator introduce self, Ipsos MORI (including role – independent research agency), and client, Department of Energy and Climate Change.
- Explain main aim of the discussion – to understand your attitudes towards energy efficiency measures and your experience of having energy efficiency measures installed and what impact, if any, it has had on your home.
- The discussion will last for approximately 1 hour.
- Reassure respondents of confidentiality and anonymity – information will not be personally attributed.
- Gain permission to record for transcription purposes (start audio recording).

Participant introduction – warm-up and context

- First name, brief description of household composition, job / profession, who in household is working / not working, tenancy, type of property, length of time living in accommodation, any changes you've made recently to your home

2. Energy efficiency measures within the home

Ask following questions about current situation – not before any measures installed

- Firstly, please could you tell me how you heat your home in winter? How much do you have the central heating on during the week? And at weekends?
- How easy do you find it to heat your home? How warm is it? Do you know what temperature it is (in main living room) when you have the heating on? Are there places where you know you are losing heat?
- How easy do you find it to control the temperature of your home? PROBE: How do you usually change the temperature? Do you usually open windows to control the temperature? Do you use a thermostat?

Ask participant to show you things around the house to help explain this

- What are the first thoughts that come to mind when you think about being energy efficient / using less energy in your home? By energy I mean electricity, gas, oil and/or coal which is used for heating, cooking, electrical appliances etc. Why is this?
- How easy is it to be energy efficient / use less energy in your home? Why do you say that?
- Do you do anything day-to-day within your home to reduce the amount of energy you use or make it more energy-efficient / easier to heat?

PROBE: What have you done? Why?

PROMPT: Washing your clothes at 30 degrees or less? Only boiling as much water in the kettle as you need? Using your heating on a timer? Anything else?

If participant starts describing/showing major measures they've installed (e.g. insulation, boilers etc) ask them to focus first on smaller behavioural changes they may have made and then go on to discuss larger steps/installations/home improvements below.

- Have you installed any energy efficiency measures or insulation in your home?

PROMPT:

- Cavity wall insulation
- Solid wall insulation
- Loft insulation or top-up loft insulation
- Double glazing
- Draught proofing or draught exclusion
- A high-efficiency condensing boiler which replaced an older boiler that was still working
- Thermostat controls fitted on individual radiators
- Switching to mains gas central heating to heat your home (e.g. switching from electricity, coal, or another source)
- Hot water tank insulation

IF MORE THAN ONE MEASURE ASK FOLLOWING QUESTIONS OF EACH MEASURE IN TURN

- When did you have this measure installed?
- Why did you have this installed?
- What difference did you expect this would make? Why did you think that?
- What were these expectations based on?
- What were the most important factors leading you to make the decision to install these measures?

PROBE:

- Expectations about having warmer home
- Expectations about lower energy bills
- Upfront cost of measure / discount or subsidy offered
- Wanted to reduce energy use / carbon footprint / impact on environment
- Wanted to improve home
- Received direct offer / approach
- Grants or offers? – which organisation(s) offered this?
- Information and advice received – what, from which organisation, why influential?
- Views of family / friends / neighbours – which views have most impact, why?

IF MORE THAN ONE MEASURE INSTALLED CHECK IF THE SAME FACTORS WERE IMPORTANT FOR EACH ONE OR WHETHER THERE ARE ANY DIFFERENCES

- How did you have [energy efficiency measure] installed?
PROBE: Did you have it professionally-installed or did you install it yourself?
- Approximately how much did you pay for this measure?
- Do you know whether you paid the full price for your [energy efficiency measure] or whether you received a discount or subsidy? Why do you say this?

IF BELIEVE THEY RECEIVED SUBSIDISED MEASURE:

- How much do you think this would have cost if it had been full price?
- How important or not was it that you didn't have to pay the full price for the measure?
- How likely or unlikely do you think you would have been to purchase [energy efficiency measure] if you had to pay the full price?

3. Experience of CERT

We are now going to focus on just one/a few of the insulation measures you have described installing (*Moderator to focus just on CERT insulation measures – loft insulation, cavity wall insulation, solid wall insulation*)

- How did you first hear about [energy efficiency measure]? PROBE:
 - Did you receive information about it or did you request it?
 - What type of information was this?

- Who / where did you receive this information from?
 PROBE:
 - Your gas or electricity supplier? Which company is this?
 - Housing Association?
 - Energy Saving Trust?
 - Council / Local Authority?

(IN NORTH TYNESIDE AND EDINBURGH CHECK WHETHER SPECIFIC PIECES OF COMMUNICATION USED IN AREA-BASED TARGETTING HAVE BEEN SEEN – gather reactions to these in this section)

IF HAVE HEARD OF SPECIFIC SCHEME/OFFER

- What do you think are the benefits of the scheme/offer? Probe on benefits to: householders, wider community, environment
- What do you think the disadvantages are? Probe on disadvantages to: householders, wider community
- What, if anything, have you done since you learned about this scheme/offer/product?
- IF INFORMATION RECEIVED: How satisfied were you with the information that you were provided with about the [energy efficiency measure]?
 PROBE:
 - Was the information sufficient?
 - Did you understand the information?
 - Were any concerns that you had dealt with?
- IF DISSATISFIED: Why were you dissatisfied? What could have been done to address this?
- Is there any other information you would have liked to have received?
 PROBE:
 - When would you have liked to have received this information? Upfront when seeking advice, at point of installation, following installation?
 - From who/which organisation would you have liked to have received this information? Why do you say this?

IF MEASURE PROFESSIONALLY INSTALLED:

- And how would you describe the installation process?
 PROBE: Did it run smoothly or was it a difficult process? Did it cause any disruption?
- How would you talk about your experiences of having energy efficiency measures installed if you were asked by a neighbour or friend?
 - PROBE: And what makes you say this?
 - To what extent would you recommend it or not? Why?

4. Reactions to the energy saving measures

Note how long ago participant said they had measures installed when asking these questions

- What difference, if any, has the installation of [energy efficiency measure] made to your home?
- Overall, what have the benefits been of having energy savings measures that have been installed in your home, if any?
 - PROBE: Why do you say this? In what ways have you benefited?
 - What has been the greatest benefit of having the measure installed?
 - What has been the greatest downside of having the measure installed?
- Would you say that you are more or less satisfied with your home as a place to live as a result of the installation of the energy saving measures?
PROBE: Why?
- Would you say the installation of [energy efficiency measure] has met your expectations or not? In what ways?

5. Impact on energy usage

- What, if anything, do you and members of your household do differently since having the energy efficiency measure(s) installed? Why do you say that?
PROBE:
 - How has it changed how you use energy / heating?
 - Are there any ways in which you are using less energy now? What? Why?
 - Are there any ways in which you are using more energy now? What? Why?
 PROMPT:
 - Turned thermostat up / down?
 - Have heating on for longer / shorter amount of time?
 - Use less warm clothes / blankets in home more / less?
- Has the installation of the energy saving measures made you think more or less about the energy you use, or has it had no difference?
PROBE: And why do you say that?
- Have you noticed any change to your energy bills since the installation? How have they changed?
- You mentioned earlier that you had [STEPS TAKEN MENTIONED IN SECTION 2] to reduce the amount of energy that you use in your home.
 - When did you make these changes / take these steps?
 - Was it before or after installation of the energy efficiency measures?
- Since the installation of these energy efficiency measures, have you considered taking any further steps to reduce your energy usage?
PROBE: IF YES: What steps have you considered?
 - What other changes have you considered, if any? Why/ Why not?
 - What other measures have you considered installing, if any? Why / why not?
 - How likely is it that you will implement these changes?
 - What is stopping you from doing so?
 - What would be most likely to persuade to make this change?

IF NO: What is stopping you from doing so?

- Financial cost – of what measures specifically?
- Effort required – in what way?
- Lack of information and advice about what is available / what could be done?
- Any other reason?

Interviewer to provide following information:

A new scheme is being developed to help create warm, more energy efficient and cheaper to run homes, without the owner or tenant paying any upfront costs. The new scheme will help people to install things such as loft and cavity wall insulation by allowing them to pay-off the cost of these measures over an agreed period of time. Repayment for the installation would be attached to a property's energy bill and it would stay with the property's energy bill even once the occupier had moved out of the property. So after you move the repayments for the installation would pass onto the new occupant who themselves will be benefiting from the expected savings on their energy bills.

- How interested, if at all, would you be in having some of the other measures we've discussed today installed if you were able to get these at no upfront cost and pay back for them in the way I've described?
 - Why do you say this?

6. Attitude to the environment/global warming

- How much would you say that you know about climate change or global warming?
- And how concerned are you about climate change or global warming?
- And how concerned are you about your personal contribution to climate change or global warming (your carbon footprint)?
- Do you think that having energy efficiency measures installed helps reduce your contribution to climate change or global warming?
PROBE: Why do you say that?
- IF YES: And when you decided to install or agreed to the installation of the measures, did you think that they would help you reduce your contribution to climate change or global warming?
PROBE: IF YES: How important was this in your decision to install / have measures installed?
- And has the installation of [energy efficiency measure] had any impact on your attitude towards climate change or global warming? Why do you say this? In what ways?

7. Summing up

- Finally, is there anything else that you would like to add?

THANK AND CLOSE.

Discussion guide for in-depth face-to-face interviews with non-customers

Primary Objectives

To explore why some householders have not taken up energy efficiency measures through the CERT scheme.

More specifically to:

- Explore perceptions of energy efficiency measures;
- Provide insight into participants' reactions to the offers for energy efficiency measures, and the reasons that these measures have not been taken up (including the reasons some customers drop-out of scheme prior to installation);
- Explore the ways of overcoming barriers to installing energy efficiency measures, specifically those delivered under CERT

Timing

- The interviews will last for 45 minutes.

Across the interviews being conducted for this stage of the research the aim is to understand:

- How energy efficiency measures are perceived by non-customers
- Understand the barriers to take-up of energy efficiency measures delivered through CERT
- How the responses differ between different types of household (including Priority / non-Priority Group)
- How broader environmental attitudes differ between customers and non-customers

Note to interviewers:

ask respondent to show you rooms/appliances/areas of their home when they are discussing the energy efficiency measures they have installed or when they are describing the barriers to taking further action. IF APPROPRIATE

Discussion sections	Notes	Approx timing
1. Introductions	This section orientates the participants and prepares them to take part in the interview. It also warms the respondent up and provides contextual information.	5 mins
2. Awareness of energy efficiency measures	This section explores awareness of energy efficiency measures and the factors which people take into consideration when deciding whether to install a measure or not. This will highlight the barriers to uptake of CERT measures.	20 mins
3. Awareness of energy efficiency offers/schemes	This section explores awareness of where energy efficiency measures can be purchased/who can install them. For those who have seen specific offers/schemes it explores the reasons for not taking-up these offers.	10 mins
4. Attitudes towards environment and climate change	This section explores customers' attitudes towards the environment and climate change specifically.	5 mins
5. Summing up	This section draws out the key messages and brings the discussion to an end.	5 mins

Total: 45 mins

Discussion area

1. Introductions

Interviewer introduction

- Moderator introduce self, Ipsos MORI (including role – independent research agency), and client, Department of Energy and Climate Change.
- Explain main aim of the discussion – to understand your attitudes towards energy efficiency measures and what factors influence your decision to install or not install these measure within your home.
- The discussion will last for approximately 45 minutes.
- Reassure respondents of confidentiality and anonymity – information will not be personally attributed.
- Gain permission to record for transcription purposes (start audio recording).

Participant introduction – warm-up and context

- First name, brief description of household composition, , job / profession, who in household is working / not working, tenancy, type of property, length of time living in accommodation, any changes you've made recently to your home

2. Awareness of energy efficiency measures

- Firstly, please could you tell me a little about how you heat your home in winter? How much do you have the central heating on during the week? And at weekends?
- How easy do you find it to heat your home? How warm is it? Do you know what temperature it is (in main living room) when you have the heating on? Are there places where you know you are losing heat?
- How easy do you find it to control the temperature of your home? PROBE: How do you usually change the temperature? Do you usually open windows to control the temperature? Do you use a thermostat?

Ask participant to show things around the house to help explain this

- What are the first thoughts that come to mind when you think about being energy efficient / using less energy in your home? By energy I mean electricity, gas, oil and/or coal which is used for heating, cooking, electrical appliances etc. Why is this?
- How easy is it to be energy efficient / use less energy in your home? Why do you say that?
- Do you do anything day-to-day within your home to reduce the amount of energy you use or make it more energy-efficient / easier to heat?

PROBE: What have you done? Why?

PROMPT: Washing your clothes at 30 degrees or less? Only boiling as much water in the kettle as you need? Using your heating on a timer? Anything else?

- IF NOTHING: Why have you not done anything?
- IF NOTHING WAS NEEDED BECAUSE HOME IS ALREADY WELL INSULATED: Was this a motivating factor in choosing the property?

If participant starts describing/showing major measures they've installed (e.g. insulation, boilers etc) ask them to focus first on smaller behavioural changes they may have made and then go on to discuss larger steps/installations/home improvements below.

- Have you installed any energy efficiency measures or insulation in your home?

PROMPT:

- Cavity wall insulation
- Solid wall insulation
- Loft insulation or top-up loft insulation
- Double glazing
- Draught proofing or draught exclusion
- A high-efficiency condensing boiler which replaced an older boiler that was still working
- Thermostat controls fitted on individual radiators
- Switching to mains gas central heating to heat your home (e.g. switching from electricity, coal or another source)
- Hot water tank insulation

IF MORE THAN ONE MEASURE ASK FOLLOWING QUESTIONS OF EACH MEASURE IN TURN

- Why did you have this installed?
- What difference did you expect this would make? Why did you think that?
- What were the most important factors leading you to make the decision to install [energy efficiency measure]?

PROBE:

- Expectations about having warmer home
- Expectations about lower energy bills
- Upfront cost of measure / discount or subsidy offered
- Wanted to reduce energy use / carbon footprint / impact on environment
- Wanted to improve home
- Received direct offer / approach
- Grants or offers? – which organisation(s) offered this?
- Information and advice received – what, from which organisation, why influential?
- Views of family / friends / neighbours – which views have most impact, why?

IF NO MEASURES INSTALLED

- What would be the most important factors for you in deciding whether or not to install an energy efficiency measure?

PROBE:

- Expectations about having warmer home
- Expectations about lower energy bills
- Desire to use less energy / reduce carbon footprint / impact on environment
- Upfront cost of measure (including level of subsidy)
- Ease of installation process (level of disruption)
- Receiving a direct offer / approach
- Source of information about measure
- Which is the most important of the things you've mentioned? Why?

IF MORE THAN ONE MEASURE CHECK IF THE SAME FACTORS WERE IMPORTANT FOR EACH ONE OR WHETHER THERE ARE ANY DIFFERENCES

3. Awareness of energy efficiency installation schemes/offers

- Have you heard of any ways in which you can have energy efficiency measures installed in your property?

PROBE:

- Can you give me a brief description of the information / offer you have seen?
- What have you heard? From who/where? What is the offer?
- Did you get sent this information or did you request it yourself?
- What type of information was this?

- Who / where did you receive this information from?

PROBE:

- Your gas or electricity supplier? Which company is this?
- Housing Association?
- Energy Saving Trust?
- Council / Local Authority?

IF HAVE HEARD OF SPECIFIC SCHEME/OFFER

- What do you think are the benefits of the scheme/offer? Probe on benefits to: householders, wider community, environment
- What do you think the disadvantages are? Probe on disadvantages to: householders, wider community
- What, if anything, have you done since you learned about this scheme/offer/product?

(IN NORTH TYNESIDE AND EDINBURGH DISCUSS SPECIFIC PIECES OF COMMUNICATION USED IN AREA-BASED TARGETTING)

IF INFORMATION ABOUT MEASURE OR OFFER RECEIVED ASK NEXT SECTION

- How satisfied were you with the information that you were provided with about the [energy efficiency measure]?

PROBE:

- Was the information sufficient?
- Did you understand the information?
- Were any concerns that you had dealt with?

- IF DISSATISFIED: Why were you dissatisfied? What could have been done to address this?

- Is there any other information you would have liked to have received?

PROBE:

- When would you have liked to have received this information? Upfront when seeking advice, at point of installation, following installation?
- From who/which organisation would you have liked to have received this information? Why do you say this?

ASK ALL WHO DID NOT TAKE UP OFFERS THEY HAVE SEEN OR HEARD ABOUT [NB IN LEWISHAM ASK ALL UNLESS THEY REALLY HAVE NOT HEARD ABOUT ANY MEASURES]

- Can you explain to me why you decided not to take up the offer you have seen / heard about?
- How did you weigh up the benefits versus the disadvantages?
- What concerns did you have?

PROMPT:

- Concerns about disruption to your or other household members' normal daily activities – related to which energy efficiency measures specifically? What has prompted you to feel concerned? Probe on role of information
- Concerns about the reliability and trustworthiness of the workers who install the measures – what has prompted you to feel concerned? Probe on role of information
- Concerns about the reliability and trustworthiness of the scheme provider – what has prompted you to feel concerned?
- Financial concerns?
- Concerns about what the changes will look like?
- The manner in which you were approached / offered measures – what impact did this have, why?
- What if anything would convince you to have this installed?

ASK THOSE WHO HAVE SEEN SPECIFIC OFFER/SCHEME

- Has your thinking about the offer changed since your initial decision not to follow it up? How? What has prompted this? Spontaneous first then probe on:
 - Role of family / friends / neighbours who have installed measures. What has influenced your thinking specifically (e.g. reports that measures not disruptive, reports that workers / scheme providers are reliable and trustworthy, reports of warmer home / reduced bills)?
 - Role of information / communications – which?
- What impact has this had on your decision about whether or not to install energy efficiency measures yourself? Why?

ASK ALL

- Have you considered taking any (further) steps to reduce your energy usage in the home?
 - PROBE: IF YES: What steps have you considered?
 - What other changes have you considered, if any? Why/ Why not?
 - What other measures have you considered installing, if any? Why / why not?
 - How likely is it that you will implement these changes?
 - What is stopping you from doing so? (PROMPT BELOW)
 - What would be most likely to persuade you to make this change?
 - IF NO: What is stopping you from doing so?
 - Financial cost – of what measures specifically?
 - Effort required – in what way?
 - Lack of information and advice about what is available / what could be done?
 - Any other reason?

Interviewer to provide following information:

A new scheme is being developed to help create warm, more energy efficient and cheaper to run homes, without the owner or tenant paying any upfront costs. The new scheme will help people to install things such as loft and cavity wall insulation by allowing them to pay-off the cost of these measures over an agreed period of time. Repayment for the installation would be attached to a property's energy bill and it would stay with the property's energy bill even once the occupier had moved out of the property. So after you move the repayments

for the installation would pass onto the new occupant who themselves will be benefiting from the expected savings on their energy bills.

- How interested, if at all, would you be in having some of the other measures we've discussed today installed if you were able to get these at no upfront cost and pay back for them in the way I've described?
 - Why do you say this?

4. Attitude to the environment/global warming

- How much would you say that you know about climate change or global warming?
- And how concerned are you about climate change or global warming ?
- And how concerned are you about your personal contribution to climate change or global warming (your carbon footprint)?
- Do you think that having energy efficiency measures installed helps reduce your contribution to climate change or global warming?
PROBE: Why do you say that?

5. Summing up

- Finally, is there anything else that you would like to add?

THANK AND CLOSE.

APPENDIX 4: National omnibus questionnaire

I'm now going to ask you some questions about the energy you use in your home.

Behaviour Change Questions (ASK ALL THIS SECTION)

Q1. SHOWCARD A (R) I am going to show you a number of statements about how you use energy (e.g. gas or electricity) to heat your home. Please tell me which of the following statements most closely relates to you? SINGLE CODE ONLY

- A. I do not feel the need to reduce the amount of energy I use to heat my home
- B. I sometimes feel I should reduce the amount of energy I use to heat my home
- C. I frequently feel I should reduce the amount of energy I use to heat my home
- D. I am starting to reduce the amount of energy I use to heat my home
- E. I have tried to reduce the amount of energy I use to heat my home, but have found it hard to stick to
- F. I have reduced the amount of energy I use to heat my home

Q2. SHOWCARD B (R) I am going to show you a number of statements about how you use electricity in your home for lighting and appliances, but not heating. Please tell me which of the following statements most closely relates to you? SINGLE CODE ONLY

- A. I do not feel the need to reduce the amount of electricity I use in my home
- B. I sometimes feel I should reduce the amount of electricity I use in my home
- C. I frequently feel I should reduce the amount of electricity I use in my home
- D. I am starting to reduce the amount of electricity I use in my home
- E. I have tried to reduce the amount of electricity I use in my home, but have found it hard to stick to
- F. I have reduced the amount of electricity I use in my home

Q3. What, if anything, do you think people can do to their homes to help reduce the amount of energy used and improve the energy efficiency of the property? DO NOT READ OUT. MULTICODE OK

Change behaviours

- a) Turn lights off
- b) Only boiling as much water as needed
- c) Turn heating down
- d) Turn TV/computer/appliances off rather than leave them on standby
- e) Use central heating on a timer
- f) Use central heating thermostat

Improve insulation

- g) Cavity wall insulation
- h) Solid wall insulation
- i) Loft insulation
- j) Top-up loft insulation
- k) Double glazing
- l) Draught proofing / draught exclusion
- m) Hot water tank insulation

Change how we heat our homes

- n) Solar water heating at home.
- o) A high-efficiency condensing boiler
- p) A ground source heat pump
- q) An air-source heat pump
- r) Biomass heating
- s) Thermostat controls fitted on individual radiators
- t) Switching from electricity to gas to heat your home
- u) Other, please specify
- v) Don't know

Q4. SHOWCARD C I am now going to read out some things that people might do to reduce the amount of energy used in the home. For each one tell me what answer on the screen applies to what you personally do at the moment. Remember there are no right or wrong answers – we're just interested in what you personally do at the moment,

INTERVIEWER: READ OUT BEHAVIOUR AND PROMPT AS NECESSARY: 'Which of the options on this list best describes what you personally do at the moment?'

- A. I don't really want to do this
- B. I haven't really thought about doing this
- C. I've thought about doing this, but probably won't do it
- D. I'm thinking about doing this
- E. I'm already doing this, but I probably won't manage to keep it up
- F. I'm already doing this and intend to keep it up
- G. I've tried doing this, but I've given up
- H. I haven't heard of this
- I. Don't know (SPONTANEOUS ONLY)
- J. Not applicable (SPONTANEOUS ONLY)

Statements RANDOMISE

- a) Using a thermostat to control the temperature of your home**
- b) Using a timer to control your central heating**
- c) Only boiling the kettle with as much water as you need**
- d) Switching off TV or computer at the socket rather than leaving on standby**
- e) Switching off mobile phone chargers at the socket when not in use**
- f) Washing clothes at 30 degrees or less**

Q5. SHOWCARD D (R) Some people say energy efficiency measures, such as insulation, double glazing or high efficiency boilers, can help save them money on their energy bills. How useful or not do you think energy efficiency measures can be in helping you to reduce the money your household spends on electricity and gas? Please read out the letter that applies. SINGLE CODE ONLY.

- A. Very useful
- B. Fairly useful
- C. Not very useful
- D. Not at all useful
- E. Don't know

CERT Customer Screening Questions ASK ALL

Q6. Were you living in your current property prior to April 2008? SINGLE CODE ONLY

- 1. Yes
- 2. No
- 3. Don't know/ Can't remember

**Q7. [IF CODE 1 or 3 at Q6] Just thinking about the period from April 2008 until now... [IF CODE 2 at Q6] Since you moved into this property...
...which of the following best describes the extent to which you have considered each of the following energy efficiency measures?**

SHOWCARD E. SINGLE CODE ONLY

- 1. I've already installed this or had it installed
- 2. I've seriously considered this and have plans to do it
- 3. I've considered this but have decided not to do it
- 4. I've never considered doing this
- 5. I don't think my property is suitable for this
- 6. I don't know what this is
- 7. Don't know/ Can't remember
- 8. This was already installed before I moved into the property
- 9. I'm not sure if this is installed in my property or not

READ OUT EACH MEASURE IN TURN. SHOW IMAGE FOR EACH ONE (SHOWCARD F).

- a) Cavity wall insulation
- b) Solid wall insulation
- c) Loft insulation or top-up loft insulation
- d) Double glazing
- e) Draught proofing or draught exclusion
- f) Solar water heating at home
- g) A high-efficiency condensing boiler which replaced an older boiler that was still working
- h) A ground source heat pump
- i) An air-source heat pump
- j) Biomass heating (using wood pellets, chips or logs). This is not a gas fire
- k) Thermostat controls fitted on individual radiators
- l) Switching to mains gas central heating to heat your home (e.g. switching from electricity, coal or another source)
- m) Hot water tank insulation

(Scripting note: If codes 1-2 or 8 given for measure a) cavity wall insulation, response to measure b) solid wall insulation should be code 3-7 or 9. IF code 1-2 or 8 given for measure b, interviewer to check whether this is correct response)

IF CODE 2-9 FOR ALL MEASURES AT Q7 SKIP TO Q14.

ASK Q8 IF MEASURES C, E OR M CODED 1 at Q7. REPEAT QUESTION FOR EACH MEASURE SELECTED

Q8. And was the [energy efficiency measure] installed by either yourself, a family member or friend or was it installed by a professional installer? SINGLE CODE ONLY

- 1. By myself, a family member or friend
- 2. By a professional installer
- 3. Don't know/ Can't remember

ASK FOR EACH MEASURE CODED 1 at Q7

Q9. Did you pay the whole cost for this, part of the cost, or was it installed free of charge to you? SINGLE CODE ONLY

- 1. Paid full cost
- 2. Paid part of the cost
- 3. Installed free of charge
- 4. Don't know/ Can't remember

CERT Customer Experience Questions (APPROX 6% OF TOTAL SAMPLE)

ASK ALL WHO CODE 1 FOR MEASURES A, B, C, D, F, G, H, I, J OR L AT Q7

Q10. What would you say are the main reasons you have already installed energy efficiency measures in your home? DO NOT READ OUT. MULTICODE OK

Money-related

- 1. It saves money
- 2. It balances out the increased cost of energy
- 3. Have or can get a grant / subsidy for the work / some of the cost of the work will be covered

Convenience

- 4. It is easy to do/install

5. Doing a refurbishment / having work done to the property anyway

Environment-related

6. It helps the environment / it's a step to being 'greener'

7. It prevents waste

8. It reduces your carbon dioxide emissions

Recommendation

9. Saw / knew other people had done it

10. Received information or was recommended it by a trusted source

Energy security

11. Able to generate my own heat and/or power

12. It is a reliable energy supply

13. Makes the home a warmer / nicer place to be

14. It was a legal requirement

15. Other reason (specify)

16. Don't know

17. Can't remember

ASK WHO CODE 1 FOR MEASURES A, B, C, D, F, G, H, I, J OR L AT Q7 AND WHO DID NOT PAY THE FULL COST (code 2 or 3 at Q9)

Q11. SHOWCARD G How likely, or unlikely, is it that you would have installed energy efficiency measures in your home if you had not received a discount or had the measure installed free of charge? SINGLE CODE ONLY

- A. Very likely
- B. Fairly likely
- C. Fairly unlikely
- D. Very unlikely
- E. Don't know

ASK ALL CERT CUSTOMERS, ASK FOR EACH MEASURE (A, B, C, D, F, G, H, I, J OR L) CODED 1 AT Q7.

Q12. What difference, if any, has having [INSERT MEASURE FROM Q7] installed in your home made?

INTERVIEWER NOTE: Please note that the respondent may not be able to distinguish between the impact of different measures if they were installed at same time. It is fine to code same responses for each measure if they are unable to distinguish.

DO NOT READ OUT. MULTICODE OK

- 1. Reduced energy bills (or balanced increased cost of energy)
- 2. Improved the warmth/comfort of the home
- 3. It has made me think about how much energy I use
- 4. It has prompted me to take other steps to reduce energy use
- 5. It has increased the value of my home
- 6. It has increased condensation /damp
- 7. Other (please specify)
- 8. It is too soon to tell
- 9. None of these
- 10. Don't know

ASK ALL WHO CODE 1 FOR MEASURES A, B, C, D, F, G, H, I, J OR L AT Q7

Q13. SHOWCARD H **How would you speak about the difference that [IF MORE THAN ONE OF ABOVE CODES SELECTED AT Q7] these measures / IF ONLY ONE CODE SELECTED AT Q7 this measure] has made to your home to other people? Please read out the letter that applies ...**

Interviewer note if respondent should be thinking about the measures discussed at the previous question, Q12

SHOW CARD G (R). SINGLE CODE

1. Speak highly of it without being asked
2. Speak highly of it if I were asked
3. Be neutral towards it
4. Be critical of it if I were asked
5. Be critical of it without being asked
6. Don't know/No opinion

Barriers for Potential Customers

ASK FOR EACH MEASURE (A, B, C, D, F, G, H, I, J OR L) CODED 2 OR 3 OR 4 AT Q7.

Q14. **What would you say are the main reasons you have not installed [INSERT energy efficiency measure] to date?**

DO NOT READ OUT. MULTICODE OK

1. Never thought about it
2. Don't know if I have it or not
3. I cannot afford it
4. Takes too long to get costs back through lower energy bills
5. Causes too much disruption
6. It is too much hassle
7. Waiting until we do major renovations
8. My home is already warm enough / do not think I need it
9. Don't know how to go about it – or who to ask
10. Would not look right
11. My home is not suitable for this
12. Other reason (please specify)
13. I'm not on the gas grid (for measure M switching fuel)

Q15. **What, if anything, would encourage you to install energy efficiency measures within your home? PROBE FULLY. What else would encourage you?**

DO NOT READ OUT MULTICODE OK. PROBE FULLY.

Money-savings

1. An upfront loan / help with the initial cost
2. Evidence that it would save me money on my bills (no timeframe mentioned)
3. Evidence that I would notice savings on my bills soon/ within a short amount of time
4. If the cost of energy increased

Convenience

5. If I was having work done to the property / redecorating etc
6. Reassurance that it would not be too disruptive
7. Knowing a trustworthy installer

Advice/ Recommendation

8. Information / recommendation from a trusted source
9. Advice that it is appropriate for my household
10. If other people I know are installing it
11. If I knew it would make my house warmer
12. If I wanted to take steps to become 'greener'
13. Other reason (please specify)
14. Don't know

General Environmental Attitudes (ASK ALL)

Q16. SHOWCARD I How concerned, if at all, are you about climate change, sometimes referred to as 'global warming'? Please read out the letter that applies SINGLE CODE ONLY

- A. Very concerned
- B. Fairly concerned
- C. Not very concerned
- D. Not at all concerned
- E. Don't know
- F. No opinion

Q17. SHOWCARD J Thinking about the causes of climate change, which, if any, of the following best describes your opinion? Please just read out the letter that applies. SINGLE CODE ONLY

- A. Climate change is entirely caused by natural processes
- B. Climate change is mainly caused by natural processes
- C. Climate change is partly caused by natural processes and partly caused by human activity
- D. Climate change is mainly caused by human activity
- E. Climate change is entirely caused by human activity
- F. I think there is no such thing as climate change
- G. Don't Know
- H. No opinion

Q18. SHOWCARD K And thinking now about your overall attitudes towards energy usage and climate change, which of these statements best reflects how you currently feel? Please just read out the letter that applies. SINGLE CODE ONLY

- A. I don't believe there are climate change problems caused by energy use and I'm not willing or able to change my behaviour with regards to energy use
- B. Whether there are climate change issues or not, I am not willing or able to change my behaviour with regards to energy use
- C. Climate change is caused by energy use and I'm beginning to think that I should do something
- D. Climate change is caused by energy use and I'm doing a few small things to help reduce my energy use and emissions
- E. Climate change is caused by energy use and I'm doing quite a number of things to help reduce my energy use and emissions
- F. Climate change is caused by energy use and I'm doing lots of things to help reduce my energy use and emissions
- G. Don't know

Q19. SHOWCARD L To what extent do you agree or disagree with the following statements? Please just read out the letter that applies.

- A. Strongly agree
- B. Tend to agree
- C. Neither agree nor disagree
- D. Tend to disagree
- E. Strongly disagree
- F. Don't know / No opinion

- 1) The Government is taking sufficient action to tackle climate change
- 2) People say they're concerned but at the end of the day they're not prepared to make big sacrifices for the environment
- 3) In my area, trying to reduce your carbon footprint is the 'normal' thing to do
- 4) Being green is an alternative lifestyle – it's not for the majority
- 5) I find it hard to change my habits to be more environmentally-friendly
- 6) It's not worth me doing things to help the environment if others don't do the same

Standard Demographic Questions

ACORN

AGE

SEX

CAR IN HOUSEHOLD

CHILDREN IN HOUSEHOLD

CHIEF INCOME EARNER

INCOME

SOCIAL GRADE

MARITAL STATUS

NUMBER IN HOUSEHOLD

WORKING STATUS (TAKEN FROM WORK/CIE AS APPROPRIATE)

*DAILY NEWSPAPER READERSHIP

DURABLES OWNED

GOVERNMENT OFFICE (GOR) REGION

EDUCATION

TENURE

ETHNIC ORIGIN

LIFESTAGE

AREA (RURALITY)

Additional Demographic Questions ASK ALL

Q20. SHOWCARD M Which, if any, of these state benefits do you, or anyone in your household, currently receive? Please read out the letter or letters that apply.

MULTICODE OK

- A. Unemployment related benefits, or National Insurance Credits
- B. Income support (not as an unemployed person)
- C. Sickness or disability benefits (not including tax credits)
- D. State Pension
- E. Family related benefits (excluding Child Benefit and tax credits)
- F. Child benefit
- G. Cold weather payment
- H. Housing or Council Tax payments
- I. Tax credits
- J. Other (please specify)
- K. None of these
- L. Don't know
- M. Refused

Q21. Please can you tell me roughly when your home was built?

SINGLE CODE ONLY

1. 1929 or earlier
2. 1930-1949
3. 1950-1989
4. 1990 or later
5. Don't know
6. Refused

Q22. SHOWCARD N Which of these best describes your home?

SINGLE CODE ONLY

- A. Detached house
- B. Semi-detached house
- C. Terraced house
- D. Bungalow
- E. Flat (in a block of flats)
- F. Flat (in a house)
- G. Maisonette
- H. Other (specify)
- I. Don't know
- J. Refused

Q23. SHOWCARD O What is the main way you heat your home? Please think about the heating system that you use to heat the majority of your home.

SINGLE CODE ONLY

- A. Gas Central heating
- B. Oil Central heating
- C. Electric heaters
- D. Solid fuel (open fire/enclosed stove)
- E. Bottled gas/paraffin
- F. Storage radiators
- G. Gas fires
- H. Communal or district heating
- I. Other (specify)
- J. Don't know
- K. Refused

Q24. SHOWCARD P How would you judge the current financial situation in your household? Please read out the letter that applies.

SINGLE CODE ONLY

- A. Very good
- B. Good
- C. Neither good nor bad
- D. Bad
- E. Very Bad
- F. Don't know



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