Department for
Business, Energy
& Industrial Strategy

Energy Company Obligation (ECO) Evaluation

Wave 1

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Executive summary

Introduction

The Energy Company Obligation (ECO) is a Great Britain-wide obligation placed by government on the largest energy suppliers to upgrade energy efficiency and heating measures of households in GB. The scheme is designed to focus support on households in fuel poverty, reduce greenhouse gas emissions and lower the cost of energy bills. It aims to drive uptake of energy efficiency measures in homes that would not have occurred without the scheme, particularly among low income and vulnerable households in or at risk of fuel poverty. The first ECO scheme launched in 2013 and required obligated energy suppliers to deliver energy efficiency measures and heating measures.

Since 2013, reforms to the scheme were implemented under ECO2, ECO2t and ECO3, with earlier schemes targeting both fuel poor households and others that were more able to pay. ECO2t included the Carbon Emissions Reduction Obligation (CERO) which was open to all households regardless of socio-demographic characteristics. It also included the Affordable Warmth scheme (AW) which focuses on reducing home heating bills in low income and vulnerable households. A flexible eligibility element was introduced for local authorities to better target households that need it most. ECO3 is solely focused on an Affordable Warmth obligation.

In September 2019, the Department for Business, Energy and Industrial Strategy (BEIS) appointed Kantar to undertake a three-wave household survey and follow-on qualitative interviews with households who have received measures under two phases of the scheme: ECO2t and ECO3. The research was commissioned to provide insights on the type of households that have been reached by the scheme, households' experience of getting the measures installed and the perceived impact. This report presents the findings from the first wave conducted in 2020. The findings will contribute towards a wider evaluation of the ECO scheme.

Methodology

For the quantitative survey, a systematic random sample of properties that had received one or more measures from ECO2t or ECO3 was produced for this research from regulatory data. The sample was disproportionate to allow for comparisons to be made across key sub-groups including obligation type and country. Selected households received a paper questionnaire to complete, and were also offered the option to respond online. Participants were offered a £10 incentive as a thank you to take part.

Fieldwork took place between March and May 2020. This was whilst coronavirus lockdown restrictions were in place, and therefore a reserve group of households were invited to take part in the survey mid-fieldwork to ensure that the target number of interviews would be achieved. The original group received a reminder two weeks after the initial invite, whereas the reserve group were invited at a later date and were not sent a reminder. Survey responses were received from 2,857 households, of which 2,382 were paper questionnaires and 475 were online interviews. This reflects a 24% response rate. Weighting was applied to ensure that the sample was representative of the population.

The qualitative research focused on understanding the decision-making and installation journey, the process of installation and the impact and benefits of ECO measures installed. It was conducted with respondents who had completed the survey and agreed to be re-contacted for further research. In-depth interviews of 60 minutes in length were conducted with 40 participants via telephone. Sixteen participants also completed a post-interview task where they shared relevant photographs from their experience.

Findings

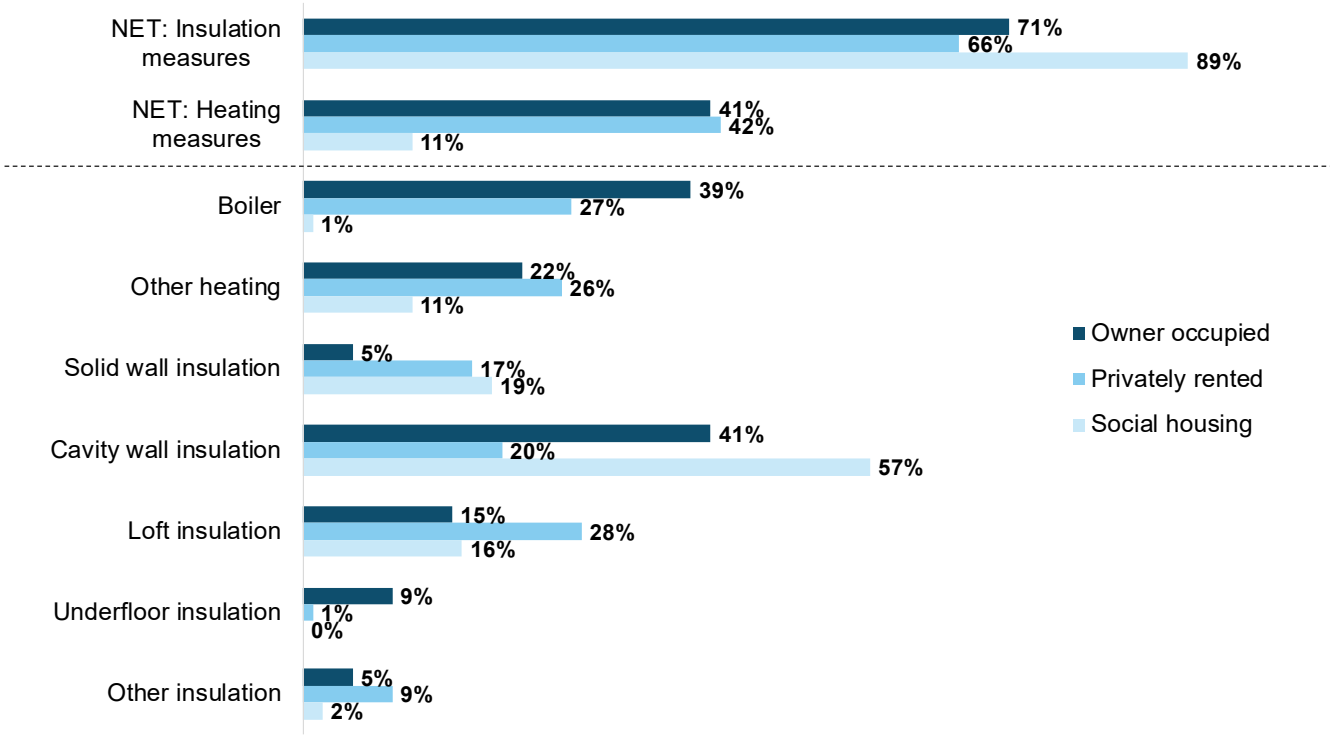
Who has been reached by ECO?

Property characteristics

- Compared with the national average, a higher proportion of social housing and a lower proportion of privately rented properties were reached. Around two-thirds (63%) of surveyed properties were owner occupied, a quarter (24%) were social housing and 11% rented privately, compared with national estimates of 63% owner occupied, 19% privately rented and 18% social housing[1].
- The measures that were installed under ECO varied by the tenure. Social housing was more likely to receive insulation measures (89%) compared with 71% of properties that were owner occupied, and 66% of privately rented properties. Properties that were owner occupied were more likely to receive heating measures (41%) compared with social housing (11%).
- Properties reached by ECO tended to be more modern compared with national estimates, with 22% of properties reached by ECO built post-1990, compared with 17% nationally, and nine percent built pre-1919, compared with 21% nationally[2].

[1] BRE report on The Housing Stock of the United Kingdom.
[2] BRE report on The Housing Stock of the United Kingdom.

Figure 1: Measure type installed by tenure



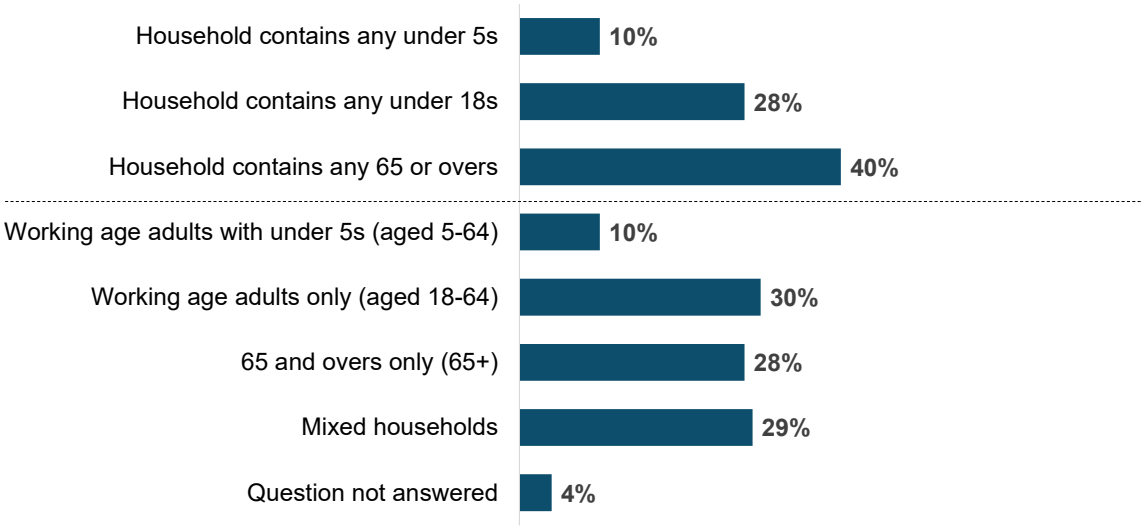
Q3. Do you (or your household) own or rent the home that you live in? Base: owner occupied (2350), privately rented (181), social housing (272).

Household demographics

- Children aged under 18 were present in around a quarter (28%) of households reached by ECO. Young children aged under five were present in one in ten (10%) households.
- Households containing working age adults only (people aged 18-64) made up 30% of the households reached.
- Older households containing only people aged 65 or over made up 28% of households reached, similar to national estimates of the number of households for this age group. However, a higher number of households reached by ECO contained at least one person aged 65 or over (40%, compared with 32% nationally)[3].

[3] Estimates of the number of households (and people in households) by the mix of age groups and number of people aged 65 and over, UK, 2019

Figure 2: Demographics of households reached



Q7. And how old is each person in your household? Again please include yourself and any children. Base: All respondents (2,857)

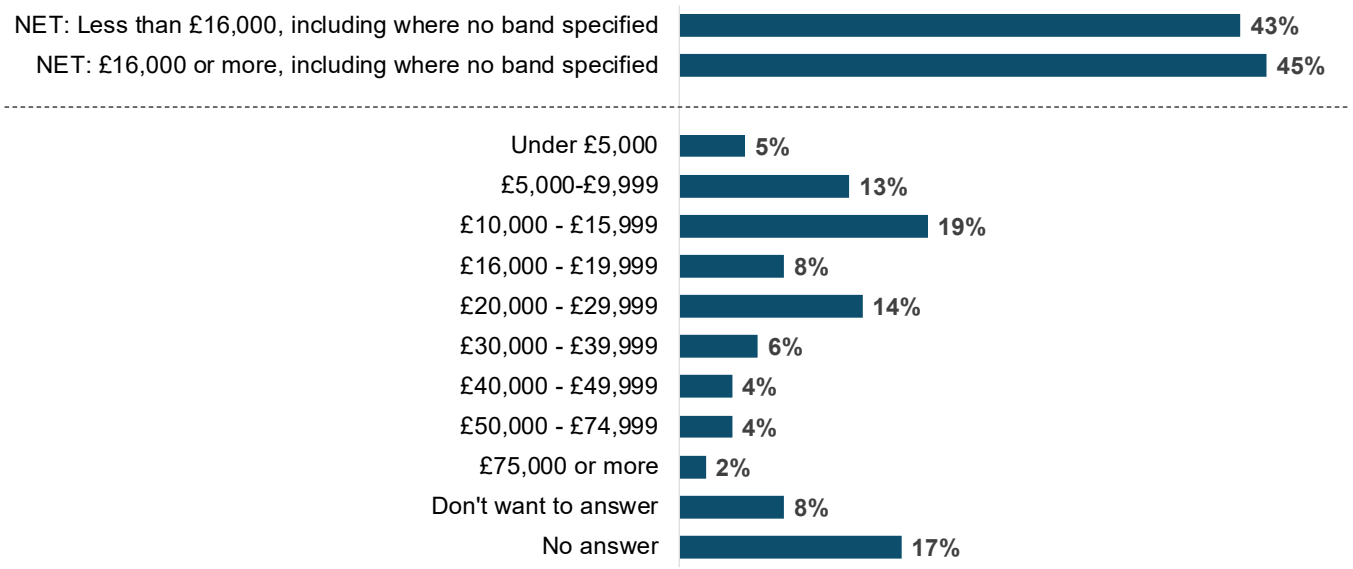
Household characteristics

- Many households were on relatively low incomes - around four in ten households (43%) had a pre-tax household income of under £16,000. This compares with a national median income of £29,600 in the financial year ending 2019[4]. A similar proportion (45%) had an income of £16,000 or more and 11% had a household income of £40,000 or more.
- Around six in ten surveyed households (59%) were receiving state benefits and around half (47%) were receiving help with fuel bills, most commonly the Winter Fuel Payment (37%) or Warm Home Discount scheme (11%).
- Households were fairly evenly split between those where the chief income earner was in paid work and those where they were not; 49% of surveyed households were in paid work compared with 36% that were retired and 14% that were unemployed.
- Around four in ten surveyed households (38%) had someone with a long-standing illness, disability or infirmity that limited their normal day-to-day activities. Among these, over half (58%) said it limits their activities all of the time and around four in ten (38%) said it limits them some of the time.
- Three-quarters of households (75%) received fully-funded measures and around two in ten (18%) paid towards the cost. Households were more likely to have paid towards the cost of heating measures (33%) compared with insulation measures (12%). Among households that paid, the median contribution per household was £400, although it varied by the type of measures installed and was highest for solid wall insulation (£1,000).

[4] Average household income, UK: financial year ending 2019.

- Most households would have been unlikely to have had the measures installed if there had been no help with funding (67%), suggesting that the scheme is reaching households that would otherwise not have made changes. However, one in five (19%) said they would have been likely to make the changes without the scheme; this was highest among households that received loft insulation (26%).

Figure 3: Annual household income



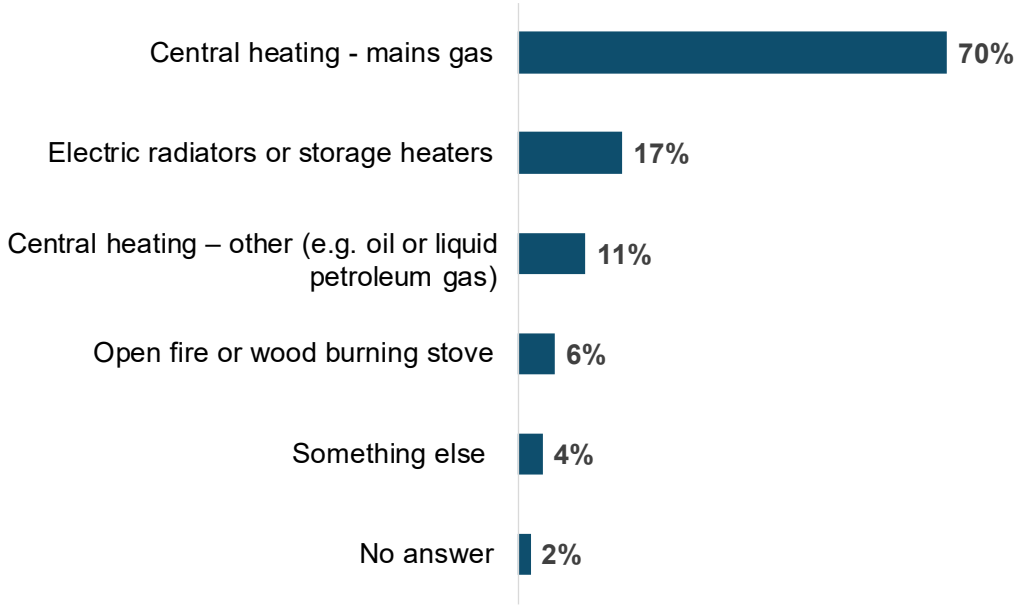
Q58. Thinking back to when you had the measure(s) installed, which of these options best describes your household's total income, before taxes and any other deductions at that time? Q59. Is your household's total income, before taxes and any other deductions, £16,000 or more a year? Base: All respondents (2,857).

Use of heating within the home

- Most households used mains gas central heating as the main way to heat their home (70%), but one in six (17%) mainly used electric radiators or storage heaters, 11% used oil or liquid petroleum central heating and six percent used an open fire or wood burning stove.

- Before the measures were installed, additional heating was used by around two-thirds of surveyed households (67%). Qualitative research suggested this was primarily used to heat particular rooms, rather than the whole house.

Figure 4: Main way of heating the home



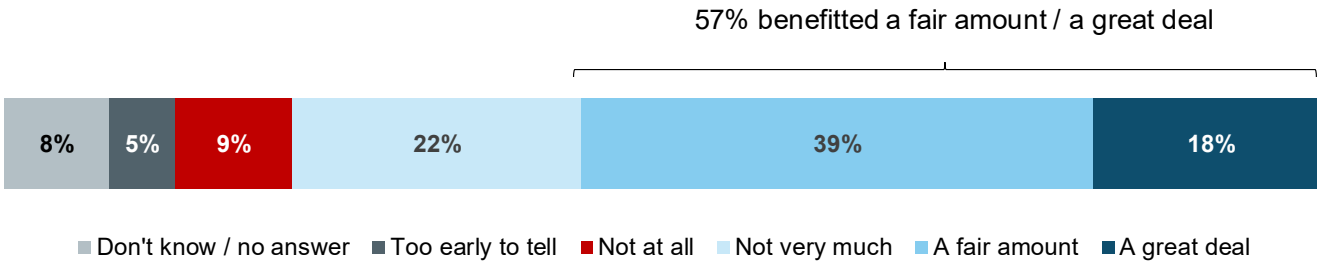
Q9. Which of these is the main way you heat your home? Base: All respondents (2,857).

Impact of the ECO scheme on households

Whether the household has benefitted

- Overall, more than half of households surveyed (57%) said they had benefitted a fair amount or a great deal from having the energy saving measures installed. Around two in ten (22%) said they had not benefitted very much, whilst around one in ten (9%) said they had not benefitted at all. Benefits cited by participants included savings on energy bills, a more comfortable temperature in the home and reduced worry about heating their home.
- The survey showed that households that had received heating measures were more likely to say they had benefitted ‘a great deal’ (29%) compared with households receiving insulation measures (14%). This was supported in the qualitative interviews, with households that received heating measures able to better articulate the benefits.

Figure 5: How much household has benefitted



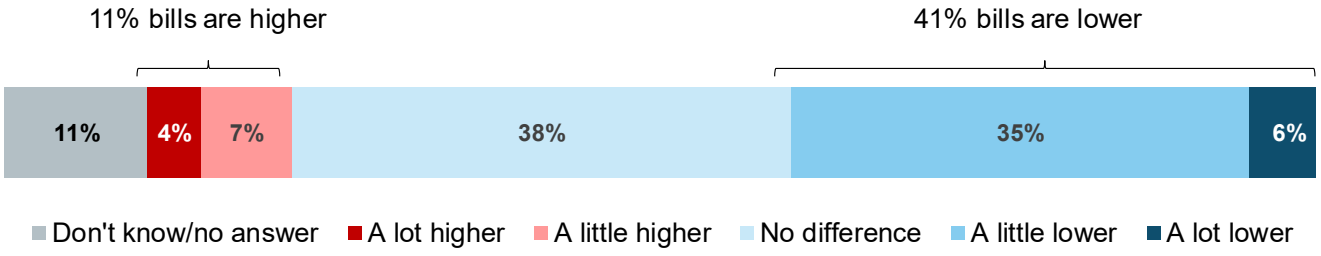
Q48. How much have you benefitted from having the measure(s) installed in your home? Base: All respondents (2,857).

Impact on energy bills

- The installation of the ECO measures showed some potential positive impact on energy bills; four in ten surveyed households (41%) said that their energy bills were lower compared with before the measures were installed. However, one in ten (11%) said their energy bills were higher, which was most common among households that used electric storage heaters as the main way of heating the home (22%).
- There was also some improvement in affordability; a third (33%) said energy bills were more affordable as a result of having the energy saving measures installed. Around half (46%) said there was no difference and a small proportion (7%) said energy bills had become less affordable.

"I think we are filling up the oil [in the boiler] less frequently than before, and therefore that saves us money and energy." (Boiler, Owns home, AW).

Figure 6: Whether energy bills are higher or lower compared with before the measure



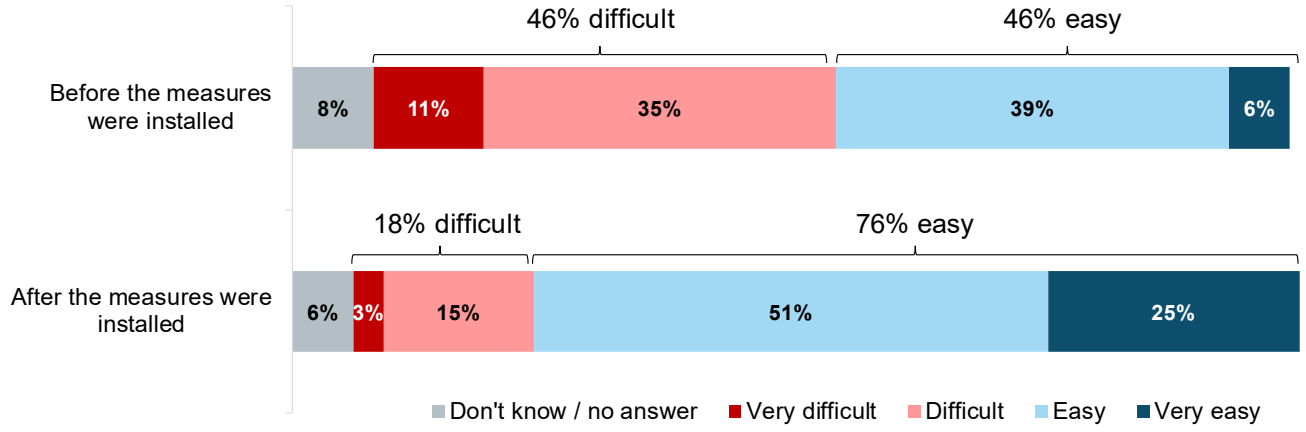
Q54. Would you say your energy bills are now...compared with before the energy saving measure(s) were installed. Base: All respondents (2,857).

Impact on temperature in the home

- There were improvements in thermal comfort within homes; three-quarters of households (76%) said their home was easy to heat to a comfortable temperature since having the measures, an increase from less than half (46%) before the measures. Two-thirds (67%) said that their home felt warmer and more comfortable after the measures were installed.
- The proportion of households that reported that the temperature in their home was 'about right' increased to 68% after the measures were installed, from 25% before the measures were installed. One in five households said that their home was still colder than they would have liked since having the measures (20%).
- More than four in ten (42%) said both that their home felt warmer and more comfortable and the temperature drops more slowly since having the measures installed.
- Among households that used additional heating, more than half (58%) said they used it less often after the measures were installed. This was higher among households that had insulation measures installed (60%) compared with heating measures (53%).

"I think the fact we are now comfortable and don't have to worry about sky high bills, that's definitely helped us out." (Loft insulation, Owns home, CERO)

Figure 7: Change in how easy or difficult it was to heat home to a comfortable temperature



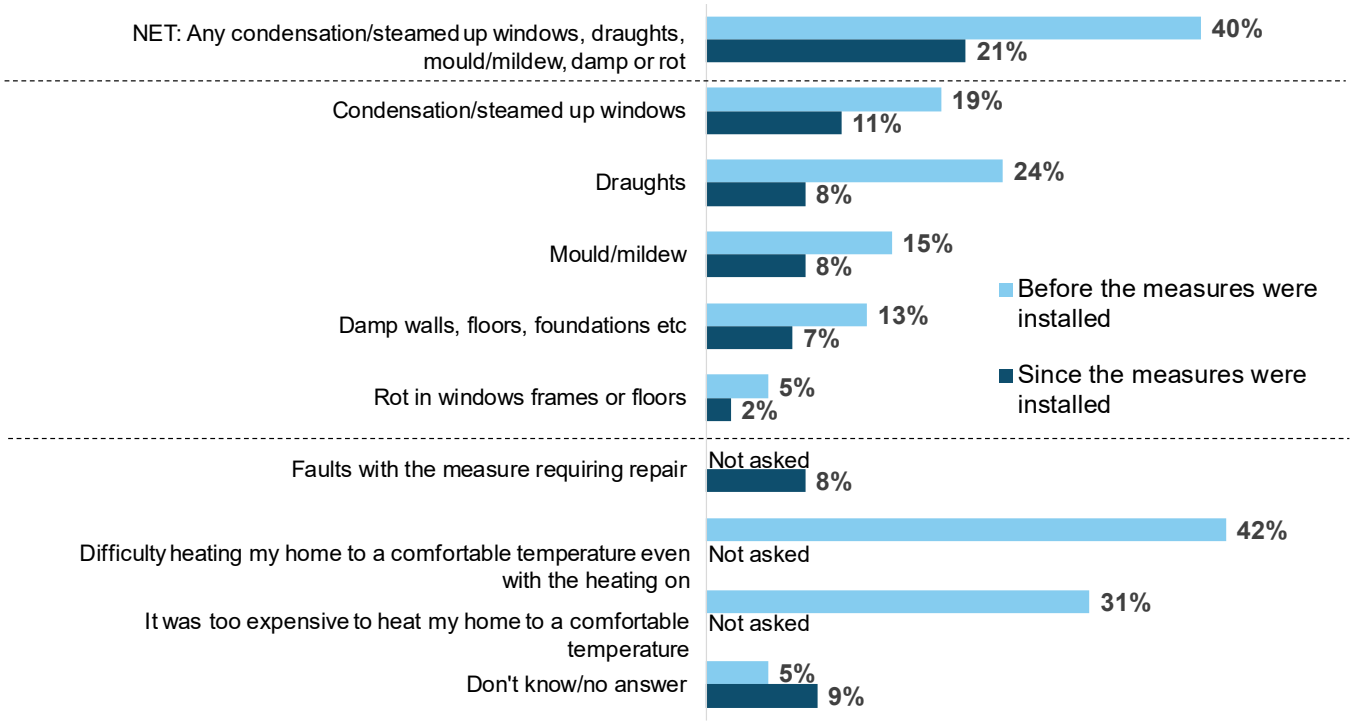
Q15. Before the measure(s) were installed, how easy or difficult was it to heat your home to a comfortable temperature? Q17. After the measures(s) were installed, how easy or difficult was it to heat your home to a comfortable temperature? Base: All respondents (2,857).

Problems experienced since the measures were installed

- The proportion of households who reported a problem with condensation, draughts, mould, damp or rot almost halved after the measures had been installed (from 40% before the installation to 21% afterwards).
- A small proportion (6%) of households reported problems with condensation, draughts, mould, mildew, damp or rot after the measure was installed, but not before**,** suggesting that these problems may have been caused by having the measure installed.
- A small proportion of households (8%) reported having a fault with the measure that required repair. These were more common among households that received heating measures (17%) compared with insulation (5%), and included faulty boiler valves, malfunctioning thermostat or controls, or poor boiler functionality.

"We are trying to get rid of the damp and trying to open the windows, even in the winter." (Boiler and cavity wall insulation, Owns home, AW)

Figure 8: Problems experienced before and after the measure was installed



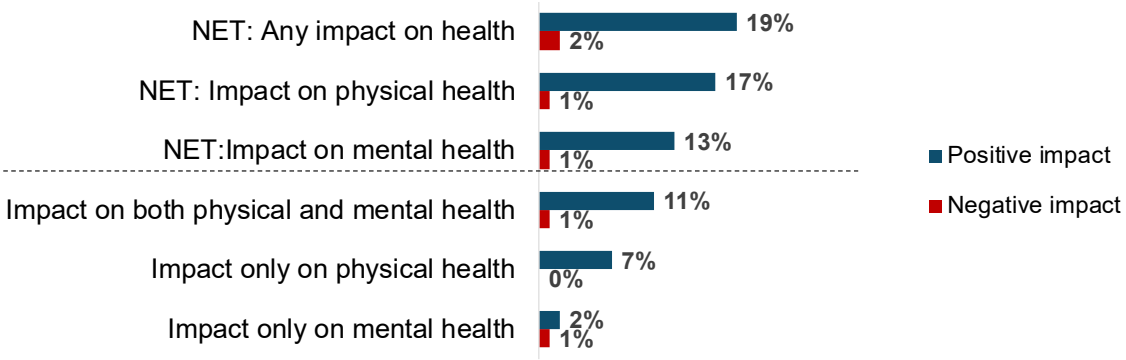
Q44. And before you had the measure(s) installed did you have any of these problems with your home? Q53. Have you had any of the following problems since the measure(s) were installed? Base: All respondents (2,857).

Impact on the health of the household

- Around one in five (19%) surveyed households reported that the measures had had a positive impact on the health of someone within the household. Positive impacts were reported across both physical health (17%) and mental health (13%). A small proportion reported a negative impact (2%).
- Households that received heating measures were twice as likely to report a positive impact on health (30%) compared with households that received insulation (15%).
- Households with someone with a long-standing illness, disability or infirmity were more likely to report a positive impact on health; 24% reported a positive impact on physical health and 17% reported a positive impact on mental health compared with households that did not have a long-standing illness or disability (14% reported a positive impact on physical health and 10% reported a positive impact on mental health).

"It's definitely less stressful for me now, especially with the baby. I was very conscious of checking the thermostat in the baby's room before it was installed and I'm definitely less stressed about that now" (Cavity wall and underfloor insulation, Owns home, AW Flexible)

Figure 9: Households that reported impact on health

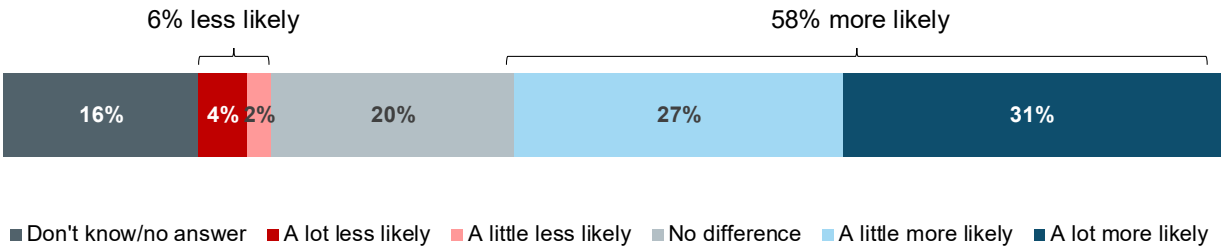


Q55. Would you say the measure(s) have had an impact on the health of you and/or other people in your household? Q56. What type of impact have the measure(s) had on the health of you and/or other people in your household? Base: All respondents (2,857)

Likelihood of having other energy saving measures installed

- The measures installed under ECO influenced the reported future behaviour of households, as nearly six in ten (58%) said they were more likely to consider other energy saving installations in the future. This was higher among households that felt they had benefitted from the scheme a great deal or a fair amount (71%) compared with a smaller proportion (41%) that said they had not benefitted very much or at all.
- A higher proportion of households that received heating measures said they were more likely to consider other energy saving measures in the future (64%) compared with households that received insulation measures (56%).
- When it came to recommending similar measures under the scheme to others, two-thirds (67%) said they already had or were likely to do so. This was higher among households that had received a boiler (30%) compared with insulation (19%).

Figure 10: Likelihood of having other energy saving measures installed



Q46. As a result of having energy saving measures installed, would you say you are more or less likely to consider other energy saving installations in the future? Base: All respondents (2,857).

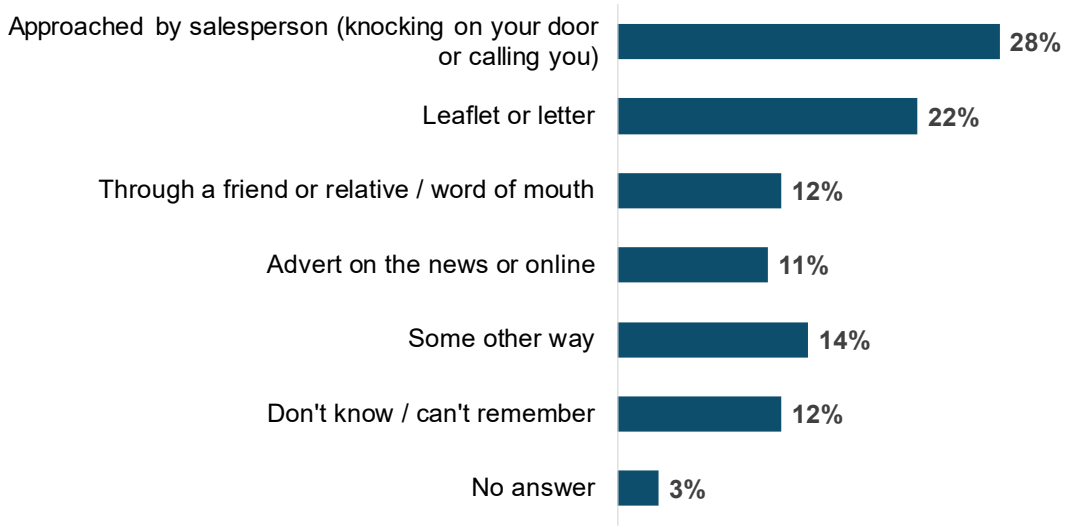
Deciding to have the measures installed

How households first found out about having measures installed

- Households most commonly found out about the measures by being approached by a salesperson (28%), followed by receiving a leaflet or letter (22%). Around one in ten heard through word of mouth (12%) or saw an advert (11%).
- Among households that were approached, 18% were approached by more than one organisation. Qualitative research suggests that the involvement of multiple organisations was confusing.

"I know it was sold as part of the government's efforts to improve our [carbon] footprint." (Boiler and underfloor insulation, Owns home, AW Flexible)

Figure 11: How households first found out about having measures installed



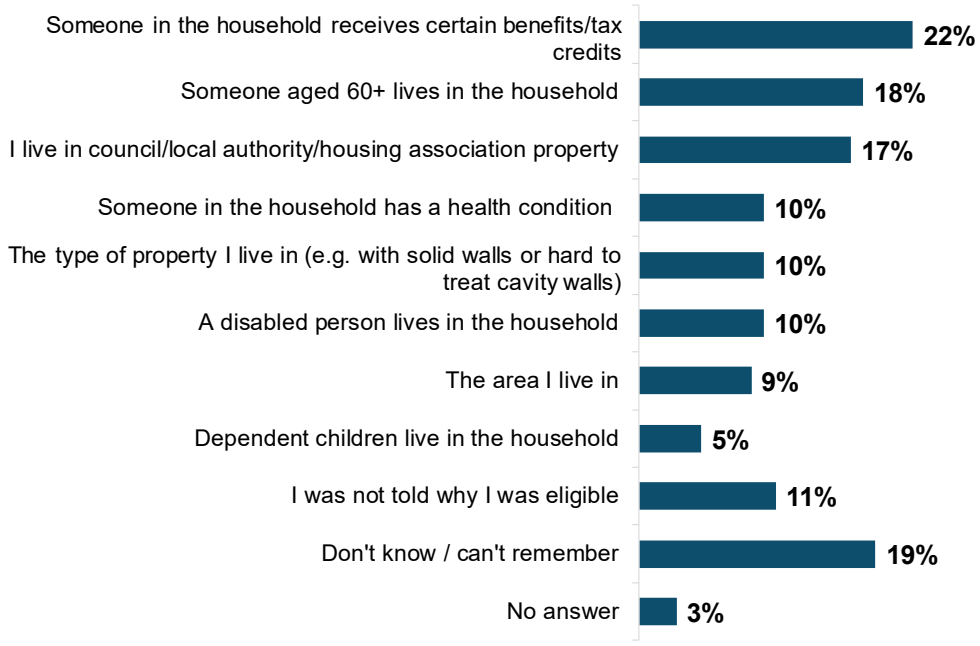
Q19. How did you find out that you might be able to have the measure(s) installed? Base: All respondents (2,857).

Eligibility to have measures installed

- Eligibility criteria was mixed. The most frequently mentioned was because someone in the household receives certain benefits or tax credits (22%), someone aged 60 or more lives in the household (18%) or they lived in a council, local authority or housing association property (17%). Households with a higher income were less clear about why they had been eligible for the scheme.
- Households reached by CERO were most likely to be eligible as they lived in a council, local authority or housing association property (24%) compared with 14% of AW Standard and 3% of AW Flexible. Households reached by AW Standard were most likely to be eligible because someone in the household receives certain benefits (43%) compared with 4% of CERO and 5% of AW Flexible. Households reached by AW Flexible were most likely to be eligible because someone aged 60 or over lives in the household (30%) compared with 19% of AW Standard and 13% of CERO.

"We don't receive benefits, we're quite high earners so don't know why we were eligible, I think it's to do with the area." (Loft insulation and cavity wall insulation, Owns home, CERO, Income £45,000-£49,999)

Figure 12: Eligibility for having measures installed



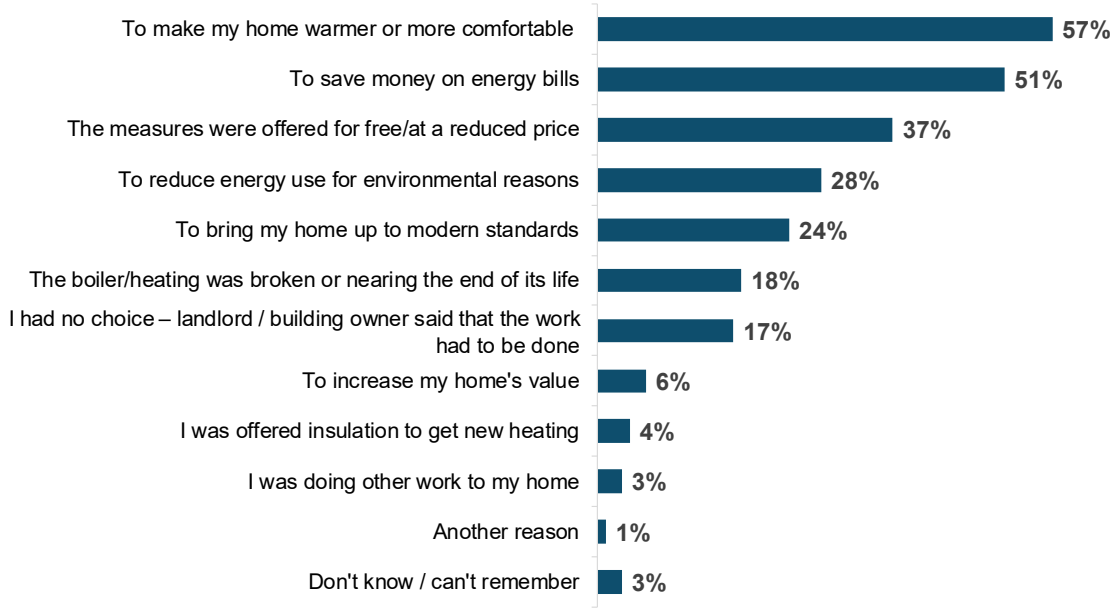
Q25. Were you ever told that you were eligible to have the measure(s) installed for any of the following reasons? Base: All respondents (2,857)

Reasons for having a measure installed

- Cost had been a key reason why surveyed households had not previously made changes to their home in order to reduce heating costs (42%), as well as there being no guarantee that making changes would save money (21%).
- Once households had found out about the scheme, cost and comfort were the main reasons for having the measures installed. More than half (57%) said it was to make the home warmer and more comfortable, or to save money on energy bills (51%). Environmental reasons were highlighted as a secondary concern.

"Just thought it was good value for money – it made sense." (Cavity wall insulation, Owns home, AW Flexible)

Figure 13: Reasons for having a measure installed



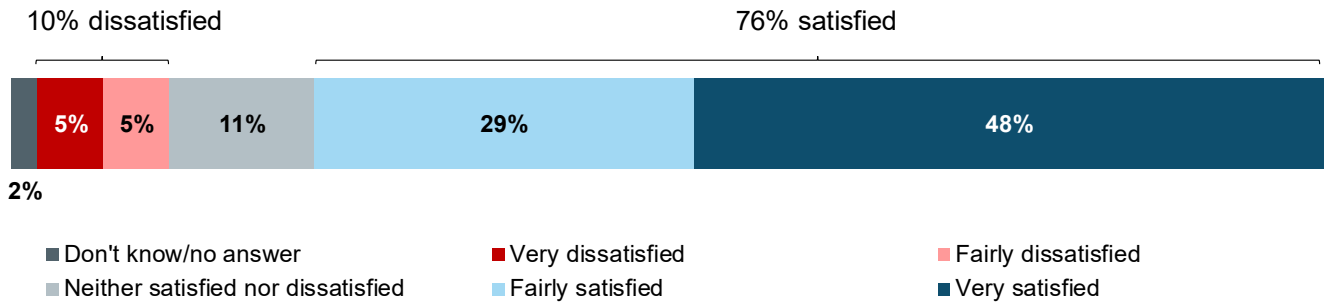
Q26. What were your reasons for having the measure(s) installed? Base: All respondents (2,857).

The experience of having a measure installed

- Most households were satisfied with the process of having a measure installed (76%). Satisfaction was particularly high among households that received a boiler (85%) compared with households that received insulation (75%). The qualitative interviews suggested that satisfaction was a result of fulfilled expectations and trust in installers.
- Expectations for the time taken to install the measures was fulfilled or exceeded by more than six in ten (63%) households. Around one in ten (12%) said it look longer than expected, which was highest among households that received solid wall insulation (35%).

"They were really good when they did it, very professional, no mess, and everything was done perfectly." (Boiler, Owns home, AW Flexible)

Figure 14: Satisfaction with the process of having the measure installed



Q41. Overall, how satisfied or dissatisfied were you with the process of having the measure(s) installed? Base: All respondents (2,857).

Key differences between obligations (CERO, AW Flexible and AW Standard)

CERO

Looking across CERO, AW Standard and AW Flexible, households reached by CERO were most likely to be social housing (33%). However, CERO households were also most likely to have a higher annual income and least likely to receive help towards fuel bills; 18% had an annual household income of £40,000 or more, and 42% received help towards fuel bills. A higher proportion of households reached by CERO used mains gas central heating (82%) and fewer households used any additional heating (60%).

Looking at the impact of the scheme, households were least likely to say they had benefitted 'a great deal' (12%). Fewer households had already recommended similar measures under the scheme (16%).

CERO households were most likely to be eligible to receive the measures because they lived in a council, local authority or housing association property (24%). Fewer households were eligible because there was someone aged 60 or over in the household (13%) compared with AW Standard or AW Flexible. Households reached by CERO were most likely to say they had *not* been made aware of the range of different measures they could have had installed (57%).

AW Standard

Households reached by AW Standard were most likely to be privately rented (17%) compared with CERO or AW Flexible. Households were most likely to have someone aged under five in the household (13%) or to contain someone with a pre-existing health condition (49%). Households were most likely to be lower income with more than half having an annual income of less than £16,000 (56%). Households were also most likely to be receiving state benefits (81%) compared with both CERO and AW Standard. Despite this, households reached by AW Standard were most likely to have paid towards the installation (23%). To heat the home, a higher proportion (24%) used electric radiators or storage heaters. Households reached by AW Standard were the least likely to have had the measures installed if there had been no help with funding (16%).

Looking at the impact of the scheme, households reached by AW Standard were the most likely to say that their heating is switched on for longer since having the measures installed

(10%), and the least likely to say that energy bills had become more affordable (29%). A higher proportion said that it was still difficult to heat the home to a comfortable temperature (23%) after the measures were installed. Households were most likely to say that the measures had had an impact on health (29%).

Households reached by AW Standard were most likely to be eligible because someone in the household receives benefits or tax credits (43%), or because a disabled person lives in the household (16%).

AW Flexible

Households reached by AW Flexible were most likely to be owner occupiers (87%). Households were older and more likely to be aged 65 or over only (43%) or have someone in the household that was aged 65 or over (54%). To heat the home, a higher proportion of households reached by AW Flexible (20%) used oil or liquid petroleum gas central heating. Households were more likely to have already considered installing the measures before they found out they could get help paying for it (28%).

Looking at the impact of the scheme, households were most likely to say that it was easy to heat their home to a comfortable temperature after the measures were installed (85%), and households were most likely to say that that were likely to recommend, or had already recommended similar measures under the scheme (80%).

Households reached by AW Flexible were most likely to be eligible because someone aged 60 or more lives in the household (30%), the area (19%) or the type of property they lived in (19%).

Households reached by AW Flexible were the most satisfied with the experience of the installation; 86% were satisfied with the process of having the measures installed and households were most likely to say that the installation took the time expected or less time than expected (72%). Households were most likely to report that they had received enough advice in advance of having the measure installed (76%), and that they had been made aware of the range of different measures they could have had installed (37%).

Next steps

The research shows that the ECO scheme is making progress against its objectives by improving the thermal comfort of homes, reducing energy bills and influencing the future behaviour of households installing or recommending energy saving measures. However, the impact varies by the type of measure that households receive, with heating measures showing a bigger impact compared with insulation.

The 2020 survey and qualitative findings give an indication of the impact of the ECO scheme and how successful it has been in achieving its aims and objectives. The findings will feed into a wider evaluation to inform the development of future policies.

1. Introduction and background

1.1 Background

In September 2019, the Department for Business, Energy and Industrial Strategy (BEIS) appointed Kantar's Public Division to undertake a large-scale survey and follow-on qualitative interviews with households that have received energy saving measures under the Energy Company Obligation (ECO) scheme. This primary evidence will contribute towards a wider evaluation of the scheme. ECO is a government energy efficiency scheme in Great Britain that has aimed to help households keep their homes warmer and more comfortable to live in, reduce their heating bills and reduce their carbon emissions. The scheme supports the Government's Clean Growth Strategy[5] with an aspiration for as many homes as possible to reach EPC Band C by 2035 where practical and affordable. Since the scheme was launched in 2013, 2.3 million energy efficient measures have been installed in approximately 1.8 million homes.

The ECO scheme was launched in January 2013 and is administered by Ofgem. It requires obligated energy suppliers to deliver energy efficiency and heating measures. Since the scheme was launched there have been different phases; ECO1, ECO2, ECO2t and ECO3. This evaluation covers ECO2t and ECO3:

- ECO2t (also known as ECO Help to Heat) ran from April 2017 to September 2018. This included the Carbon Emissions Reduction Obligation (CERO) which focused on reducing carbon emissions of housing primarily through installing insulation measures. CERO was open to all households regardless of socio-demographic characteristics. It also included the Affordable Warmth Obligation (AW) which focuses on reducing home heating bills in low income and vulnerable households through a mixture of insulation and efficient heating systems. At the start of ECO2t, a flexible eligibility element was introduced and was designed to harness the knowledge that local authorities have about the low income, vulnerable and fuel poor households that live in their areas, allowing ECO funding to be better targeted at those that need it most.
- ECO3 started in December 2018 and is expected to run until March 2022. This is solely focused on an Affordable Warmth obligation which targets low income, vulnerable and fuel poor households[6]. ECO3 also requires a certain proportion of measures to be delivered to rural homes, and increases the proportion of the scheme that can be delivered under local authority flexible eligibility. Up to 10% of a supplier's obligation can be met through the delivery of new, innovative products.

This report covers wave 1 of the evaluation. Waves 2 and 3 are planned to take place in 2021 and 2022.

1.2 Aims and objectives

The aim of the research is to provide statistically robust evidence on the characteristics of households that have received measures under ECO, and self-reported impact of the

[5] The Government's Clean Growth Strategy
[6] Energy Company Obligation: ECO3

measures to help BEIS understand how the scheme has delivered against its objectives. More specifically, the research assessed:

- Characteristics of recipients of energy saving measures under ECO2t and ECO3 phases of the scheme
- The impact of the energy saving measures within households
- How effective and efficient the delivery of the scheme has been
- How experiences differ for different types of recipients.

The research forms part of the Department's wider evaluation of the ECO scheme to inform the development of future policies.

1.3 Methodology

This section provides an overview of the methodology. For a more detailed account, and for access to the final research instruments including the survey questionnaire, readers may wish to refer to the Technical Report[7].

The research was mixed-method, combining a quantitative survey of households that had received an energy saving measure under ECO2t or ECO3, with follow-up qualitative research among those who had completed the survey and agreed to be recontacted. The sampling scope was selected to cover ECO2t and ECO3 as it was felt that it would be the limit of accurate respondent recall, but still provide sufficient detail on CERO (particularly owner occupiers), as well as AW Standard and AW Flexible. Details of each phase of research are provided below.

1.3.1 Quantitative research

Kantar conducted a survey of 2,857 households that had received one or more energy saving measures under the ECO2t or ECO3 scheme between April 2017 and November 2019. A systematic random sample of properties that had received one or more measures was produced for this research from regulatory data. The survey took place between March and May 2020.

BEIS originally planned to commission a sequential mixed-mode survey, offering participants the choice of completing an online or telephone survey, followed up by a face-to-face survey for those who had not responded. However, a postal and online method was deemed appropriate for a number of methodological and practical reasons. These are detailed in the technical report. Principally a postal approach allowed us to deliver a much larger interviewed sample of households than would have been achievable with a face-to-face survey. This maximised both the precision of population estimates and the scope for sub-group analysis.

The sample was selected disproportionally by obligation (ECO2t CERO, ECO2t AW Standard, ECO2t AW Flexible, ECO3 AW Standard and ECO3 AW Flexible) and country (England, Scotland and Wales) to allow for standalone analysis of sub-groups of interest.

[7] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1003868/eco-wave-1-technical-report.pdf

Selected households received a self-completion 16-page paper questionnaire, and were also offered the option to respond online. Questionnaires were accompanied by a covering letter which explained the purpose of the research and included a survey webpage address and log-in details if the household chose to complete online. The research was branded as 'The Energy Saving Survey' to offer as broad appeal as possible to participants, rather than focusing on specific measures. To maximise response, participants were offered a £10 gift card incentive as a thank you for taking part.

Households were invited to take part in two groups. The first group were invited at the start of March and received one reminder pack[8] two weeks after the initial invite. Due to increased coronavirus restrictions in March to May, it was not possible to monitor the number of completed surveys regularly. Therefore, a second sample batch was invited to take part to ensure the target number of interviews would be achieved. This second group were not sent a reminder due to a higher number of completed surveys than expected. Post-fieldwork analysis was conducted to see whether the inclusion of the reserve sample unduly affected survey estimates (which could be indicative of bias). This analysis indicated that the inclusion of the reserve sample was not having much of an effect on the point estimates. It was therefore decided that all data (2,857 cases) should be used for the reporting.

Fieldwork took place between March and May 2020. Survey responses were received from 2,857 households in total[9], of which 2,382 were paper questionnaires and 475 were online interviews. This reflects an overall response rate of 24%. Response rate varied by obligation, as shown in Table 1.1. Weighting was applied to ensure that the sample was representative of the population.

Table 1.1: Survey response rates[10]

	Number issued	Number of responses achieved	Response rate
ECO2t CERO	3,858	719	19%
ECO 2t AW Standard	1,530	235	15%
ECO 2t AW Flexible	1,587	525	33%
ECO3 AW Standard	2,604	523	20%
ECO3 AW Flexible	2,759	928	34%
Total	12,000	2,857	24%

[8] Containing a reminder letter and a questionnaire
[9] The target number survey responses was 2000
[10] Some households had measures installed under multiple obligations so the total number issued add up to more than 12,000, and the number of responses achieved add up to more than 2,857

1.3.2 Qualitative research

A qualitative element of the evaluation was included to provide detailed insights on household experiences of the ECO scheme. Specifically, the qualitative strand of the research focused on understanding the decision-making and installation journey, the process of installation and the impact and benefits of ECO measures installed.

In-depth interviews of 60 minutes in length were conducted with 40 participants via telephone. Sixteen participants also completed a post-interview task where they shared relevant photographs from their experience (see appendix B and C). The structure of the discussion flow and areas included in the topic guide were informed by interim analysis of the quantitative findings.

The qualitative element was conducted among households that had completed the quantitative survey and had agreed to be contacted for further research. A purposive sampling strategy was developed after the quantitative phase to ensure the qualitative sample broadly reflected both the characteristics reflected in the survey and the key characteristics underpinning differences in responses to it (see Appendix A).

1.4 Structure of the report

The main findings are structured around three chapters:

- Chapter 2 focuses on who has been reached by the ECO scheme, looking at the characteristics of the properties, the demographic of the household and the use of heating within the home.
- Chapter 3 explores the impact of the ECO scheme on households, including the impact on the cost of energy bills, the impact of the temperature in the home and the overall benefit households have experienced from having energy saving measures installed.
- Chapter 4 looks at the delivery of the ECO scheme. This includes looking at how households first heard that they could get the energy saving measures installed and the experience of getting the measures installed.

1.5 Reporting notes

The findings from all phases of the research are outlined in the following report. Insights from the qualitative and quantitative research are provided side by side. The distinction between them is signposted throughout. Where results are reported from ‘quantitative research’, the ‘survey’, ‘surveyed households’ or where percentages are reported, this denotes that findings are from the quantitative research survey. Where results are reported from ‘qualitative research’ or, ‘interviews/those interviewed’, this denotes the findings are from the qualitative strands of this research.

Throughout the report, where the results for one group of participants are compared against the results for another group, any differences discussed are statistically significant at the 95% probability level, unless otherwise stated. This means that we can be 95% confident that the differences observed between the subgroups are genuine differences, and have not just occurred by chance. Where percentages shown in charts or tables do not total to exactly 100%

this is due to a combination of rounding to the nearest whole number and because some questions allowed participants to choose more than one response option. Qualitative research seeks to explore views and experiences and does not aim or allow for statistical analyses. Qualitative findings are not representative nor generalisable and is not meant to be used to provide statistically significant results.

Qualitative case studies have been included at the end of chapters 2, 3, and 4 to illustrate examples from the interviews. They are not meant to be generalised and reflect specific households' experiences. All identifying information has been pseudonymised.

Relevant photographs from the qualitative post-task have been included in Appendix B and C and relate to chapters 3 and 4.

2. Who has been reached by ECO?

Chapter summary

Around two-thirds (63%) of surveyed households reached by ECO2t and ECO3 were owner occupiers, a quarter (24%) were social housing tenants and 11% were private tenants. Properties that were owner occupied or privately rented were more likely to receive heating measures (41% and 42% respectively) compared with social housing (11%), whereas social housing tenants were more likely to receive insulation measures (89%, compared with 71% of owner occupied and 67% of privately rented properties).

There was a high proportion of households with older people. Four in ten (40%) households had at least one person aged 65 or over living there which is higher than national estimates of 32%. More than a quarter (28%) were households of residents aged only 65 or over, similar to national estimates. One in ten (10%) households had a least one person aged under five living there.

One in four (38%) households had someone with a long-standing illness, disability or infirmity living there. This was higher among households reached by AW Standard (49%) compared with AW Flexible (26%) or CERO (28%).

Many households were on relatively low incomes; 43% had a pre-tax income of under £16,000, and 45% had an income of £16,000 or more. Around one in ten (11%) had an income of £40,000 or more. Households reached by AW Standard were more likely to have an income of less than £16,000 (56%) compared with AW Flexible (31%) or CERO (31%).

Around six in ten (59%) households were in receipt of state benefits. This was higher among households reached by AW Standard (81%) compared with CERO (40%) or AW Flexible (31%).

Three-quarters (75%) of households received fully-funded measures. Households reached by AW Standard were most likely to have paid towards the cost of the measures (23%) compared with AW Flexible (17%) or CERO (14%).

Two in ten (19%) would have been likely to have the measure installed if there had been no help with funding, most commonly when measures such has boilers were broken or at the end of their life. Fewer households reached by AW Standard said they would have been likely (16%) compared with CERO (21%) or AW Flexible (21%).

Seven in ten (70%) of households used mains gas central as the main way they heat their home and 17% used electric radiators or storage heaters. Two-thirds (67%) also used other types of heating in the home before the measures were installed.

2.1 Property characteristics

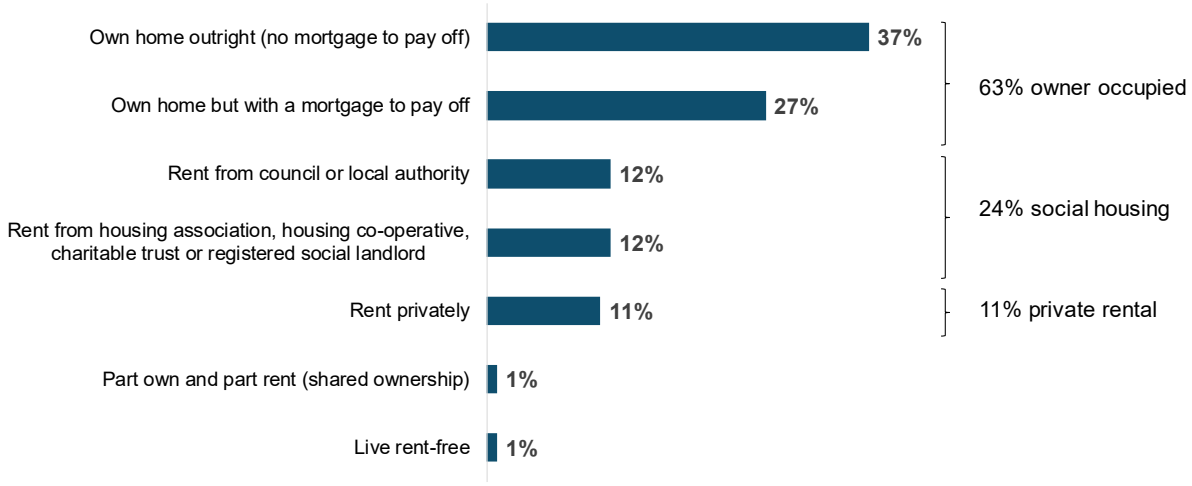
Around two-thirds (63%) of surveyed properties reached by the ECO scheme were owner occupied, including 37% that were owned outright with no mortgage to pay off, and 27% that were owned with a mortgage. A quarter of properties (24%) were social housing, including

12% that were rented from the council or local authority, and a further 12% that were rented from a housing association, housing co-operative, charitable trust or registered social landlord. Around one in ten properties (11%) were rented privately. One percent were part owned and part rented (shared ownership) and one percent lived rent-free (Figure 2.1).

These figures are consistent with the total number of households that have received ECO measures since April 2017[11].

For ECO3, it was estimated that 58% of the measures would be installed in properties that were owner occupied, 34% in privately rented properties and eight percent in social housing. The survey shows that among properties reached by ECO3, 66% were owner occupied, 13% were privately rented and 19% were social housing[12].

Figure 2.1: Tenure of properties reached by the scheme



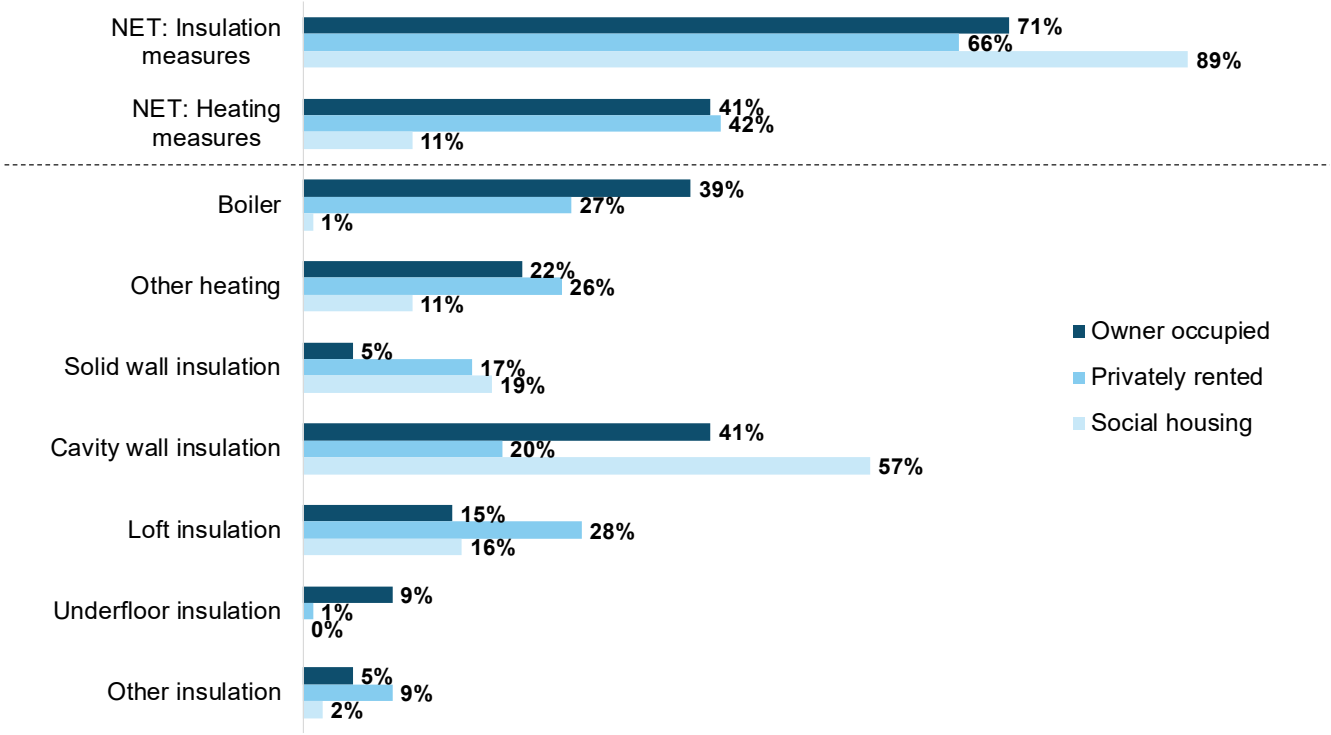
Q3. Do you (or your household) own or rent the home that you live in? Base: All respondents (2,857).

The type of measure installed varied by the tenure. Properties that were social housing were more likely to have had insulation measures installed (89%) compared with those that were owner occupied (71%) or privately rented properties (66%), and less likely to have had heating measures installed (Figure 2.2).

As well as variation by the type of measure, there was also variation of the number of measures installed. Properties that were owner occupied were more likely to have had multiple measures installed (31%) compared with properties that were privately rented (23%) or social housing (8%). In addition, properties that were owner occupied were more likely to have received both heating and insulation measures (12%) compared with one percent of social housing.

[11] Household Energy Efficiency Statistics release September 2020 shows 63% of households receiving measures were owner occupied, 24% were rented (social) and 13% were rented (privately).
[12] ECO3 Final Stage Impact Assessment

Figure 2.2: The type of measure installed varied by tenure



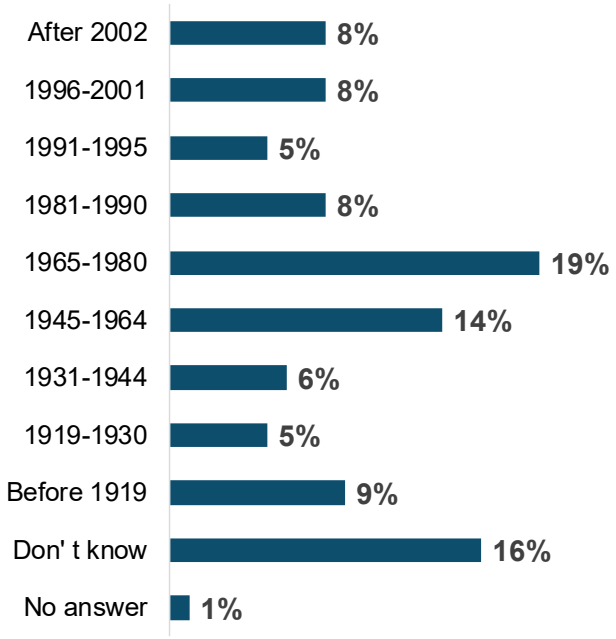
Q3. Do you (or your household) own or rent the home that you live in? Base: owner occupied (2349), privately rented (182), social housing (271).

Tenure also varied by obligation. Households reached by CERO were more likely to be in social housing (33%) compared with 21% of AW Standard and just one percent of AW Flexible. Households reached by AW Flexible were more likely to be owner occupiers (87%) compared with 62% of CERO and 59% of AW Standard.

Around three in ten properties (29%) had one floor, and seven in ten (70%) had two floors or more. The age of the properties were mixed but tended to be more modern compared with national estimates; nine percent of surveyed properties were built pre-1919, compared with 21% nationally[13], and 22% of surveyed properties were build post-1990, compared with 17% nationally. Sixteen percent did not know when their home was built. A full breakdown is shown in Figure 2.3:

[13] The Housing Stock of the United Kingdom.

Figure 2.3: Date the home was built



Q4. Roughly when was your home built? Base: All respondents (2,857)

2.2 Household demographics

2.2.1 Age and size of household

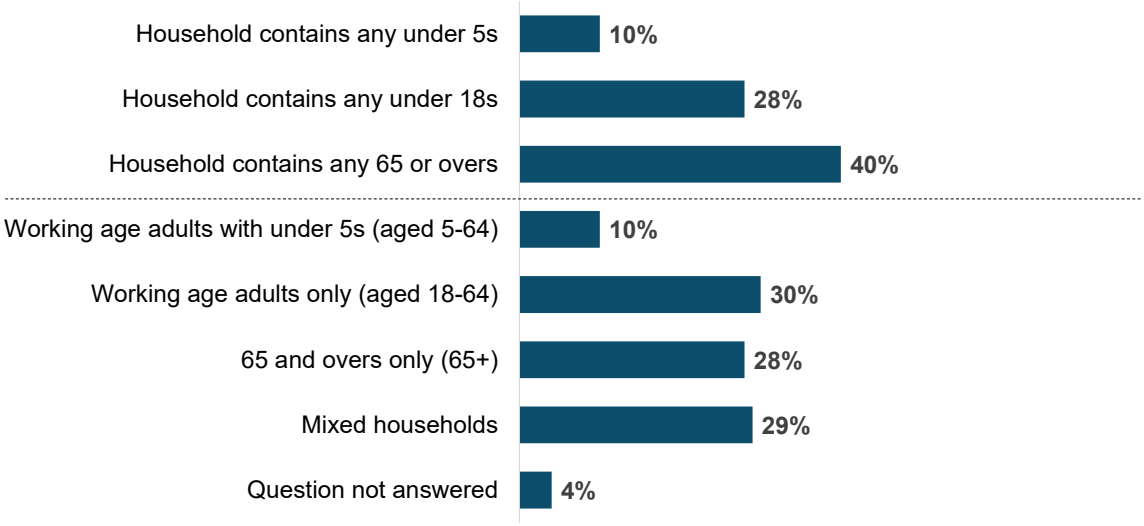
There was mix in the age and size of surveyed households, shown in Figure 2.4.

- One in ten (10%) households had at least one person aged under five living there. Seven percent of these households had two occupants, 29% had three occupants and 33% had four occupants. Thirty percent had five or more occupants.
- Around three in ten (28%) households had at least one person aged under 18 living there. Eleven percent had two occupants, 27% three occupants and 32% four occupants. Twenty-nine percent had more than four occupants.
- Three in ten (30%) surveyed households had only working aged adults in the household (aged between 18 and 64). Of these, four in ten (40%) were single occupancy, 44% had two occupants, nine percent had three occupants. Seven percent had four or more occupants.
- Around three in ten (28%) were made up of only people aged 65 and over. Of these households, around six in ten (58%) were single occupancy, and around four in ten (42%) had two people living there. This is similar to ONS estimates of households

containing people aged 65 and over only (25% of all households), and of these it is estimated that 59% are single occupancy[14].

- Four in ten (40%) households had at least one person aged 65 or over living there. This is higher than the ONS estimates (32%)[15].Households reached by AW Flexible were more likely to have someone aged 65 or over in the household (54%) compared with CERO (40%) or AW Standard (37%).

Figure 2.4: Age of residents within the household



Q7. And how old is each person in your household? Again please include yourself and any children. Base: All respondents (2,857).

2.2.2 Number of weekdays someone is home during winter

Households were asked for the average number of weekdays (Monday – Friday) in winter that someone was home during the day (9am – 5pm). Just under six in ten (58%) households said there was someone home during this time every weekday. Twelve percent were home for three to four weekdays on average, one in ten (11%) were home for two weekdays and eight percent were home for one weekday. A small proportion (7%) said that nobody was at home during the day Monday-Friday during winter.

Households that were formed only of people aged 65 and over were more likely to be home every weekday (72%) compared with households with working aged adults in only (50%), or working aged adults with under-fives (49%). This correlates with the qualitative strand of the research, with retirees mentioning that they were home during the day, and would therefore have their heating on more frequently, especially in winter.

"I did have it on in July once and a few times in June just because I'm at home more" (Boiler and underfloor insulation, (Owns home, AW Flexible, age 63)

[14] ONS estimates of the number of households (and people in households) by the mix of age groups and number of people aged 65 and over, UK, 2019
[15] ONS estimates of the number of households (and people in households) by the mix of age groups and number of people aged 65 and over, UK, 2019

Participants with children also said that they would switch their heating on when their children came home from school in the afternoon as they did not want them to be cold.

"I like to know my daughter is warm and safe". (Cavity wall and loft insulation, Private renter, AW)

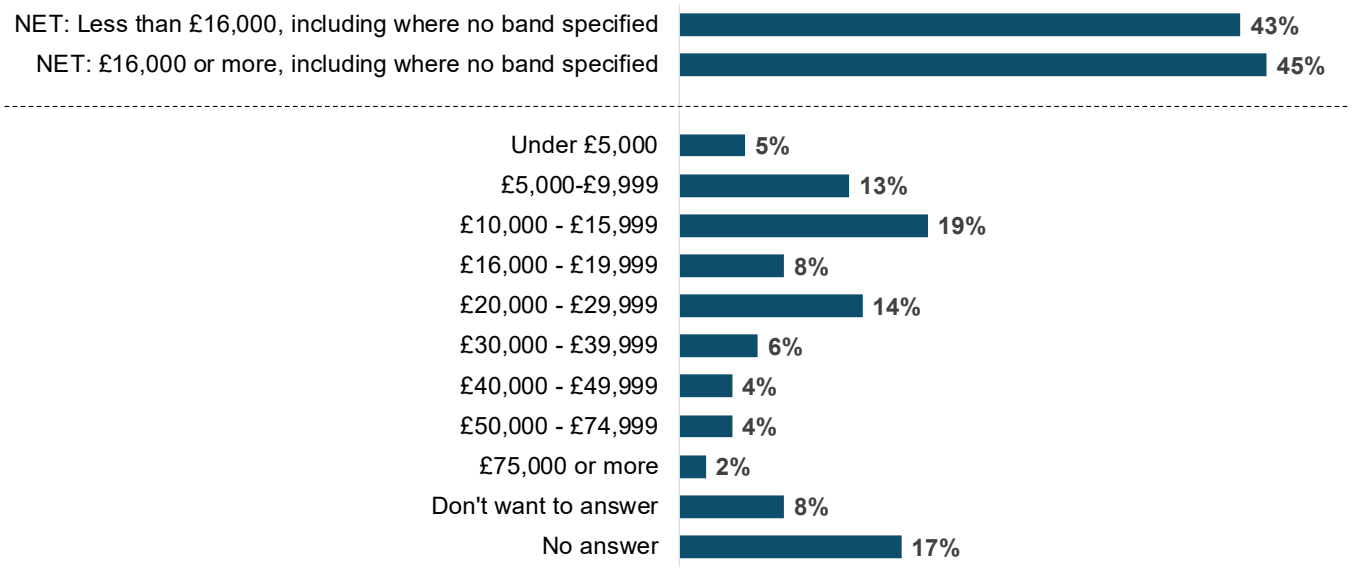
2.3 Household characteristics

2.3.1 Household income

In the survey households were asked about their pre-tax annual income. If they did not want to give a banded amount, there was the option to say whether their household income was less than £16,000, or £16,000 or more a year. Figure 2.5 shows the banded responses given as well as the derived amount of whether the household's income was more or less than £16,000 a year.

Overall, 43% of those reached by ECO had a household pre-tax income of under £16,000 and 45% had an income of £16,000 or more. This compares with a national median average income of £29,600 in the financial year ending 2019. Around one in ten (11%) had a household income of £40,000 or more.

Figure 2.5: Household's annual income when the measure was installed, before taxes and other deductions

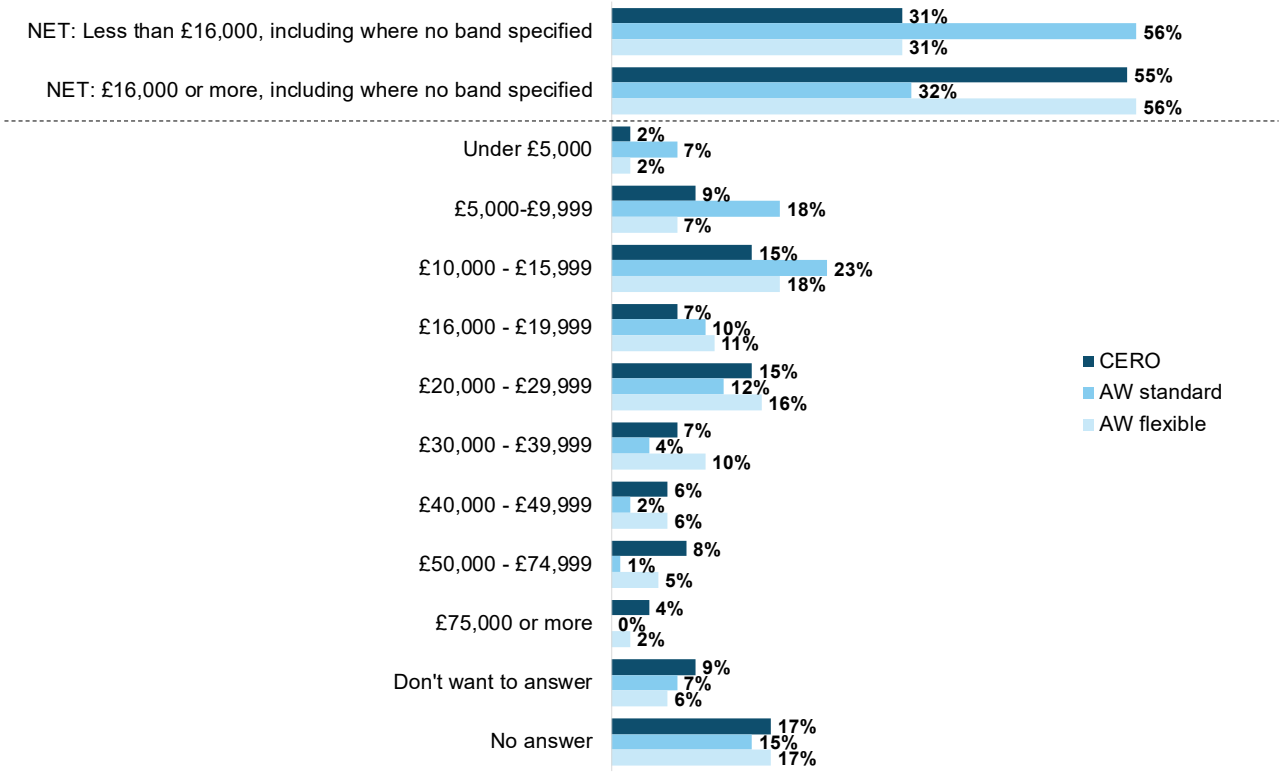


Q58. Thinking back to when you had the measure(s) installed, which of these options best describes your household's total income, before taxes and any other deductions at that time? Q59. Is your household's total income, before taxes and any other deductions, £16,000 or more a year? Base: All respondents (2,857).

Households reached by AW Standard were more likely to have a lower income; over half (56%) of households had an income of less than £16,000 a year compared with three in ten households reached by CERO (31%) or AW (31%) (Figure 2.6). Households reached by

CERO or AW Flexible were more likely to have a household income of £16,000 or more (55% and 56% respectively) and households reached by CERO were most likely to have a household income of £40,000 or more a year (18%) compared with AW Flexible (12%) or AW Standard (3%).

Figure 2.6: Household's annual income when the measure was installed, before taxes and other deductions

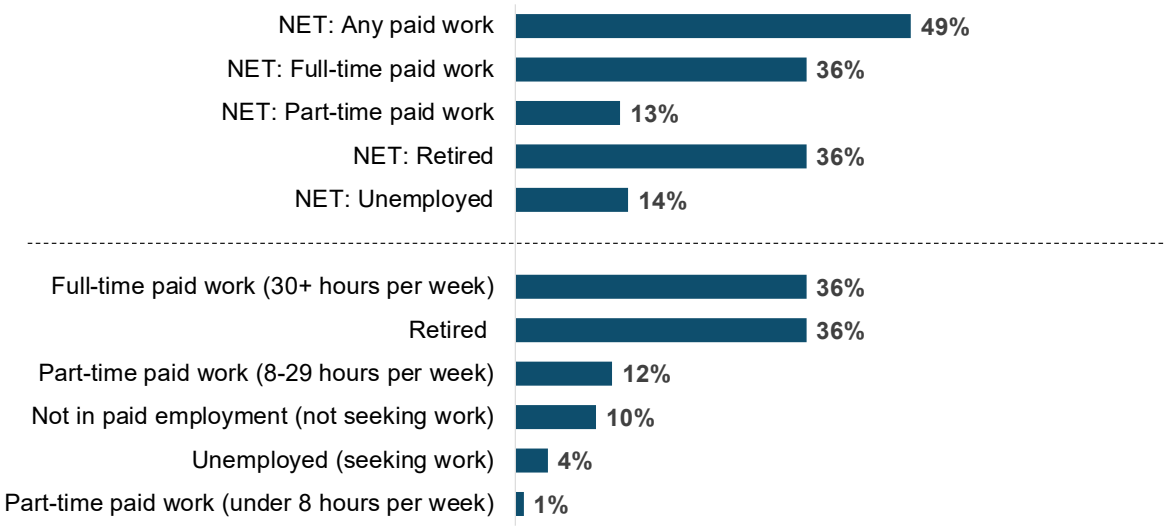


Q58. Thinking back to when you had the measure(s) installed, which of these options best describes your household's total income, before taxes and any other deductions at that time? Q59. Is your household's total income, before taxes and any other deductions, £16,000 or more a year? Base: CERO (719) AW Standard (725), AW Flexible (1448).

2.3.2 Working status of chief income earner in the household

The working status of the chief income earner for half (49%) of surveyed households was paid work, with 36% in full-time work (30 hours or more per week) and 13% in part-time work (under 30 hours per week). Over a third were retired (36%) and 14% were unemployed (Figure 2.7).

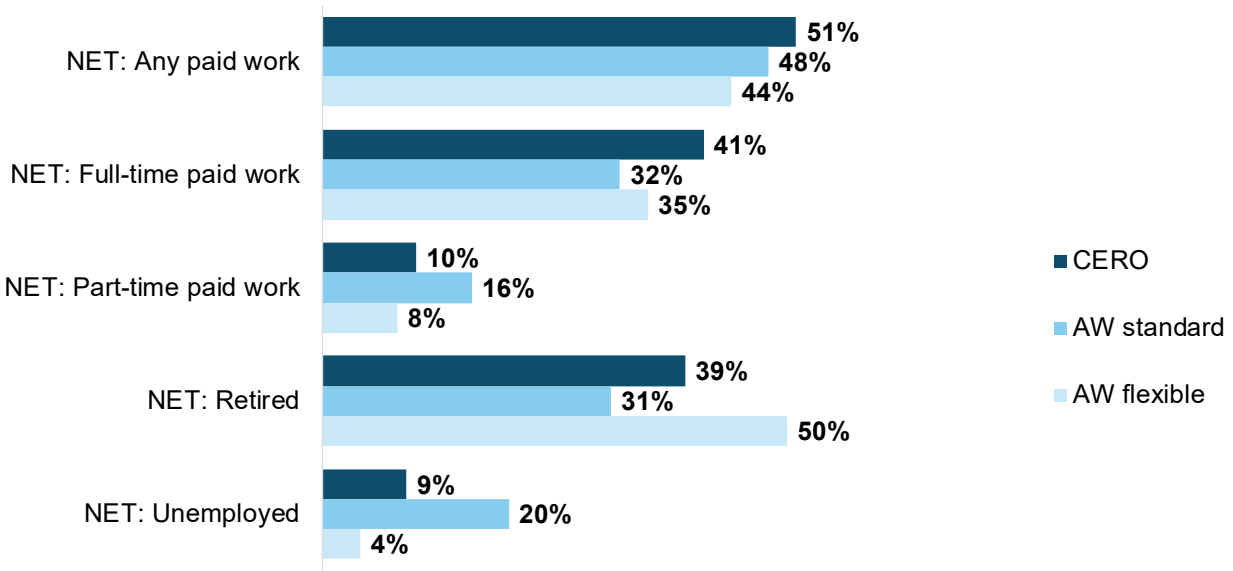
Figure 2.7: Working status of the chief income earner in the household



Q57. Which of these options best describes the working status of the chief income earner in your household? Base: All respondents (2,857).

Households reached by CERO were more likely to be in full-time paid work (41%) compared with both AW Flexible (35%) and AW Standard obligations (32%), whereas households reached by AW Standard were more likely to be in part-time work (16%) compared with CERO (10%) or AW Flexible (8%). Half of households reached by AW Flexible were retired (50%) compared with smaller proportions of CERO (39%) or AW Standard (31%). Households reached by AW Flexible were more likely to be unemployed (20%), compared with CERO (9%) or AW Flexible (4%) (Figure 2.8).

Figure 2.8: Working status of the chief income earner in the household by obligation



Q57. Which of these options best describes the working status of the chief income earner in your household? Base: CERO (719) AW Standard (725), AW Flexible (1448).

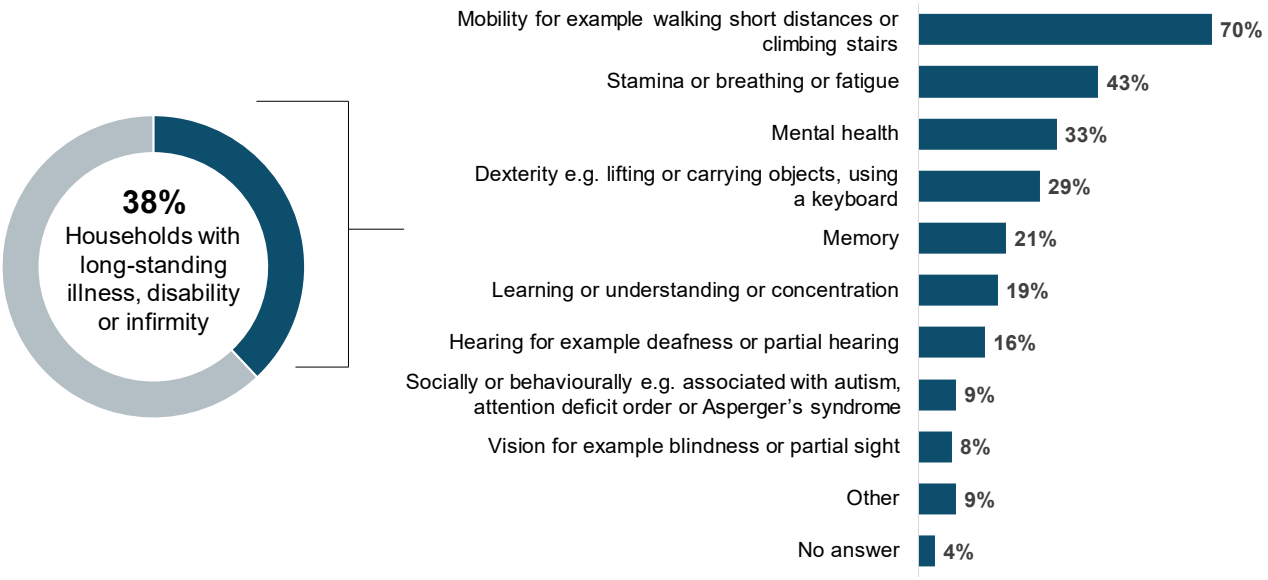
2.3.3 Health problems and disability

Surveyed households were asked whether there was anyone within the household (including themselves) with a long-standing illness, disability or infirmity that limited their normal day to day activities. Just under four in ten (38%) households reported having a long-term illness. This was higher among:

- Households reached under AW Standard (49%) compared with households reached under CERO (28%) or AW Flexible (26%).
- Households where all occupants were aged 65 or over (46%) compared with households where all occupants were working age adults aged 18-64 (38%) or where occupants were working age adults with under five year olds (28%).
- Households with an income of less than £16,000 a year (47%) compared with £16,000 or more (27%).

Among households that had someone with a long-standing illness, disability or infirmity, 58% said that it limited their activities all of the time, and 38% said it limited their activities some of the time. Conditions or illnesses most commonly affected mobility (70%), followed by stamina, breathing or fatigue (43%) or mental health (33%). Three in ten said the condition or illness affects dexterity (29%) and two in ten said memory (21%) or learning, understanding or concentration (19%).

Figure 2.9: Long-standing illness, disability or infirmity within the household



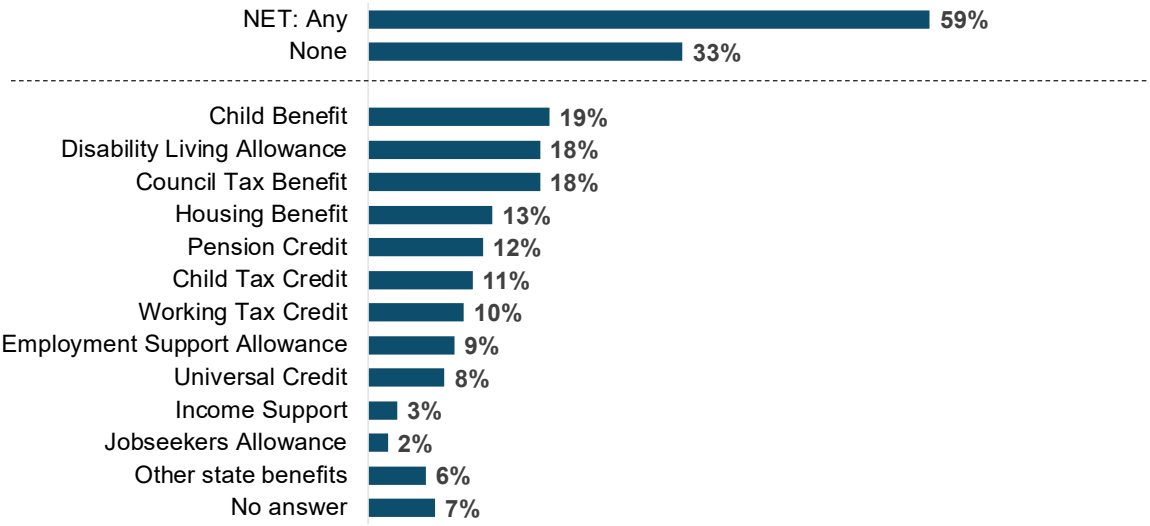
Q64. Does anyone in your household have any long-standing illness, disability or infirmity that limits their normal day to day activities? Base: All respondents (2,857). Q66. Do any of these conditions or illnesses affect this person in any of the following areas? Base: All respondents where there is someone with a long-standing illness, disability or infirmity in the household (914).

2.3.4 Benefits

Around six in ten (59%) surveyed households were receiving state benefits, and a third (33%) were not. Seven percent did not give an answer to this question. Households reached under the AW Standard obligation were more likely to be receiving any benefits (81%) compared with four in ten households (40%) reached by CERO, and around three in ten (31%) reached by AW Flexible (Figure 2.11).

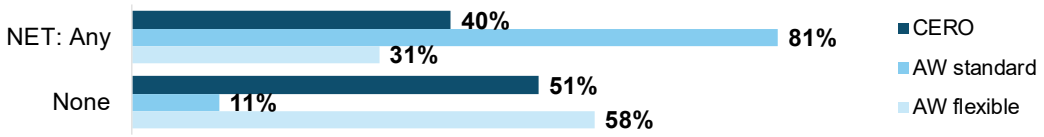
Around one in five households were receiving Child Benefit (19%), Disability Living Allowance (18%) or Council Tax Benefit (18%). A full breakdown of benefits received is shown in Figure 2.10.

Figure 2.10: Benefits received within the household



Q63. Is anyone in your household, including yourself, currently receiving any of these benefits?
Base: All respondents (2,857)

Figure 2.11: Benefits received within the household by obligation



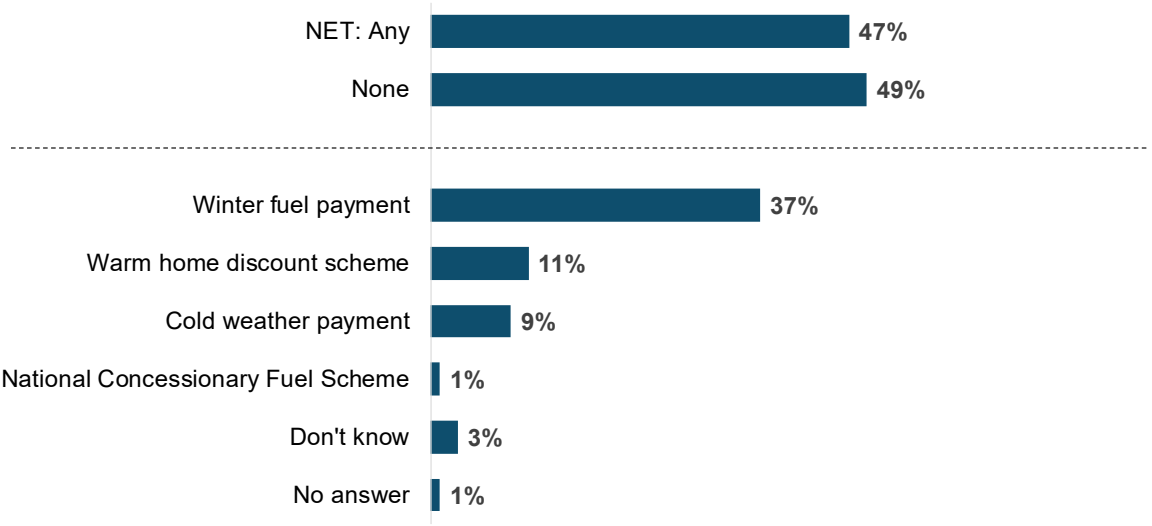
Q63. Is anyone in your household, including yourself, currently receiving any of these benefits?
Base: CERO (719) AW Standard (725), AW Flexible (1448).

2.3.5 Help received with fuel bills

Just under half (47%) of households received some sort of help towards paying for fuel bills. Households reached by AW Standard and AW Flexible obligations were more likely to be receiving help with fuel bills (50% and 53% respectively) compared with households reached by CERO (42%).

The most common help received was the Winter Fuel Payment (37%). Around one in ten (11%) received help from the Warm Home Discount Scheme, or the Cold Weather Payment (9%). One percent received help from the National Concessionary Fuel Scheme (Figure 2.12). Half (49%) did not receive any help with fuel bills.

Figure 2.12: Help household receives towards fuel bills



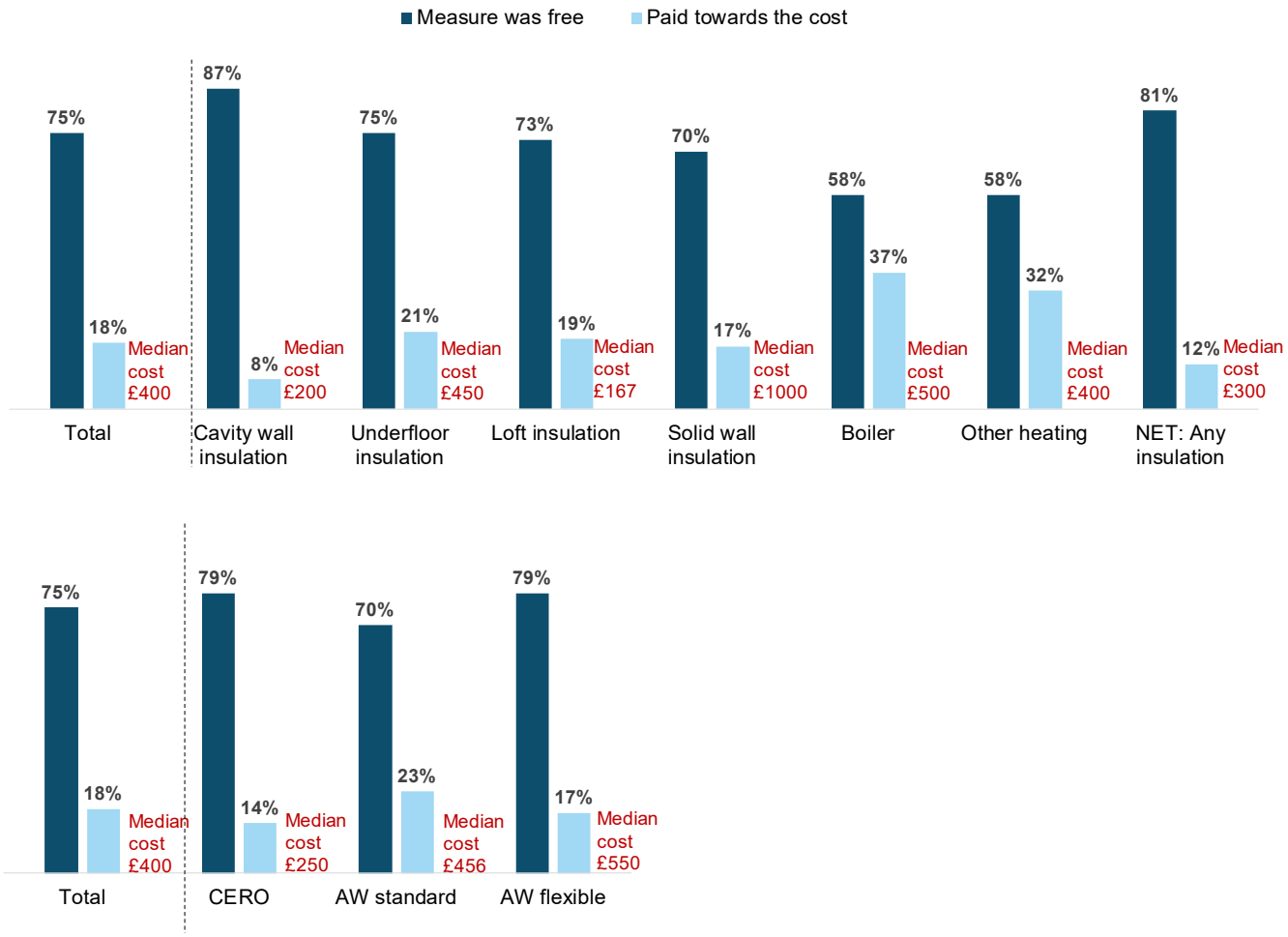
Q13. What help, if any, does your household receive to help with fuel bills? Base: All respondents (2,857).

2.3.5 Whether paid towards the cost of the ECO measures

Nearly one in five households (18%) paid towards the cost of having the measure installed and three-quarters (75%) received the measures for free. A small proportion of households (6%) said they did not know. Again, there was variation by the measure type that was installed (Figure 2.13). Households were more likely to have received insulation for free (81%), compared with heating measures (60%).

Measures installed under CERO or AW Flexible were more likely to be free (79%) compared with measures installed under AW Standard (70%). There was also variation by the age of the property. Just under nine in ten (87%) properties that were built from 1991 received the measures for free compared with around two-thirds (68%) of properties built before 1991.

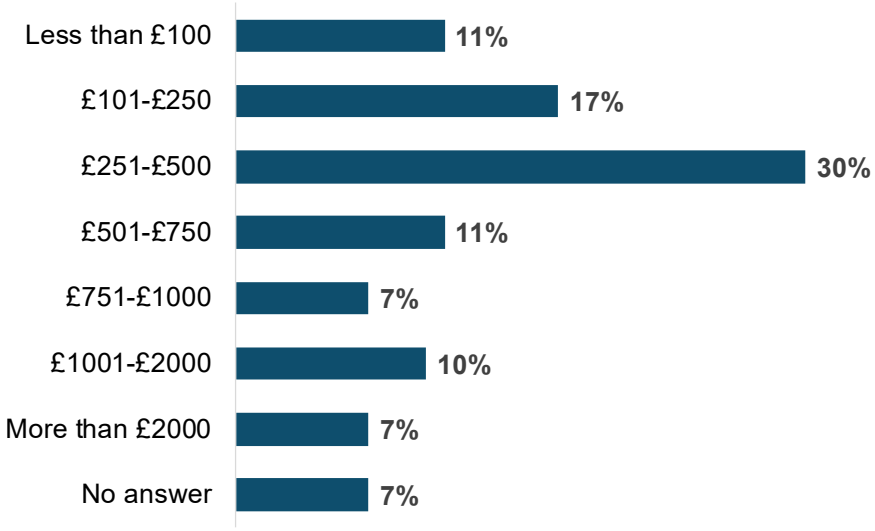
Figure 2.13: Whether the measures were installed for free or paid towards the cost of installation by measure type and obligation



Q33. Were the measure(s) installed for free, or did you pay towards the cost of installation? Base: Total: All respondents (2,857). Respondents receiving measures under ECO: cavity wall insulation (1,061), underfloor insulation (174), loft insulation (524), solid wall insulation (241), boiler (1,117), other heating (612), any insulation (2,016), CERO (719), AW Standard (725), AW Flexible (1448).

Among those who paid towards the cost of the measure, 11% paid £100 or less. A further 17% paid £101 to £250, and three in ten (30%) paid between £251 and £500. Eighteen percent paid between £501 and £1000, and 16% paid more than £1000. A full breakdown is shown in Figure 2.14. Households that received solid wall insulation and paid towards the measure paid the most on average (median), paying £1,000. Households receiving loft insulation paid the least (£167 on average).

Figure 2.14: Amount household paid towards the cost of the installation



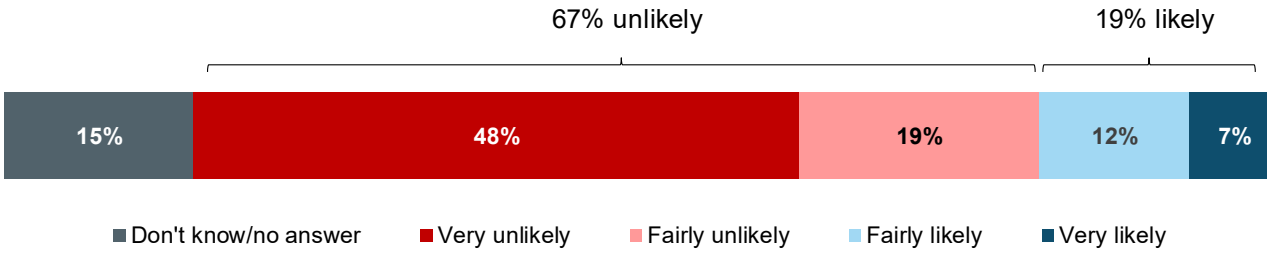
Q12. How much in total did you pay towards the cost of having the measure(s) installed? Please provide your best estimate. Base: All respondents who paid towards the cost of the measures (581).

Among those who paid towards the cost of the measures, over half (51%) said they used money from savings to pay. One in seven (14%) borrowed money from family or friends and eight percent used a credit card. Smaller proportions said they got a loan (2%) or extended their mortgage (1%). A quarter (25%) said they did not do any of these things to pay for the installation.

2.3.6 Likelihood of having the measures if there had been no help with funding

Around two in ten (19%) surveyed households said they were likely to have installed the measures if there had been no help with funding. Over two-thirds (67%) said they would have been unlikely (Figure 2.15). The remaining 13% of surveyed households said they did not know how likely they were to have installed the measures without funding and one percent did not answer. Higher proportions of households reached by AW Standard (70%) and AW Flexible (70%) were unlikely to have had the measures installed if there had been no help with funding, compared with those reached by CERO (62%).

Figure 2.15: Likelihood of having measures if there had been no help with funding



Q36. How likely would you have been to have the measure(s) installed, if there had been no help with funding? Base: All respondents (2,857).

Likelihood of having the measures installed if there had been no funding varied by the type of measure installed. Surveyed households receiving loft insulation were more likely to say they would have had it installed without the help from funding (26%) compared with 19% of those who received cavity wall insulation, 18% of those who received a boiler and 16% of those who received solid wall insulation. There was also variation by tenure. Owner occupiers were more likely (23%) than those in social housing (12%) or renting privately (6%) to have installed the measures without funding.

In the qualitative research, views on funding depended on whether participants had previously thought about installing the measures. Those who had already thought about having insulation or a boiler installed were more likely to be willing to contribute towards the cost, as ECO measures were lower than the regular market price. This view was especially prevalent among participants having boilers installed, as they were often needed urgently due to being old, faulty or broken. Those installing measures for longer-term benefits, such as saving money on bills or safeguarding against future breakdowns, were more reluctant to contribute to costs.

When participants in the qualitative interviews who had received their measures free of charge were asked whether they would have contributed towards the cost if they had been asked to, people generally said that they would, especially if they were already thinking about having the measures installed. However, they found it difficult to quantify exactly how much they would have been willing to contribute, as they often did not know what the true cost of the parts and installation was. Firms advertising the ECO scheme were not forthcoming with this information, and participants were unable to find this information online.

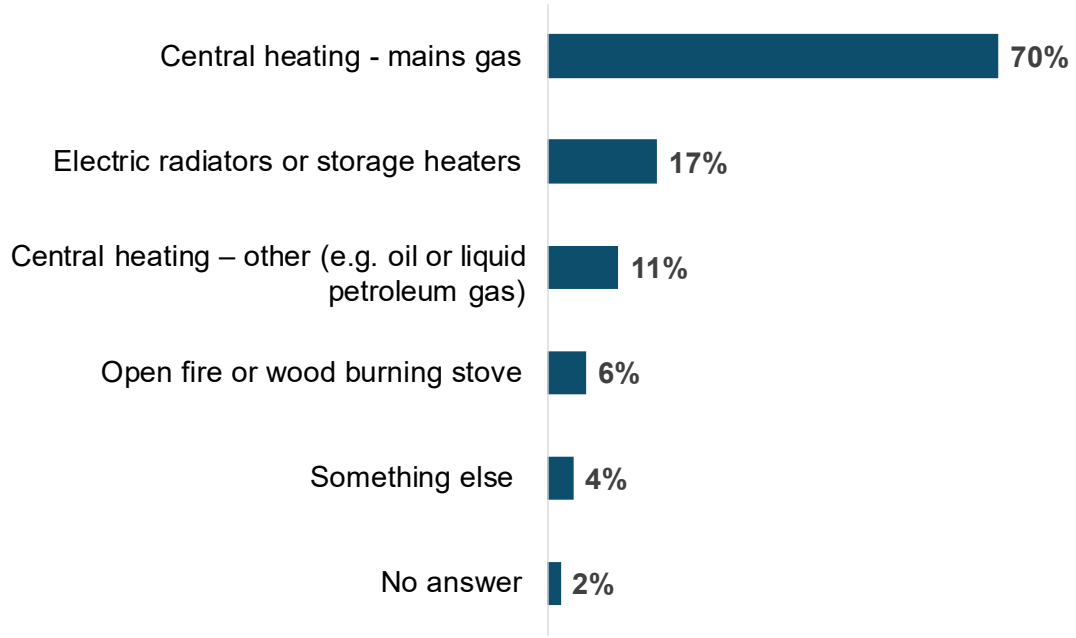
2.4 Use of heating within the home

2.4.1 Main way of heating the home

Eight in ten (81%) surveyed households primarily heated their home using central heating. Seven in ten (70%) had mains gas central heating, whilst 11% used oil, liquid petroleum gas or other types of central heating. One in six (17%) said they use electric radiators or storage heaters as a main source of heat and six percent said they used an open fire or wood burning stove (Figure 2.16).

Under ECO3, it was estimated that nearly a fifth of the measures installed would be to households heated by non-gas fuels (83% in homes heated by mains gas, 14% electricity, 2% oil and 1% solid fuel). The survey findings show that 68% of households reached by ECO3 used mains gas central heating, 24% used electric radiators or storage heaters, 8% used oil or liquid petroleum central heating, and 5% used an open fire or wood burning stove.

Figure 2.16: Main way of heating the home



Q9. Which of these is the main way you heat your home? Base: All respondents (2,857)

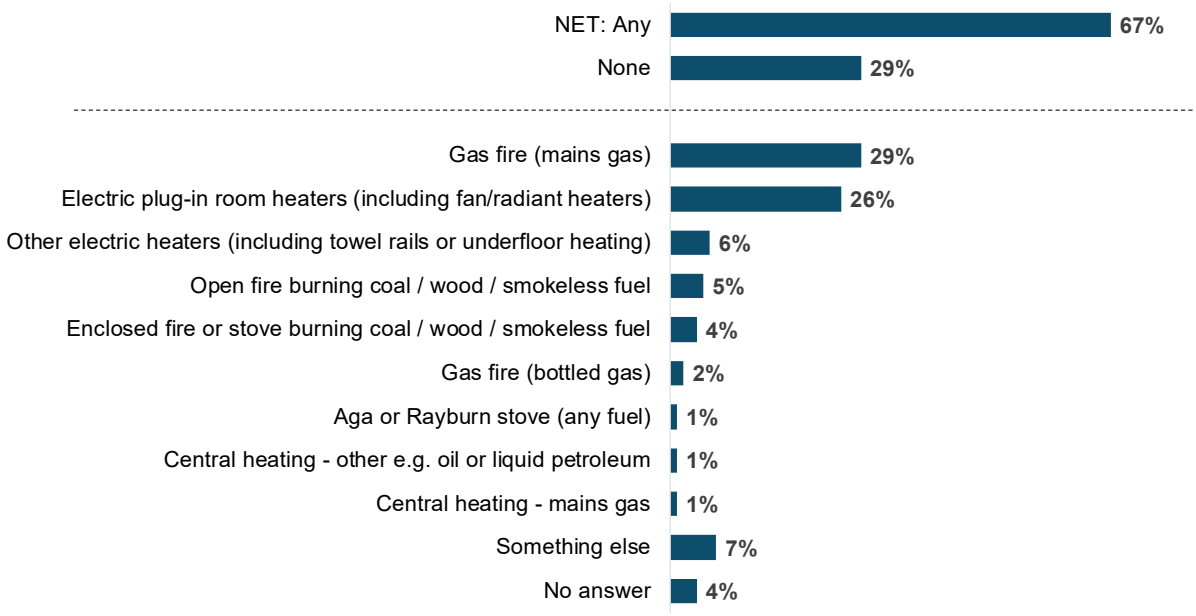
Surveyed households in Wales were more likely to be primarily heated by central heating with oil or liquid petroleum gas (43%) compared with Scotland (14%) or England (7%), or with an open fire or wood burning stove (17% in Wales compared with five percent in Scotland and England). Households reached by AW Standard were more likely to mainly use electric radiators or storage heaters (24%) compared with AW Flexible (16%) or CERO (9%).

Participants in the qualitative research had a range of heating systems including gas-fired boilers, wood-burning/solid fuel stoves, storage heaters, electric radiators and oil-fired boilers. Those with no gas central heating were typically renting, had a low income, or were living in a rural area.

2.4.2 Additional heating in the home

Around two-thirds of surveyed households (67%) had used other types of heating in their home before the installation of the ECO measures. This was most commonly a mains gas fire (29%) or an electric plug-in room heater (26%). Smaller proportions said they had used other electric heaters including towel rails or underfloor heating (6%), an open fire burning coal, wood or smokeless fuel (5%) or an enclosed fire or stove burning coal, wood or smokeless fuel (4%). A full breakdown is shown in Figure 2.17.

Figure 2.17: Additional heating in the home before the measures were installed



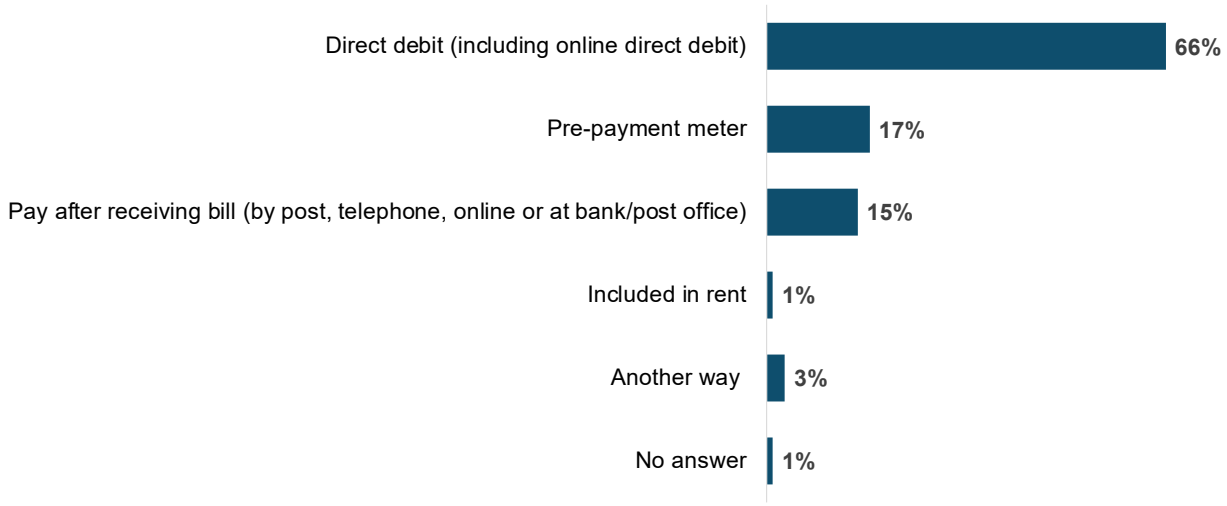
Q10. Before the installation of the measure(s), which of these other type(s) of heater did you use in your home? Base: All respondents (2,857).

There were some differences by tenure; surveyed households that were owner occupiers were more likely to have used additional heating before the measures were installed (68%) compared with those in social housing (61%). There were also regional differences. Homes in Wales were more likely than those in Scotland or England to have used any additional heating in the home before having the measures installed (79% in Wales compared with 67% in Scotland and 66% in England). The qualitative research suggested additional heating was mainly used to heat particular rooms in order to avoid the financial and environmental implications of having to heat the whole house. For example, participants in the qualitative research reported heating only the living room where the family spends the most time, or children's bedrooms.

2.4.3 Methods used to pay for fuel

Two-thirds (66%) of surveyed households paid for their fuel by direct debit (including online direct debit). One in six (17%) paid on a pre-payment meter, and 15% paid after receiving a bill, for example by post, telephone, online or at the bank or post office (Figure 2.18).

Figure 2.18: Methods of paying for fuel



Q12. Which methods do you use to pay for your fuel? Base: All respondents (2,857).

There was some variation by region. Surveyed households in England and Scotland were more likely to pay on direct debit (67% and 65% respectively) compared with those in Wales (46%). Surveyed households in Wales were more likely to pay after receiving their bill (38%) compared with those in England (14%) or Scotland (13%). This could be related to the finding that more households in Wales were heated by oil or liquid petroleum gas, or by an open fire or wood burning stove.

There was also some variation by tenure. Just under eight in ten (79%) owner occupiers paid by direct debit compared with 43% of those in social housing and 36% of those renting privately. In contrast 40% of private renters and 38% of those in social housing used a pre-payment meter compared with just six percent of owner occupiers.

2.4.4 Environmental considerations around heating

In the qualitative interviews, participants were asked about their views on the environment and environmental considerations in the home. While participants tended to be taking smaller environmental actions around the home, such as recycling and reducing the amount of plastic they used, they were less willing to make bigger environmental sacrifices, especially around heating the home. Participants prioritised comfort and cost over environmental concerns.

"It is obviously important, and we do try to do our bit for the planet… but when it comes to heating and things like that, unfortunately, other things take precedence". (Loft insulation, Owns home, CERO)

"I do think about it, but the other two [comfort and bills] take priority". (Cavity wall insulation, Social housing, CERO)

This is evidenced with participants' interest in taking part in the scheme. While many people were able to recall that one of the main remits of the ECO scheme was to improve a property's energy efficiency and reduce carbon emissions, this was rarely mentioned as a driving force

for uptake of the scheme, with environmental efficiency being a bonus on top of cost savings and keeping their property warm.

"I would like to say that I was thinking about the environment but I think that it would have just been reducing bills and making it a bit warmer in the winter" (Cavity wall, underfloor, dormer and loft insulation, Owns home, AW Flexible)

2.5 Case studies on who has been reached by ECO

2.5.1 Case study A: an individual on a low income in social housing

Jean is a pensioner in her 70s. She lives alone in a small social housing bungalow located in a quiet and safe rural area. She relies on inefficient storage heaters to heat her home which are slow to heat and expensive to run.

"It's expensive, it's not very effective, and it's not convenient. If it's cold today and you want a bit of heat this evening, you should have thought about that two days ago".

Jean worries about the bills so she pays for heating on a pay-as-you-go meter, which is more expensive than a direct debit would be. Jean has a low income and cannot always afford to heat her home to a comfortable temperature.

"[I worry about the cost of turning my heating on…] sometimes it's a matter of do I heat or do I eat".

Jean is also very environmentally aware. She makes the effort to recycle and she grows all of her own fruit.

"I am very much aware of [the] environment. I think I'm in the top percent of people who recycle".

Her environmental practices help her save money. For example, she makes use of the solar panels on her roof by only boiling the kettle and washing her clothes during the day when it's sunny.

Jean had cavity wall insulation installed as part of the ECO scheme, with the process driven by her landlord. They did not suggest she had heating measures installed too. She was yet to see the impact of the insulation as there has not been a winter since it was installed and she assumed this is when it will be most beneficial to her.

2.5.2 Case study B: a home-owner with a comfortable income

Roger is a home-owner in his 60s. He lives with his wife on the Wales/England border in a large detached house. They have an oil-fired combi boiler as their house does not have a mains gas connection. They have the heating on a timer to come on in the morning and evening, but will keep it on for longer during the day if they feel cold.

"No point having the house and having the heating available if you're not comfortable… if it's cold it's cold! Put the heating on".

He is not concerned about usage or cost but does look for the best energy deals as he does not want to be spending money unnecessarily.

"You look for something which you think is reasonable to pay…I look to make sure I'm not paying too much for something".

Roger is environmentally minded to an extent; he is happy to do things which help the environment, but would not want to install environmentally efficient measures such as solar panels, which would be an eyesore and cost him money to install.

"If it costs you a lot of money to do then you're going to be reluctant to do it".

Roger had a new oil-fired boiler installed at no cost through the ECO scheme as he had a vulnerable family member living with him at the time, although they no longer live there. He has not changed the way that he is heating his home as it was a like-for-like replacement, but he is pleased he is saving money and energy as he is not filling up the oil as often as he did with his old boiler.

3. Impact of the ECO scheme on households

Chapter summary

More than half (57%) of surveyed households felt they had benefited a fair amount or a great deal from having the measures installed. Around two in ten (22%) felt they had not benefitted very much, whilst around one in ten (9%) said they had not benefitted at all. Benefits reported in the qualitative interviews related to comfort and temperature within the home, reduced worry around heating their homes and savings on energy bills.

Four in ten (41%) surveyed households said their energy bills were lower after having the measures installed and a third (33%) said they were more affordable. However, around one in ten (11%) said their energy bills became higher and seven percent said they were less affordable.

Overall, 67% of surveyed households reported that their home felt warmer after the measures were installed and three-quarters (76%) reported that their home was easy to heat after the measures were installed, compared with around half (46%) before the measures were installed.

In total, around one in five (19%) surveyed households reported a positive impact on the health of someone in their household, with 17% reporting a positive impact on physical health, and 13% reporting a positive impact on mental health. Consistent with the survey findings, some participants in the qualitative interviews reported lower levels of stress.

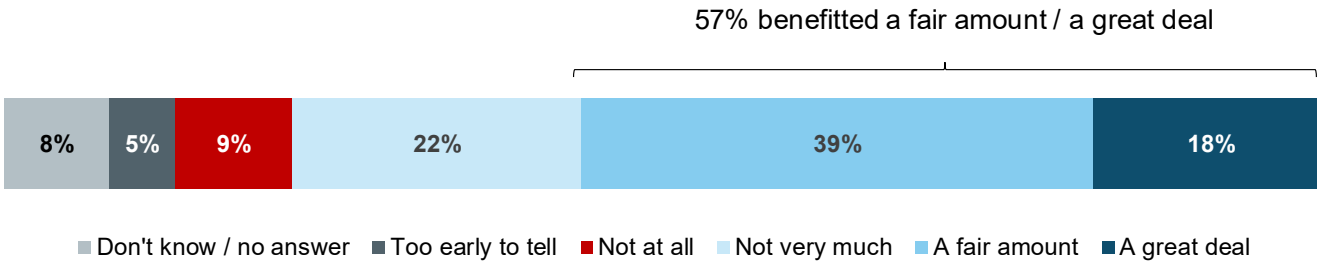
Around six in ten (58%) households said they would be more likely to consider other energy saving measures in the future as a result of ECO. Just six percent said they would be less likely.

Photographs from the qualitative research demonstrating the impact of the ECO scheme on households can be found in Appendix B.

3.1 Whether households have benefitted

More than half of households surveyed (57%) said they had benefitted a fair amount or a great deal from having the energy saving measures installed. Around two in ten (22%) said they had not benefitted very much, whilst around one in ten (9%) said they had not benefitted at all. A small proportion said that it was too early to tell (5%) or they did not know (7%) (Figure 3.1). Benefits that were cited by participants in the qualitative interviews related to savings on energy bills, a more comfortable temperature in the home and individuals' health, with less worry and concern around heating their home.

Figure 3.1: Extent that the household has benefitted from having the measures installed



Q48. How much have you benefitted from having the measure(s) installed in your home?
Base: All respondents (2,857)

Surveyed households that had received a new boiler were more likely to say they had benefitted a fair amount or a great deal from having the measures installed compared with those receiving any type of insulation (70% compared with 54%). This is reflected throughout this chapter with households that had received a new boiler more likely to say their home is warmer and more comfortable. Qualitative findings suggest this is because the impact of a boiler is more noticeable to households. Participants in the qualitative research who had boilers installed described them as home essentials which would have significant impact on home comfort if it were to stop working. By comparison, insulation was considered a more nuanced change without an immediate financial or comfort benefit to participants day-to-day. However, environmentally motivated participants did associate immediate benefits with both new boilers and insulation because both were seen as positive for saving energy and reducing their household's impact on the environment.

"I think we are filling up the oil [in the boiler] less frequently than before, and therefore that saves us money and energy. We're not having to call someone out to look at the boiler compared to before so that's another saving." (Boiler, Owns home, AW)

Among surveyed households, owner occupiers were more likely to say that they had benefitted a fair amount or a great deal (61%) compared with 50% of those who lived in social housing, and 47% of those who lived in a property that was privately rented. These variations reflect the different measure types received by tenure. Owner occupiers were more likely to have received a boiler (86%) compared with insulation (60%) whereas those in social housing were more likely to receive insulation (29%) compared with a boiler (1%). Furthermore, owner occupiers were more likely to receive multiple measures whereas those in social housing were more likely to receive a single measure. Surveyed households that had received multiple measures were also more likely to say that they had benefitted a fair amount or a great deal (67%) compared with those who had received a single measure (54%).

Surveyed households that paid towards the cost of the measure were more likely than those who received the measure for free to say that they had benefitted a fair amount or a great deal (66% compared with 56% who said they did not benefit very much or at all). As discussed in section 2.3.6, this is perhaps linked to the type of measure the household received, with households were more likely to pay towards the cost of heating measures compared with insulation. Participants in the qualitative research who were owner occupiers mentioned cost savings as a result of having a new boiler, for example no longer maintaining an older boiler or needing to save for a future replacement.

Consistent with this, households privately renting or in social housing were more likely to say that they had not benefitted at all (18% and 12% respectively) compared with owner occupiers (6%). Private renters in the qualitative research explained that boiler maintenance and replacement was not their responsibility resulting in the landlord benefitting the most financially rather than their household. Some private renters described a sense of unfairness that a scheme aimed at reducing fuel poverty was giving benefit to owners of multiple investment properties.

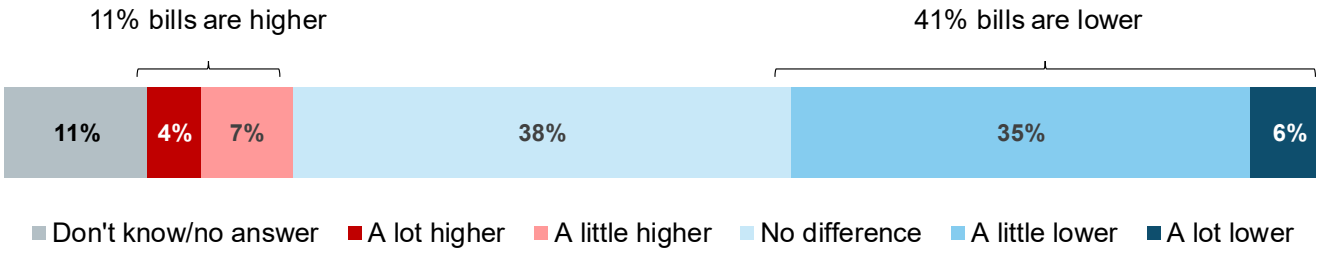
"I do have trouble accepting the fact that [my landlord is] the one getting all the rent [but he's not had to pay to get the boiler done]." (Boiler, Private renter, AW Flexible)

All owner occupier participants in the qualitative research reported that they made the decision to get the ECO measure installed, suggesting greater control and agency over the process (see section 4.1.8).

3.2 Impact on energy bills

Four in ten surveyed households (41%) said that their energy bills were lower compared with before the energy saving measures were installed. A similar proportion (38%) said that their energy bills were no different, and just over one in ten (11%) said that their bills were higher now (Figure 3.2). Participants in the qualitative research found the impact of the ECO measures on their energy bills difficult to describe. This could be due to a variety of reported factors, including the date of installation (i.e. they were installed before a winter in the property), mild winter temperatures, changes in the price of energy or a change of energy provider.

Figure 3.2: How energy bills compare now with before the energy saving measures were installed



Q54. Would you say your energy bills are now...compared with before the energy saving measure(s) were installed. Base: All respondents (2,857)

Participants in the qualitative research who experienced negative impacts such as damp, or marks on walls caused by the measure mentioned higher energy bills. Part of this appeared to be switching the heating on for longer to alleviate problems, for example to try and reduce the level of damp in their home.

Among those who felt they had benefitted a great deal from having the energy saving measures installed, 70% of surveyed households said that their energy bills were lower now compared with before having the measures installed. This is compared with 57% who said they

had benefitted a fair amount, 16% who had not benefitted very much and 3% who said they had not benefitted at all. Conversely, 31% of households who said they had not benefitted at all said that their bills were higher now, compared with 14% who had not benefitted very much, and six percent that had benefitted a fair amount or a great deal.

Some sub-groups in the survey were more likely to say that their energy bills were higher since having the energy saving measures were installed. These included:

- Households that used electric storage heaters as the main way of heating their home at the time of the survey (22%), compared with those that used mains gas central heating (8%).
- Households that had other heating measures installed such as electric storage heaters, district heating systems, heating controls, smart thermostats and thermostatic radiator valves (17%) compared with those that had boilers (11%) or insulation (9%). This is also reflected by the type of heating system used to heat the home.
- Those living in privately rented housing (18%) or social housing (13%) compared with owner occupiers (8%).
- Households with an income of less than £16,000 a year (15%) compared with those with an income of £16,000 or more (6%).

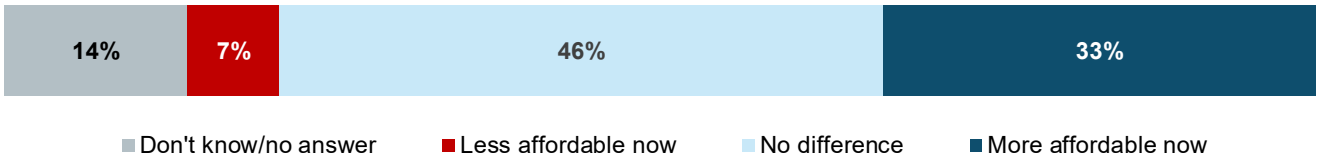
Surveyed households with an income of £16,000 or more per year were more likely to say that their energy bills were lower (46%) compared with households with an income of less than £16,000 a year (38%). There was little variation between other sub-groups.

The survey findings perhaps reflect the greater financial awareness and monitoring of energy bills of more vulnerable or lower-income households found in the qualitative research. Their sensitivity to small financial changes meant they appeared more aware of changes in their energy bills, coupled with higher levels of concern around household finances. Participants in these groups often described closely monitoring energy bills; for example, through daily monitoring of energy use through smart meters, noting down usage on iPhone calendar or WhatsApp or agreeing limited windows of time when the heating was on. Participants with vulnerable household members spoke of a difficult balance between making the home comfortable to live in and limiting spending.

“Yes, we have to because I’m the only breadwinner at home so have to keep a tight control on all that we are spending.” (Boiler and cavity wall insulation, Owns home, AW)

Surveyed households were also asked about whether energy bills were more affordable now compared with before the measures were installed. A third (33%) said energy bills were more affordable, just under half (46%) said it had made no difference, and seven percent said they were less affordable (Figure 3.3). Around one in eight (13%) said they did not know if their bills were more or less affordable.

Figure 3.3: Whether energy bills are more or less affordable as a result of measures being installed



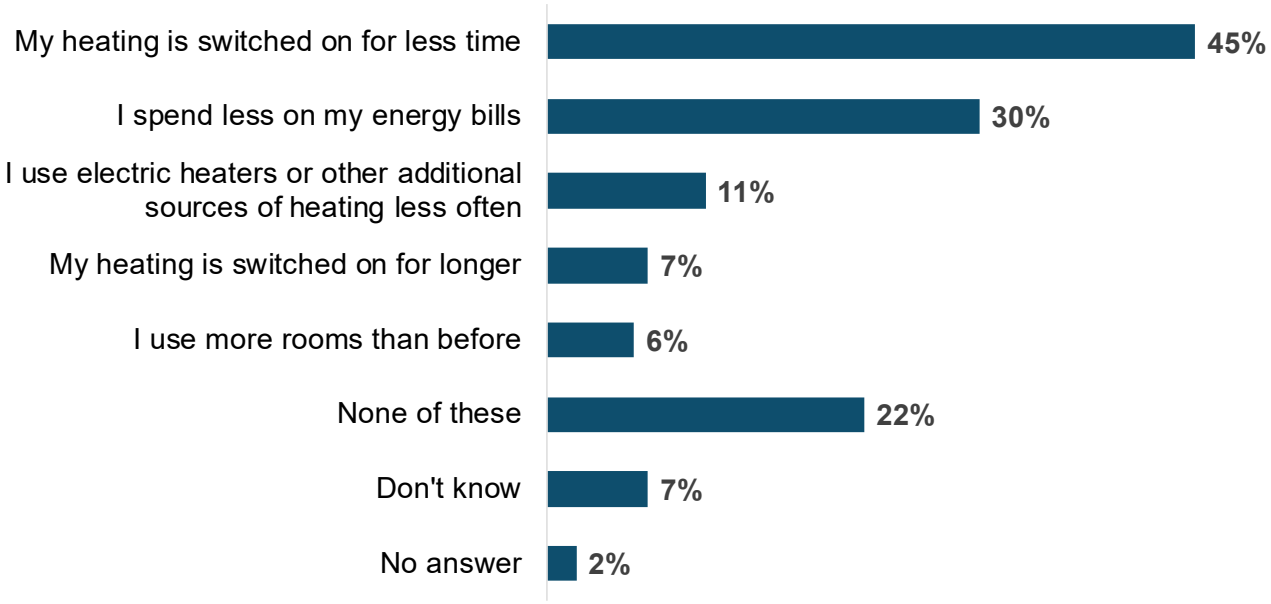
Q14. As a result of the measure(s) being installed, would you say your energy bills are more or less affordable now? Base: All respondents (2,857).

Households that had received other heating[16] measures were more likely to say that energy bills were less affordable (14%) compared with those that had received a boiler (5%) or any type of insulation (5%). Households with an income of less than £16,000 were also more likely to say that energy bills were less affordable compared with before the measures were installed (10%) compared with four percent of households with an income of £16,000 or more. Perhaps linked to this, households in privately rented housing or social housing were also more likely to say their energy bills were less affordable compared with before the measures were installed (13% and 10% respectively) compared with owner occupiers (4%).

Surveyed households were asked if there had been any other impacts as a result of having the measures installed from a pre-coded list (Figure 3.4). More than four in ten (45%) said that their heating is switched on for less time, three in ten (30%) said that they spend less on their energy bills and one in ten (11%) said they use electric room heaters or other additional sources of heating less often. Smaller proportions said that their heating is switched on for longer (7%) or that they use more rooms than they did before (6%). More than two in ten (22%) said that none of these things had happened.

[16] This includes electric storage heaters, district heating systems, heating controls, smart thermostats and thermostatic radiator valves.

Figure 3.4: What has happened as a result of having the measures installed



Q50. And which of these things have happened as a result of the measure(s) you have had?
Base: All respondents (2,857)

Consistent with the findings earlier in this chapter, a higher proportion of surveyed households who received insulation said that none of these things had happened as a result of having the measures installed (23%) compared with 16% of those who received a new boiler. Those who received a new boiler were more likely than those who received insulation to say that their heating is switched on for longer (11% compared with 5%) or they use more rooms than they did before (9% compared with 5%).

Surveyed households reached by AW Standard were more likely to say that their heating is switched on for longer (10%) compared with households reached by AW Flexible (6%) or CERO (5%).

There were also some regional differences. Surveyed households in Scotland were more likely to say that they spend less on their energy bills (36%) compared with in England (28%).

3.3 Impact on temperature in the home

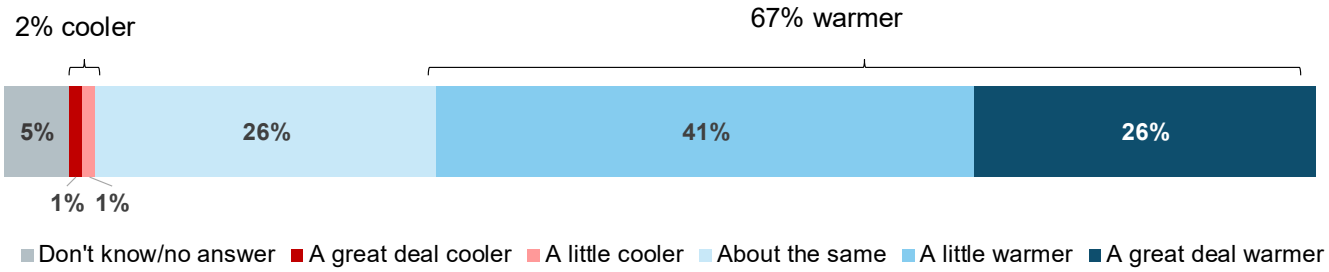
3.3.1 Whether home felt warmer or cooler generally

Overall, around four in ten (42%) households said that their home is generally warmer, *and* that the temperature in the home drops more slowly since having the measures installed.

Around two-thirds (67%) of surveyed households said that their home was generally warmer since having the energy saving measures installed, including a quarter (26%) who said that their home was a great deal warmer (Figure 3.5). Very few households (2% of those surveyed) said their home was generally cooler. There was correlation between the proportion of households that reported their home was warmer, and those that felt they had benefited from

having the measures; 92% who had benefitted a great deal or a fair amount said that their home was warmer.

Figure 3.5: Whether the home is generally warmer or cooler since having the measures installed



Q51. Has your home generally felt warmer or cooler since the measure(s) were installed?
Base: All respondents (2,857).

Almost all (94%) of households that reported a great deal of benefit, and 91% of households that reported a fair amount of benefit from the scheme said that their home felt warmer since the measures were installed. This is significantly higher compared to households that reported 'not very much' benefit or no benefit at all, where only 39% and eight percent of households respectively said that their home was warmer since the measures were installed.

Households that received multiple measures were more likely to say that their home was warmer now (72%) compared those who had received a single measure (65%). Households that had received a boiler were also more likely to say that their home was warmer (72% compared with those who had received any insulation (67%).

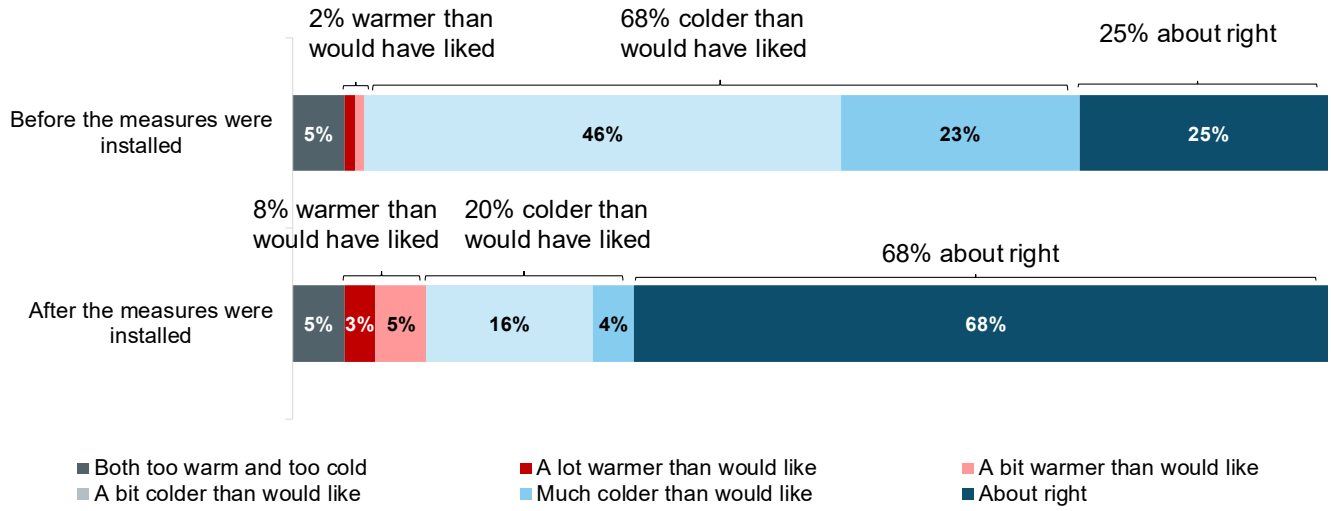
Just over a quarter (26%) of those surveyed said that their home was 'about the same' temperature since having the measures installed. Participants in the qualitative research revealed instances where this was when the measure was a replacement for a functioning boiler that was close to but not yet at the end of its life. Surveyed households that had insulation installed and reported no difference in the temperature were more likely to be dissatisfied with the measure, for example reporting that there was little difference because the amount of insulation that was installed was not sufficient to make a noticeable difference. As mentioned earlier, those in the qualitative research who had insulation installed found it harder to notice the impacts of the measure generally, which may partly explain the differences in perceived impacts among surveyed households.

3.3.2 Change in how easy it is to heat home to a comfortable temperature

Before the measures were installed, a quarter (25%) said the temperature in their home was about right. Around two-thirds (68%) said that their homes were colder than they would have liked, two percent were warmer and three percent said it was both too warm and too cold. After the measures were installed, two-thirds (68%) said the temperature in their home was about right, an increase of 43 percentage points. Two in ten (20%) said their home was colder than

they would have liked. Just under one in ten (8%) said that their home was warmer than they would have liked and three percent said it was both too warm and too cold.

Figure 3.6: Change in whether the home was warmer or colder than would have liked before and after the measures were installed



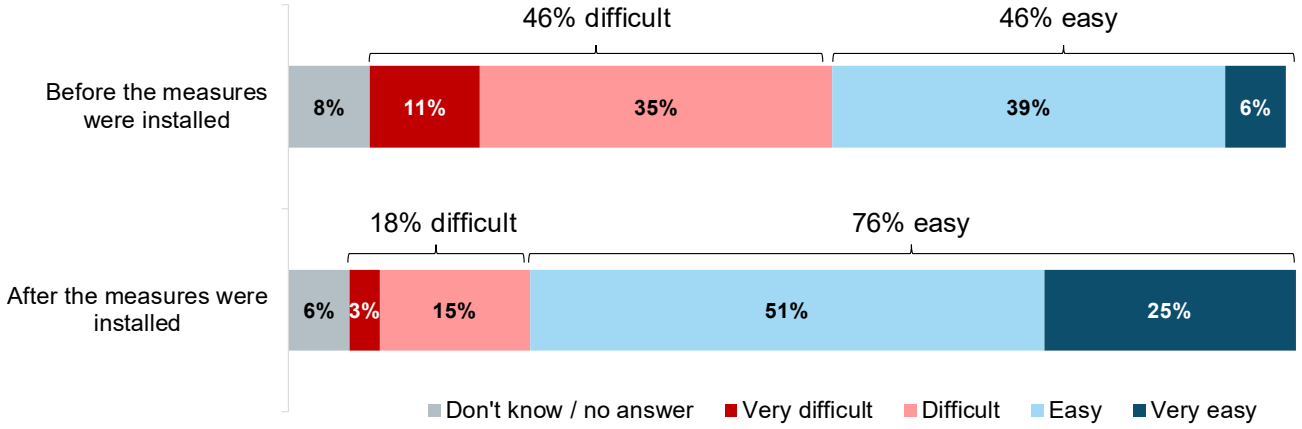
Q16. Before the measure(s) were installed, was your home… Q18. After the measure(s) were installed, was your home…Base: All respondents (2,857)

Looking at the change in individual household responses around half (46%) said that the temperature had gone from being too warm or too cold, to being about right after the measures had been installed. Around a third (34%) gave the same answer both before and after the measures were installed.

Just under half (46%) of surveyed households said that it was difficult to heat their home to a comfortable temperature before the installation of the measures. This decreased to 18% who said it was difficult to heat their home to a comfortable temperature after the measures had been installed. Before the measures were installed 46% said that it was easy to heat their home to a comfortable temperature, and this increased to 76% after the measures had been installed.

Households reached by AW Standard were more likely to say that their home was difficult to heat to a comfortable temperature after the measures had been installed (23%) compared with 15% of households reached by CERO and 11% reached by AW Flexible.

Figure 3.7: Ease of heating home to a comfortable temperature before and after the measures were installed



Q15. Before the measure(s) were installed, how easy or difficult was it to heat your home to a comfortable temperature? Q17. After the measures(s) were installed, how easy or difficult was it to heat your home to a comfortable temperature? Base: All respondents (2,857).

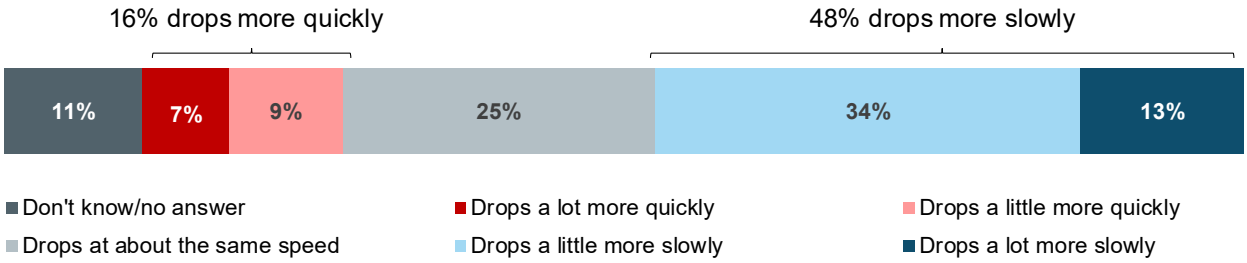
Looking at how individual households responded to these two survey questions, four in ten (40%) cited no change in the level of difficulty of heating their home to a comfortable temperature compared with before and after the measures were installed. More than four in ten (45%) said that it became easier and five percent said it became more difficult[17].

3.3.3 Speed that the temperature drops when the heating is switched off

Just under half (48%) of surveyed households said that the temperature in their home dropped more slowly when the heating is switched off since having the measures installed. A quarter (25%) said it drops at about the same speed and around one in six (16%) said it drops more quickly (Figure 3.8).

[17] These figures include any change, for example, moving from being very easy before the measures were installed to easy after the measures were installed counts as a lower level of satisfaction.

Figure 3.8: Speed that the temperature drops when the heating is switched off since having the measures installed



Q52. Since the measure(s) were installed, which of the following best describes how the temperature drops when the heating is switched off? Base: All respondents (2,857).

Households that received insulation were more likely to say that the temperature drops more slowly since having the measures installed (53%) compared with households that received heating measures (36%). This was highest for loft insulation (59%) and cavity wall insulation (55%).

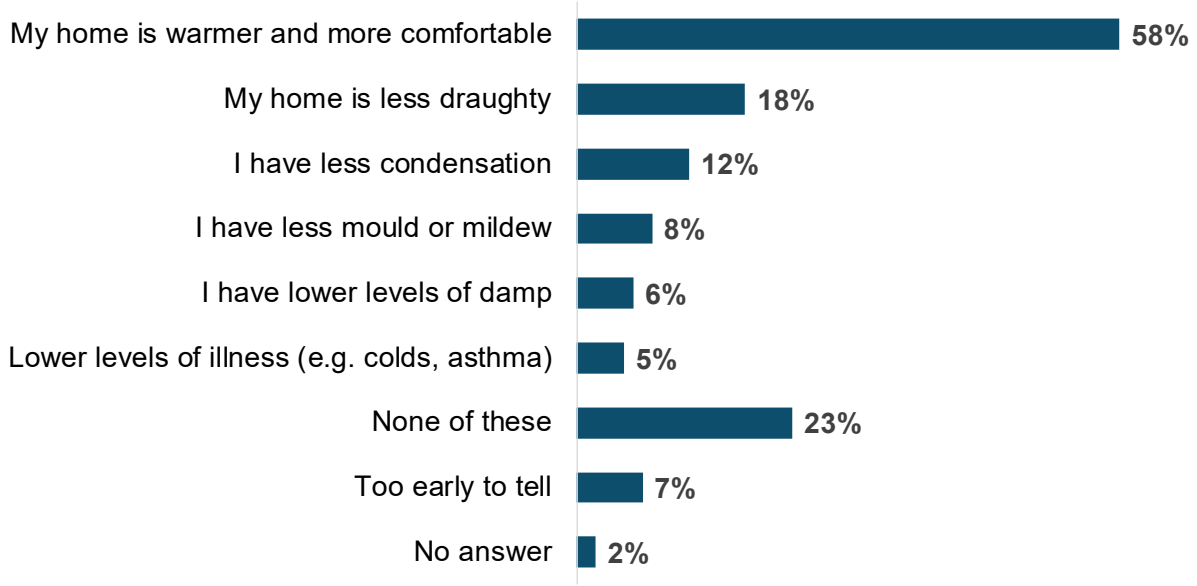
Some surveyed sub-groups were more likely to say that the temperature dropped more quickly when the heating is switched off since having the measure installed. These included households with an income of less than £16,000 a year (20%) compared with 12% of those with an income of £16,000 or more, and households that have someone living there with a long-standing illness, disability or infirmity (20%) compared households that do not (13%).

3.4 Impact within the home

Surveyed households were asked to select what impacts they had noticed as a result of having the measures installed from a pre-coded list (Figure 3.9). Around six in ten (58%) said they had noticed that their home was warmer and more comfortable since having the measures installed and just under two in ten (18%) said their home was less draughty. Smaller proportions said that they had less condensation (12%), less mould or mildew (8%), lower levels of damp (6%) or lower levels of illness such as colds or asthma (5%).

Just under a quarter (23%) reported none of the impacts listed; however, the qualitative interviews showed some had identified other impacts, which were beyond the scope of the survey question. For example, some environmentally motivated participants said knowing that their home would be more energy efficient was important, even if they acknowledged that it would not be something they would directly notice. In addition, some owner occupiers noted impacts around the future of their property, improving the energy efficiency rating of the property, potential impacts on the value of the property or general preparation to futureproof the home.

Figure 3.9: What has been noticed as a result of having the measures installed



Q49. And which, if any, of these things have you noticed as a result of having the measure(s) installed? Base: All respondents (2,857).

Surveyed households that had received a boiler were more likely than those that received insulation to say that their home is warmer and more comfortable (70% compared with 57%). Households that received multiple measures were also more likely to say that their home is warmer and more comfortable (67%) compared with those that received a single measure (56%), as were owner occupiers (63%) compared with those renting privately (51%) or social housing (50%).

Surveyed households that received solid wall insulation were most likely to say that they had less condensation (19%) or less mould or mildew (19%). The qualitative research did not capture findings from participants who had solid wall insulation installed because of the small number of installations and subsequent opt-ins to the qualitative research.

Surveyed households that had received any form of insulation were more likely to say that they had experienced none of the impacts listed (24%) compared with homes that had received a boiler (15%). Consistent with this, participants in the qualitative research who had boilers installed found the impacts easier to describe compared with those who had insulation. Positive impacts identified included having new controls on the boiler, having a boiler that will last longer or saving money in the longer term. By comparison, those that had insulation installed were less likely to noticeable differences, although some cited environmental and cost saving benefits of having the measures installed.

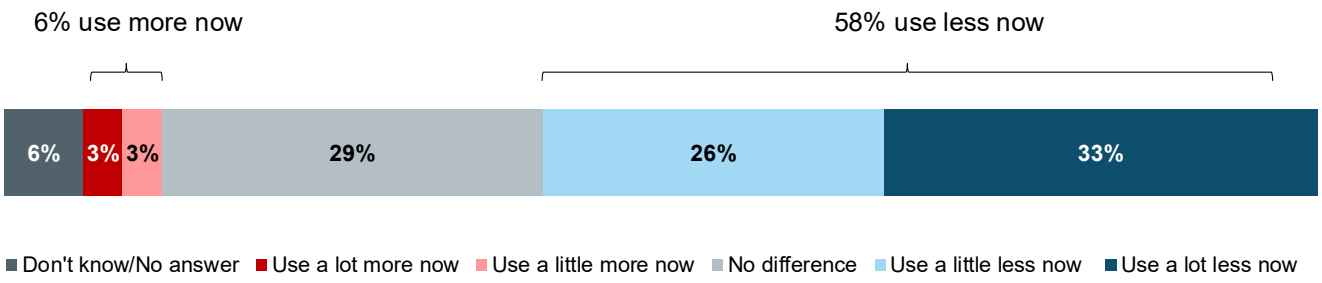
“It's a no brainer [getting insulation installed] but it's not going to change your life” (Loft insulation, Owns home, CERO)

3.4.1 Use of additional heating in the home

Nearly six in ten (58%) surveyed households who used additional heating said that they now use it less than they did before the measures were installed, and six percent said they use it more (Figure 3.10). Three in ten (28%) said there had been no difference. A higher proportion of respondents who used electric plug-in heaters (69%) or a mains gas fire (62%) as additional heating said they use it less often after having the measure installed compared with around half who used an open fire (54%).

Households that had heating measures including electric storage heaters, district heating systems, heating controls, smart thermostats and thermostatic radiator valves installed were more likely to say they used additional heating more after having the measure (11%) compared with households that received a boiler (6%) or any insulation (5%). A higher proportion of those in social housing said they used their additional heating more after the measures were installed (10%) compared with owner occupiers (5%).

Figure 3.10: Additional heating in the home after the measures were installed



Q11. Thinking about these other types of heater, overall, do you use them more or less often since installing the measure(s)? Base: All respondents (1,698).

Participants in the qualitative interviews did not actively mention using additional heating less after having the measures installed. As mentioned above, those that used additional heating often did so, not because their house was cold, but to avoid heating the whole house unnecessarily, so having new insulation or heating installed was unlikely to change this behaviour.

It should be noted that, irrespective of how impactful the ECO measures had been, additional heating was sometimes preferred as it was aesthetically pleasing.

"We use our wood burning stove the majority of the time to heat our home…we've always liked an open fire, we're outdoor type of people" (Cavity wall insulation, Owns home, AW Flexible)

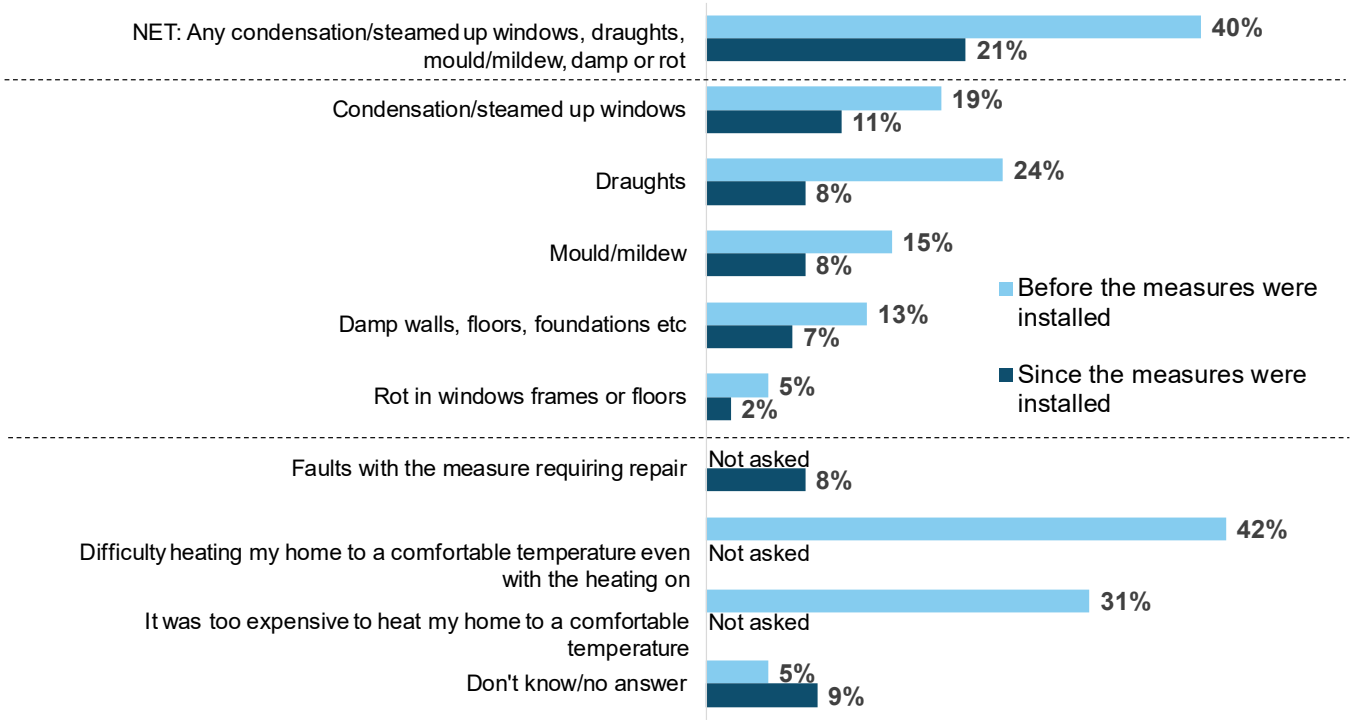
3.5 Problems experienced since the measures were installed

In the survey, households were asked if they had experienced any problems since the measures had been installed from a pre-coded list. Overall, the proportion of households that experienced any condensation or steamed up windows, draughts, mould or mildew, damp or rot halved after having the measures installed, from 40% to 21%.

One in ten (11%) said that they had experienced condensation or steamed up windows since having the measure installed, an eight percentage point decrease from 19% before the measure. Eight percent said they had draughts after the measure compared with 24% before the measure and eight percent said they had mould or mildew compared with 15% before the measure. Section 4.2.3 shows that one in six households (17%) said that someone involved in the installation discussed whether the measure would influence ventilation, condensation or mould, and that this was higher among households that felt they had benefitted a great deal from the installation.

Six percent of households reported having no problems with condensation, steamed up windows, draughts, mould or mildew, damp or rot before the measures were installed, but *did* have some of these problems after the measures were installed.

Figure 3.11: Problems experienced since the measures were installed



Q44. And before you had the measure(s) installed did you have any of these problems with your home? Q53. Have you had any of the following problems since the measure(s) were installed? Base: All respondents (2,857).

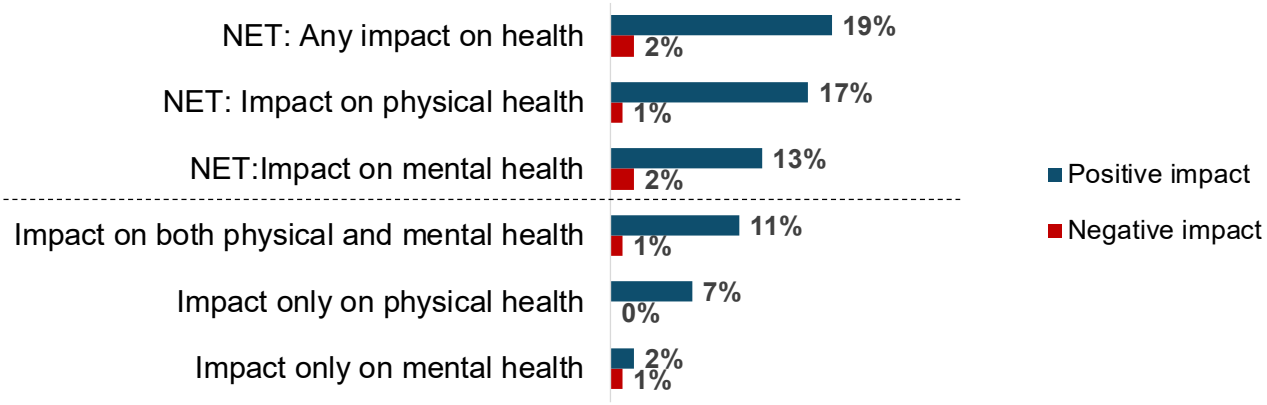
Faults with the measure requiring repair were more likely to be experienced by households that had received heating measures (17%) compared with those who had received insulation (5%). The participants in the qualitative research identified these problems as faulty boiler valves, malfunctioning thermostat or controls, or poor boiler functionality. The survey did not explicitly ask whether or not the problem experienced was because of the ECO measure however qualitative participants directly attributed any problems they experienced to the measure itself.

3.6 Impact on the health of the household

Around one in five households (19%) said that the energy saving measures had had a positive impact on the health of someone in their household. Seventeen percent said it had a positive impact on physical health, and 13% said it had a positive impact on mental health. Small proportions said that there had been negative health impacts (Figure 3.12).

The impact on health was greater for households that had someone living there who had a long-standing illness, disability or infirmity; a quarter of these households (24%) reported a positive impact on physical health compared with 14% of households who did not have anyone living there with a long-standing illness or disability. Similarly, 17% of households with a long-standing illness or disability reported a positive impact on mental health compared with 10% that did not.

Figure 3.12: Impact of the energy saving measures on the health of anyone in the household



Q55. Would you say the measure(s) have had an impact on the health of you and/or other people in your household? Q56. What type of impact have the measure(s) had on the health of you and/or other people in your household? Base: All respondents (2,857).

Households that had received a heating measure were twice as likely to report a positive health impact (30%) compared with households that received any insulation (15%). There was also variation by overall perceived benefit. Half (50%) of households that said they had benefitted a great deal, and two in ten (21%) that said they had benefitted a fair amount reported a positive health impact, compared with five percent who said they did not benefit very much, or two percent that did not benefit at all. Conversely, eight percent of households that said they did not benefit at all reported a negative health impact, compared with less than one percent that benefitted a great deal.

Qualitative research findings corroborate the survey findings with most not reporting health impacts. Participants generally described themselves as in good health and were not anticipating any health changes after the installation of ECO measures. Those not reporting health impacts also tended to be financially stable and did not report concern or worry around household bills.

Generally, positive health impacts as a result of having the ECO measure installed were associated with reduced stress or worry about the comfort of their home and household bills. This was particularly important for participants who have vulnerable members in their household as consideration for their wellbeing was important. Having more affordable bills was reported to have a positive impact on levels of worry felt by households. This is consistent with the survey findings; two in ten (20%) households that said energy bills were lower reported a positive impact on mental health, and more than a quarter (28%) reported a positive impact on physical health. Interestingly, participants in the qualitative research did not always describe this in relation to mental health meaning it is possible mental health improvements have been under-reported in the survey.

“I think the fact we are now comfortable and don't have to worry about sky high bills, that's definitely helped us out.” (Loft insulation, Owns home, CERO)

Specific benefits to physical health were mentioned infrequently by participants in the qualitative research, although survey findings showed that around a quarter (24%) of households that said their home felt warmer reported a positive impact on physical health compared with 10% that said their home was cooler. Conversely, a quarter (25%) of households that said their house was cooler after receiving the measures reported a negative impact on physical health. One example of a positive impact on physical health was reported by a participant in the qualitative research who uses a wheelchair who could now reach the boiler controls independently. Before the ECO boiler was installed, they were reliant on other household members being home to change the heating, meaning they now had improved home comfort.

Looking at negative health impacts linked to the ECO measure, participants in the qualitative research also noted levels of stress but in contrast to the positive impacts, they mentioned more physical symptoms. This also in part stemmed from damp and other problems directly associated with the measure.

“We are trying to get rid of the damp and trying to open the windows, even in the winter.” (Boiler and cavity wall insulation, Owns home, AW)

For participants in the qualitative research who noticed little improvement in the warmth of their home, disappointment the measure did not deliver on the expected positive impacts was described. These participants had hoped the measures would have improved the comfort of their home, addressing the negative health impacts of living in a cold household. Side effects of the cold home, which included having colds, nose bleeds, or allergies, continued.

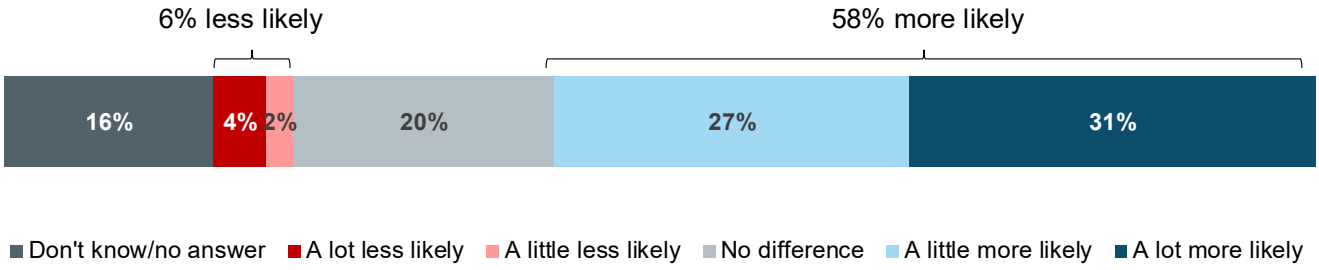
“We get a lot of colds, sometimes we get nose bleeds, I’m not sure whether it's because the house is too cold. We depend on paracetamol to keep healthy and well.” (Loft insulation, Social housing, CERO)

Health impacts, for example to stress levels, were also described at the installation phase of the process (see section 4.2).

3.7 Likelihood of considering having other energy saving measures installed in the future

More than half of surveyed households (58%) said that they were more likely to consider having other energy saving measures installed in the future, as a result of having the energy saving measures installed under ECO. Two in ten (20%) said it had made no difference. A small proportion (6%) said they were less likely to consider it, and 15% said they did not know (Figure 3.13).

Figure 3.13: Likelihood of considering having other energy saving measures installed in the future



Q46. As a result of having energy saving measures installed, would you say you are more or less likely to consider other energy saving installations in the future? Base: All respondents (2,857).

Unsurprisingly, households were more likely to consider having other energy saving measures in the future if they felt they had benefitted a fair amount or a great deal from the ECO measures (71%) compared with 41% who felt they had not benefitted very much or not benefitted at all. For participants in the qualitative research, a variety of factors were mentioned. Broadly, those with negative experiences of installation and those who didn't notice the impact or benefit they had expected raised concerns about installing energy saving measures in future; they didn't want to repeat the negative experience, or were sceptical about the usefulness of further measures. Some participants in the qualitative research, particularly those who were conscious of the environment, were open to installing future measures, however they indicated they would in future ask more questions of the installation company about the process and would seek greater reassurance about benefits of the measures.

"We were excited to have these measures installed but never thought about the downsides, we would be asking about those next time." (Boiler and cavity wall insulation, Owns home, AW)

"We would be more sceptical because it didn't work. It wasn't as good as we thought it would be, I think it's a waste of time." (Loft insulation, Social housing, CERO)

However, this hesitation would be somewhat mitigated if future measures were installed via a government scheme. This is because of the perception of lower financial risk and trust in government (see chapter 4). As a result, the likelihood of installing future measures may be higher for a government-backed scheme apart from where participants experienced problems they considered to be significant.

"I wouldn't say no to a government thing, it just worries me to think [back to previous experience], that would probably make me think 'no'." (Boiler, Owns home, AW)

Likelihood of installing other energy saving measures in the future among surveyed households varied by the measure type installed, tenure and income. A higher proportion of households that received solid wall insulation reported that they had become less likely to consider other energy saving measures in the future (11%) compared with those that had received a new boiler (4%), cavity wall insulation (5%) or loft insulation (5%).

Owner occupiers and those who rented privately reported that they were more likely to consider other energy saving measures in the future as a result of having the measures installed (64% and 60% respectively) compared with those in social housing (42%). Broadly, participants from the qualitative research who were living in social housing described little control or say over the ECO measure that they had installed. The decision was frequently made externally to the household and often with little consultation from the housing association or local council about the benefits and reasons for installation. For this group, because having the measure installed was not always a decision they made, for future measures – while they were not necessarily less open to the idea – they described less information about what could be done to make their home more energy efficient or what would be feasible compared with owner occupiers.

Households with an income of less than £16,000 a year were also less likely to consider other energy saving measures in the future as a result of having the measures installed (9%) compared with those on a higher income (3%). This was reflected in the qualitative research, where generally, those on lower incomes described greater cost sensitivity around future energy saving measures. Owner occupiers on lower incomes often identified aspects of their home that they would like to make more energy efficient but realised that they could not afford to have measures installed without saving up over a longer period of time. For all qualitative participants, regardless of income, subsidies made getting energy efficient measures installed easier, quicker and reduced the level of risk experienced by participants around the efficacy of the measure, particularly when this came from government.

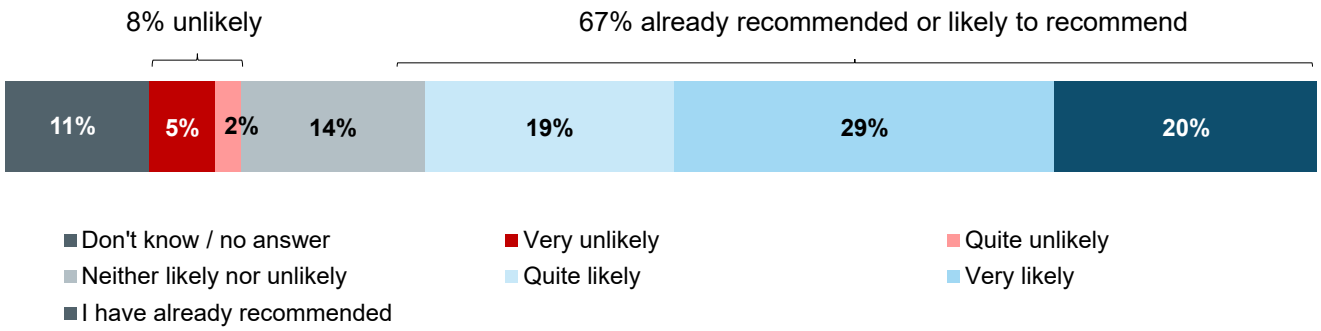
From the qualitative research, among less environmentally motivated participants, the process of having a measure installed made them think more about energy saving measures in general. This group were not primarily motivated by environmental issues but were often more concerned with other aspects of life, such as household finances or caring responsibilities. Therefore, having a measure installed under ECO led them to think more about the environmental aspects of the home and consider other energy saving measures around the home.

"I didn't think about energy saving beforehand but am now more open to the idea of things e.g. the water saver from Severn Trent, before I wouldn't have thought about that." (Cavity wall insulation, Social housing, CERO)

3.8 Likelihood of recommending similar energy saving measures under this scheme to others

Two in ten (20%) surveyed households said they had already recommended similar measures under this scheme to others. Just under half (47%) said they were either very likely or quite likely to recommend the measures under the scheme (including around three in ten who were very likely to recommend). A small proportion (8%) of surveyed households said they were quite unlikely or very unlikely. Fourteen percent said they were neither likely nor unlikely to recommend the measures.

Figure 3.14: Likelihood of recommending similar energy saving measures under this scheme to others



Q47. How likely are you to recommend similar energy saving measures under this scheme to people you know? Base: All respondents (2,857).

Surveyed households that had received a boiler were more likely to have already recommended similar measures (30%) compared with households who had received insulation (19%). However, level of recommendation varied within the type of insulation the household had received; around a third (32%) of households that received underfloor insulation had already recommended similar measures under the scheme, compared with smaller proportions who had received solid wall insulation (17%) or cavity wall insulation (16%).

There was also some regional variation, with around three in ten (29%) surveyed households in Wales having already recommended similar measures, compared with 19% in England.

There was also variation among those who were unlikely to recommend similar energy saving measures under the scheme. This was higher among surveyed households that were renting privately (17%) or in social housing (10%) compared with owner occupiers (5%). Looking at the type of measure received, a higher proportion of households that received solid wall insulation (13%) or other heating measures (11%) also said they were unlikely to recommend similar energy saving measures, compared with those who received loft insulation (5%), underfloor insulation (4%) or a boiler (4%).

3.9 Case studies on the impact of the ECO scheme on households

3.9.1 Case Study C: Insulation which reduced bills and improved wellbeing (AW Flexible)

Ellen lives with her partner and their young baby. They moved into their home a year ago. Although the house needed renovating Ellen was excited to move in. She loves the area where she lives and was looking forward to having more space and a garden. However, when the winter came, Ellen and her husband found their house uncomfortably cold and later learnt there was no insulation.

"This is the first house I've owned, so I really wasn't that aware of why. I just knew our house was freezing cold. I was [pregnant] at the time, so I was really conscious of it".

Ellen was eligible for the ECO scheme because of the benefits her household receives, and she used it to have cavity wall and underfloor insulation installed in her home. She was very impressed by the scheme overall, both because of the ease of the installation process and because of the benefits it has brought her family. Since the insulation was installed, Ellen has found the home noticeably warmer and has seen a reduction in her energy bills. Ellen is now much happier in her home and no longer worried about her child being uncomfortable. She feels this has improved the whole family's wellbeing.

"It's definitely less stressful for me now, especially with the baby. I was very conscious of checking the thermostat in the baby's room before it was installed and I'm definitely less stressed about that now. My partner definitely enjoys the heating bill being less too".

Ellen is now more aware of energy efficiency in her home and says she will consider insulation as a priority in any future home. Based on her experience, she has already recommended the ECO scheme to several of her friends and encouraged them to consider getting insulation installed.

3.9.2 Case Study D: Boiler and insulation which led to damage (AW)

Wendy is a retiree who owns a terrace house on a quiet street, where lives with her adult daughter and grandchild. Her boiler was still functioning but nearing the end of its life and she knew it would have eventually needed replacing. Wendy was approached by a company installing measures through the ECO scheme and she decided to go ahead and agree to a new boiler given it would save the cost of replacing. She was advised to receive the boiler she would need to have underfloor insulation installed too, which she would have to contribute towards. Initially she was concerned about the floor being dug up, but having been warned about the disruption and told it was unavoidable, she decided to agree to both.

"You had to have both measures installed, they said there wasn't sufficient money just to do boilers, the other company was doing the underfloor so that made the money up, I said that was fine... They were very friendly, easy to talk to."

After the measures had been installed Wendy found a number of issues. Firstly, she realised there had been a mismatch between what she had been told she was getting and what she received. The boiler did not come with a thermostat and was not the make or model she was expecting. When she enquired she could not have the boiler changed as it was not faulty.

"They [the installers] said they would be getting one particular boiler and I saw that and said it looked good. I didn't think more about it, they put it in and it was a different make of boiler. No one said that the boiler had been changed."

Additionally, shortly after the installation of the underfloor insulation, the floor gave way under the carpet. Fortunately, nobody was hurt but it required additional repairs as the floor had not been placed down correctly after the installation.

Since the measures were installed Wendy's family have become more conscious of energy saving in the home. While not the boiler she selected, the one she now has does do a sufficient job at heating their home and, along with the insulation, came at no cost to her. Overall, Wendy was pleased that the ECO measures were installed as it meant she got a boiler which will last for her lifetime, so she never needs to worry about replacing it again.

"For the future, I think it's been a good thing. 'There are a lot of negatives but there are a lot of positives so I come out in the middle"

3.9.3 Case Study E: Boiler and insulation which led to damage (AW)

Amy is a young mother who lives with her family in a two-bedroom house. The old boiler in Amy's house was in poor condition, and for the first year she and her family lived there they had a hard time regulating the temperature. When a local installation company came to Amy's door and informed her that she might qualify for a free boiler under the ECO scheme, she could not believe her luck.

"He made it sounds so wow and amazing. That's why I went for it, and that meant I introduced it to everyone. That was a mistake I made".

Amy was told that she did qualify for a boiler, because of a health condition in the household, but that she would also have to have underfloor insulation installed at the same time if she wanted to take part in the scheme. Although she did not want to have the insulation installed, she agreed because she could not afford to replace the old boiler herself. Amy now wishes she had never agreed to have either installed. The underfloor insulation was not fitted properly, and her living room floor is now uneven and broken in parts. The boiler has broken down twice since it was installed, and Amy's bills have increased because it turns itself on at random intervals. Amy says the damage to the floor and the issues with the new boiler mean she is in a worse position than she was before the new measures were installed.

"Me and my husband are just fed up of it. Even though it was free we've lost out big time because the bills have gone high and the way the floor was reinstalled means we can't even use the front room".

Amy blames the installation company for the problems she has experienced. She thinks that they are deliberately taking advantage of people by rushing their work and installing poor quality measures without any quality checks, so they can claim money through the ECO scheme. She has not been able to get any apologies or assistance from the company since the installation, despite all the problems she has faced.

"They took the grant and then they've done one, and they've ruined the house. They just want to take the grant and don't do a good job, that's that I feel".

4. The delivery of the ECO scheme

Chapter summary

The most common way for surveyed households to first find out about having the measures installed was by being approached by a salesperson (28%) or receiving a letter or leaflet (22%).

Around six in ten (62%) surveyed households had not considered installing the measures before they found out they could get help paying for them.

Cost was a significant barrier that had previously stopped households making changes to their home to reduce heating costs (42% of surveyed households said the cost of making changes was too high and two in ten (21%) said there was no guarantee it would save money in the long run).

Comfort and cost were the most common reasons for having energy saving measures installed: 57% said it was to make their home warmer and more comfortable; 51% said it was to save money on energy bills. Environmental reasons were often a secondary consideration. Of the households that installed the measures to make their home warmer and more comfortable, 77% said that their home had generally felt warmer since, whereas two in ten (19%) said it was about the same. Of the households that said that they installed the measure to save money on energy bills, around half (49%) reported that their energy bills were lower after having the measures installed.

Around a quarter (23%) of surveyed households were made aware of the range of different energy saving measures they could have installed - half (51%) were not. Six in ten (60%) said they received enough advice in advance about the measures they did have installed.

Overall, three-quarters (76%) of surveyed households were satisfied with the process of having the measures installed. One in ten (10%) were dissatisfied. The qualitative interviews suggested that dissatisfaction was caused by parts of their home being damaged by installers, or a sense of being treated differently as the measures were through a funded scheme. Around six in ten (63%) said the installation took less time, or about the time they expected.

Photographs from the qualitative research related to the delivery of the ECO scheme can be found in Appendix C.

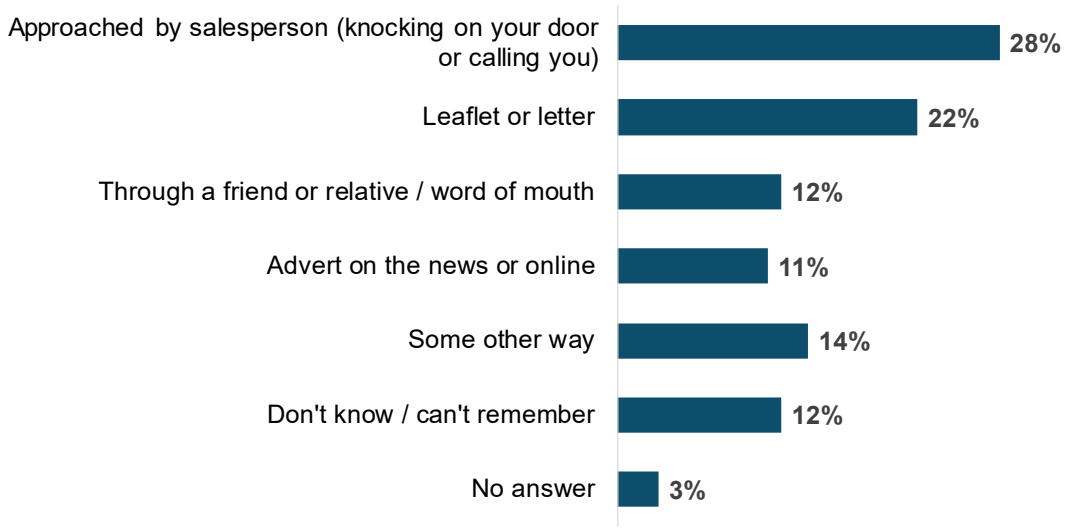
4.1 Deciding to get the measures installed

4.1.1 How households first found out about having measures installed

The most common way that surveyed households first found out that they could have the measures installed was by being approached by a salesperson knocking on their door or calling them (28%). Just over two in ten (22%) received a leaflet or letter and just over one in ten (12%) found out through a friend or relative or word of mouth, or saw an advert on the

news or online (11%). Around one in ten (12%) said they did not know or could not remember how they first found out about the scheme (Figure 4.1).

Figure 4.1: How households first found out about having measures installed



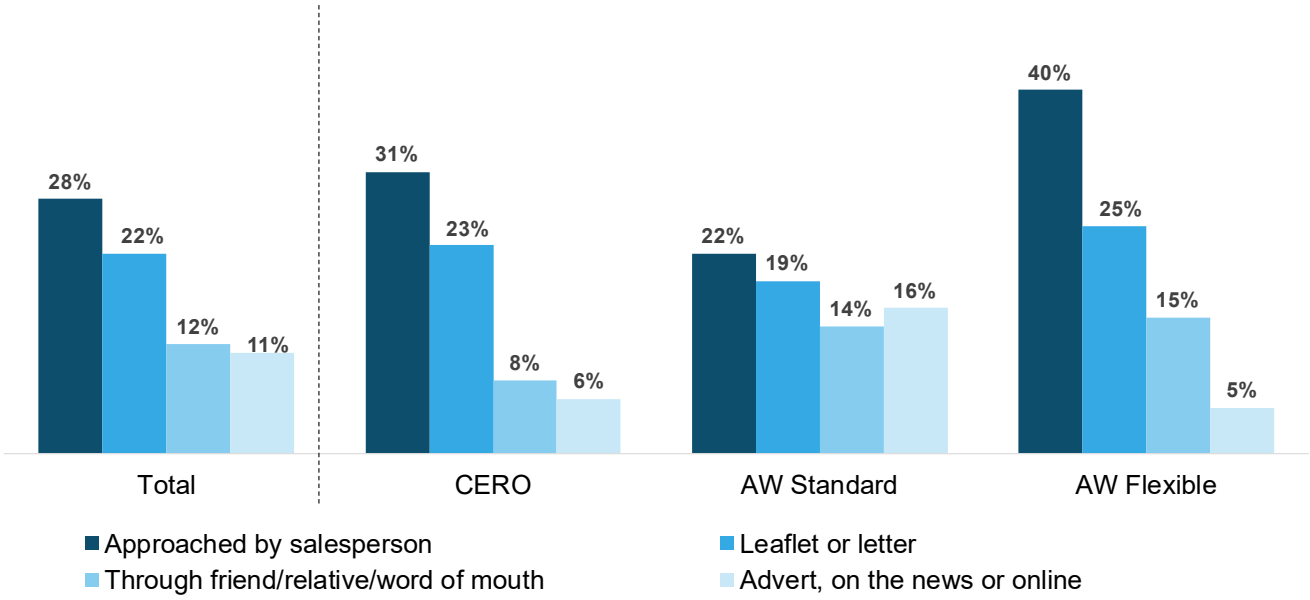
Q19. How did you find out that you might be able to have the measure(s) installed? Base: All respondents (2,857).

Surveyed households that received insulation were more likely to have been approached by a salesperson (31%) or received a leaflet or letter (23%) compared with those who had heating measures (22% were approached by a salesperson and 17% received a leaflet or letter). Households that received heating measures were more likely to have seen an advert on the news (18%, compared with 7% that received insulation) or heard about it through a friend or relative or word of mouth (19%, compared with 9% that received insulation).

There was also variation by region and obligation type. Surveyed households in Wales were more likely to have been approached by a salesperson (37%) compared with Scotland (29%) or England (26%), whereas those in Scotland or England were more likely to have received a leaflet or letter (25% and 21% respectively) compared with 15% in Wales. Within England there were also differences; a quarter (24%) of households in the North East saw an advert on the news or online compared with just 10% in the South East, nine percent in the West Midlands or East England and seven percent in the South West.

Looking across obligation types (Figure 4.2), surveyed households were more likely to have been approached by a salesperson under AW Flexible (40%) compared with CERO (31%) or AW Standard (22%). Surveyed households were more likely to have seen advert on the news or online under AW Standard (16%) compared with CERO (6%) or AW Flexible (5%).

Figure 4.2: How households first found out about having measures installed by obligation type



Q19. How did you find out that you might be able to have the measure(s) installed? Base: Total: 2,857, CERO (719), AW Standard (725), AW Flexible (1448).

Participants in the qualitative research who were directly approached about the scheme by a salesperson or through a leaflet were generally aware of the overarching principles of the scheme. In particular, most were aware that the aim of the scheme was to make homes warmer and more energy efficient and that it was supported by government and/or local councils.

"I know it was sold as part of the government's efforts to improve our [carbon] footprint." (Boiler and underfloor insulation, Owns home, AW Flexible)

"It's all about reducing the amount of power that we're all using in our daily lives, obviously for an environmental benefit, and the ways to do that would be to insulate the houses better and install more efficient boilers." (Boiler and underfloor insulation, Owns home, AW Flexible)

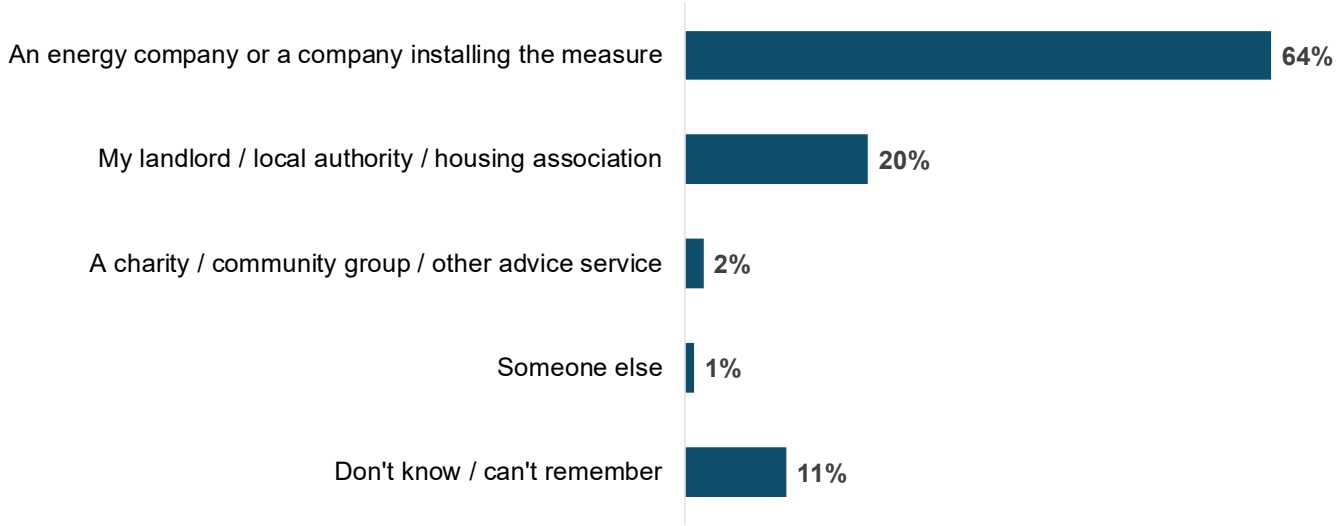
However, participants found it difficult to describe the scheme in detail and had varying levels of knowledge. Not all participants were told the name of the scheme or told the reasons for the scheme beyond the practical implications for their home, and when participants were first approached about the scheme there was uncertainty about the role of the organisations and government. Uncertainty seemed to be greatest among private renters and those in social housing (who received information second hand from their landlord or housing association).

"[They] just said they were participating in a government assisted scheme to replace old boilers." (Boiler and underfloor insulation, Owns home, AW)

Surveyed households who were approached by a salesperson or received a leaflet or letter were asked who they were approached by. Around two-thirds (64%) said it was from the energy company or the company installing the measure and two in ten (20%) said it was their landlord, local authority or housing association. A much smaller proportion said it was a charity,

community group or other advice service (2%) (Figure 4.3). Around one in ten (11%) did not know or could not remember. Slightly fewer than three-quarters (73%) of surveyed households were approached by one organisation, whereas 15% were approached by two or three. A small proportion (3%) were approached by more than three organisations. Around one in ten (9%) did not know or gave no answer.

Figure 4.3: Who first approached the household about having the measures installed



Q20. And was this from… Base: Respondents who were approached by a salesperson or received a leaflet or letter (1,638).

Participants in the qualitative research found the involvement of different organisations and the role of government confusing and they described uncertainty around the structure of the scheme's delivery. This was because of the range of organisations involved and the partnership between private companies and government, with some participants unsure of the involvement of each in the delivery of the scheme.

"It's very confusing because there's an awful lot of fingers in the pie, but from what I understand this stemmed from a government initiative to improve insulation and energy efficiency in homes." (Boiler, loft insulation and other heating, Private Renter, AW Flexible)

4.1.2 Initial perceptions of the scheme when they were first approached

Participants in the qualitative research initially reported scepticism when they were first approached by a salesperson knocking on their door, which was based on previous mistrust of door-to-door salespeople from private companies. Participants said that understanding that it was a government scheme was key and encouraged their interest and uptake as they had greater trust in a government initiative, and saw less opportunity to be taken advantage of or be mistreated. The fact that the information came from a trusted source also meant that participant may not have needed to have the information about the scheme in as much detail as they might have done as if it were from a salesperson from a private company whom they were less trustful of.

"I would imagine that [the government] they've not really got anything to gain from doing this, whereas a private company I would assume were looking for their private profits first." (Boiler and underfloor insulation, Owns home, AW Flexible)

"You always get loads of emails and leaflets telling you about subsidies so you don't know what to believe so the fact that it comes from the government definitely makes it more trustworthy." (Loft insulation, Owns home, CERO)

At the initial point of contact, the cost of the scheme – either a free or reduced priced measure for the participants – was also described as a key part of the sales pitch. The fact that the scheme was a government initiative offset some participants' view as seemingly 'too good to be true'. For some older participants, this was a particular concern around being targeted by salespeople knocking on the door.

"The fact that it's linked to the government gives you some feeling that there's something proper about it. If this company had just knocked on my door and said we'll do this for free for you then the response would probably have been 'no thank you'." (Boiler and cavity wall insulation, Owns home, AW, Aged 69)

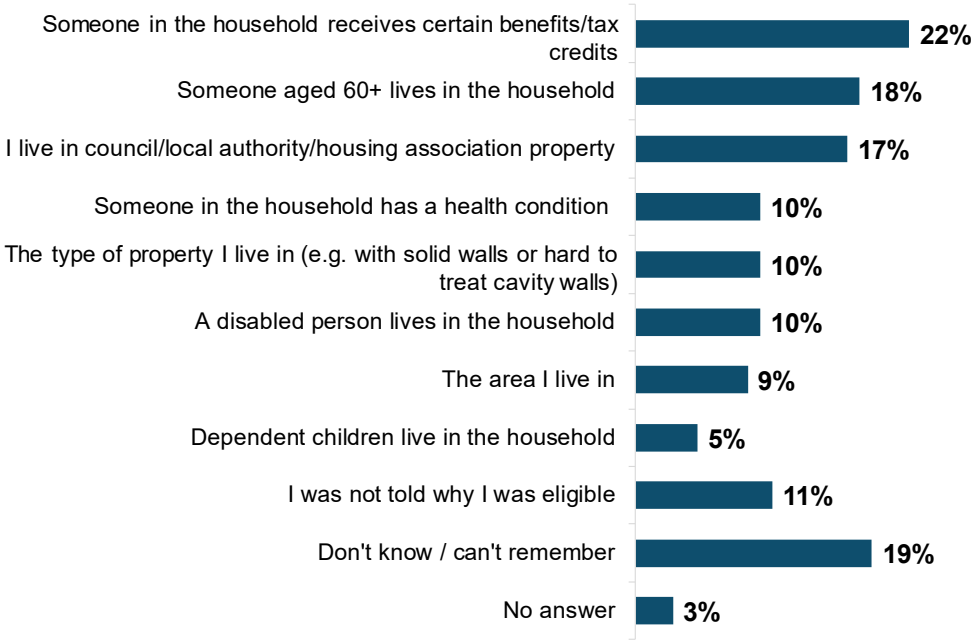
"At one point they asked to see bank statements and I was worried they were trying to scam me, so I went to the bank and checked… I think that people would target me." (Boiler and cavity wall insulation, Owns home, AW, Aged 45)

4.1.3 Eligibility to receive the measures

The eligibility criteria for the scheme cover a wide range of factors – for example, income, location or the demographics of the household – and as such, participants in the qualitative research reported different factors for their eligibility of the scheme, with some not certain of the criteria that made them eligible and who the scheme was targeting.

Around two in ten (22%) surveyed households said that they had been told they were eligible to receive the measures because someone in the household received certain benefits or tax credits. Slightly fewer (18%) said it was because someone aged 60 or over lived in the household and 17% because they lived in a council, local authority or housing association property. One in ten (10%) said it was because a disabled person lived in the household, with a further one in ten (10%) who said it was because someone in the household had a health condition, or because of the type of property that they live in, for example with solid walls or hard to treat cavity walls (10%). Nine percent said it was because of the area they lived in and five percent said it was because dependent children live in the household. Just over one in ten (11%) said they were not told why they were eligible and around two in ten (19%) did not know or could not remember.

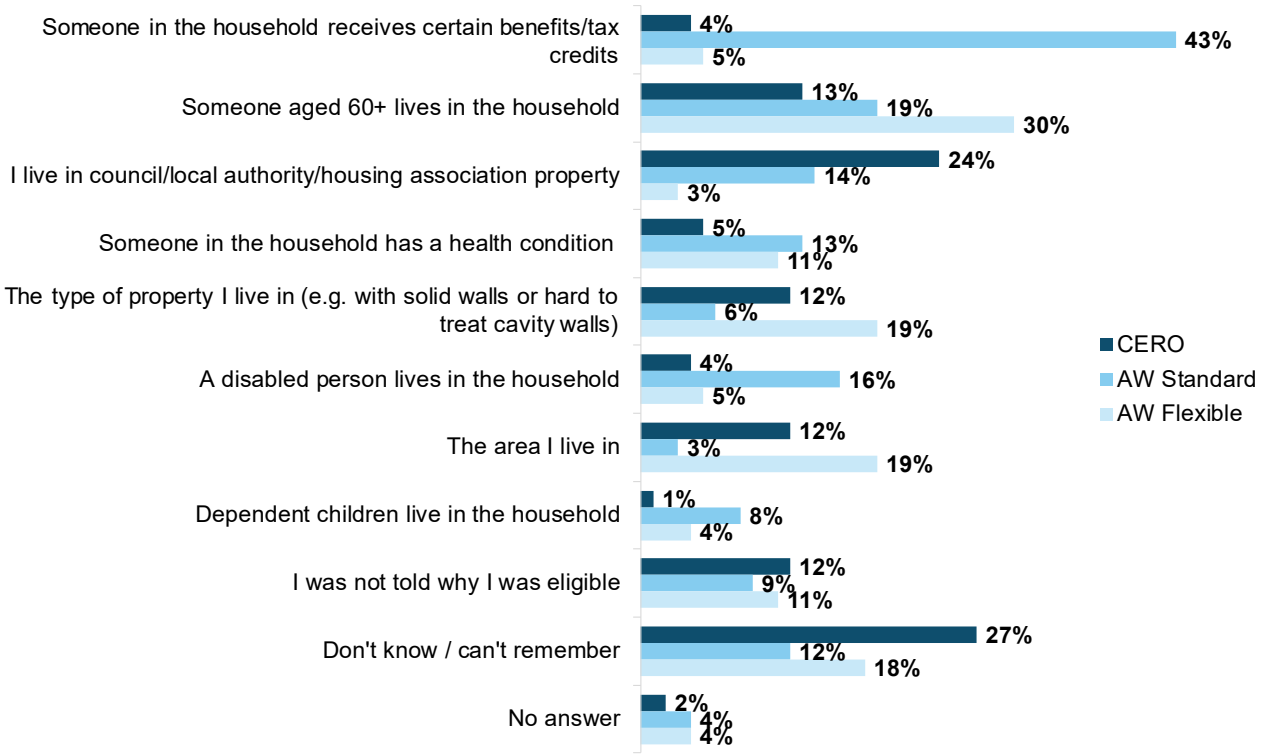
Figure 4.4: Why the household was eligible to receive the measures



Q25. Were you ever told that you were eligible to have the measure(s) installed for any of the following reasons? Base: All respondents (2,857).

There was some variation by obligation. A quarter of households receiving measures under CERO (24%) were told they were eligible because they lived in a council, local authority or housing association property, higher than all other obligation types. More than four in ten households under AW Standard (43%) were told it was because someone in the household receives certain benefits or tax credits, compared with five percent under AW Flexible, and four percent under CERO. The full breakdown of eligibility criteria by obligation is shown in Figure 4.5.

Figure 4.5: Why the household was eligible to receive the measures by obligation



Q25. Were you ever told that you were eligible to have the measure(s) installed for any of the following reasons? Base: CERO: 719, AW Standard: 725, AW Flexible: 1448.

Participants in the qualitative research who received benefits or income support, or those that had a vulnerable person in their household, were generally aware that this was the reason for their eligibility for the scheme. As a result, these sub-groups tended to be aware of the scheme's emphasis of those on lower incomes or vulnerable groups.

"Eligible because [I'm an] ex-serviceman who got discharged on medical grounds." (Cavity wall insulation, Owns home, CERO)

Those on higher incomes were generally less aware of why they were eligible for the scheme. Their ability to take part in the scheme was described by these participants as an unexpected cost saving that they appreciated because they often would not be entitled to government subsidies or support usually.

"I don't remember [why we were eligible], [we were] quite surprised that we were eligible as not low income and that often precludes us from things like that so nice surprise." (Loft insulation, Owns home, CERO, Income £75,000+)

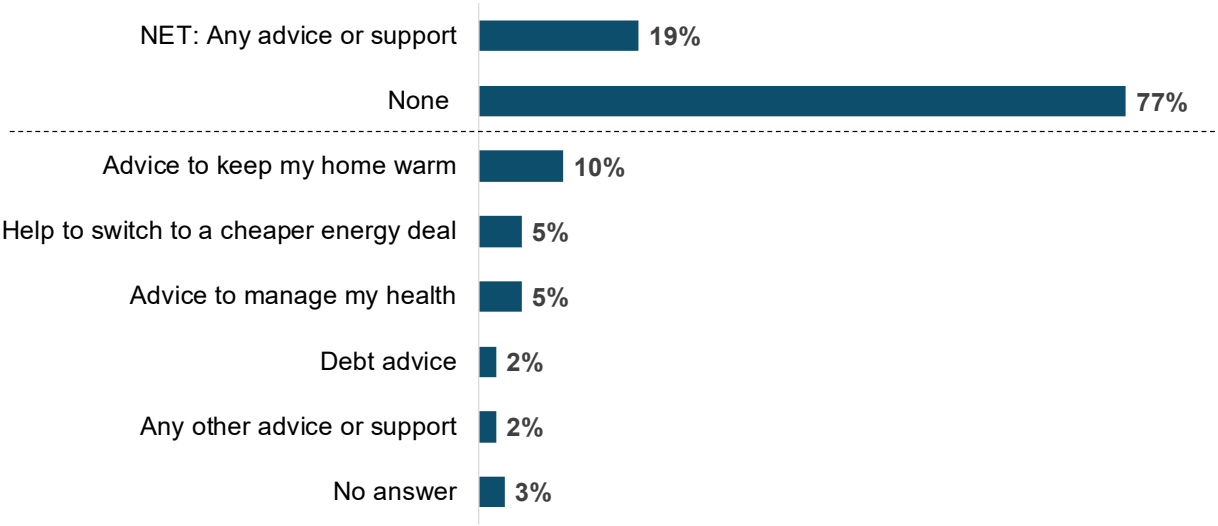
"We don't receive benefits, we're quite high earners so don't know why we were eligible, I think it's to do with the area." (Loft insulation and cavity wall insulation, Owns home, CERO, Income £45,000-£49,999)

4.1.4 Advice or support received at the time of finding out about the measures

Around one in five (19%) surveyed households were receiving advice or support on at least one of the items summarised in Figure 4.6 at the time they found out about the measures. Most often this was: advice about keeping the home warm (10%); help to switch to a cheaper energy deal (5%); advice to manage health (5%); or debt advice (2%). More than three-quarters (77%) were not receiving any advice or support at the time they found out about the measures.

Consistent with the survey findings, the qualitative research found that most participants did not receive advice or support at the time they found out about the measures. For those that did receive advice or support, this was typically through 'informal' sources including family, friends and neighbours. Where it was clear that companies had targeted specific streets or areas to inform people about the measures, people had been able to confer with their neighbours. This provided a source of support and made participants feel more confident about their decision - knowing that it was something that was happening in their area rather than being sold to them specifically.

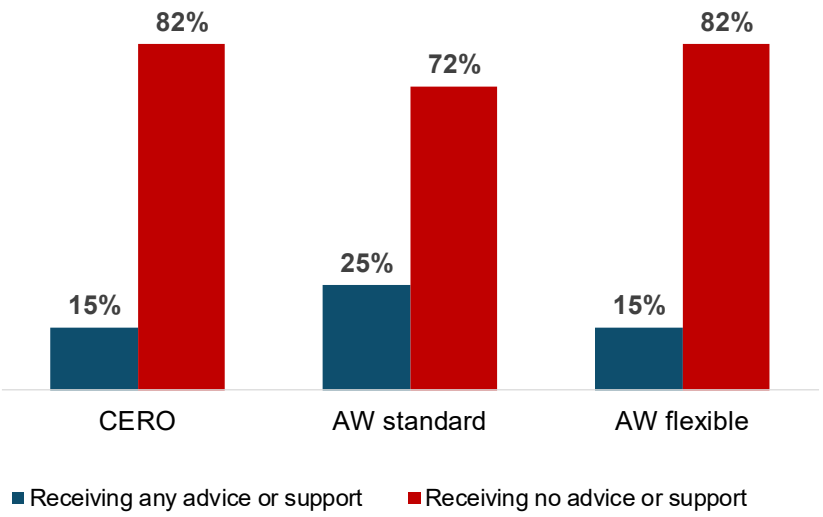
Figure 4.6: Advice or support received at time of finding out about the measures



Q23. At the time when you found out about the measure(s) were you receiving any of the following advice or support? Base: All respondents (2,857).

Surveyed households that were receiving advice or support were more likely to be on the ECO3 scheme (23%) compared with those on ECO2t (18%). Looking at the obligation types in more detail, those receiving help and support were more likely to be on the Affordable Warmth Standard scheme (25%) compared with 15% on the CERO scheme, and 15% on Affordable Warmth flexible scheme (Figure 4.7).

Figure 4.7: Advice or support received at time of finding out about the measures by obligation type



Q23. At the time when you found out about the measure(s) were you receiving any of the following advice or support? Base: CERO (719), AW Standard (725), AW Flexible (1448).

Among those who said they were receiving advice and support at the time of finding out about the measures, more than half (55%) said that the advice and support included a recommendation that the measures should be installed. Around a quarter (28%) said they had not been recommended the measures and 16% said they did not know or gave no answer.

4.1.5 Other energy saving measures in the home

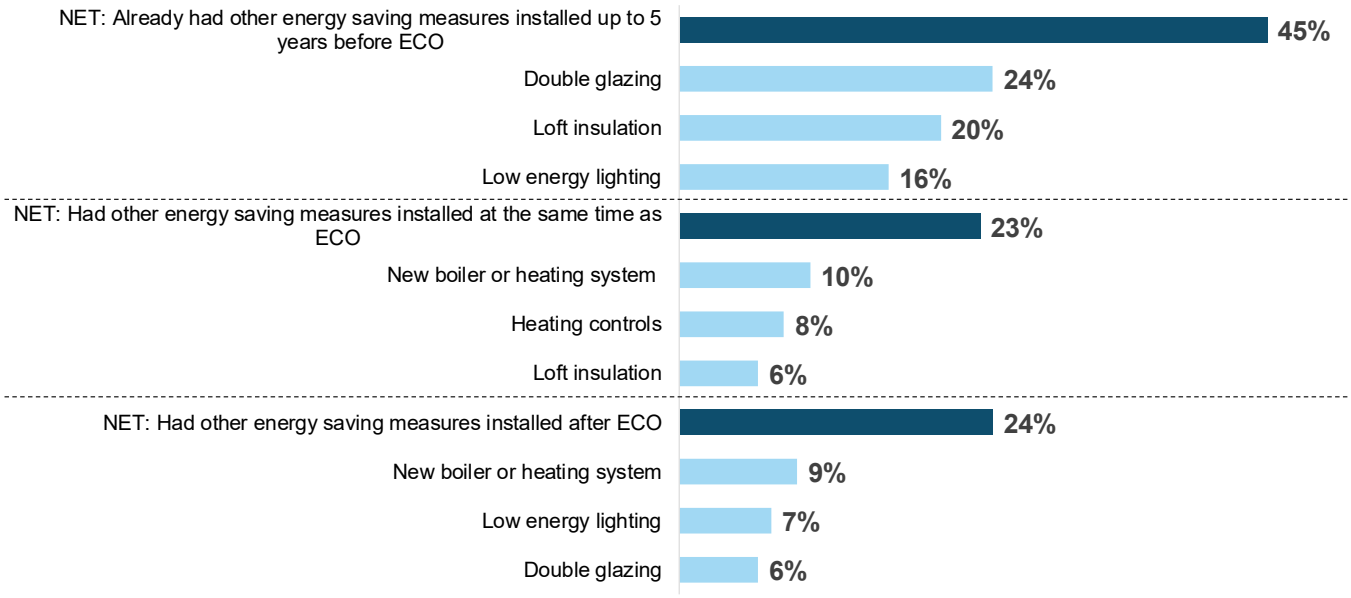
Surveyed households were asked if they had other energy saving measures installed in their home up to five years before the ECO measures had been installed, if other measures were installed at around the same time as the ECO measures, or if other measures had been installed after the ECO measures.

Around a quarter (23%) of households had other energy saving measures installed in their home at around the same time as the measures received under ECO, and a similar proportion (24%) had other energy saving measures installed afterwards.

The most frequently installed measure after having had the ECO installation was a new boiler or heating system (9%), low energy lighting (7%) or double glazing (6%). Figure 4.8 shows the top three most frequently installed measures at different points in time.

Households reached by CERO were more likely to have had other energy saving measures installed after the ECO measure (31%) compared with AW Standard (19%) or AW Flexible (19%). However, households reached by AW Flexible were more likely to have had other energy saving measures installed *before* the ECO measures (52%) compared with CERO (44%) or AW Standard (44%).

Figure 4.8: Other energy saving measures in the home installed within the last five years

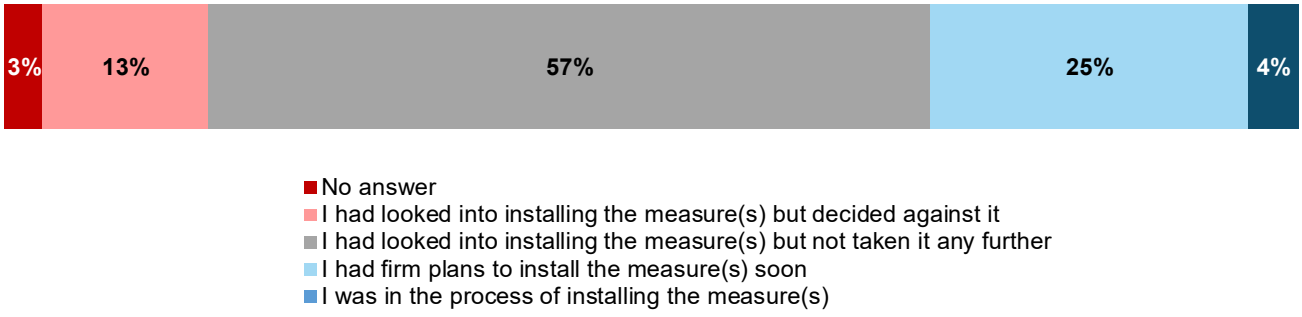


Q45. Which of the following energy saving measures have you had installed in the last 5 years? Were any of these installed at the same time, or within 6 months of (before or after) the measure(s) we have been asking you about? Chart is restricted to the top 3 measures. Base: All respondents (2,857)

4.1.6 Whether the household had previously considered installing the measure

Among the 62% of surveyed households that had previously considered installing the measure before finding out about the help with funding, over half (57%) said they had looked into it but not taken it any further. A quarter (25%) said they had firm plans to install the measures soon, 13% had looked into installing it but decided against it and a small proportion (4%) said they were in the process of installing the measures (Figure 4.9).

Figure 4.9: Whether had previously looked into installing the measure



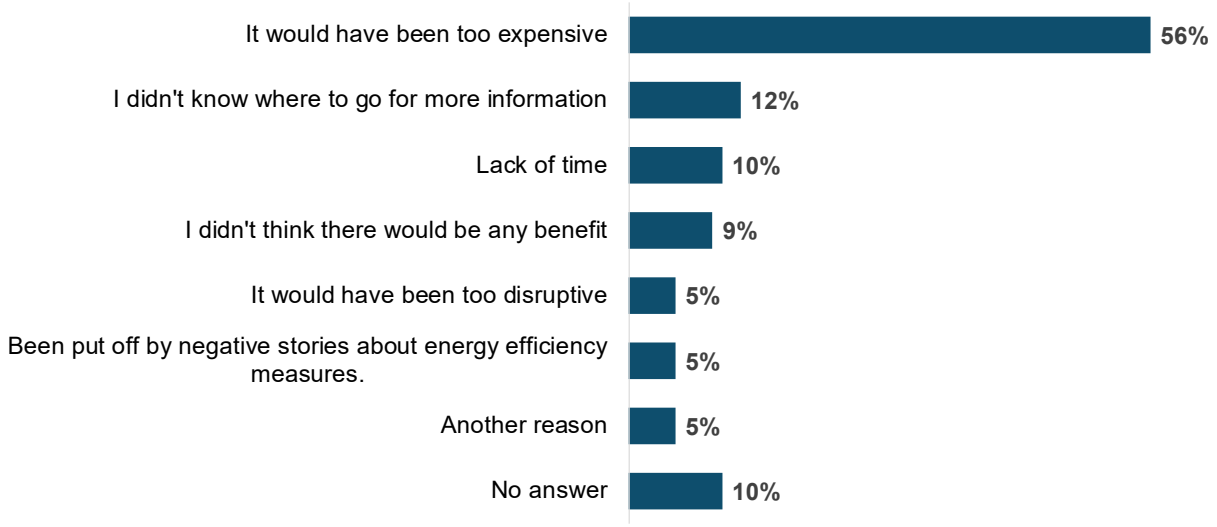
Q38. Which of the following best applies to you? Base: All respondents that had considered installing the measure before they found out they could get help paying for it (804).

There was some variation by obligation, with households reached by CERO and AW Standard more likely to have had firm plans to install the measures soon (28% and 25% respectively) compared with 12% of AW Flexible. A higher proportion of AW Flexible said that they had looked into installing the measures but not taken it any further (65%) compared with 53% of AW Standard.

There were no significant differences between the type of measure that the household ended up having installed.

More than half of surveyed households who had looked into installing the measures but decided against it said that it would have been too expensive (56%). Twelve percent said they didn't know where to go for more information and 10% said they had a lack of time. Nine percent said they did not think there would be any benefit. Smaller proportions said it would have been too disruptive (5%) or they had been put off by negative stories about energy efficiency measures (5%). As shown in the base text in Figure 4.10, there were some respondents who answered this question who did not say they had decided not to have the measure installed. Their responses were kept in the data as they had felt that the question was relevant to their circumstances.

Figure 4.10: Reasons why households had decided not to have the measure installed previously



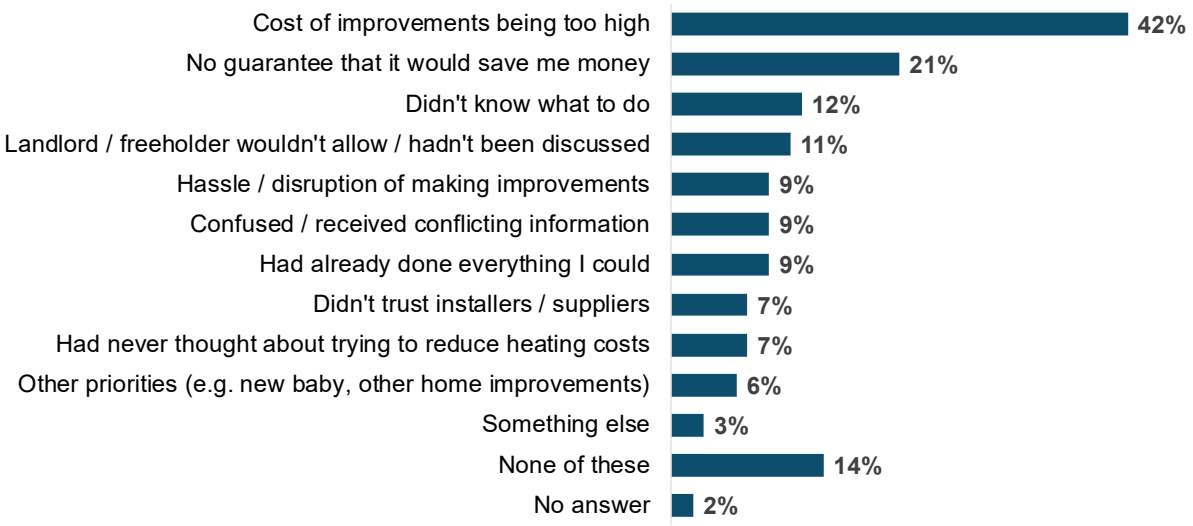
Q40. Why had you decided not to have the measure(s) installed? Base: Respondents that had previously looked into have the measure installed, and respondents in the postal survey that gave a valid response to this question (1031).

4.1.7 Factors that had stopped households from making changes within the home to reduce energy costs

In the survey all households were asked what had previously stopped them from making changes to their home to reduce heating costs. The cost of the improvements being too high was the main factor (42%) and around two in ten (21%) said there was no guarantee it would save money. Twelve percent said that they did not know what to do and 11% said that the landlord or freeholder would not allow it or it had not been discussed. Around one in ten (9%) said that they were confused or had received conflicting advice, the hassle or the disruption of

making improvements, or they had already done everything they could. Seven percent said they did not trust installers or the suppliers, and the same proportion said they had already done everything they could (Figure 4.11).

Figure 4.11: Barriers to making changes within the home to reduce energy costs



Q43. Before you had the measure(s) installed, which, if any, of the following stopped you from making changes to your home to reduce heating costs? Base: All respondents (2,857).

The cost of improvements being too high was more likely to be cited by those who received a boiler (63%), underfloor insulation (54%) or other heating measures[18] (51%) compared with other forms of insulation such as solid or cavity wall insulation (36%) or loft insulation (38%). In contrast, 'no guarantee that it would save me money' was more likely to be cited as a barrier by households that had received insulation (23%) compared with those that received a boiler (15%). Households reached by AW Standard or AW Flexible were more likely to say that the cost of improvements were too high (47% and 51% respectively) compared with 35% of households reached be CERO.

The findings were similar in the qualitative research. Participants mentioned cost as being a significant barrier, especially among participants that had boilers installed. Many recalled that their previous boiler had been faulty or coming towards the end of its life, and knew it would have to be replaced soon, but they were holding off because of the cost.

"We needed the boiler to be replaced and it would have been difficult [financially] to do on our own". (Boiler and underfloor insulation, Owns home, AW)

"We knew that having a boiler was something we'd have to come round to, but it meant having to save a lot of money". (Boiler and underfloor insulation, Owns home, AW)

Participants in the qualitative research who had insulation installed had doubts about the effectiveness and validity of the scheme. They were concerned that the insulation would cause more problems than benefits having heard bad press about insulation causing damp. They

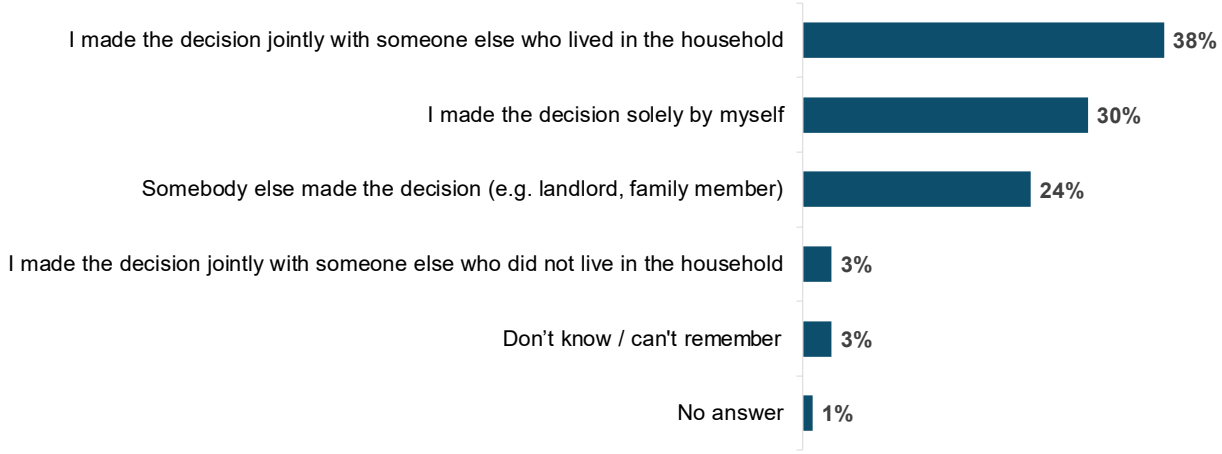
[18] This includes electric storage heaters, district heating systems, heating controls, smart thermostats and thermostatic radiator valves.

decided to take part in the scheme because of the temperature of their home which meant that they were willing to take the risk. That said, not all participants who had insulation installed felt that the negatives were explained to them and they only heard about the potential downsides afterwards.

4.1.8 Decision maker for getting the measure installed

More than a third (38%) of surveyed households said they made the decision to have the measures installed jointly with someone else who lived in the household. Three in ten (30%) made the decision solely by themselves and three percent said they made the decision jointly with someone else who did not live in the household. A quarter (24%) said that somebody else made the decision, for example a landlord or family member (Figure 4.12). Within single adult households, half (50%) made the decision by themselves.

Figure 4.12: Who made the decision to have measures installed



Q31. Who made the decision to have the measure(s) installed? Base: All respondents (2,857)

There was variation by tenure, with around three-quarters (73%) of households in social housing who said that somebody else made the decision compared with 41% of private renters and two percent of owner occupiers. This is also reflected in differences by the type of measure installed, for example 56% of households that had solid wall insulation said that somebody else made the decision and this measure was most commonly installed in social housing and private rentals.

The qualitative research also showed that for some private renters and those in social housing, the decision was made by a landlord or association. This greater sense of ownership may have meant owner occupiers were more engaged and ‘bought into’ the aims of ECO and were more able to articulate benefits.

"I'm in social housing so we had letters saying it was going to be done whether we liked it or not, didn't really know much about it" (Cavity wall insulation, Social housing, CERO)

In contrast, 38% of owner occupiers made the decision solely by themselves (compared with 26% of private renters and 12% in social housing), and over half (55%) of owner occupiers made the decision jointly with someone else who lived in the household, compared with nine percent of private renters and eight percent in social housing.

4.1.9 Reasons for deciding to have the measures installed

In both the survey and the qualitative research, comfort and cost were the most common reasons cited for having energy saving measures installed. More than half (57%) of surveyed households said it was to make their home warmer and more comfortable. Half (51%) said it was to save money on energy bills and more than a third (37%) said it was because the measures were offered for free or at a reduced price (Figure 4.13).

This was consistent with the priorities of participants in the qualitative research with comfort and cost being prioritised when it came to heating their home. Comfort was particularly important where participants felt their heating needs were not being met, for example, the home felt cold or the boiler was broken. Those with potentially vulnerable people in their household, for example young children or older members of the household, found the comfort of the home even more important in order to accommodate their needs.

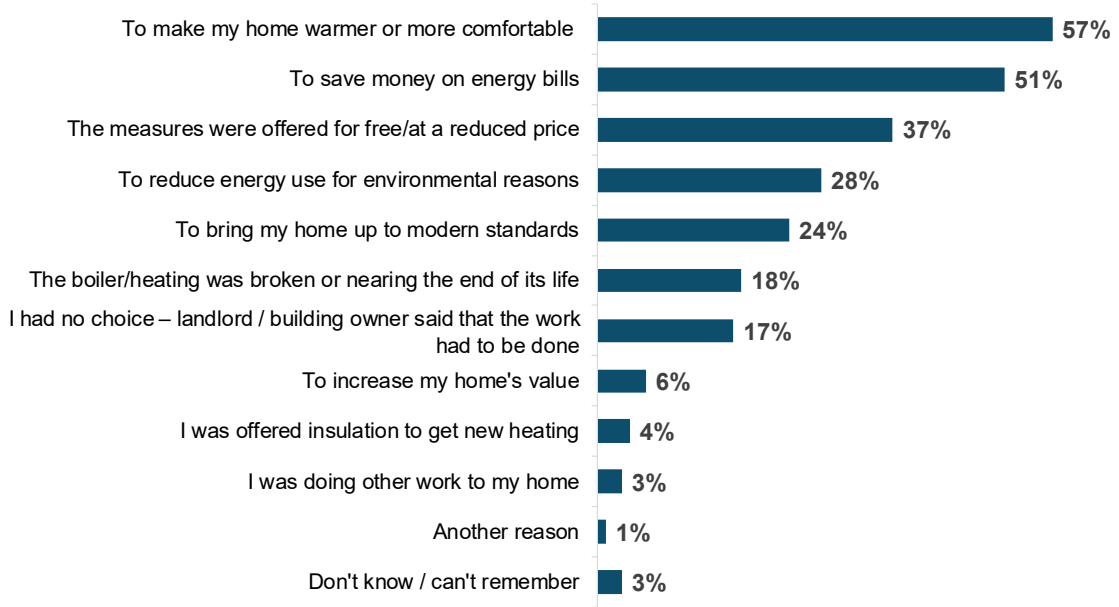
"I find my house cold and I hoped that having the insulation would make a difference." (Boiler and underfloor insulation, Owns home, AW Flexible)

"It was to protect our grandad." (Loft insulation and cavity wall insulation, Owns home, CERO)

Cost saving, both in terms of reduced bills and the saved cost of installation, was also important to participants in the qualitative research. Having the measure(s) installed was a straightforward decision because of the positive financial motivations in the immediate (through the installation) and longer term through bill savings. This was particularly the case for low-income participants who did not anticipate being able to pay for the measure themselves if their boiler were to break.

"Just thought it was good value for money – it made sense." (Cavity wall insulation, Owns home, AW Flexible)

Figure 4.13: Reasons for having the measures installed



Q26. What were your reasons for having the measure(s) installed? Base: All respondents (2,857).

Among the surveyed households who installed the measures to make their home warmer and more comfortable, 77% reported that their home had generally felt warmer since having the measures installed, whereas two in ten (19%) said it was about the same and two percent said it was cooler.

Among the surveyed households that said that they installed the measure to save money on energy bills, around half (49%) reported that their energy bills were lower after having the measures installed, but eight percent said they were higher. Three in ten (32%) reported no difference.

In the survey, just under three in ten (28%) households said they had the measure installed to reduce energy use for environmental reasons. In the qualitative research, the environmental factors were described positively by participants and most understood the energy saving aspects of the scheme. However, as the quantitative survey also highlights, in terms of the decision to take up the scheme, this was less important than comfort or cost. With some exceptions who were highly motivated by environmental reasons, participants expressed environmental reasons as one reason to get the measure installed, but generally this was a secondary consideration or a by-product of the measure rather than the main reason. Instead, practical considerations that affected their day-to-day lives were generally more top of mind.

“It is obviously important, and we do try to do our bit for the planet… but when it comes to heating and things like that, unfortunately, other things take precedence.” (Loft insulation, Owns home, CERO)

“I would like to say that I was thinking about the environment, but I think that it would have just been reducing bills and making it a bit warmer in the winter.” (Cavity wall insulation, underfloor insulation, dormer insulation and loft insulation, Owns home, AW Flexible)

“If you can see a benefit to you as well and it's environmentally sound then that's good but if it costs a lot that's a barrier because you've got to have the funds to do it.” (Boiler, Owns home, AW)

Other reasons for having the measure(s) installed given by surveyed households included bringing their home up to modern standards (24%), the boiler or heating system being broken or nearing the end of its life (18%), or that they had no choice as the landlord or building owner said that the work had to be done (17%). Smaller proportions said it was to increase their home’s value (6%), because they were offered insulation to get new heating (4%) or they were doing other work in their home (3%).

More than half (56%) of households that received a boiler said it was because their previous boiler or heating system was broken or nearing the end of its life. This finding is corroborated by the qualitative research. For those that had a boiler installed, the decision to get a new boiler for free or at a reduced price was described by participants as an easy and logical decision because it was solving the problem of a broken boiler. However, it was also seen as a way to save them money in the next few years and get a new boiler at a reduced price before the end of its life and alleviate concerns about needing to replace in future. This was particularly important for homeowners, who needed to pay to replace a boiler in their home, but who were concerned financially. This was most common among older adults who were receiving a pension and who felt they had less disposable income compared with when they had been working.

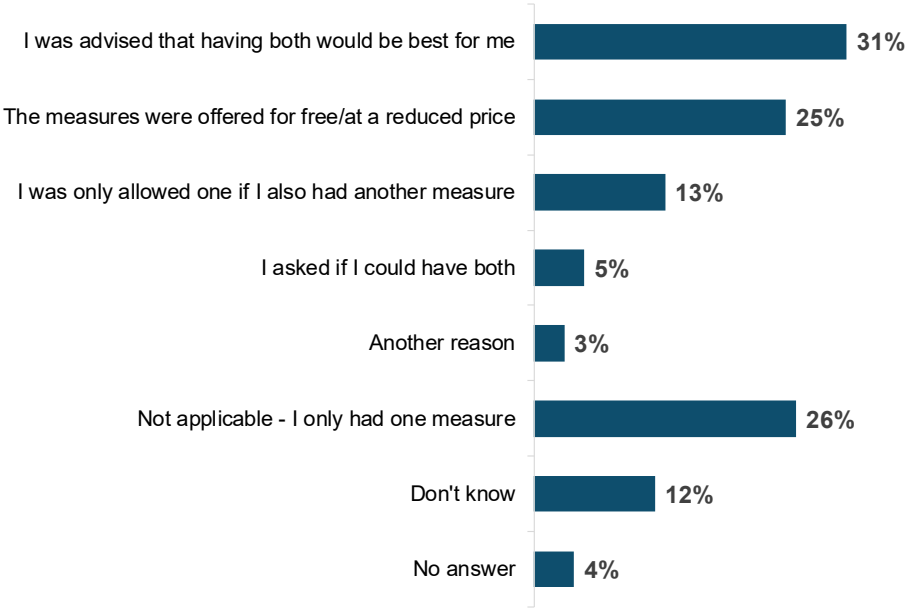
“The scheme sounded a good idea to me because obviously I was going to get a new boiler at less than full cost.” (Boiler and underfloor insulation, Owns home, AW, Aged 81)

4.1.10 Reasons for having multiple measures installed

Surveyed households that had more than one measure installed were asked why they chose to have more than one measure installed at the same time. Around three in ten (31%) said they were advised that having both would be best for them and a quarter (25%) said it was because the measures were offered for free, or at a reduced price. Thirteen percent said they were only allowed one if they also had another measure. A small proportion (5%) asked if they could have both.

Around a quarter (26%) answered not applicable as they felt they only had one measure installed. This could be because they only perceived their installation to be one measure, for example a boiler and heating controls. It could also be because they could have had multiple measures that were installed at different time periods. Around one in ten (12%) said they did not know.

Figure 4.14: Reasons for having more than one measure installed



Q27. If you had more than one measure installed at the same time, why did you choose to have both of these installed at the same time? Base: All respondents that had more than one measure installed (702).

The qualitative research suggests participants receiving multiple measures often had different reasons to those receiving a single measure. This included a desire to have as many measures as they were eligible to receive and being told that the scheme was only available for those receiving multiple measures.

For some participants, particularly those that had just moved into a property, having multiple measures installed was a decision that they were happy to take as it saved them time, was considered an additional benefit of the scheme and saved them more money. This was also apparent for environmentally conscious participants who wanted their home to be as energy efficient as possible and therefore wanted as many measures as they were eligible for.

"Boiler and insulation were offered part and parcel, because when they surveyed the property it just made perfect sense to put them both forward together and they would be carried out in tandem." (Boiler and underfloor insulation, Owns home, AW Flexible)

In other instances, salespeople told participants that multiple measures were necessary in order to qualify for the one measure that they really wanted. This was usually communicated verbally although, in some instances, it was also included in the written information that salespeople gave to households (see Appendix C). In some cases, there were multiple companies involved, each specialising in a different measure and this approach may have been to encourage uptake of each measure through promoting them as a package. Some participants who received multiple measures were told that the money provided under the scheme was only sufficient or enough of an incentive to the companies to roll it out when multiple measures were included in the package.

Participants in the qualitative research that received multiple measures typically received both heating and insulation and the least desired measure was typically the one that would be most disruptive (for example, underfloor insulation). Participants who were told that the scheme *required* multiple measures frequently described an imbalance in knowledge about the scheme compared with the salesperson, meaning that they did not feel able to challenge it because it was often the first time that they had heard about the scheme. The fact that it was part of a government scheme and that there were often no or few cost implications meant that there was a fairly high level of trust among participants and the risk was generally considered low. This meant that they were generally less likely to question the information, because it was from a trusted source and they were generally not losing money from having multiple measures installed.

"There was no choice in that [measure] or the floor, it just came as this package, said if you go ahead this is what we do." (Boiler and underfloor insulation, Owns home, AW Flexible)

"To be honest I didn't want the floor insulation, I said I didn't want it but then he said that you couldn't get the boiler without the floor insulation so I thought, I guess I'll get it then." (Boiler, underfloor insulation and other heating, Owns home, AW)

4.1.11 Information received in advance of the installation

Awareness of the range of different energy saving measures available

Just under a quarter of surveyed households (23%) said they were made aware of the range of different measures they could have had installed in their home. Half (51%) said they were not and just under a quarter (23%) said they did not know or could not remember (Figure 4.15).

Figure 4.15: Awareness of the range of different energy saving measures

Q28. Were you made aware of the range of different energy saving measures you could have had installed in your home? Base: All respondents (2,857).

Some surveyed households were more likely to have been made aware of the range of different energy saving measures. These included:

- Households that received underfloor insulation (40%) compared with 32% that received a boiler, 29% that received loft insulation, 20% that received solid wall insulation, and 20% that received cavity wall insulation.
- Households that received measures under ECO3 (31%) compared with ECO2t (20%).
- Households that received measures under AW Flexible (37%) compared with AW Standard (24%) or CERO (20%).

Households with only people aged 65 or over were more likely to say they had not been made aware (56%) compared with those with working aged adults with under-fives in the household (41%).

Participants in the qualitative research had varying levels of satisfaction with the choices that they were given, both in terms of measure type and the options within each measure. Participants who had had energy saving measures installed previously were generally satisfied with the choice that they were given because they not always aware of other measures that could be applicable to their home. Those that had boilers installed, while generally satisfied with the choice of measure because of the cost savings and necessity of a boiler, in some instances were not given a choice of boiler type. This was difficult for participants who wanted a like for like replacement or similar boiler as it meant that the new boiler was less suited to their needs, despite being newer and more energy efficient. One participant had a more powerful boiler installed but was then concerned about the amount of heating being used and the associated costs.

"We weren't given a comprehensive choice whether or not you needed one opposed to the other, just that it was the latest boiler." (Boiler, Owns home, AW Flexible)

"There was one choice, there was a choice of colours but there was one choice." (Solid wall insulation, owns home, CERO)

For those in social housing or rented accommodation, awareness of the different energy saving measures available was reported by qualitative participants as particularly low. Often this was because they had little choice over whether or not the measure was installed and

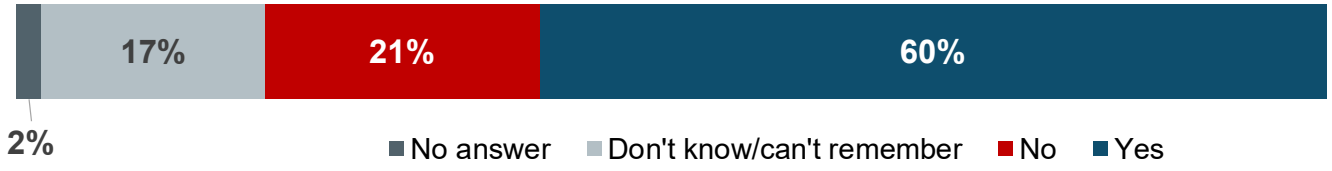
were also told the specific type of measure that they were having, regardless of the level of disruption that it would cause the household or their own perceptions of the measure.

"It was a pre-destined thing; you're having that whether you like it or not." (Cavity wall insulation, Social housing, AW)

Whether received enough advice in advance about the measure installed

Six in ten surveyed households (60%) said they had received enough advice and support in advance about the measures they had installed. More than a quarter (21%) said they did not, and 17% said they did not know or could not remember. Households reached by AW Flexible were more likely to say they had received enough advice in advance (76%) compared with households reached by CERO (59%) or AW Standard (57%).

Figure 4.16: Whether received enough advice in advance about the measures installed



Q29. Did you receive enough advice in advance about the measures you had installed? Base: All respondents (2,857)

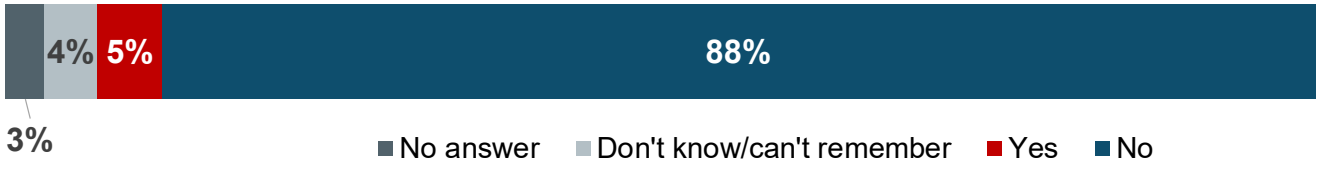
Surveyed households that had received insulation were more likely to say they had not received enough advice in advance about the measures installed (23%) compared with households that received a boiler (16%). This was particularly the case among those who had received solid wall insulation (32% said they had not received enough advice in advance). The qualitative findings suggest that this may be due to the fact that issues that were more frequent from insulation compared with heating measures. Therefore, this group may perhaps be more likely to report that they did not receive enough advice about the measure because of these issues. For example, participants in the qualitative research reported feeling disappointed that the potential negatives had not been discussed with them.

"We were excited to have it installed but never thought about the downsides, would be asking about those next time." (Boiler and cavity wall insulation, Owns home, AW)

4.1.12 Whether households felt pressure to get measures installed

One in twenty surveyed households (5%) said that they felt pressurised into having the measures installed. Just under nine in ten (88%) said they did not, whilst four percent did not know.

Figure 4.17: Whether households felt pressure to get measures installed



Q22. Did you feel pressured at any point into having the measure(s) installed? Base: All respondents (2,857)

Surveyed households that received any insulation were more likely to say they felt pressure (6%) compared with households that received a boiler (3%), as did households that received a single measure (6%) compared with multiple measures (4%).

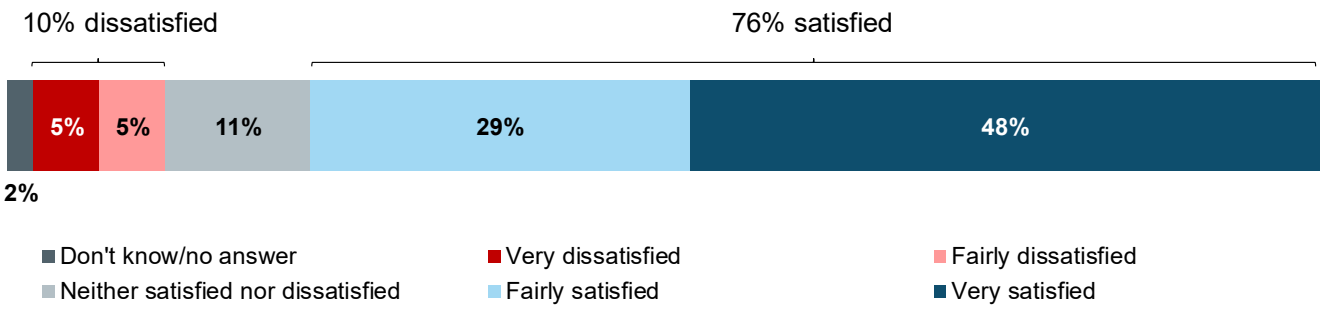
One in six (17%) households that reported that they were less likely to consider other energy saving installations in the future said they felt pressure to get the measures installed, compared with three percent that reported that they were more likely.

4.2 The experience of getting the measure installed

4.2.1 Satisfaction with the process of having the measures installed

More than three-quarters of surveyed households were satisfied with the process of having the measures installed (76%), with just under half (48%) who said they were very satisfied. One in ten (10%) were dissatisfied. A similar proportion (11%) were neutral, saying they were neither satisfied nor dissatisfied (Figure 4.18).

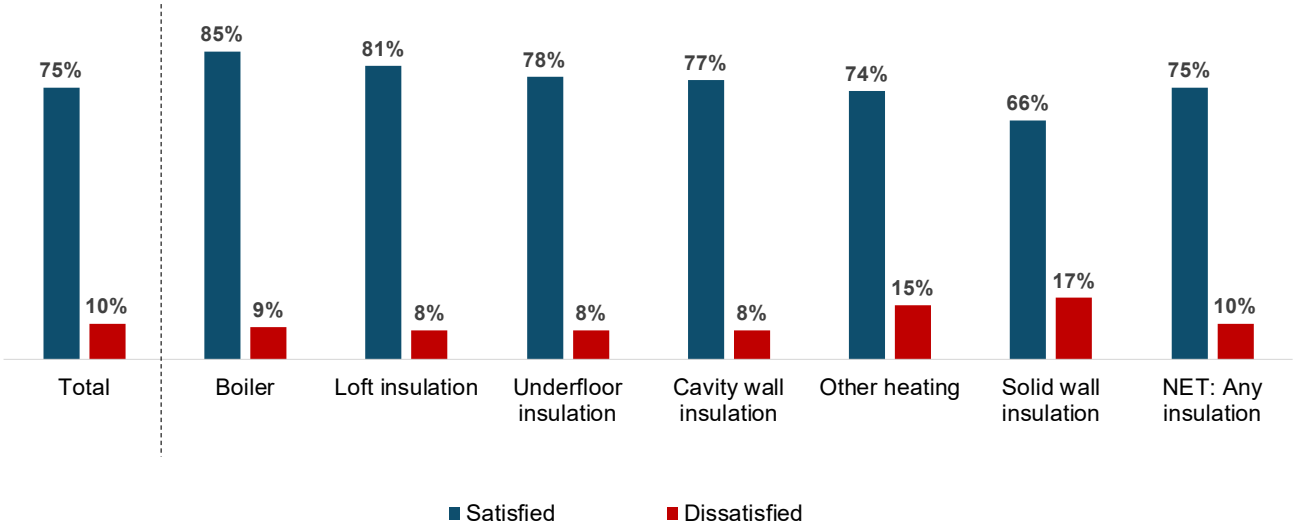
Figure 4.18: Satisfaction with the process of having the measures installed



Q41. Overall, how satisfied or dissatisfied were you with the process of having the measure(s) installed? Base: All respondents (2,857).

Surveyed households that received a boiler were more likely to be satisfied (85%) compared with those who received insulation (75%), and of particular note solid wall insulation (66%). Conversely, households who received solid wall insulation (17%) or heating measures excluding boilers[19] (16%) were more likely to say they were dissatisfied compared with households that received a boiler (9%), cavity wall insulation (8%), loft insulation (8%) or underfloor insulation (8%) (Figure 4.19). The survey findings show that the 17% of households that received other heating measures[20] said that their energy bills were higher compared with before the measures was installed, a higher proportion compared with households that had received a boiler (11%), loft insulation (9%) or cavity wall insulation (7%), which may be contributing towards overall dissatisfaction. As discussed in section 4.3.3, 35% of households that received solid wall insulation said it took longer to install than expected, another factor which could influence dissatisfaction.

Figure 4.19: Satisfaction with the process of having the measures installed by measure type



Q41. Overall, how satisfied or dissatisfied were you with the process of having the measure(s) installed? Base: Total: All respondents (2,857), all respondents who had measures installed: boiler (1,117), loft insulation (524), underfloor insulation (262), cavity wall insulation (1,061), other heating (612), solid wall insulation (241), any insulation (2,016). * Other heating includes electric storage heaters, district heating systems, heating controls, smart thermostats and thermostatic radiator valves

The qualitative research identified two key drivers of satisfaction or dissatisfaction: expectations of the process and trust in the installers. Fulfilled expectations of the process were important for participants' overall satisfaction of the installation of the measures. Participants expected the measures to be installed to a good standard, for installers to come at the agreed time and date, for the installers to clean up any mess created by the process and for any issues or questions to be dealt with quickly. Disruption was generally not a concern for

[19] This includes electric storage heaters, district heating systems, heating controls, smart thermostats and thermostatic radiator valves.

[20] This includes electric storage heaters, district heating systems, heating controls, smart thermostats and thermostatic radiator valves.

participants unless it was more disruptive than had been explained to them when they agreed to get the measure installed. Participants who received this level of service were generally satisfied with the process and described it as a very easy process.

“They were really good when they did it, very professional, no mess, and everything was done perfectly.” (Boiler, Owns home, AW Flexible)

However, while these expectations were generally met by installers, there were instances of mess being left behind, which participants then had to clean up, measures not being installed properly (for example floorboards coming up after underfloor heating had been installed) and installers not delivering the measures that they promised. Installers not delivering the measures that they promised was generally the most long-lasting in terms of levels of dissatisfaction and frustration. This experience was more frequent for those that had multiple measures installed. Qualitatively, this stemmed from a lack of communication between different companies involved in the scheme, which led to it being unclear to participants what they could expect. For some participants, they were satisfied with the installation process but their expectations were not met in terms of what they were originally offered under the scheme.

“We'd agreed and signed the paperwork...they were now saying that the terms had changed [so I couldn’t get a boiler].” (Cavity Wall Insulation, Owns home, AW Flexible)

Trust in installers and how participants felt they were treated were also important. Participants wanted to be treated with the same respect that they would have expected had it not been part of a funded scheme. Where participants reported good service from installers, this was marked by good communication, expectations being met and installers being polite and courteous. Rapport and trust were built particularly quickly when the installers were local to the area and participants felt more confident knowing that they could easily contact someone local if there were issues with the measures.

“I cannot fault that people that came to do it – they were excellent, caring, understanding.” (Cavity wall insulation, Social housing, AW)

Those who were dissatisfied with the installation process, tended to report a sense of being treated differently by installers because the measure was part of a funded scheme. Participants also gave examples of their home being damaged or installers not being understanding of their situation. That said, where participants received compensation for damage they were generally satisfied overall because the issue had been addressed. Rather, it was poor communication and/or a lack of attempt to fix problems that led to dissatisfaction. There did not appear to be specific groups which experienced issues or dissatisfaction with the process. Therefore, this suggests that it could be more greatly correlated with the installers themselves and the service that they offered to participants.

“I just got the feeling, rightly or wrongly, that this guy thought 'you're getting a freebie from the government so we don't need to treat you very well'.” (Underfloor insulation, Owns home, AW Flexible)

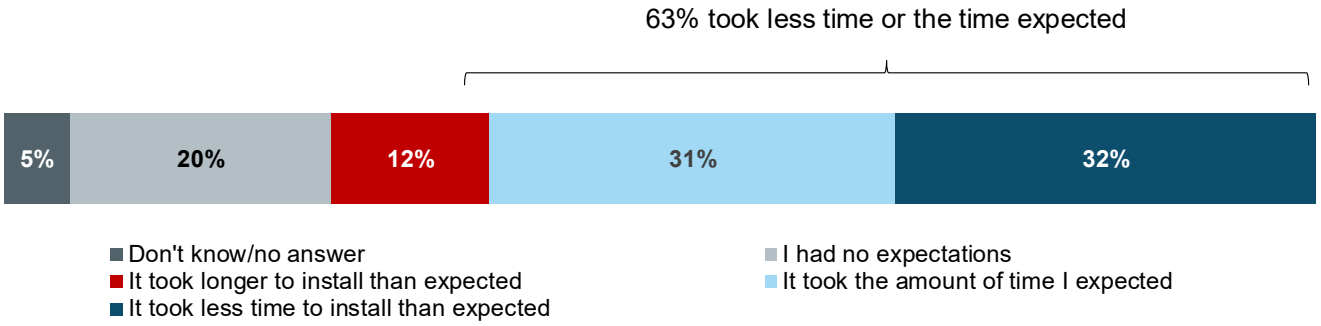
Participants who were satisfied with the process of having the measure installed, often found it difficult to remember details of the installation process (because it was considered straightforward with few issues to recall).

“Can't actually remember so must have been very straightforward because I have no memory of it.” (Boiler and underfloor insulation, Owns home, AW Flexible)

4.2.2 Time taken to have measures installed compared with expectations

More than six in ten (63%) surveyed households said that it took less time or the amount of time they expected to install the measures, with 32% who said it took less time than expected, and 31% who said it took the amount of time they expected. Around one in eight (12%) said that it took longer to install than they expected. Two in ten (20%) said they had no expectations (Figure 4.20).

Figure 4.20: Time taken to have measures installed compared with expectations



Q42. Thinking about the time it took to have the measure(s) installed, how did this compare with your expectations? Base: All respondents (2,857).

More than a third (35%) of surveyed households who had solid wall insulation said it took longer to install than expected, which was higher than those who had received other types of insulation such as cavity wall insulation (7%), loft insulation (7%) or underfloor insulation (10%), and also higher than those who received a boiler (12%).

In contrast, a higher proportion of surveyed households who received loft insulation or underfloor insulation said it took less time to install than expected (45% and 40% respectively), compared with boilers (34%), cavity wall insulation (32%), other heating measures (29%) or solid wall insulation (13%).

4.2.3 Whether anyone involved in the installation discussed ventilation, condensation or mould

One in six (17%) surveyed households said that someone involved in the installation did discuss if the measure would influence ventilation, condensation or mould. Just under six in ten (59%) said nobody discussed this with them, and more than two in ten (22%) could not remember or did not know.

Figure 4.21: Whether anyone involved in the installation discussed ventilation, condensation or mould

Q30. Did anyone involved in the installation discuss with you if the measure(s) might influence ventilation, condensation and/or mould growth in your home? Base: All respondents (2,857)

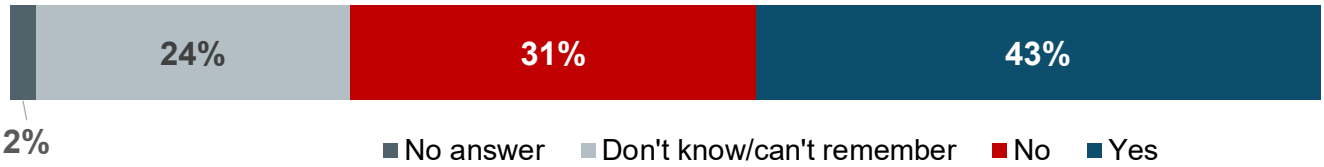
Households reached by ECO3 AW Flexible were more likely to say that someone involved in the installation had discussed ventilation, condensation or mould (24%) compared with ECO2t CERO (18%), ECO3 AW Standard (17%) and ECO2t AW Standard (15%).

4.2.4 Whether anyone was given a guarantee with instructions about what to do it there were problems with the measure

More than four in ten (43%) surveyed households said they were given a guarantee with instructions about what to do if there were problems with the measures. Three in ten (31%) said they were not given one, and just under a quarter (24%) did not know or could not remember.

Surveyed households that had received a boiler were almost twice as likely to have received a guarantee with instructions about what to do if there were problems (69%) compared those that received insulation (35%). It was also more likely to have been given a guarantee in Wales (51%) compared with England (42%).

Figure 4.22: Whether anyone was given a guarantee with instructions about what to do it there were problems with the measure



Q32. Were you given a guarantee with instructions about what to do if there were problems with the measure(s)? Base: All respondents (2,857).

These findings are corroborated by the qualitative findings, with most participants reporting that the information was given to them or that they could not remember what they had been provided with. Of those who were given a guarantee and contact details about who to contact if they had any issues, this was generally provided voluntarily rather than the participant asking for the information.

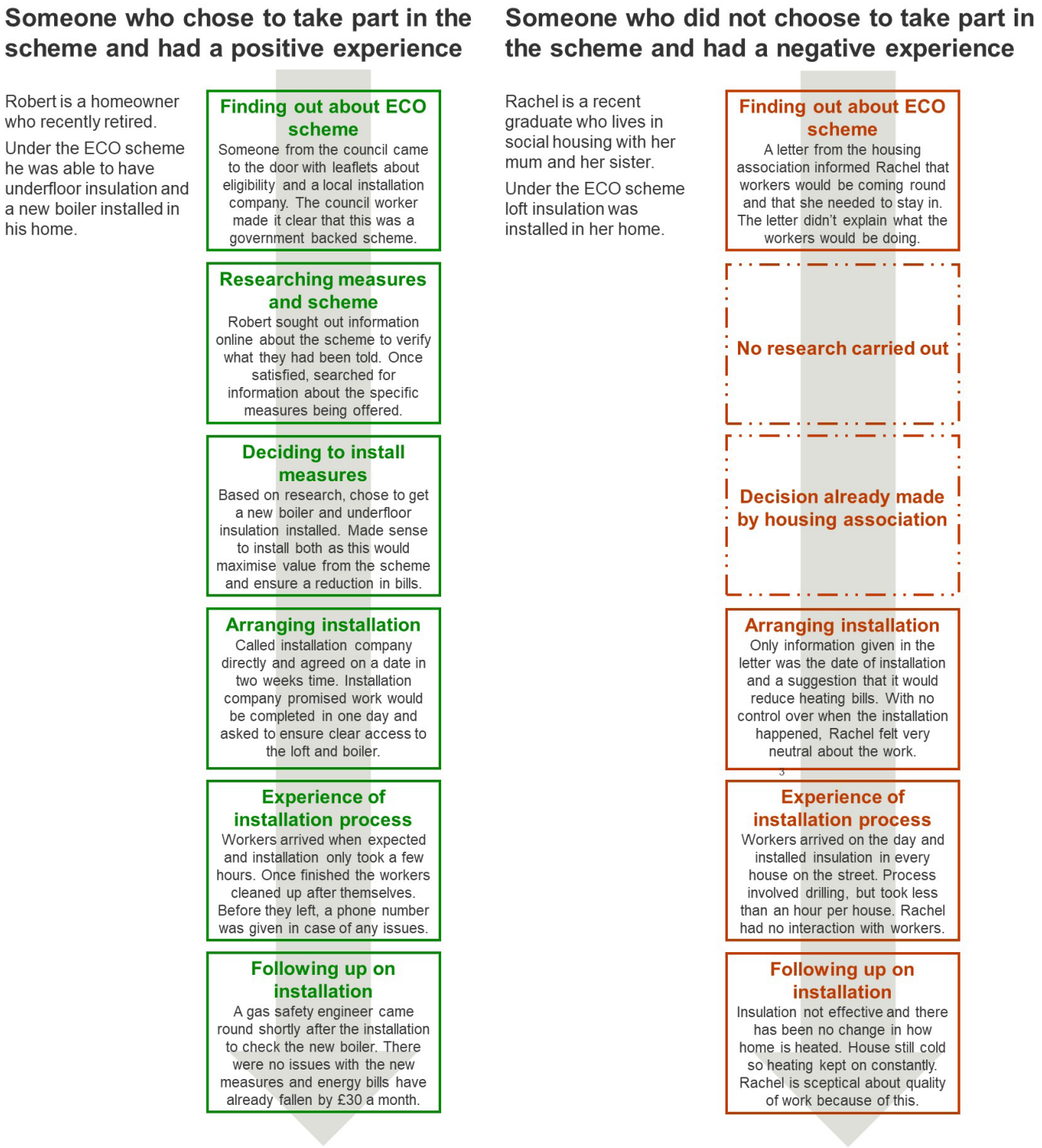
“They left all the information that was needed.” (Boiler and underfloor insulation, Owns home, AW)

For those that reported that they were not given one, this was generally a concern for participants. Those who had a boiler installed were particularly concerned about not having the correct documentation, or a mismatch between the guarantee communicated by the salesperson and the paperwork. This stemmed from the potential consequences on the lifetime of their boiler, that faults would not be fixed or a feeling that their home was unsafe.

“It's caused a bit of stress, I don't know whether it's going to last as long as they told us or whether it's going to pack in in the next couple of years, it's worrying.”

4.3 Case studies for the delivery and experience of the scheme

Figure 4.23:
Case study E: A positive experience journey (AW Flexible)
Case study F: A negative journey (CERO)



5. Conclusion

The ECO scheme was designed to drive uptake of energy efficiency measures in households that would not have occurred without the scheme, particularly among low income and vulnerable households in or at risk of fuel poverty. The intended effects of the scheme include reducing energy demand in the residential sector, lower energy bills, improving thermal comfort and subsequent health outcomes. The Affordable Warmth obligation was designed to target low income and vulnerable households. This research demonstrates that progress is being made against these objectives, but experience and outcomes of the scheme vary significantly depending on the particular energy saving measures that are installed.

The research shows that the scheme is reaching households on relatively low incomes, with around four in ten (43%) of households who had a pre-tax income of less than £16,000 per year. However, around one in ten (11%) households had an income of £40,000 or more a year, which was higher among households reached by CERO (18%) compared with AW Flexible (12%) or AW Standard (3%). The scheme is also reaching older households; four in ten (40%) contained someone aged 65 or over, higher than the national average of approximately 32%[21].

Most of the households reached said that they would have been unlikely to have the measures installed if there had been no help with funding (67%), and this was higher in privately rented homes (78%). Around two in ten (19%) of households said that they would have been likely to have had the measures installed without the funding. Surveyed households receiving loft insulation were more likely to say they would have had it installed without the help with funding (26%) compared with 19% of those who received cavity wall insulation, 18% of those who received a boiler and 16% of those who received solid wall insulation.

Looking at the impact of the scheme, nearly six in ten (57%) households that were reached felt they had benefited a great deal or a fair amount from having the measures installed. The most frequently mentioned benefits covered savings on energy bills and a warmer and more comfortable home. Thermal comfort in the home generally increased; two-thirds (67%) said that their home felt warmer since having the measures installed and just under half (48%) said that the temperature in their home drops more slowly since the measures were installed. The cost of energy bills decreased for four in ten households (41%) and a third (33%) said energy bills had become more affordable. However, one in ten (11%) said that energy bills were higher since having the measures installed. The impact of the measures varied by the type of measure that was installed, with households who had boilers installed more likely to say they had benefitted (70%) and more likely to say their home was warmer (72%) compared with insulation measures (54% and 67% respectively).

As well as the impact on comfort and cost, other positive outcomes that were reported by respondents included improving the energy efficiency rating of their home, and future-proofing with more modern energy measures, therefore increasing the value of their home. Surveyed households also reported fewer issues with condensation, draughts, mould, mildew, damp and rot since having the measures installed. Only around two in ten (21%) experienced any of these issues after the measures were installed, compared with four in ten (40%) before.

Another key aim of the scheme was to have a positive impact on health. Overall, around two in ten surveyed households (19%) reported a positive impact on the physical or mental health of

[21] ONS estimates of the number of households (and people in households) by the mix of age groups and number of people aged 65 and over, UK, 2019

someone within their household, however a small proportion (2%) reported a negative impact. Qualitative interviews suggests that negative impacts were related to stress where there had been problems requiring repair, or continuing problems with damp.

The research suggests that a positive experience with the ECO scheme encourages households to become more aware of energy efficient measures in the house. Just under six in ten (58%) households reached by ECO said that they are more likely to consider other energy saving installations in the future, and this increased to 71% of households that felt they had benefited from the scheme. In addition, more than two-thirds (67%) had already recommended, or would be likely to recommend similar energy saving measures under the scheme to people they know.

Generally, households that were renting privately or in social housing tended to have a less positive experience of the scheme. These households described less control over the process, little information and often had little consultation with the landlord or housing association. This is also linked to the type of measures that were more frequently installed in privately rented accommodation or social housing with higher proportions receiving solid wall insulation.

The 2020 survey and qualitative findings give an indication of the impact of the ECO scheme and how successful it has been in achieving its aims and objectives. The findings will feed into a wider evaluation to inform the development of future policies.

Appendix A: Achieved sample for the qualitative research

	Completed
Total	40
Obligation	
CERO	15
AW	15
AW FLEXIBLE	10
Number of measures	
Single measure	20
Multiple measures	20
Measure	
Insulation	23
Heating	4
Mix	13
Level of disruption	
Highly disruptive	7
Quite disruptive	10
Not very disruptive	13
Not at all disruptive	10
Level of impact	
High impact	11
Medium impact	16
Low impact	13
Benefit	

Positive	29
Negative	6
Neutral/no impact	5
Gender	
Male	14
Female	26
Age	
Under 18	0
18-24	1
25-34	8
35-44	6
45-54	10
55-64	7
65+	8
Region	
Greater London	0
South East	3
South West	7
West Midlands	6
North West	5
North East	2
Yorkshire and the Humber	3
East Midlands	3
East of England	1
Scotland	4
Wales	6
Northern Ireland	0

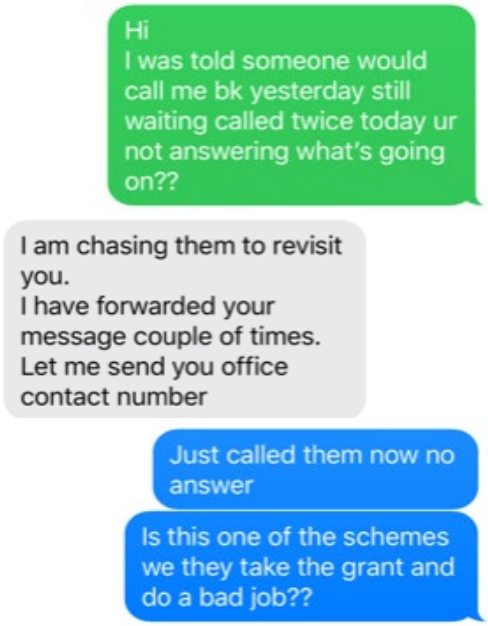
Tenure	
Own home	26
Private Renter	8
Social Housing renter	6
Property type	
House	35
Flat	2
Other	3

Appendix B: Participant photographs related to the impact of the ECO Scheme on households

Whether household has benefitted

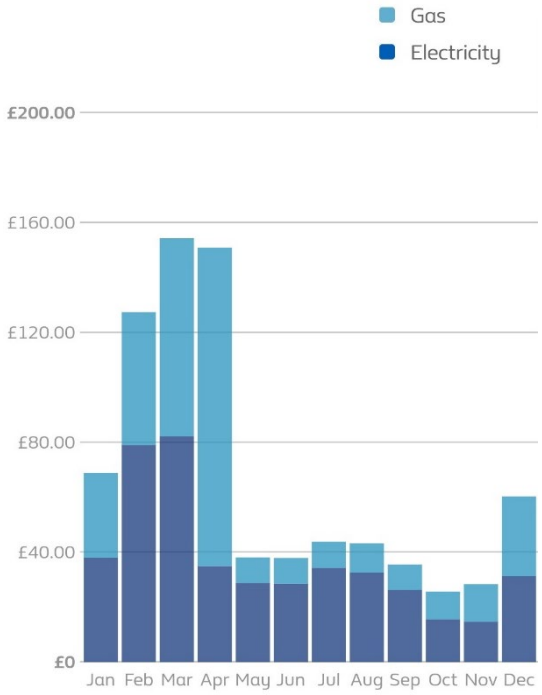
Photo 1: Benefitting from an effective new boiler (Boiler and underfloor heating, Owns home, AW Flexible)

Photo 2: Difficulties in getting problems resolved means little or no benefit for the household.
(Boiler and underfloor heating, Owns home, AW)

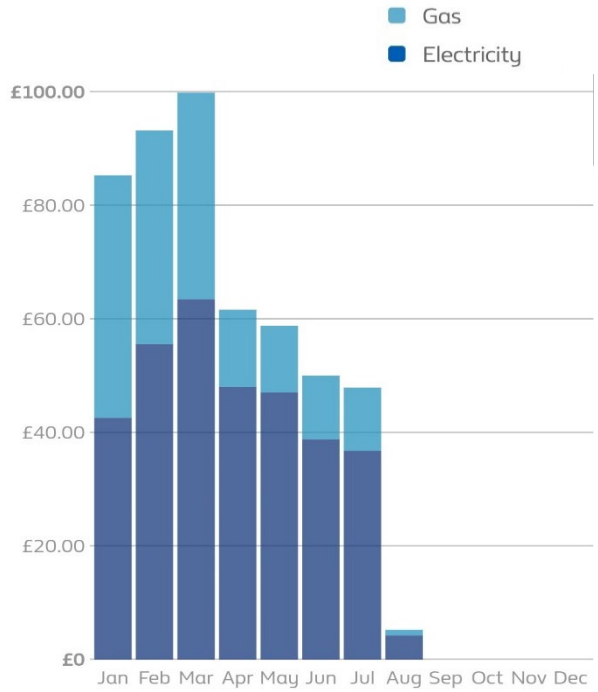


Impact on energy bills

Photo 3: Bills before insulation was installed peaked at almost £160, bills after insulation was installed peaked at £100.
(Loft insulation, Private renter, AW)



2019



2020

Impact on temperature in home

Photo 4: “Warm house, no heating on”.
(Solid wall insulation, Owns home, CERO)

Photo 5: “Open window, hot in summer”.
(Loft insulation, Private renter, AW)

Impact within the home

Photo 6: Solid wall insulation has improved the house's exterior as well as made it warmer.
(Solid wall insulation, Owns home, CERO)

Photo 7: Before and after loft insulation installed. Loft is now keeping the house warm and has become a usable storage space.
(Loft insulation, Owns home, CERO)

Problems experienced since the measures were installed

Photo 8: Floor left damaged after underfloor insulation installed.
(Boiler and underfloor insulation, Owns home, AW Flexible)

Photo 9: Negative impacts included balls from cavity wall insulation in the kitchen and a vent in the living room causing a draught.
(Cavity wall insulation, Owns home, CERO)

Appendix C: Participant photographs related to the delivery of the ECO scheme

Photo 10: Leaflet which tells people they must have insulation installed if they want to qualify for a free boiler.
(Boiler and underfloor insulation, Owns home, AW Flexible)

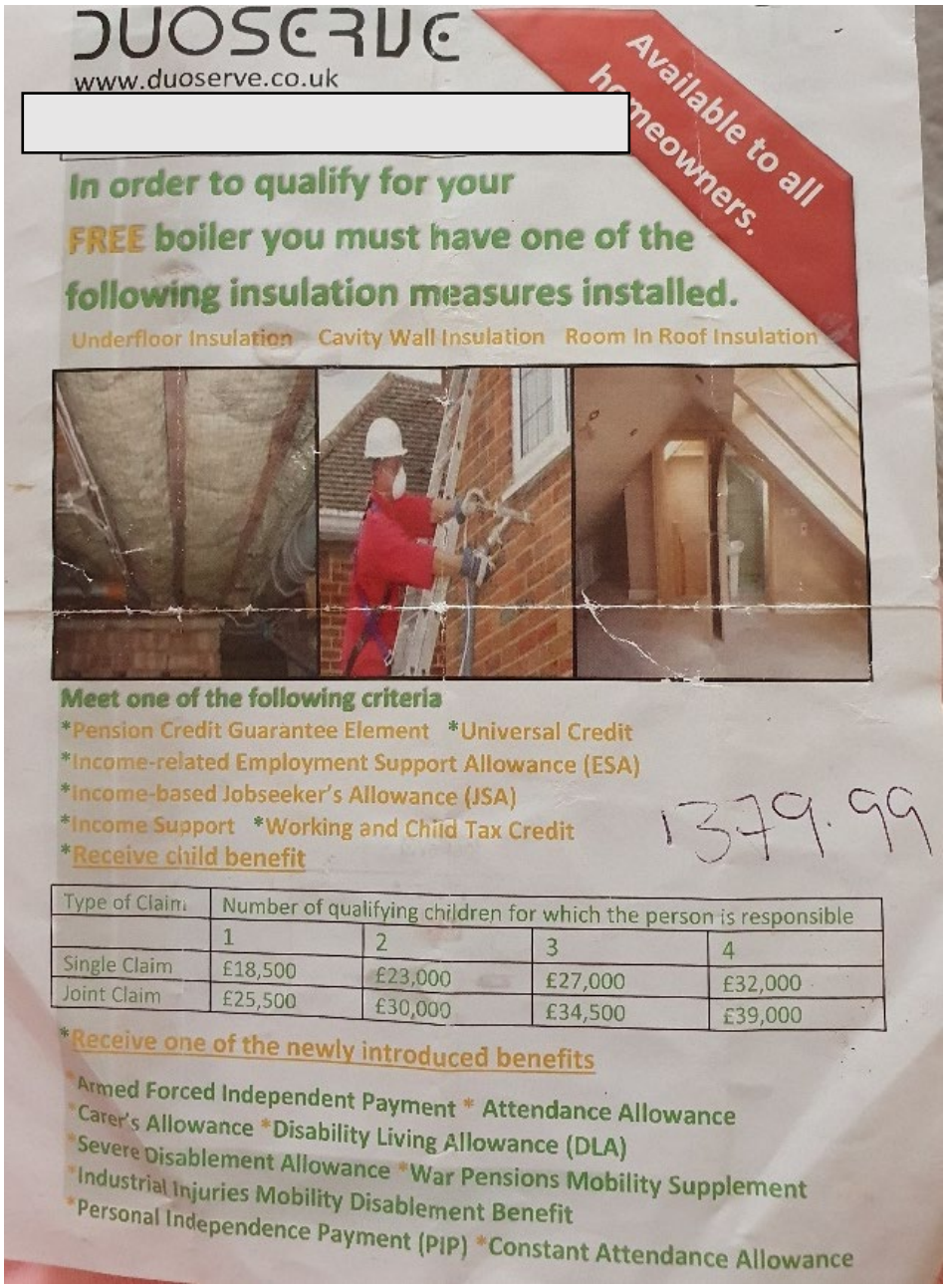


Photo 11: In some cases, just arranging the installation proved challenging.
(Boiler and underfloor heating, Owns home, AW)

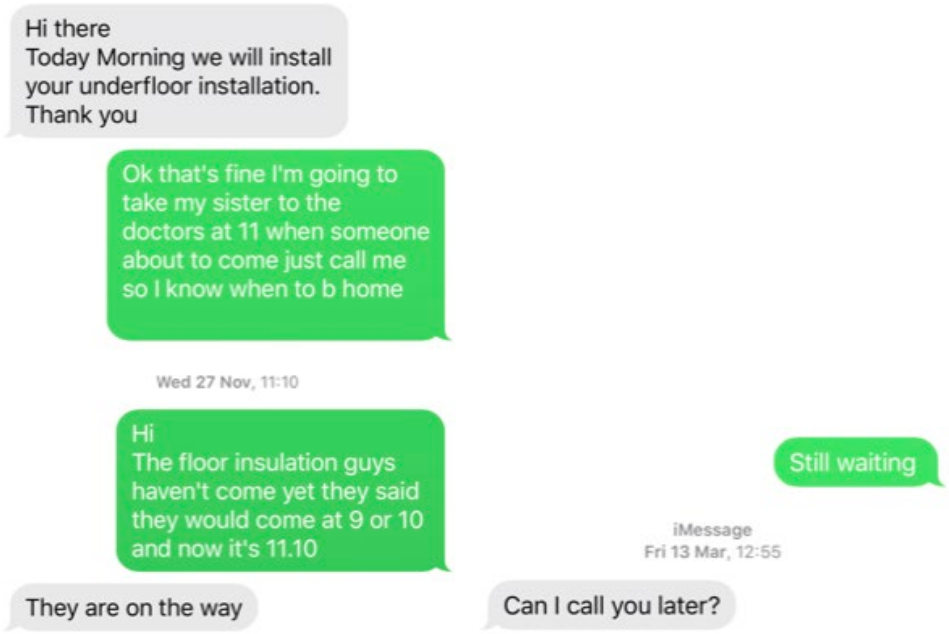
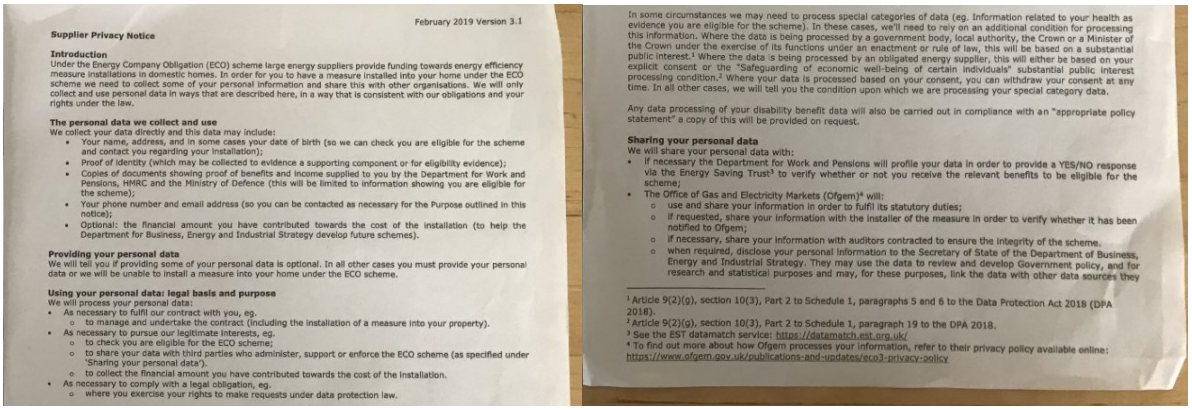


Photo 12: What happens next? All the steps explained in one letter.
(Boiler and underfloor insulation, Owns home, AW Flexible)



February 2019 Version 3.1

Supplier Privacy Notice

Introduction
Under the Energy Company Obligation (ECO) scheme large energy suppliers provide funding towards energy efficiency measure installations in domestic homes. In order for you to have a measure installed into your home under the ECO scheme we need to collect some of your personal information and share this with other organisations. We will only collect and use personal data in ways that are described here, in a way that is consistent with our obligations and your rights under the law.

The personal data we collect and use
We collect your data directly and this data may include:
- Your name, address, and in some cases your date of birth (so we can check you are eligible for the scheme and contact you regarding your installation);
- Proof of identity (which may be collected to evidence a supporting component or for eligibility evidence);
- Copies of documents showing proof of benefits and income supplied to you by the Department for Work and Pensions, HMRC and the Ministry of Defence (this will be limited to information showing you are eligible for the scheme);
- Your phone number and email address (so you can be contacted as necessary for the Purpose outlined in this notice);
- Optional: the financial amount you have contributed towards the cost of the installation (to help the Department for Business, Energy and Industrial Strategy develop future schemes).

Providing your personal data
We will tell you if providing some of your personal data is optional. In all other cases you must provide your personal data or we will be unable to install a measure into your home under the ECO scheme.

Using your personal data: legal basis and purpose
We will process your personal data:
- As necessary to fulfil our contract with you, eg.
  - to manage and undertake the contract (including the installation of a measure into your property).
- As necessary to pursue our legitimate interests, eg.
  - to check you are eligible for the ECO scheme;
  - to share your data with third parties who administer, support or enforce the ECO scheme (as specified under 'Sharing your personal data').
  - to collect the financial amount you have contributed towards the cost of the installation.
- As necessary to comply with a legal obligation, eg.
  - where you exercise your rights to make requests under data protection law.

In some circumstances we may need to process special categories of data (eg. Information related to your health as evidence you are eligible for the scheme). In these cases, we'll need to rely on an additional condition for processing this information. Where the data is being processed by a government body, local authority, the Crown or a Minister of the Crown under the exercise of its functions under an enactment or rule of law, this will be based on a substantial public interest.[1] Where the data is being processed by an obligated energy supplier, this will either be based on your explicit consent or the "Safeguarding of economic well-being of certain individuals" substantial public interest processing condition.[2] Where your data is processed based on your consent, you can withdraw your consent at any time. In all other cases, we will tell you the condition upon which we are processing your special category data.

Any data processing of your disability benefit data will also be carried out in compliance with an "appropriate policy statement" a copy of this will be provided on request.

Sharing your personal data
We will share your personal data with:
- If necessary the Department for Work and Pensions will profile your data in order to provide a YES/NO response via the Energy Saving Trust[3] to verify whether or not you receive the relevant benefits to be eligible for the scheme;
- The Office of Gas and Electricity Markets (Ofgem)[4] will:
  - use and share your information in order to fulfil its statutory duties;
  - if requested, share your information with the installer of the measure in order to verify whether it has been notified to Ofgem;
  - if necessary, share your information with auditors contracted to ensure the integrity of the scheme.
  - when required, disclose your personal information to the Secretary of State of the Department of Business, Energy and Industrial Strategy. They may use the data to review and develop Government policy, and for research and statistical purposes and may, for these purposes, link the data with other data sources they

[1] Article 9(2)(g), section 10(3), Part 2 to Schedule 1, paragraphs 5 and 6 to the Data Protection Act 2018 (DPA 2018).
[2] Article 9(2)(g), section 10(3), Part 2 to Schedule 1, paragraph 19 to the DPA 2018.
[3] See the EST datamatch service: https://datamatch.est.org.uk/
[4] To find out more about how Ofgem processes your information, refer to their privacy policy available online: https://www.ofgem.gov.uk/publications-and-updates/eco3-privacy-policy

Photo 13: Following the installation of a new boiler, registration with the manufacturer was provided.
(Boiler, Owns home, AW)

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If you need a version of this document in a more accessible format, please email enquiries@beis.gov.uk. Please tell us what format you need. It will help us if you say what assistive technology you use.