Scottish Government
Riaghaltas na h-Alba
gov.scot

Research into the lived experience of fuel poverty in Scotland

PEOPLE, COMMUNITIES AND PLACES

social research

Research into the lived experience of fuel poverty in Scotland

September 2020

Ipsos MORI Scotland

with
Alembic Research Ltd.

Contents

Acknowledgements

We would like to thank everyone who gave up their time to speak to us for this research. We are also very grateful to Dr Lucie Middlemiss and Dr Aimee Ambrose on the Research Advisory Group for this study for their guidance and advice. We would also like to thank our technical advisor, Bill Sheldrick of Alembic Research, for his expert insight and advice throughout this study, for which we are extremely grateful.

All analysis and interpretation in this report is the responsibility of the authors.

Ipsos MORI Scotland

Executive Summary

Background

This report sets out findings from qualitative research into the lived experiences of fuel poverty in Scotland, carried out between late 2019 and early 2020.

The Fuel Poverty (Targets, Definition and Strategy) (Scotland) Bill was introduced to the Scottish Parliament on 26 June 2018 and the Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019[1] received Royal Assent on 18th July 2019. It states that by 2040 no more than 5% of households will be in fuel poverty and no more than 1% in extreme fuel poverty in each local authority area and in Scotland as a whole.

The Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act sets outs out a new definition of fuel poverty. Under the new definition a household is in fuel poverty if, in order to maintain a satisfactory heating regime:

- more than 10% of the household's adjusted net income (after housing costs) is required for total fuel costs, and
- after deducting fuel costs, benefits received for a care need or disability and childcare costs, the household's remaining adjusted net income is insufficient to maintain an acceptable standard of living (defined as 90% of the UK Minimum Income Standard)[2]. In remote rural, remote small town and island areas there is an uplift to the Minimum Income Standard to take into account higher living costs.
- extreme fuel poverty follows the same definition except that a household would have to spend more than 20% of its adjusted net income (after housing costs) on total fuel costs to maintain a satisfactory heating regime.

The fuel poverty calculation involves estimating the costs of heating a home to a satisfactory heating regime. There are four heating regimes that can be applied to households, one standard heating regime and three enhanced heating regimes (EHRs) as described in The Fuel Poverty (Enhanced Heating) (Scotland) Regulations 2020[3].

Aims

This research aimed to enhance our understanding of how people experience, make sense of, and respond to, living in fuel poverty. The research also aimed to test some new policy ideas to understand perceptions of how effective they might

[1] http://www.legislation.gov.uk/asp/2019/10/contents/enacted

[2] https://www.lboro.ac.uk/research/crsp/mis/

[3] http://www.legislation.gov.uk/ssi/2020/58/introduction/made

be. Findings will be used to inform the development of a new fuel poverty strategy for Scotland.

A number of questions were developed to guide the research, informed by the review of existing evidence produced by the Scottish Government:

1. What is the experience of households in fuel poverty to whom the Enhanced Heating Regimes apply, and how does this differ from other households in fuel poverty?

2. How does the experience of those in fuel poverty and extreme fuel poverty differ?

3. What is the experience of groups that have high levels of fuel poverty under the new definition?

4. How are smart meters used in fuel poor households, and what is their impact?

5. a) What do people know/not know about advice services to help address fuel poverty, and what sources of information are currently used?

   b) What are people's views on policy ideas relating to how the Scottish Government would improve its advice offer?

   c) What are people's views on how advice services could be improved?

The policy ideas tested as part of research question 5 were:

- Support to help people switch to a different energy supplier or switch to paying by direct debit.
- Further support for people already receiving help through programmes like Warmer Homes Scotland, such as switching suppliers, advice on using heating efficiently and maintaining good air quality.
- A referral for a benefits check, so that they can check whether they were eligible for any benefits that they may not know about.
- Further support to help make home improvements, including help with loft clearances, moving furniture or lifting flooring to facilitate energy efficiency work.

Methodology

A qualitative approach was used to explore in-depth the lived experience of fuel poverty. This took the form of interviews with 40 participants living in households categorised as in either fuel poverty or extreme fuel poverty (under the new definition, following amendments agreed at Stage 2 of the Bill) according to the Scottish House Condition Survey (SHCS) 2016-18.

Participants from across Scotland were recruited by telephone from the Scottish Household Survey (SHS) (of which the SHCS is a module) recontacts database. There were three stages to the fieldwork: a 20 to 30-minute telephone interview; a heating diary task; and a second 60 to 90-minute interview (face-to-face in 30 cases and by telephone with the remaining 10.

Findings

Heating the home and staying warm

Satisfaction with warmth in the home varied, from those reporting no issues to those who were struggling to keep most or any of their rooms as warm as they would like. The latter group made up around half of participants in this study.

Participants were generally mindful of the costs of fuel and heated their homes accordingly, while some limited their use of heating. Attitudes towards limiting heating use ranged from those that appeared to downplay or normalise these behaviours, to those who reported feeling stressed and frustrated at being unable to afford to heat their homes to the temperature they would like.

Those living in poorly heated homes used a number of coping strategies to stay warm, including wearing more layers of clothes, blankets or sleeping bags, using hot water bottles, taping over vents, and parents co-sleeping with children.

For those in the most difficult circumstances, being unable to heat their homes to the level they would like was having negative impacts on their physical and mental health and that of their families.

Heating systems and energy efficiency

Satisfaction with heating systems varied. Those with gas central heating tended to be more positive about their heating system than those using electric storage heaters. Those using oil central heating were generally content, but the rising price of oil was a source of worry for those on low incomes.

Participants' perceptions of the energy efficiency of their homes also varied, from those who felt their homes retained heat well to those who identified issues related to draughts or heat escaping from the home. These views often did not reflect the Energy Performance Certificate (EPC) ratings of their homes. Those who rented their homes had less control over improving their heating systems or energy efficiency than those who owned their homes.

Around half of participants had experienced condensation and mould on windows. Other damp and ventilation-related problems were not as common but were more prevalent among social renters. Perceived problems with air quality were not

widespread, however those with chronic health conditions felt more of an impact if they perceived the air quality to be poor.

Paying for fuel

Although all participants were categorised as being in fuel poverty or extreme fuel poverty, most said their fuel bills were expensive but "manageable", meaning they could cover their costs using their own income. A few also said they rarely or never worried about covering their fuel or other household bills. This highlights that although fuel poverty is correlated with low income, it is not equivalent to income poverty. For those struggling to cover bills and basic living costs, the cost of fuel contributed to feelings of stress, worry and anxiety.

Those paying for fuel by monthly direct debit liked the regular nature of payments, and felt it was the most affordable way of paying. Prepayment users were also happy with their method of paying for fuel, saying it provided a sense of control by allowing them to decide how much money to put into their account and manage their energy use accordingly. They saw direct debit, by contrast, as a loss of control and had very little appetite for switching to direct debit.

Prepayment was more common among those in households categorised as being in extreme fuel poverty and those in groups with high levels of fuel poverty under the new definition including social and private renters and low income households, which fits with findings from the 2018 SHCS[4]. Prepayment was also more common in households aged 65 and over, a pattern not found in SHCS data.

Smart meters

Twelve participants had smart meters. They found In-Home Displays useful in helping visualise how much energy they used and to better understand the amount of energy different appliances used. However, even where In-Home Displays were being used, the extent to which this had contributed to a change in behaviour appeared limited. Only a few had noticed a reduction in their energy bills as a result of smart meters.

There was also some criticism of smart meters, including problems with their connectivity and accuracy. Among those without a smart meter, concerns were raised about their perceived inaccuracy, as well as data privacy and security.

Taking action and finding support

The most common actions taken to improve home heating tended to be those without a financial cost, for example changing supplier or payment method (around two thirds of participants had taken at least one of those actions). It was less common for participants to report more expensive actions such as changing their heating system, fuel type or buying energy efficient appliances. Where energy efficiency improvements had been made, such as insulation, this was usually as a result of support from government-funded schemes or from social landlords.

Suspicion of the energy companies underpinned participants' mixed views on switching suppliers. Due to the risk of suppliers potentially increasing prices over

[4] https://www.gov.scot/publications/scottish-house-condition-survey-2018-key-findings/

time, there was a fear that switching suppliers actually posed a financial risk which those on the lowest incomes felt they could not afford to take.

Awareness of and use sources of advice and support on home heating was low. Rather than using advice services, participants tended to access the information they needed online, or via word of mouth. Participants also often did not see themselves as needing to seek out support or advice or were cynical about the extent to which they would personally benefit from it.

Policy ideas

The four suggested policy ideas were met with a fairly lukewarm response. Most did not think they would use or need these types of support.

Only a few participants felt they would benefit from support switching supplier or payment methods. Perceived benefits included the potential for saving money as a result of switching supplier or to direct debit. However, those sceptical about the benefits of switching were less enthusiastic about this policy idea. Offering further support to those already receiving help via Warmer Homes Scotland was seen as a good idea in principal**,** but again participants generally assumed that they would not personally need this type of support.

None of the participants said they would use the referral to a benefits check. Several did, however, feel that this could be a good idea for vulnerable people who might be missing out on the benefits they were entitled to. Support to help make home improvements was generally well received, and a few participants said that they would make use of this service.

Variation in experience by different groups

Those with chronic health conditions and disabilities identified a greater sensitivity to cold and reliance on heating than other participants in this study, with most saying they experienced negative impacts on their physical and mental health when they could not afford to heat their homes adequately.

Some of those in households categorised as being in extreme fuel poverty felt restricted in the extent to which they could reduce their bills. This was either because they lived in a property unsuitable for central heating or because decisions were ultimately out of their control (as tenants) or the cost of improvements meant they could not afford to have them carried out (owner occupiers).

Most of those on the lowest incomes were regularly limiting their heating use and using the most extreme coping strategies to stay warm. In the worst cases they were cutting back on buying food and other essentials, and a few had to rely on friends and family for food or money for household expenses.

The research also provided some additional insights into the distinct experiences of those living in remote rural locations. All of those using oil and solid fuel as the main heating source were in remote rural locations. Their experiences highlighted that living in these locations meant having limited options available when it came to their source of fuel. Participants felt that this lack of choice resulted in higher prices than might be available for customers on mains gas with multiple supplier options. There were no other strong findings to suggest variation in experiences by location.

1. Introduction

This report sets out findings from qualitative research into the lived experiences of fuel poverty in Scotland, carried out between late 2019 and early 2020. This introductory chapter outlines the background to the research, the research aims and questions, and the methodology used.

Note on timing of the research relative to COVID-19:

The research was carried out in the months preceding the COVID-19 pandemic. Interviews were completed on 7 February 2020, before measures were put in place by the UK Government on 16 March 2020 advising people to work from home and avoid non-essential travel and contact.

Due to the timing to the research, findings do not reflect the impacts of COVID-19 such as increased time spent at home meaning potentially different patterns of fuel use, or differences in the affordability of fuel costs due to potential changes in financial circumstances. This report should therefore be read in this context, noting that it pre-dates the impacts likely to have been experienced by participants since they took part.

1.1 Background

1.1.1 Fuel poverty in Scotland

Under the Housing (Scotland) Act 2001 (section 88), the Scottish Government was committed to eradicating fuel poverty as far as practicably possible by November 2016. In June 2016, the Minister for Local Government and Housing informed Parliament that, based on the advice received from experts, it was unlikely that the statutory fuel poverty target would be met. This was confirmed by 2016 and 2017 fuel poverty rates, under the previous (2002) definition of fuel poverty, of 26.5% and 24.9% respectively.

The Fuel Poverty (Targets, Definition and Strategy) (Scotland) Bill was introduced to the Scottish Parliament on 26 June 2018 and the Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019[5] received Royal Assent on 18th July 2019. It states that by 2040 no more than 5% of households will be in fuel poverty and no more than 1% in extreme fuel poverty in each local authority and Scotland as a whole. In addition, the median fuel expenditure gap[6] of households in fuel poverty in Scotland will be no more than £250 (in 2015 prices before adding

[5] http://www.legislation.gov.uk/asp/2019/10/contents/enacted

[6] The amount of money it would take for an average fuel poor household to no longer be classed as in fuel poverty.

inflation). The Scottish Government has also committed to the interim target of the overall fuel poverty rate being no more than 15% by 2030.

1.1.2 Measuring and understanding fuel poverty

The SHCS is the Scottish Government's main source of data fuel poverty. The SHCS measures fuel poverty using quantitative data on dwelling and household characteristics, including information on household members, household income and data required to model energy consumption and fuel costs for each household. Household data is collected through the SHS social survey and physical dwelling data is collected in the follow-up SHCS physical survey. Both the social and physical data make up the SHCS dataset required to calculate the fuel poverty status of households and identify the key characteristics of those in fuel poverty.

The Scottish Government recognises four main drivers of fuel poverty:

- energy prices
- income
- energy efficiency in the home
- how energy is used in the home.

1.1.3 Definitions of fuel poverty

The previous statutory definition, introduced in 2002, designates a household as being in fuel poverty if, in order to maintain a satisfactory heating regime, it is required to spend more than 10% of its income (including Housing Benefit or Income Support for Mortgage Interest) on all household fuel use.

The Fuel Poverty (Target, Definition and Strategy) (Scotland) Act 2019 sets outs out a new definition of fuel poverty. Under the new definition a household is in fuel poverty if, in order to maintain a satisfactory heating regime:

- more than 10% of the household's adjusted net income (after housing costs) is required for total fuel costs, and;

- after deducting fuel costs, benefits received for a care need or disability and childcare costs, the household's remaining adjusted net income is insufficient to maintain an acceptable standard of living (defined as 90% of the UK Minimum Income Standard)[7]. In remote rural, remote small town and island areas there is an uplift to the Minimum Income Standard to take into account higher living costs.

- extreme fuel poverty follows the same definition except that a household would have to spend more than 20% of its adjusted net income (after housing costs) on total fuel costs to maintain a satisfactory heating regime.

Although fuel poverty is correlated with low income, it is not equivalent to income poverty. A sizeable proportion of households classed as fuel poor are not income

[7] https://www.lboro.ac.uk/research/crsp/mis/

poor (31% in 2018[8]) suggesting that other factors are in play such as the price of fuel required for space and water heating, the energy efficiency of housing and the use of fuel in households. However, findings from the 2018 SHCS show that fuel poverty does have an association with income and households in the lower income bands have the highest rates of fuel poverty: 95% for the bottom income band (less than £200 per week) and 55% for the 2nd bottom band (between £200 and £300 per week)[9].

1.1.4 Enhanced heating regimes

The fuel poverty calculation involves estimating the costs of heating a home to a satisfactory heating regime. There are four heating regimes that can be applied to households, one standard heating regime and three EHRs as described in The Fuel Poverty (Enhanced Heating) (Scotland) Regulations 2020[10]. Which heating regime applies to the household depends on the household composition and occupancy patterns.

The four new heating regimes are:

Enhanced heating regime 1, where living rooms (zone 1) are heated to 23°C and the rest of the dwelling (zone 2) is heated to 20°C for 16 hours every day. This will be applied to households where the dwelling is frequently occupied and at least one member of the household: is aged 75 or over, or has a long-term sickness or disability, or is in receipt of benefits received for a care need or disability.

Enhanced heating regime 2, where living rooms (zone 1) are heated to 23°C and the rest of the dwelling (zone 2) is heated to 20°C for 9 hours during weekdays and 16 hours on weekends. This will be applied to households where the dwelling is not frequently occupied and at least one member of the household: is aged 75 or over, or has a long-term sickness or disability, or is in receipt of benefits received for a care need or disability.

Enhanced heating regime 3, where living rooms (zone 1) are heated to 21°C and the rest of the dwelling (zone 2) is heated to 18°C for 16 hours every day. This will be applied to households where the dwelling is frequently occupied and at least one member of the household is aged 5 or under.

Standard heating regime, where living rooms (zone 1) are heated to 21°C and the rest of the dwelling (zone 2) is heated to 18°C for 9 hours during weekdays and 16 hours on weekends. This will be applied to all other households.

1.1.5 Lived experience of fuel poverty

The Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019 requires Scottish Ministers, in preparing the fuel poverty strategy, to consult with individuals who are living, or who have lived, in fuel poverty in Scotland. In 2019, the Scottish Government published an evidence review of what was known so far about the

---

[8] https://www.gov.scot/publications/scottish-house-condition-survey-2018-key-findings/

[9] https://www.gov.scot/publications/scottish-house-condition-survey-2018-key-findings/pages/6/

[10] http://www.legislation.gov.uk/ssi/2020/58/introduction/made

lived experience of fuel poverty in Scotland. The review identified a number of patterns, summarised as:

- households with the greatest need were often not asking for, not eligible for, or not getting any support with the cost of heating their homes
- instability of income and unexpected bills was more of a concern for some than the actual level of income or bill, leading to a preference for pre-payment meters
- tendency for low financial resilience and short-term financial management
- general lack of knowledge about how to use heating systems, particularly electric heating, effectively
- additional energy and support needs of disabled people were often not recognised, and these additional needs made these households more costly for service providers to support
- specific circumstances of refugees meaning they were not well prepared for managing their energy use and bills
- gendered and generational differences in perceptions of warmth and comfort, and tensions between households about energy use
- importance of social networks and personal relationships for support with coping and dealing with problems
- distrust or difficult relationships with housing providers or landlords and private energy companies, and relationships of trust with intermediaries such as energy advisors
- preference to think of oneself as coping well and some strategies for keeping warm were not considered as negative.

1.2 Research aims and questions

Against this background, the Scottish Government commissioned qualitative research into the lived experience of fuel poverty in Scotland, to build upon existing knowledge and address gaps in evidence.

The overall **research aims** were to:

- enhance our understanding of how people experience, make sense of, and respond to, living in fuel poverty
- generate learning that can be used to inform the development of the fuel poverty strategy
- test policy ideas to find out how well the ideas are received and understood by those with lived experience, and how the policies might impact upon them
- meet the requirements of the legislation i.e. to consult with those with lived experience.

A number of **questions were developed to guide the research**, informed by the review of existing evidence produced by the Scottish Government:

1. What is the experience of households in fuel poverty to whom the Enhanced Heating Regimes apply, and how does this differ from other households in fuel poverty?

2. How does the experience of those in fuel poverty and extreme fuel poverty differ?

3. What is the experience of groups that have high levels of fuel poverty under the new definition?

4. How are smart meters used in fuel poor households, and what is their impact?

5. a) What do people know/not know about advice services to help address fuel poverty, and what sources of information are currently used?

   b) What are people's views on policy ideas relating to how Scottish Government would improve its advice offer?

   c) What are people's views on how advice services could be improved?

The **policy ideas**[11] tested as part of research question 5 were:

- Support to help people switch to a different energy supplier or switch to paying by direct debit.
- Further support for people already receiving help through programmes like Warmer Homes Scotland, such as switching suppliers, advice on using heating efficiently and maintaining good air quality.
- A referral for a benefits check, so that they can check whether they were eligible for any benefits that they may not know about.
- Further support to help make home improvements, including help with loft clearances, moving furniture or lifting flooring to facilitate energy efficiency work.

In exploring the lived experience of fuel poverty, this research largely concentrated on use of, payment for and attitudes towards heating the home. The fuel poverty

[11] Policy ideas on how to respond to the needs of those in fuel poverty were developed by Scottish Government and tested as part of the research. The full descriptions are shown in chapter 8 and are included in the discussion guide in Appendix F.

estimate takes into account the energy used for space heating (the heating of rooms and spaces within the home)[12] as well as water heating, lighting and appliance use. Given that space heating is the largest component of energy consumption underpinning the fuel poverty estimate, the research concentrated on this aspect of energy use, while still allowing experiences relating to other aspects to emerge through the discussions where relevant.

1.3 Methodology

Qualitative research was carried out between November 2019 and February 2020 with people identified as living in fuel poverty across Scotland. A qualitative approach was used as it provided the opportunity for in-depth exploration of the experiences of fuel poverty, including insights into how people felt about, made sense of and responded to living in fuel poverty, and the reasons for this.

The research consisted of 40 in-depth interviews with participants living in households categorised as in either fuel poverty or extreme fuel poverty (under the new definition) according to the SHCS 2016-18. There were three stages to the fieldwork:

- a first interview (20 to 30 minutes) conducted by telephone. This helped to build a relationship with the participant and form an initial understanding of their circumstances.
- a heating diary task to be completed after this interview by the participant. They were asked to note down their heating use over three days and to rate how warm or cold they felt in the home on those days.
- a second interview (60 to 90 minutes), around one week after the first telephone interview, to explore participants' experiences of fuel poverty in further depth.

This three-stage approach allowed for a detailed picture of the lived experience of fuel poverty to be built, while avoiding over-burdening participants with a longer single interview.

1.3.1 Sampling

To identify participants a sample was purposively drawn from the SHS (of which the SHCS is a module) re-contact database[13]. This is a database of people who have previously taken part in the SHS/SHCS and agreed to be re-contacted for future research. The sample design is shown in Appendix A: Sample design.

[12] https://www.gov.scot/publications/scottish-house-condition-survey-2018-key-findings/pages/6/

[13] The SHS is a large multi-purpose survey commissioned by the Scottish Government and undertaken by Ipsos MORI. The social interview is completed with approximately 10,000 households each year collecting a wide range of data on the characteristics, attitudes and behaviour of Scottish households and adults. The follow-up physical survey is completed with around 3,000 of the 10,000 households each year by surveyors trained to collect detailed information on housing characteristics. The result is a unique and powerful data set for examining the condition and characteristics of Scotland's housing stock alongside the views and experience of the people living in those dwellings.

Participants were recruited from across Scotland based on a range of criteria:

- **type of location** (Large urban, Other urban / non-remote rural, and Remote rural and small towns)
- **level of fuel poverty** (fuel poor and extreme fuel poor as per the latest definitions)
- households in fuel poverty where an **EHR** was applicable
- **household type** (35+ with no children under 16 at home, families with children aged 6-16, families with children aged 5 and under, and young adult households – under 35 with no children at home)
- **tenure**, to cover homeowners, those renting privately from a landlord (referred to in this report as "private renters") and those renting from a local authority or housing association (referred to as "social renters")
- **dwelling type** (e.g. tenement flat or detached house)
- **main heating fuel** (e.g. mains gas, electricity, sold fuel).

Consultation on the EHRs was still ongoing at the time of fieldwork. Therefore, it was agreed with the Scottish Government that, for the purposes of this study, households where an EHR would apply were those with someone aged 75 or older, children aged 5 or younger, or with a chronic health condition or disability.

The following table shows the number of participants that were in households categorised as in fuel poverty, extreme fuel poverty and how many would have an EHR applied.

Table 1. Sample profile

	Households where an EHR was applicable	Households where an EHR was not applicable	Total
In fuel poverty	16	6	**22**
In extreme fuel poverty	11	7	**18**
Total	**27**	**13**	**40**

Full sampling criteria and a more detailed sample profile, including dwelling type, tenure and age of participants, are included in Appendix B: Profile of achieved sample.

1.3.2 Recruitment

Recruitment was carried out by telephone using recontacts from the 2016, 2017 and 2018 SHS. The recruitment was carried out by an Ipsos MORI telephone interviewer who was provided with a script covering the purpose of the research and what taking part would involve. It was explained that participation was entirely voluntary and that participants could change their mind about taking part at any stage. A screening questionnaire (see Appendix C: Recruitment screener) was

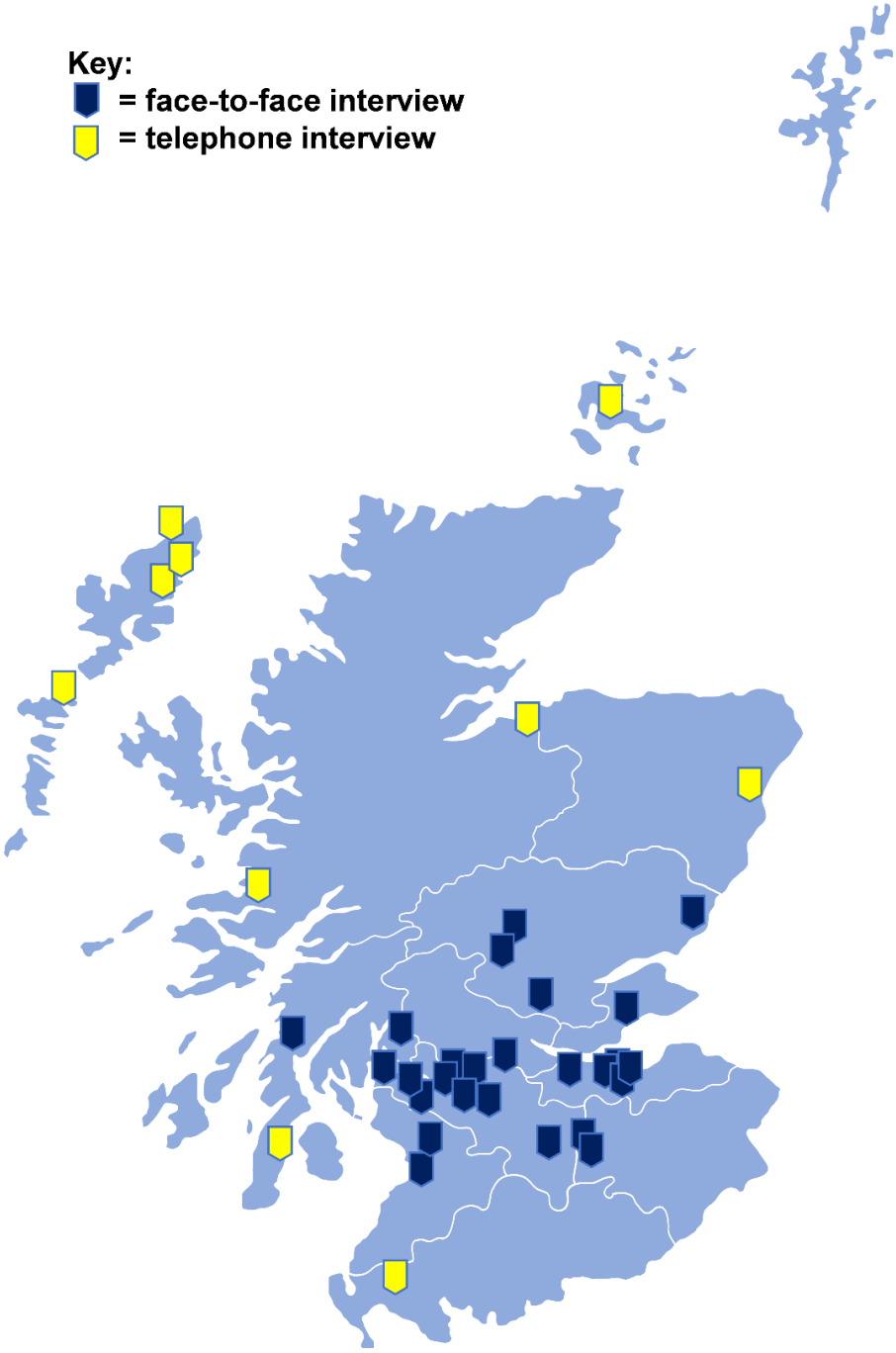
used to check peoples' details were still correct. This included checking whether their financial circumstances had improved significantly since they took part in the survey. Those that said yes were not included in the study. This was to try and ensure that everyone taking part would still be in fuel poverty.

Participants were offered a £35 high street voucher as a thank you for taking part.

1.3.3 Fieldwork

Of the 40 in-depth interviews, 30 of these were carried out face-to-face in locations in, or easily reached from, the Central Belt. Telephone interviews were used for the remaining ten interviews in island and other more remote locations. The locations of interviews are showing in Figure 1.

Figure 1: Map showing location of interviews



All interviews were undertaken by a core team of four researchers, all of whom contributed to the analysis of the data.

All interviews were structured around a discussion guide (see Appendix D: Discussion guide: first interview and Appendix F: Discussion guide: second interview) and a heating diary task (Appendix E: Heating diary) designed by Ipsos MORI and Alembic Research in consultation with the Research Advisory Group (RAG). As well as exploring in depth the day-to-day lived experience of people in fuel poverty, the interviews also covered smart meters, support and advice services, and new potential policy ideas aimed at helping people out of fuel poverty.

1.3.4 Analysis

Interviews were audio-recorded with the consent of participants, and detailed notes were made by the researchers. The second (60 to 90 minute) interviews were also transcribed.

The transcripts and interviewer notes were then systematically analysed to identify the key themes that emerged in relation to the research questions and the questions in the discussion guide, along with key points and illustrative verbatim comments. These themes and emerging findings were recorded in Excel. This ensured that the analysis of the data was rigorous, balanced and accurate, and that key messages or concepts were brought out. It was also flexible enough to allow links and connections across different themes or sub-themes to be made, and for moments of interpretive insight and inspiration to be recorded. The analysis stage also incorporated findings from the Evidence Review (provided by the Scottish Government at the tendering stage), by looking at where findings either corroborated or contradicted previous studies.

The final stage of analysis was to produce a selection of "participants' stories" which consist of detailed descriptions of the experiences of some of the participants involved in the research to help further convey some aspects of the lived experience of fuel poverty.

1.3.5 Identifying groups with levels of fuel poverty

In response to the third research question outlined in section 1.2 Research aims and questions, analysis of the 2018 SHCS[14] identified the following groups as having higher levels of fuel poverty:

- social renters (39% were fuel poor, compared with 20% of private renters, 23% of those that owned outright and 10% of those on mortgage)
- older households and other households without children (28% and 27% compared with 17% among families with children)
- households in the lowest income bands (e.g. 95% of lowest income band are fuel poor)

[14] https://www.gov.scot/publications/scottish-house-condition-survey-2018-key-findings/

- households using electricity as their main source of heat (43% compared with e.g. 23% of gas households)
- those in the most deprived area based on the Scottish Index of Multiple Deprivation[15] (SIMD) (33% in 15% most deprived areas compared to 23% others).

These categories were therefore used to analyse the experiences of those groups with high levels of fuel poverty under the new definition. Only four participants used electricity as their main source of heating, meaning the extent to which any differences between these and other participants can be identified is limited. We have therefore only commented on this group where a specific aspect relating to the use of heating was mentioned.

1.3.6 Limitations

As with any study, there were a number of limitations to the research.

Firstly, the findings from qualitative research are not intended to be generalisable to the wider population, therefore this research does not claim to represent the wider views of all those living in fuel poverty in Scotland. Where prevalence of a particular view is described in this report, using terms such as “most”, “some” or “a few”, this relates only to the sample of research participants and not the wider population.

Second, while the sample of participants was designed to ensure a mix of household characteristics and individual’s circumstances (see 12 above), the number of participants from certain groups were lower than anticipated. This included those with electric heating as their main source – four participants fell into this category. It also included households in which occupants were aged under 35 with no children (referred to as “young adult households”) – only one participant fell into this category. As a result, the extent to which the views of these groups are represented in the data is limited.

Finally, while the methodology allows for in-depth exploration of participants’ perceptions, it is unable to capture their innermost thoughts. Therefore when describing the way they feel about issues such as comfort, warmth, their financial circumstances and the affordability of their heating, they may play down issues they are facing because they are embarrassed or ashamed to talk about them.

1.3.7 Presentation of participants’ views

In order to protect anonymity, participants are identified using pseudonyms. Quotes from participants are included to illustrate points made throughout the report. Key characteristics (such as household type, tenure, urban/rural classification, and whether they are in fuel poverty or extreme fuel poverty) are also included beneath each quote to further contextualise the participants’ views.

[15] https://simd.scot/#/simd2020/BTTTFTT/9/-4.0000/55.9000/

1.4 Report structure

The remainder of this report is structured as follows:

Chapter 2 provides a sample or participants' stories to illustrate their lived experiences

Chapter 3 explores perceptions of warmth, levels of comfort, heating regimes and routines and coping strategies.

Chapter 4 covers heating systems and energy efficiency including satisfaction with different types of heating systems and how well participants feel their homes retain heat.

Chapter 5 covers paying for heating. It describes the extent to which participants were coping or struggling with heating costs; and views on the different methods used to pay for heating.

Chapter 6 covers smart meters and the extent to which they had an impact of people living in fuel poverty.

Chapter 7 covers the actions participants might take in relation to improving how they heat their homes; and awareness and perceptions of sources of advice and support.

Chapter 8 covers participants' views on potential policies that the Scottish Government could put in place to support those in fuel poverty, as well as further suggestions of what types of support would make a difference for them personally.

2. Lived experienced of fuel poverty: participants' stories

This section provides a summary of the findings from interviews with five participants involved in the research to help convey the lived experience of fuel poverty. They illustrate some, though not all, of the different circumstances that have a bearing on the lived experienced of fuel poverty. Names of participants have been changed for the purpose of protecting their anonymity.

These stories have been chosen because they illustrate some of the key findings that emerged from the research. These include:

- issues with heating systems for those without central heating, and specifically related to electric storage heating
- issues with heat retention and lack of insulation
- coping strategies to stay warm in underheated homes
- the physical and emotional impacts of living in underheated homes
- the distinct experiences of households where someone has a chronic health condition, or where there is a child aged 5 and under
- views on prepayment as a form of paying for fuel.

Stuart's story

Stuart (48) lives alone in a first floor flat in Inverclyde which he rents from a private landlord. He is not working at the moment. Stuart describes his life right now as "okay - it's bearable".

Stuart's flat has electric storage heaters, but after receiving a very high and unexpected bill when he first moved in, he now makes sure never to switch them on. This means **he does not currently use any heating in his home.** He thinks he can manage without heating, as the flat is well insulated and has few external walls, so it rarely gets very cold. **He wears extra layers if it does feel colder, and if it is particularly cold he sits in a sleeping bag to stay comfortable**. In the past he tried using a small plug-in heater, before he discovered that this was even more expensive than using the storage heaters, so he doesn't use it anymore.

Stuart has never spoken to his landlord or his supplier about his heating, as he feels he is managing okay at the moment. While he would prefer to be connected to a mains gas supply, which he believes would be cheaper than electric heating, this is not within his control as he doesn't own the property. He hasn't sought any advice or support about heating his home, although he would welcome information on using electric storage heaters or using the heating efficiently, as there may be a cheaper way of using them that he is unaware of.

Stuart pays for his electricity with a prepayment card, as this is the method that he feels gives him the most control over his spending. Being able to top up the card whenever he wants to gives him flexibility and peace of mind. He imagines the timing of a direct debit would not always correspond with the timing of his benefits, which may mean he would be unable to cover the payment. He has considered switching to direct debit to save money, but it would have to be a large saving to convince him to change and he doubts this would be the case. Stuart would welcome advice on switching to direct debit, as he finds it difficult to understand whether it would work for his circumstances and whether the advertised deals are good in the long term or not.

Stuart just about manages to cover his household bills with the benefits he receives. He therefore budgets very carefully. He gets very stressed by the prospect of receiving any large bill, although he imagines everyone probably feels this way. He thinks the cost of energy is too expensive already and that there should be more control of energy companies to stop them raising their prices further.

Stuart does not have a smart meter and does not want one, as he thinks checking the display all the time would only add to his stress about how much energy he uses and how much it costs.

Louise's story

Louise (61) lives in a detached house with her husband in North Uist, in the Western Isles. They have lived together in this house for over 30 years.

Louise feels comfortable in their home. It is usually warm enough for them both when the heating is on, though sometimes they do still feel a bit cold when the heating is on. When that happens, Louise will put on another layer of clothing – which she feels is fairly normal, and something that most people do.

The house does not have central heating. They spend most of their time in the kitchen, where there is a coal fire and an electric heater which they turn on in the morning. They have a wood burning stove in their living room, which they light in the evening as they don't usually use this room during the day. They also have portable electric heaters which they use in the bedroom and move around the house depending on which room they are using. There is no heat at all in the bathroom, so it is always cold.

Louise is fairly happy with this pattern of heating, but mainly because it is what she is used to. **She would really like to have central heating installed,** because she thinks it would be more convenient and could be cheaper than their current system, and she thinks it would heat the house better**. But the cost of installing it is too expensive, more than they can afford.**

Louise and her husband got external wall insulation last year, via a government grant. She says the **insulation has made a big difference to the warmth of the home,** meaning the house retains heating better and they don't have to use their heating as much as they used to. They would not have been able to afford to get this done without the grant they received from the government (though she doesn't remember the specific details of how they applied for the funding).

Louise and her husband pay for their electricity via monthly direct debit and buy their solid fuel as and when they need it. Louise likes the regular and predictable nature of a direct debit. They budget carefully each month and feel the amount they pay is manageable, though they have very little money left over each month. **They prioritise their heating over other expenses as they feel it is an essential**. If they were faced with a large unexpected bill, they would have no money to cover it so would need to take out a loan.

Catherine's story

Catherine (53) lives alone in a semi-detached house in South Lanarkshire that she rents from the council. She has arthritis and back pains which limit her mobility and mean she is unable to work. She therefore spends most of her time at home.

Catherine is finding life quite difficult at the moment. Catherine describes her house as "cold" and **her physical and mental health both suffer as a result of living in a cold house.** Cold temperatures make her arthritis and back pains worse, meaning she is often in a lot of pain. This in turn makes it difficult for her to leave the house and she often feels lonely and depressed.

Catherine's house has gas central heating with radiators. Catherine keeps her heating on all day and overnight, because the housing is "unbearably cold" when the heating is off. She keeps the temperature at 18°C, but this is still not warm enough, meaning **Catherine wears several layers and places blankets and towels on her furniture to try and keep them warm**. She does not increase the temperature above 18°C, because she would not be able to afford the cost of doing so. While she thinks portable plug-in heaters would help make the home warmer, she does not use these as she cannot afford the cost of electricity.

Catherine attributes the cold temperature of the house to draughts and a lack of insulation. There are gaps around the letter box, an open extractor fan in the kitchen, and poor sealing around the windows which all let in cold air. She thinks there is cavity wall insulation, but even if there is she feels the house loses a lot of heat. A lot of cold air also comes up from the floor, which Catherine thinks is because of a lack of or poor floor insulation.

The cold in the house is also affecting other aspects of Catherine's routine. She only washes her laundry once a month, as there is not enough heat in the home to dry the clothes quickly, meaning they end up smelling of damp. Restricting her use of the washing machine also saves on her energy costs.

Catherine pays for her gas and electricity via monthly direct debit. She likes the regular and predictable nature of a direct debit, as she accounts for every penny of her income from benefits each month. She receives a discount on her bills through the Warm Home Discount. She also built up some credit from her energy supplier due to a mistake on her bills, and is currently using that credit to cover her energy bills. Once that money runs out, she is worried about how she will cover her bills, as she is at the maximum of her overdraft every month.

Catherine has contacted her council numerous times to ask them to fix the draughts in the house and improve the insulation. **The council have been unresponsive to requests to resolve these issues**. Catherine feels very frustrated at their lack of response and feels that pressure should be on councils and local authorities to make sure properties like hers are adequately heated and insulated.

Jenny's story

Jenny (35) lives with her husband John and their 3-month old baby Ellie in a four-in-a-block in Clackmannanshire. They own the property, paying for it with a mortgage. John works full time while Jenny stays at home to look after Ellie. John often works overtime to help bring in more money.

Keeping the home warm is very important to Jenny, as she spends most of her day at home with Ellie and wants to make sure Ellie is comfortable. They have **gas central heating,** which they control with a thermostat. It is usually set on a timer at a temperature of 18°C between 6-8am and 4-6pm, but Jenny boosts the temperature higher than this on colder days or whenever she thinks Ellie might need extra warmth, for example when she gives her a bath. Before having Ellie, Jenny would just put on extra layers if she needed to feel warmer to avoid using more fuel. But **since having Ellie, they have found that they are using the heating more than they used to.**

Jenny is generally happy with the boiler and radiators in the home. However, she says **the home is not good at retaining heat, and therefore cools down quickly.** This is particularly bad in the bathroom, where there are draughts from the window because it is not properly sealed. She also feels the property is generally poorly insulated. Jenny has asked her energy supplier in the past about getting better insulation but was told **they were unable to get insulation in the walls because they are stone and not cavity.**

Jenny and John pay for their fuel via a monthly direct debit, which works well for them as they know exactly how much is coming out of their account each month. While they are managing financially, they need to budget very carefully and rarely have any money left over each month. Any week where they have to pick up washing powder or an extra expense would cut into their food budget, so they have to balance their spending carefully. **If they were faced with a large, unexpected bill they would struggle to pay it.**

Jenny and John check they are on the best energy deal once a year, and have switched suppliers in the past to get a better deal. They do not have a smart meter as John does not trust energy companies not to use the data to charge more.

While Jenny and John feel they manage okay financially, **they would welcome a discount off their energy bill to take into account their income level and the fact that Jenny is unable to work while looking after Ellie**. Jenny does not think she would be eligible for this type of support (for example, the Warm Home Discount Scheme) as they earn above the income thresholds. However, she feels that the eligibility for these schemes could be broadened to include people in their situation, as they are just about managing to cover their bills on their income.

Matt's story

Matt (31) lives in a terraced house in Edinburgh with his mother Claire (59). They rent the house from the housing association. Claire suffers from fibromyalgia and chronic fatigue syndrome.

Matt describes the house as "cold" in the winter and says **the cold has caused them both to feel "miserable**". The house has gas central heating, but they have to **limit how much heating they use because of the cost.** They turn on their heating from 6 to 9pm each day, but cannot afford to use it more than that.

Without the heating on **Claire regularly feels cold, so will use an electric blanket** when sitting in the living room to try and get warmer – but the electricity it uses is "extortionate". **Matt will also sometimes wear an outdoor jacket indoors** to help keep warm. As well as making them both feel miserable, the cold temperature in the house has a particularly severe impact on Claire. It can make her joints seize up and leave her feeling in pain; something both she and Matt find upsetting.

Matt feels **the cold in the house is made worse by a lack of insulation**. The house has double glazing which the housing association installed in 2001, but to his knowledge it has not had any new insulation since it was first built. He has raised this with housing association numerous times but it "falls on deaf ears", and they haven't taken any action.

Matt also says **the house lacks ventilation and gets a lot of condensation on the windows**. The walls at the front of the house also suffer from damp, which Matt has tried to treat with damp proof paint but this hasn't helped. The housing association came to investigate the issue, but as they could not find any obvious leaks they said they could not do anything to help.

Matt pays for his electricity with a prepayment card. He feels comfortable with this approach as it is "what we have always done". He feels that direct debit would mean a lack of control over the amount they are spending on heat. Friends of Matt's who pay by direct debit have told him they often get bills that are higher than the amount they expected, which they then struggle to pay. With prepayment, Matt knows exactly how much he can put on the meter and then control his heating use accordingly.

3. Heating the home and staying warm

3.1 Introduction

This chapter explores how comfortable participants felt in their homes, including whether or not they felt adequately warm. It examines the practical steps they took to keep warm, through both their use of home heating and other coping strategies, before outlining some of the impacts experienced by those living in homes that were not felt to be warm enough. Findings on heating patterns and perceptions of warmth draw on both the in-depth interviews and the heating diaries prepared by participants.

3.2 Perceptions of comfort and warmth

To help provide context for the lived experience of fuel poverty, participants were asked to describe how comfortable they felt in their homes, both generally and specifically in terms of warmth.

Most participants said they felt generally comfortable in their homes. Feelings of comfort within the home were associated with a range of factors, such as having their belongings around them, feeling settled in their home, and being happy with the area and their neighbours. Other factors mentioned were aesthetic features such as feelings of lightness and brightness or enjoying the views from the windows. For the minority that did not feel comfortable, they attributed this to anti-social behaviour in their area, strained relations with neighbours or issues with the property itself such as repair work that needed to be carried out by private landlords or local authorities/housing associations.

Comfort was also closely associated with feelings of warmth. Before exploring satisfaction with warmth in the home it is first worth noting that personal warmth[16] was very subjective, with participants having different meanings for what being "warm enough" meant. For example, some described their ideal warmth as being a constant temperature of around 18°C, while others preferred higher temperatures such as 22°C or 24°C (Figure 2 shows one participant's thermostat set at their preferred temperature of 22.5°C).

Figure 2. Participant's thermostat display

[16] The subjective nature of personal warmth can also be described as 'thermal comfort', which is defined by Rupp, et al, 2015 as ' that condition of mind that expresses satisfaction with the thermal environment and is assessed by subjective evaluation'. https://www.gov.scot/publications/new-definition-fuel-poverty-scotland-review-recent-evidence/pages/10/

Others did not specify an exact ideal temperature, but described warmth in terms of the clothing they wore indoors. For example, some felt that being warm enough meant being able to sit in the house in a t-shirt, while others felt comfortably warm while wearing jumpers or other layers. While these different ways of perceiving warmth were somewhat driven by participants' health and life stage, they were also simply a symptom of how 'warm' or 'cold' an individual considered themselves to be:

> *"Different people have different requirements when it comes to heating, you know, feeling warm. I've got a friend who comes down and she feels this place is colder than I feel it…. well, look, I'm in shirt sleeves".*
>
> Jim, 35+ no children, Private renter, Other urban/non remote rural, FP [17]

Reflecting the subjective nature of personal warmth, satisfaction with warmth in the home varied. On one end of the scale were those reporting no issues because they felt their heating systems worked well, their homes were well insulated, and they could afford to use the amount of heating they needed to feel comfortable.
On the other end of the scale were those who were struggling to keep most or any of their rooms as warm as they would like.

Even those that were initially positive about the warmth in their home went on to describe problems that impacted their ability to stay as warm as they would have liked. Examples of issues included draughts, ineffective thermostats, poor or no insulation, stone floors and too few or unevenly distributed radiators. (Issues with heating systems and heat retention are explored in detail in 4.2 Heating systems and 4.3 Energy efficiency4.3 Energy efficiency). Matt and Jenny's stories both highlight some of the issues with poorly-insulated homes:

> *"Sometimes we will put the heating up to 25°C and then bring it straight back down after maybe half an hour or something just to get the initial chill out of it. That's really all it is, is taking the chill out of the air, it's never about heating the house. You can't afford to. As long as the chill is gone that's fine. I have never known this house to be warm ever. I've got a friend who lives in the flats just there and she lives on the ground floor, her house is like an oven, and she has not got many outside walls, and what a difference it makes - full insulation everywhere. In this house, everything, everything falls down to the lack of insulation."*
>
> Matt, 35+ no children, Social renter, Large urban, FP and EHR

[17] In descriptions of participants' quotes FP = Fuel Poverty, EFP = Extreme Fuel Poverty and EHR = Enhanced Heating Regime

> *"If it's cold outside, our insulation is not brilliant and we have got... particularly round the bathroom window isn't very well sealed so cold air gets in there. We have a cat flap which doesn't help with insulation. All bar one wall is an external wall. And our heat escapes upstairs, because it's like having a massive loft space because the insulation isn't brilliant between us and them.".*
>
> Jenny, Family with children 5 and under, Owner occupier, Other urban, FP and EHR

Participants also experienced varying levels of warmth within the home. For example, those that were fairly satisfied with temperatures in their living room, often spoke of cooler temperatures elsewhere:

> *"Yes [it's cold], especially in the evening and especially as soon as we wake up if it's been quite cold... the kitchen, the living room, you don't feel it as much, but my son's bedroom and our bedroom are really quite cold."*
>
> Lisa, family with children 5 and under, Owner occupier, Other urban/non-remote rural, FP and EHR

Due to the subjective nature of personal warmth, satisfaction with heating was not always consistent among members of the same household. Reflecting the Evidence Review findings, there were a few examples of gendered differences in this respect, with women preferring to have the heating on higher or for longer than men. These differences had led to some disagreements between household members about heating use:

> *"[My husband] moans if I put on the heating too much, he is like 'I'm getting sore head'… But I'm running about doing things, I'm worried about my wee one when I'm giving him a bath and stuff, because I want him to be cosy, I don't want him to be cold."*
>
> Lisa, family with children 5 and under, Owner occupier, Other urban/non-remote rural, FP and EHR

Keeping the home warm was seen as particularly important by participants in households where an EHR applied. In keeping with previous studies summarised in the Evidence Review, those with, or caring for people with, chronic health conditions or physical disabilities spoke of needing longer periods of heating or higher temperatures in order to stay warm. A few participants described how health conditions had worsened due to underheating of the home, resulting in physical discomfort and pain or negative impacts on mental health and wellbeing. Parents of children in underheated homes also described struggling to keep everyone warm and emphasised how stressful this was.

> *"It's just really uncomfortable… I quite often have to go and get a hot water bottle… because of my disability I can't fully regulate my body temperature, so once I'm cold I'm freezing, and it takes me a long time to warm up."*
>
> Maggie, 35+ no children, Owner occupier, Large urban, FP and EHR

3.3 Use of heating

The way that energy is used in the home is one of the four key drivers of fuel poverty recognised by the Scottish Government. This section therefore examines patterns of heating use and the factors that shape them. It then looks in more detail at the ways in which participants were limiting their use of heating to keep costs down.

When discussing their patterns of heating use, participants largely focussed on their use during winter months. Different patterns of heating use were evident. In part these were influenced by personal preference on temperature, including how 'warm' or 'cold' a person typically was. Other factors had an impact on the way heating was used, including daily routines, health conditions, the presence of children and fuel costs.

3.3.1 Daily routines

For those who were in work and had a regular pattern of leaving the home each day, their heating regimes typically involved two set times of the day when the heating would be on.

Those who were at home during the day, meanwhile, chose to keep their heating on throughout the day if they could afford to do so. Those that were socially isolated (often because of health issues) spent most of their time at home and tended to keep the heating on for long periods throughout the day. Older participants (65+) that kept their heating on all day tended to do so at a temperature that they considered relatively low, such as 18°C, perceiving this to be the most energy and cost-efficient way of using fuel.

3.3.2 Health conditions

Most participants with chronic health conditions described needing high heating temperatures and/or keeping the heating on for long enough so that they remained comfortable and did not risk worsening their health. This often meant keeping the heating on all day and, for some, all night too (this was particularly important to people whose health conditions mean they are up during the night):

> *"Normally in the winter I keep it on 24 hours. Because it's continual, you're building up a continuous heat rather than switching it on and switching it off because the room cools down. I don't [limit heating use] because the thing is if you need the heat, you need the heat. If I need it I'm just going to use it."*
>
> Lorraine, 35+ no children, Social renter, Large urban, EFP and EHR

Examples of chronic health conditions that required warmer temperatures included respiratory diseases such as emphysema and chronic obstructive pulmonary disease (COPD). One participant with multiple health problems started her day early because she needed to take medication at 6am and therefore put the heating and electric fire on at 6am and kept the heating on until she went to bed at 10pm. The prospect of being unable to stick to this routine was a source of anxiety for her, as it would have a serious effect on her respiratory health condition.

One participant with asthma avoided one of the rooms in his house that had a draught, as the cold temperature could lead him to have an attack. In contrast, another participant with asthma did not want the temperature to exceed 18°C, as he felt the warmer temperature might trigger an attack. He also needed to keep their flat well ventilated for the same reason.

Due to a heightened reliance on heating, limiting use was not seen as an option by those with certain chronic health conditions. These participants either felt that they could comfortably afford the cost of the heat they were using, or they prioritised heating bills over other expenses. Prioritisation of heating over other costs is explored in more detail in Chapter 5.

3.3.3 Needs of children

Parents with young children discussed making decisions about their heating pattern to fit the needs of their children. One mother described experimenting with the timer on her heating to try to keep costs down whilst attempting to keep the house warm enough for her family (including her disabled child). She concluded that a lower constant temperature was the best option, however the house was still not as warm as she would like:

> *"My oldest son has got disabilities so I need to keep it up to a certain temperature for him….on the Saturday it pretty much goes on all the whole day up until about eight o'clock and never really turned off… what I found is when you switch it off it cools down so quickly you will maybe spend the next hour trying to heat it up. But… I would say down the stairs was luke-bearable warm and up the stairs was comfortable."*
>
> Kimberley, Family with children u16, Social renter, Large urban, FP and EHR

3.3.4 Cost and limiting heating use

Participants were generally mindful of the costs of fuel and heated their homes accordingly. Fear of getting a large bill was described as a main reason to limit use, including by those who also said they were managing well financially. Those who used prepayment meters were also mindful of costs, with their use of heating being dictated by the amount they chose to put on their prepayment cards, which was typically restricted to only as much as they could afford:

> *"I would like to put the heating on more than I do, I probably could afford it, I could afford it to put it on, but I'm just frightened that sometimes I will get a huge horrendous bill. It's as comfortable as I want it to be."*
>
> Sonia, 35+ no children, Owner occupier, Large urban, FP

Older people in particular were more cautious in their use of heating. They tended to emphasise the importance of not being wasteful, saying this was shaped by their experience of growing up without central heating or as part of a generation that was generally cautious with their spending. One participant took this point further by criticising younger generations for using more heating rather than wearing extra layers of clothes:

> *"We were all brought up without central heating. It was normal that there was ice inside the windows… In my daughter's house they go around in t-shirts in the winter."*
>
> Helen, 35+ no children, Social renter, Remote rural, EFP

While not especially prevalent, the desire to reduce one's carbon footprint was also mentioned as a reason to be mindful of how much energy was used. However, this was usually secondary to financial considerations.

Limiting the amount of heat used was particularly prevalent among those with lower incomes and who were struggling financially. Those limiting their heating did so in a range of ways, including:

- waiting until a set time before putting the heating on (despite cold weather and temperatures indoor)
- not using the heating at all or once a month during winter
- not heating certain rooms (often bedrooms, kitchens, hallways)
- keeping the family in one room and not heating other rooms
- keeping a careful eye on the balance on the prepayment meter and limiting use if it was running low.

Stuart's story shows an example of the impact of the perceived high cost of electric heating. He had stopped using his electric storage heaters completely because of

the cost involved and was not using alternative heating appliances. He felt that his flat was at a bearable temperature because of the warmth from the surrounding flats, meaning he did not need to use other forms of heating:

> *"I don't use it because… the bills went right through the roof literally, so from being £100 in credit to [a] £200 bill, which I think is outrageous, but the supplier keeps putting their prices up. They should be regulated … it's a disgrace."*
>
> Stuart, 35+ no children, Private renter, Other urban/non-remote rural, EFP and EHR

Feelings around and attitudes towards limiting use of heating were mixed. As well as those that limited their use of heating because their homes felt warm enough, others ranged from those who downplayed or normalised measures such as going to bed early or not using the heating for weeks at a time, to participants who found describing their situations upsetting, and were clearly stressed and frustrated at being unable to afford to heat their homes to the temperature they would like.

> *"Some nights we don't have the heat on [upstairs] at all. It has to be really cold before we put it on and even then we don't have to have it on long …but that's just what you do."*
>
> Helen, 35+ no children, Social renter, Remote rural, EFP

> *"Heat, heat is always our number one priority during the winter. Obviously, the dark nights you want to feel comfortable you want to feel safe in your own home…but in winter, coming home to a freezing cold house and knowing that I can't put the gas on, can't put the heating on until a certain time because that's our quota of what we can afford, that makes me feel pretty rubbish."*
>
> Matt, 35+ no children, Social renter, Large urban, FP and EHR

3.4 Coping strategies to keep warm

To combat feelings of cold, increasing the room temperature or using heating more frequently were often not viable options; around half of participants said they were unable to do so either because of the cost restrictions outlined above, issues with heating systems, or poor heat retention. Those living in poorly heated homes therefore used a number of other coping strategies to stay warm.

The most common strategies, such as wearing more layers of clothes, using blankets and hot water bottles, were seen as common sense and did not appear to cause a great deal of concern. Further measures participants took to stay warm included:

- taping card over vents to keep out draughts
- lining windows and doors with towels to keep out draughts
- lining furniture with extra layers to provide additional warmth
- using a sleeping bag during the day
- wearing outdoor coats indoors
- keeping the family in one room and heating just that room
- spending evenings in warmer rooms upstairs or going to bed early
- parents co-sleeping with children.

These coping strategies echo some of those found by De Haro & Koloski (2013) as referenced in the Evidence Review.

Use of secondary sources of heat, such as portable electric heaters, were rare. There was a view amongst participants, including those who had used them in the past, that they were expensive to run and therefore were only used as a last resort in particularly cold weather.

Many of these coping strategies were regarded as normal and they usually formed part of routines that participants had become used to. Stuart's story illustrates this:

> *"I just put the sleeping bag here and then I can just sit inside it which is nice and toasty when you do that, so you don't need heating when you do that."*
>
> Stuart, 35+ no children, Private renter, Other urban/non-remote rural, EFP and EHR

A tendency of some participants to downplay the impact of having to take these measures echoes findings referenced in the Evidence Review from the Ipsos MORI & Sheldrick study (2017), which suggested this may be down to a sense of shame or embarrassment. In contrast to the findings in the Evidence Review however, no participants explicitly said they enjoyed having to take some of these measures. For example, a study by Butler and Sherriff in 2017 found some young adult householders enjoyed getting under their favourite blanket.

Those who described living in particularly cold homes felt that these coping strategies were not always enough for them to reach an adequate level of warmth. Catherine's story is an example of this. She had multiple health conditions and found wearing extra layers did not suffice:

> *"Regardless of how many layers I wear [I'm not comfortable], I've got thermal tights on under these… but where the base of your back is… the cold comes up and hits me right there, so I get sciatica… my back can sometimes swell right up, and that's where the cold is hitting it… it gets to the point where you can't walk or you can't sit or I can't get out the chair. It makes me feel horrendous."*
>
> Catherine, 35+ no children, Social renter, Large urban, FP and EHR

3.5 Impact of living in underheated homes

While there was a general tendency to downplay or normalise behaviour associated with living in cold homes, negative impacts on health and wellbeing also emerged. In keeping with the Evidence Review, negative impacts of living in cold homes tended to be felt the most by families with young children and households to which an EHR would apply, specifically those with chronic health conditions or disabilities. The impacts of living in underheated homes for each of these groups are outlined below.

3.5.1 Families with children

Parents that could not adequately heat their homes felt additional pressure and stress, particularly those with children aged 5 and under and those whose children had disabilities that meant they needed to stay warm. This group had to think about heating their homes to ensure their children were warm enough for bath times, and nappy and clothing changes.

One parent of a child with cerebral palsy talked about finding it difficult to find a balance between keeping the home warm enough and managing the cost of heating. As well as being concerned about the needs of her children, she herself spoke of the negative effects that low temperature had on her own mental and physical health:

> *"I tend to sit with the boys up the stairs from six, seven o'clock most nights because it's too cold downstairs and it just annoys me. My oldest son has got disabilities so I need to keep it up to a certain temperature for him. But then you can't have the heating on constantly because of the cost. So, it's hard to get the right balance. [When it is cold] it makes you feel quite miserable, because being cold personally makes me feel quite miserable… I also think it can make you feel quite unwell, quite shivery, and it gives you [a] lack of motivation because you just want to keep warm."*
>
> Kimberley, Family with children u16, Social renter, Large urban, FP and EHR

In keeping with the Evidence Review, parents that were renting had raised issues with landlords but doing so did not always get issues resolved.

3.5.2 Chronic health conditions and disabilities

As noted in section 3.3 Use of heating above, people with chronic health conditions showed the most sensitivity to temperature and therefore to poorly heated or insulated homes. Those in the worst situations were often extremely uncomfortable or even in pain because of the cold. Physical conditions that were mentioned as worsening due to cold temperatures (either by a participant, their partner or carer) were asthma, COPD, chronic fatigue syndrome, sciatica, rheumatoid arthritis and fibromyalgia. Matt described the cold in his home having a serious effect on his unwell mother:

> *"Sometimes she's sitting on the chair unable to move because her joints will just… seize up. She's got fibromyalgia and chronic fatigue syndrome [and] rheumatoid arthritis… those three things together with cold temperatures and the stress of the cold temperature, it really doesn't help. It affects her eating as well because when she is feeling lethargic, she is feeling cold…she doesn't want to eat it just spirals out of control."*
>
> Matt, 35+ no children, Social renter, Large urban, FP and EHR

The impact on mental wellbeing was also apparent, with some participants reporting feeling stressed as a result of being unable to adequately heat their homes. In one case, the physical impacts of cold in the home had exacerbated issues with depression:

> *"But I spent… most of October in my bed until late, late on in the day, not wanting to get up, I didn't care. Usually I do get depression, but it's usually not until the dead of winter, but I thought this is the third winter of this again, and I sat the other day just crying, thought I can't take this again, because it's just never ending."*
>
> Catherine, 35+ no children, Social renter, Large urban, FP and EHR

These findings echo those of the Evidence Review which references several studies that find poor mental and physical health was both an outcome of fuel poverty and a contributing factor to it (SAMH 2004; Mould & Baker 2017; De Haro & Koslowski 2013).

3.6 Summary of differences between groups

3.6.1 Fuel poverty vs extreme fuel poverty

Looking at levels of warmth and comfort, heating regimes and impacts on health and wellbeing, there were no obvious patterns that showed the lived experience of households categorised as being in fuel poverty differed greatly from households categorised as being in extreme fuel poverty.

Income data from the SHCS showed that the average income of participants in this study who were categorised as being in extreme fuel poverty, was around £4,000 annually lower than those categorised as being in fuel poverty. Despite these financial differences between the groups, income and financial resilience appeared to shape the way *both* groups used their heating. In other words, participants in households categorised as both fuel poor and extreme fuel poor were mindful of the costs of fuel and heated their homes accordingly, including limiting their use of heating.

3.6.2 Households to which an Enhanced Heating Regime applied

Of the three criteria used to define EHRs for the purposes of this research (those with children aged 5 and under, those aged 75 and over, and those with chronic health conditions or disabilities), chronic health conditions had the most noticeable effect in shaping heating use and perceptions of warmth. Participants with chronic health conditions often lived in properties that they considered underheated due to lack of insulation or poor heat retention. They also generally required a higher level of warmth than other participants, causing them to experience negative physical and emotional impacts when cold.

Whether someone had serious health problems was found to be more of a driver of levels of comfort than old age. While those aged 75 and over consulted in this study tended to stay at home more and use their heating for longer, it was those in their 50s-60s with chronic health conditions that described adequate heating as either fundamental to their wellbeing, or (in underheated homes) as severely impacting their quality of life.

3.6.3 Those with high levels of fuel poverty under the new definition

One of the research aims was to explore the experiences of those groups that had higher levels of fuel poverty under the new definition. The groups that demonstrated differences are outlined in turn below.

Social renters

Perceptions of warmth and satisfaction with heating was similar for social renters as it was for other participants; their feelings of warmth were subjective, with some satisfied with their heating and others not. However, a distinct feature of the experience of social renters was the connection they made between the warmth of their home and the actions of their local authority or housing association.

Those that were satisfied described improvements to the property that had been made by the landlord, including new insulation or replacement of boilers, which had improved the warmth of their homes. However, all of the social renters that were unhappy with the heating in their homes attributed this, at least in part, to issues with the property. These issues included draughts, lack of insulation, or faulty boilers. As with private renters, the responsibility for addressing these issues lay with the property owner and participants voiced frustration that improvements had not been made by their local authority/housing association.

Households in the lowest income bands

Satisfaction with heating was generally lower among those in the lowest income band compared with those in the higher income band. Most participants that described struggling to keep their homes warm were in the lowest income bands. These participants tended to limit their heating due to cost and to turn to alternative coping strategies to stay warm.

Some of those on the lowest incomes also had long term health conditions that meant they needed to keep their homes heated to a certain temperature or for a certain length of time. As limiting heating was therefore not an option, these participants gave examples of prioritising their heating over expenses.

Those aged 65 and over

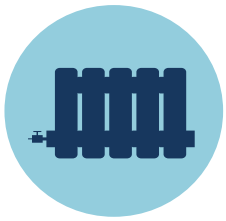
While those aged 65 and over are more likely than young age groups to be in fuel poverty (based on data from the SHCS), this age group did not in itself appear to indicate a different experience of levels of warmth, comfort or heating use, other than retired people spending more time at home and therefore needing to use their heating more. The experiences of this group overlap somewhat with those aged 75 and over, discussed above.

Scottish Index of Multiple Deprivation (SIMD)

Analysis of the SIMD quintile of participants' homes showed that there was no clear connection between those living in the most deprived areas and lower levels of satisfaction with heating. Those in the bottom quintile were more likely than those in higher quintiles to be living in social rented homes, and therefore experiencing the issues described in relation to social renters above. Otherwise, levels of perceived warmth and satisfaction were mixed across all levels of deprivation represented in the sample of participants.

4. Heating systems and energy efficiency

4.1 Introduction



This chapter explores the factors that can contribute to feelings of warmth, or lack of, in the home. It first examines participants' views on various types of heating systems, primarily in terms of how effective they were in heating their homes and how easy they were to control. It then goes on to explore energy efficiency of homes, one of the four drivers of fuel poverty recognised by the Scottish Government, as well as other household issues such as condensation or damp.

4.2 Heating systems

4.2.1 Gas central heating

Around two thirds of participants used gas central heating with radiators as their main source of heating. Most of those on gas central heating were quite positive about their heating system. They typically felt that they could control their heating as they wanted, including being able to switch radiators off in rooms not being used. A few, including Catherine, reported issues with thermostats, such as being broken or oversensitive and therefore difficult to find the right location for:

> *"It's on the wall halfway up the stairs where cold is coming off the door, so every time you open the door it knocks the thermostat out."*
>
> Catherine, 35+ no children, Social renter, Large urban, FP and EHR

Others mentioned not being able to work out how to programme the timer function for their central heating but managing by switching their heating on and off manually, either at the boiler or the thermostat.

When asked if they would like to change anything about their set up, common answers included the insufficient number and/or inadequate position of radiators. One private renter described having to stay upstairs in one room with her two children every evening, because the lack of radiators downstairs in her house made it too cold despite the heating being on. Their private landlord was generally unresponsive about repairs and the participant felt frustrated and had little hope of the landlord either improving their heating system or investing in better insulation. This is one example of an issue with the tenant and landlord relationship highlighted by Ambrose et al. (2016), who note that the relationship is often characterised by fear, with tenants reluctant to hold landlords to their obligations.

Figure 3. Typical heating systems used by those with gas central heating: a combi boiler and radiator with temperature valve

4.2.2 Electric storage heaters

Of the participants that had electricity as their main source of heating, all had electric storage heaters installed (rather than electric radiators or panel heaters). The views expressed on electric storage heaters were mixed, ranging from those with no issues (including one owner occupier who had had them for over 20 years), to those who found them so expensive that they were drastically limiting their use. The most extreme example was one participant that was no longer turning his storage heaters on because his heating bills had become unaffordable.

The high costs of electric storage heaters echo findings in the Evidence Review, which found that the high cost of electric heating was one of the most pressing concerns of households that relied on it. Issues of cost were further illustrated by one participant who had since moved to gas central heating and noted how much lower his fuel bills were as a result. It should be noted that this participant may no longer be classed as being in fuel poverty as their primary fuel type had changed since they took part in the SHCS.

> *"The heating was electric, I was spending all my money, [I had] no money left for food, believe me… [It cost] around the £12, £15 every day…Otherwise it was very cold, it was freezing inside, but now it's okay… gas is good now. Costs me £50-£60 a month."*
>
> Yusuf, 35+ no children, Social renter, Large urban, FP and EHR

Other issues mentioned by those that previously had electric storage heaters were that they were difficult to adjust and made the air uncomfortably dry.

The Evidence Review found further issues related to electric heating, including disengagement with the energy market due to complex and often confusing tariffs,

misconception about the benefits of switching, difficulties making price comparisons and problems around dispute resolutions (Citizens Advice Scotland, 2018).

4.2.3 Oil central heating

Participants using oil central heating with radiators all lived in remote rural areas, including islands. They were generally content with their system and felt it was easy to control using thermostats. However, those on lower incomes commented on the rising price of oil and the need to budget carefully. These participants spoke about their heating system with a level of resignation and acceptance that, although it was expensive, it was part of living in a remote location. At times, oil central heating was supplemented with solid fuel to help keep the cost of central heating down:

> *"Yes, I do [limit use of the oil heating system] I don't have it on any time during the day. I would like to but it's too expensive… Well, I've got my [coal] stove on and I just stay in the living room."*
>
> Pamela, 35+ no children, Owner occupier, Remote rural, FP and EHR

Those with oil-fuelled heating also spoke of their limited options for oil suppliers to choose from within their area, limiting the extent to which they could shop around for a better price for their fuel:

> *"With oil, you pay the going price or you don't get it, as simple as that. You take what they are offering or you [go without], you have very little option. There are only two or three suppliers here. I have always stuck with the same one, because I feel it is better the devil you know."*
>
> John, 35+ no children, Owner occupier, Remote rural, EFP and EHR

4.2.4 Solid fuel fires and stoves

As with those using oil central heating, all those who used solid fuel as their main source of heating lived in remote rural locations. They were generally quite satisfied with it as a heating system, particularly if their main fire or stove could heat radiators elsewhere in their home. Positive aspects included the level of warmth it provided and the manageability of the cost compared with oil which was perceived to be more expensive. Smokeless fuel was mentioned by some as being a better option than normal coal or wood because, while more expensive, it burned for longer.

> *"It's warm in here tonight, and yet I haven't put any [smokeless] coal on there since four o'clock or something."*
>
> Helen, 35+ no children, Social renter, Remote rural, EFP

One participant was keen not to move from solid fuel because it was their personal preference and the only type of heating they had ever had. Another described having a dispute with her local authority in order to get the solid fuel system that she wanted (one that heated radiators and hot water too). However, Louise reported wanting to change from a combination of solid fuel and electric heating to gas central heating but felt restricted from doing so because of the costs involved:

> *"We don't have central heating. We've got a coal fire and an electric heater that's on the wall in the kitchen, a wood burning stove in the sitting room, and a couple of oil filled radiators that we shift about upstairs. But we limit how much we use the radiators because of the cost, the oil filled heaters are really quite expensive to run. It would be handier if we had proper central heating that was reasonable to run, so that you wouldn't have to keep your eye on the meters all the time… It would be handy if you didn't have to get up in the morning and put the fire on. It would be nice if we had a switch that you could just switch on whenever you liked to make the room warm…We have looked into it but the installation would be too expensive."*
>
> Louise, 35+ no children, Owner occupier, Remote rural, EFP

4.2.5 Combining multiple systems

Participants that used a combination of heating systems and/or appliances tended not to be on the main gas network. One household used a combination of LPG gas, coal and wood because they felt it would work out cheaper than oil central heating. Another had a coal fire, a wood burning stove, an electric fire, and two oil-filled radiators that they would move around the house. The latter (see quote from Louise above) would have liked to install central heating but could not afford the installation costs.

Participants' ability to change their system or make improvements varied and was influenced by whether they were renting or owned their home. Private and social renters both said that changes to their heating system were the responsibility of the landlord or local authority/housing association. Homeowners, on the other hand, could make such changes if they wanted and were able to. These differences will be covered in more detail in section 7.2 Taking action to improve home heating which explores actions taken to improve home heating.

4.3 Energy efficiency

To help explore participants' perceptions of the energy efficiency of their homes, they were asked how well they felt their home retained heat. Views ranged from those who felt their homes retained heat well to those with issues relating to draughts or heat escaping from the home. Perceived issues with heat retention were not specific to certain types of property, as those concerned about poor heat

retention were spread across different types of tenure, location, and age of property.

Almost half of the participants in this study (16 of the 40) lived in properties with an EPC banding of C or better[18] - this is the minimum target EPC banding identified by the Scottish Government as necessary to take households out of fuel poverty. The participants in this study that lived in homes with the lowest EPC ratings (bands E, F and G) were all categorised as being in extreme fuel poverty - this is not surprising as the EPC is based on an energy cost index, so the higher the fuel cost per square metre of floor area, the lower the EPC SAP[19] rating, and therefore the lower the EPC banding.

Participants' perceptions of how well their homes retained heat did not appear to be reflected in the EPC rating derived from the SHCS. While it might be expected that the homes of participants describing issues with poor insulation and poor heat retention would be amongst those with the lowest EPC ratings, they tended to be in EPC band D. Participants that lived in homes with the lowest EPC rating (i.e. bands E, F and G) tended to describe the heat retention of their homes as fair or good.

Properties (both owned and rented) commonly had double glazing and either loft or wall insulation. Those that had installed double glazing or insulation, either themselves or via their landlord/housing association, generally felt these had improved the warmth and heat retention in their home. There were a small number of exceptions to this, where participants had work done but did not feel the benefit:

> *"I must admit I didn't really [notice a difference in heat retention], our loft is not a very large loft, but there must be some difference… before...the roof used to clear quite quickly [of snow], but since the insulation it tends to stay there, that's the only difference I could see."*
>
> Dean, 35+ no children, Owner occupier, Large urban, EFP and EHR

Owner occupiers who had benefitted from free or discounted energy efficiency measures (via schemes such as Warmer Homes Scotland) felt fortunate to have received financial support towards these improvements. Almost all of these participants had been contacted by their energy provider or by their local authority about these schemes, rather than seeking them out proactively, echoing findings by Ipsos MORI & Sheldrick (2017). Other owner occupiers felt aggrieved that they had missed out on the level of discount they knew others had received, which they believed to be because of the postcode area they lived in. Private tenants had low awareness of government schemes to support energy efficiency measures and queried whether they, or private landlords, would be eligible for this type of support.

---

[18] The EPC bands for homes within the sample for this study were: B or C (16), D (17), E, F or G (7). This has been included here to show the general spread across those interviewed and not as an indicator of how EPC bands varied across all households in fuel poverty.

[19] The SAP rating is the Standard Assessment Procedure for dwellings, part of the methodology used to calculate EPC rating https://www.gov.scot/publications/energy-performance-certificates-introduction/

Barriers to making energy efficiency improvements were noted, both by owner occupiers and renters. For owner occupiers, barriers included the costs involved and the nature of the property (for example, being unable to get cavity wall insulation in older properties).

For private and social tenants, barriers mainly related to the ability to make decisions about changes to their property, including energy efficiency measures. There was a tendency among some private renters to not want to bother their landlord with requests for insulation (this differed from those renting from councils or housing association, who felt more comfortable raising issues). One participant said a survey had indicated that her house was not well insulated, but she did not want to contact her landlord about it as she doubted any action would be taken:

> *"[The surveyor] said the house could have better insulation… But… I'm not going to my landlord for the time that I'll be here complaining."*
>
> Eilidh, 35+ no children, Private renter, Remote rural/small towns, EFP

Among social renters there were mixed views. On the one hand, they considered themselves fortunate as their council or housing association had covered the cost of improvements such as double glazing, insulation and boiler replacements. On the other hand, social renters felt like decisions around energy efficiency were out of their control and gave accounts of councils and housing associations not responding to requests for improvements or stating that work would take place but which did not happen. For example:

> *"The [housing association] kept on saying they are going to be putting new windows in last year… I just don't know if they are going to bother… that is actually wooden windows, they're not plastic. I think they have been there since the word dot, since they were built."*
>
> Isabel, 35+ no children, Social renter, Other urban/non-remote rural, EFP and EHR

This echoes the sense of frustration among social renters about their lack of autonomy with regards to these decisions, as noted in research by Darby (2017).

4.4 Condensation, damp, ventilation

In the Fuel Poverty Health Impact Assessment[20], the Scottish Government notes the potential for energy efficiency improvements to have negative impacts on homes. It notes that some energy efficiency improvements can lead to poor ventilation, which can have a negative impact on the air quality in the home. This, and associated issues of condensation and damp, can have adverse effects on health, particularly for those with existing respiratory health conditions.

Participants were asked about the air quality within their homes, the extent to which they considered their homes well ventilated, and whether they experienced problems with damp, condensation, or mould growth.

Around half of participants had experienced damp, condensation or mould in rooms that were not being heated as much as the main living space. Only a few participants that had damp, condensation or mould present in their homes felt that it may be related to underheating, and no issues with ventilation were raised. This could indicate a lack of understanding of relationships between heating, condensation, dampness, and ventilation. The 2013 study by De Haro & Koslowski (referenced in the Evidence Review) highlighted that, in relation to condensation specifically, the participants in their study had little knowledge of how to reduce condensation using their heating and ventilation.

Figure 4 – Example of mould and condensation on a participant's window

A few participants said their damp-related problems were caused by leaky gutters, or by damp within the walls and/or foundations of the building. In these cases, underheating and/or poor ventilation could be contributing factors. Others said they did not know what was causing their damp-related problems.

[20] https://www.gov.scot/publications/fuel-poverty-target-definition-strategy-scotland-bill-fuel-poverty-strategy/

In one extreme case, the participant was experiencing damp on his walls and furniture but did not want the upheaval of moving:

> *"Behind that couch there will be damp spores. When I turn the mattress every week it's damp underneath, and I scrub it with Domestos, and if you put anything on the bed you guarantee once you take it out you have to throw it away, everything is covered in mould. Even the side of the wardrobe there is mould growing up the side of the wall, we can't stop it."*
>
> Darren, 35+ no children, Social renter, Other urban/non-remote rural, FP and EHR

> *"The wall in my mother's room used to be really, really, damp, like proper smelly, smelly, damp. I striped it right back and applied, damp liquid paint stuff, it's never come back. But upstairs in my room the wall is always wet, always, always, wet and it's got the same coating on it but it didn't make a difference."*
>
> Matt, 35+ no children, Social renter, Large urban, FP and EHR

Problems with damp, condensation or mould growth were more prevalent among social renters compared to private renters and homeowners, and among those on the lowest incomes compared with those on higher incomes. Participants spoke of complaining to their respective social landlords about their problems, but with no success in getting issues resolved.

Perceived problems with air quality were less commonly reported than problems with damp, condensation or mould. Amongst those participants with chronic health conditions that considered their homes suffered from poor air quality, the focus of their concern was on pollution and dust from outside. One participant with COPD described pollution from the road being worse in the summer and it adding to her breathing problems. Another had a problem with dust coming into her home and described her housing association as unresponsive:

> *"Oh, we have a big problem [with dust], we have complained to [housing association] for years now and they came out one time and put a new extractor fan in the bathroom… I'm always frightened for his asthma, you know, because it's like this every day. It shouldn't be coming in... They have never bothered to fix it."*
>
> Isabel, 35+ no children, Social renter, Others urban/non-remote rural, EFP and EHR

4.5 Summary of differences between groups

4.5.1 Fuel poverty vs extreme fuel poverty

There were two differences of note between households categorised as fuel poor and those categorised as extreme fuel poor in relation to their heating systems and energy efficiency. Firstly, those not using gas central heating tended to be categorised as extreme fuel poor, reflecting the higher costs of running oil, solid fuel or electric heating systems. Secondly, a high proportion of dwellings with the worst EPC ratings were households in extreme fuel poverty, again likely reflecting the higher fuel bills in these households. Otherwise, the findings do not point to a notably different experience of heating systems or warmth when comparing these two household types.

4.5.2 Households to which an Enhanced Heating Regime applied

Those with chronic health conditions stressed the importance of maintaining an acceptable level of heat in the home to avoid pain or discomfort associated with their health condition. These participants were therefore particularly susceptible to any negative impacts of inadequate heating systems or energy inefficiency that led to homes feeling underheated.

Those with chronic health conditions also experienced negative impacts if they felt the air quality was poor, for example breathing problems being exacerbated by dust or pollution coming in from outside.

Otherwise, the experiences of those to whom an EHR applied were similar to those of other participants.

4.5.3 Those with high levels of fuel poverty under the new definition

Of the groups that had higher levels of fuel poverty under the new definition, the main difference that emerged was in relation to social renters.

On the one hand, some social renters considered themselves fortunate as their council or housing association had covered the cost of improvements to their heating systems or properties such as double glazing or insulation. On the other hand, and to echo the point made in section 3.6 Summary of differences between groups, social renters that were unhappy with the heating in their homes attributed this to issues with their heating systems or lack of adequate insulation in their properties. As with private renters, social renters feel restricted in the extent to which they could address these issues, as they were the responsibility of the local authority, housing association or landlord. Participants voiced frustration that the reported issues with their heating systems or insulation had not been addressed.

Problems with damp and lack of ventilation were more prevalent among social renters compared with private renters and homeowners (and among those on the lowest incomes compared with higher incomes). Again, participants spoke of complaining to social landlords but with little success in getting issues resolved.

Specific issues with electric heating were raised by those using this as their main source of heating. The main issue was the cost which was perceived as expensive, causing one participant to stop using his electric storage heaters completely because his heating bills had become unaffordable. Other issues mentioned by those that previously had electric storage heaters were that they were difficult to adjust and made the air uncomfortably dry.

4.5.4 Those living in remote rural areas

Those living in remote rural areas had some distinct experiences when it came to heating systems. All those that used oil or solid fuel as their main sources of heating lived in remote rural areas. This includes those in island communities in Orkney, Argyll and Bute and Na h-Eileanan Siar (Western Isles). This aligns with findings from the SHCS 2018 which shows that almost two thirds of properties in rural areas are not covered by the mains gas grid and therefore use an alternative form of heating[21] including oil or solid fuel.

As noted above, those using oil central heating or solid fuel were generally content with these forms of heating. However, oil users commented on the high price of oil and felt that, although it was expensive, it was something they had to accept as part of living in a remote location. Those with oil-fuelled heating said the high price of fuel was partly driven by their limited options in terms of choice of suppliers. While solid fuel users were generally happy, one did want to change to central heating, but felt restricted from doing so because of the costs involved.

These experiences, while among a small proportion of the sample of participants, show that those in remote rural locations had limited options available when it came to their source of fuel. This may in turn have resulted in higher prices than might be available for customers on mains gas with multiple supplier options (though detailed comparison of actual fuel spending has not been specifically tested as part of this study).

No further findings emerged to suggest other variations in participants' experiences by location.

[21] https://www.gov.scot/publications/scottish-house-condition-survey-2018-key-findings/

5. Paying for fuel

5.1 Introduction

Of the four main drivers of fuel poverty recognised by the Scottish Government, two are explicitly finance-related: energy prices and income. This chapter therefore focusses on the financial aspects of the lived experience of fuel poverty. It starts by describing the extent to which participants were coping or struggling with the cost of heating their homes, before exploring the different methods used to pay for energy and the extent to which these methods had an impact on the affordability of home heating.

5.2 Affordability of home heating

As noted in the introduction, fuel poverty is not equivalent to income poverty. A sizeable proportion of households classed as fuel poor are not income poor (31% in 2018[22]). However, findings from the 2018 SHCS shows that fuel poverty does have an association with income and households in the lower income bands have the highest rates of fuel poverty: 95% for the bottom income band (less than £200 per week) and 55% for the 2nd bottom band (between £200 and £300 per week)[23] Participants in this research were also largely in the lower income bands: half were in the lowest income band (less than £200 per week) and almost all of the remaining half were in the 2nd bottom band (between £200 and £300 per week).

Nonetheless, most reported living comfortably on their income, both at the time they took part in the SHCS and when participating in this research. This was true of those who were classed as being in fuel poverty as well as extreme fuel poverty and true of those in the lowest income bands. This sections seeks to explore the potential reasons underlying this apparent disparity between income and fuel poverty, by examining participants' views on affordability of their home heating.

Most participants said their fuel bills were expensive but "manageable", meaning they could cover their costs using their own income. A few said they rarely or never worried about covering their fuel or other household bills. Even those who said they were managing financially nonetheless noted the importance of budgeting carefully in order to make sure they could cover the cost of fuel and other household bills, particularly against a backdrop of perceived increases in energy prices and cost of living:

> *"We are] probably just the same as everybody, [budgeting] is just one of the things you have to do. We know how much money is available…and we work with what we have."*
>
> Jim, 35+ no children, Private renter, Other urban/non-remote rural, FP

[22] https://www.gov.scot/publications/scottish-house-condition-survey-2018-key-findings/

[23] https://www.gov.scot/publications/scottish-house-condition-survey-2018-key-findings/pages/6/

However, those who reported difficult financial circumstances often struggled to pay their household bills including fuel costs. This included participants in households categorised as being in fuel poverty and those categorised as being in extreme fuel poverty. Across both these groups, participants struggling the most tended to be in lower income households, often not in employment, and dependent on benefits or pensions. As well as low incomes and a general rise in cost of living, most of these participants also attributed their financial difficulties to the price of fuel bills, which were considered high but unavoidable.

> *"It's always difficult when you're on benefits, because you're on £72 a week and you're probably spending £30 of that during the winter on gas and electric"*
>
> Darren, 35+ no children, Social renter, Other urban/non-remote rural, FP and EHR

The cost of energy was considered high in general, but there was specific and repeated reference to the cost of electricity and oil among those relying on these types of fuel as their primary source of home heating. Electricity costs were also a concern for those using gas as their main heating source, with those in underheated homes citing the cost of electricity as a reason for not using portable electrical heaters as a secondary heating source. Further, as noted in section 4.2 Heating systems, users of oil in remote rural locations were limited in terms of their choice of suppliers; a factor which they felt contributed to higher fuel prices.

Fuel prices were seen as being dictated by energy companies and therefore beyond the control of consumers. As discussed in section 3.3 Use of heating, some participants limited their use of heating in order to keep energy bills down, particularly those on lower incomes and who said they were struggling financially. However, this was not always an option for those with chronic health conditions and young children, who stressed the need to maintain a comfortable level of heating for health reasons.

While fuel prices were considered high, heating was viewed as an essential aspect of health and wellbeing, meaning that two main strategies were used in order to make sure that homes remained adequately heated.

Firstly, energy bills (related to both heating and electricity) were often prioritised over other expenses along with rent or mortgage and council tax. Those who were struggling financially gave examples of having to make sacrifices such as restricting other expenditure, including cutting back on food and other household essentials, in order to cover their energy bills. These sacrifices were often viewed as difficult, but unavoidable.

"[Most] important is our heating, gas and electricity, phone and food… but the cost of living has gone up so much, so I have had to cut down on certain things."

Isabel, 35+ no children, Social renter, Other urban/non-remote rural, FP and EHR

"Rent, council tax, gas and electric [are my] priorities. There is only so much you can cut back on…and you have to eat to live. So then you just have that worry and stress at the end of the month, because it's all direct debits still to come off."

Kimberley, Family with children 5 and under, Social renter, Large urban, FP and EHR

"Probably the biggest cost we have got is keeping the house warm really in the winter anyway. In the summer it doesn't bother us because all through the summer months we don't have any heating at all in the house, nothing at all. [In winter] the cost does worry us but, you know, you have to prioritise heating the house before you do anything else really."

Louise, 35+ no children, Owner occupier, Remote rural, EFP

Prioritisation of expenses was further illustrated when participants were presented with the hypothetical scenario of a £10 per week reduction on their fuel bill. While participants were mostly sceptical this would ever happen, in some cases they felt it would allow them to spend more on the things they had cut back on including food, clothing, or socialising with family and friends.

Secondly, when faced with household bills they could not afford, those struggling financially had occasionally got into debt by borrowing money from friends and family or by using their overdrafts to cover their outgoings.

"You are literally living month to month and it's hard, and the last week [of the month] you're having to borrow money...so by the time you get paid you owe it back, it's a constant cycle."

Jane, Family with children 5 and under, Social renter, Other urban/non-remote rural, EFP and EHR

"I've got £5 in the electricity meter and I don't have money to top up, that's how bad it is. So, by tonight that will be at nothing and I will need to go and beg money off somebody to top it up."

Andrew, 35+ no children, Social renter, Large urban, FP and EHR

The strategies outlined above demonstrate a lack of financial resilience, particularly among those on the lowest incomes, which has been noted in previous research identified in the Evidence Review. This was further illustrated when participants were presented with the hypothetical scenario of an unexpected fuel bill of £50. Those struggling to cover their bills said they would be unable to pay this amount and, again, would either have to cut back on essential items like food or borrow money in order to do so.

> *"Once I got my benefit I could probably manage maybe £40, that would leave a tenner shortfall…so I would just need to cut back on a few other things, like food shopping".*
>
> Stuart, 35+ no children, Private renter, Other urban/non-remote rural, EFP and EHR

> *"[I would get] a loan off my family or something like that. I budget literally to a tee. What I get is what goes out. I don't have any spare money at all."*
>
> Jane, Family with children 5 and under, Social renter, Other urban/non-remote rural, EFP and EHR

Often those in the most vulnerable financial situations were already in receipt of support from the government towards the cost of heating their homes. Recipients of benefits such as the Warm Home Discount Scheme, Winter Fuel Payment and Cold Weather Payment placed a great deal of value on these forms of support. These benefits were seen as particularly important among those in lower income households in receipt of pensions or benefits, who commonly said they would otherwise be unable to afford their heating bills. Further reflections on the process of receiving these types of financial support is provided in section 7.3 Sources of information and support.

Among those who were managing financially, it was common for participants to view their situations as comparatively better than others, considering themselves fortunate to have homes and access to support networks when needed. However, for those struggling financially there were indications that the cost of heating had negative emotional impacts, including feelings of stress, worry and anxiety. For those already worried about being able to afford to pay for heating, the presumption that energy prices would increase each year led to even stronger feelings of uncertainty and concern.

> *"The price of heating and the price of everything [worries me], it's not easy living on a pension… because you've got to eat, you've got to eat and have heat and live."*
>
> Anna, 35+ no children, Owner, Other urban/non-remote rural, FP and EHR

> *"It shouldn't be a luxury in this day and age to be warm…August and April come and everybody seems to increase the prices so you dread it, you dread the next increase."*
>
> Kimberley, Family with children 5 and under, Social renter, Large urban, FP and EHR

5.3 Methods used to pay for heating

As well as the cost of fuel, affordability of heating was also linked to the methods of payment. This section outlines the different methods of payment used, and the perceived advantages and disadvantages of the most commonly used approaches.

5.3.1 Types of payment used

Participants were generally satisfied with the way they paid for heating and were typically using methods they felt best suited their individual circumstances. A range of different methods were used, with the two most common being monthly direct debit for a fixed amount and prepayment meters using a top-up key or card. Other, less commonly used, approaches were payment on receipt of bills, prepayment online or via an app, or through a prepayment card topped up at Paypoints or Post Offices.

Users of solid fuel generally purchased this directly from local suppliers and often stockpiled over the summer in order to ensure they had enough to last through colder winter months. Those with oil central heating either paid by direct debit or paid at specific times of the year (e.g. twice per year) when they were getting their oil tank refilled.

Non-direct debit methods of payment were more prevalent among those in extreme fuel poverty – those in extreme fuel poverty tended to pay by prepayment, on receipt of bills, or by purchasing solid fuel or oil, whereas those who were in (not extreme) fuel poverty were typically using monthly direct debit.

5.3.2 Attitudes towards direct debit

For those paying by monthly direct debit, the regular nature of payments provided a sense of predictability, allowing bill payers to plan ahead as they knew in advance what the cost was going to be each month. The ability to budget monthly was particularly suitable for those who received monthly income, allowing fuel bills to be budgeted as part of regularly monthly outgoings. The automatic nature of direct

debits was also considered less hassle than paying bills manually and therefore easier to manage:

> *"I resisted direct debit for a long time, I [used to] pay them when they sent me bills. The trouble was I'm not prompt at attending to my mail, and it can pile up … so I started paying by direct debit to make life easier…it's less postage, it's less envelopes to open, it's easy."*
>
> Patrick, 35+ no children, Owner, Other urban/non-remote rural, FP

Another perceived advantage of direct debits was the ability to build up credit during summer months, which could be used to make winter fuel bills more manageable. Indeed, one participant who was struggling financially had become reliant on the credit on her account to cover the cost of fuel bills over the winter.

Those on direct debit tended to feel it was the most affordable approach, noting discounts for paying by direct debit monthly. It was viewed particularly favourably in comparison with prepayment, with those who had switched to direct debit feeling they had saved money doing so. Direct debit arrangements were also considered a more flexible approach than prepayment, as they allowed customers to negotiate a payment plan with suppliers if bills became unmanageable, whereas there was a perception that this would not be available on prepayment.

> *"We always make sure we have enough. That's why we pay it [by direct debit] we haven't got one of these silly ones that you put money in, and then people run out of money and have never got any electricity."*
>
> Isabel, 35+ no children, Social renter, Other urban/non-remote rural, FP and EHR

> *"I was on the [prepayment] meter…but they were charging more for having that. I'd be in an absolute panic, on emergency [credit] and not have the money to put in. So I went back onto direct debit, because then they're not allowed to leave you without [power]."*
>
> Catherine, 35+ no children, Social renter, Large urban, FP and EHR

5.3.3 Attitudes towards prepayment

Prepayment was more prevalent among certain groups, including those in extreme fuel poverty and those in households which fall within a group with higher rates of fuel poverty under the new definition including social private renters, low income households, and households with at least one member aged 65 or over.

As with direct debit users, prepayment users were also satisfied with their method of paying for heating. The main perceived advantage of prepayment was that it provided a sense of control, allowing users to decide how much money to put into

their account and to manage their use of energy accordingly. Much of the positive sentiment towards prepayment was linked to negative perceptions of direct debit, which was by contrast seen as a loss of control over their finances:

> *"You pay what you use and you don't get stung by a big bill at the end of the month or the end of the quarter. Apparently, it's a bit higher, but…people can monitor better what they are actually spending. You've got more control of your bills that way."*
>
> Darren, 35+ no children, Social renter, Other urban/non-remote rural, FP and EHR

> *"I prefer to know what I'm paying, I know it's going to be about the same amount. I don't feel comfortable with direct debit, I'm just scared in case an unexpected amount or something comes out."*
>
> Jane, Family with children 5 and under, Social renter, Other urban/non-remote rural, EFP and EHR

A few participants made reference to the inconvenience of having to physically make trips to top-up prepayment keys or cards, with one participant living in a remote rural location occasionally relying on friends and family members to do this for them due to mobility issues. However, this was not viewed as particularly problematic or concerning.

While users of prepayment meters preferred it over other approaches, issues associated with affordability still arose. At times they ran out of money on their meter and had to use emergency credit or had to limit their gas or electricity use until they could afford to top up. For example, one participant noted that she would occasionally stop her son from playing his X-Box to save on electricity when she had limited credit remaining. However, even when it was noted that prepayment can be more expensive than direct debit, participants still preferred to remain on prepayment due to negative perceptions of direct debit.

5.3.4 Views on switching payment method

There was little appetite for switching to direct debit from other payment methods. When discussing the relative advantages and disadvantages of the methods available, a number of barriers to encouraging people to moving to direct debit became apparent.

The perceived lack of control over direct debit was a particularly strong barrier to switching. As noted above, those not using direct debits were concerned that energy companies could take more money than they were owed, and do so without notice, thereby leaving participants potentially out of pocket or overdrawn. Prepayment users felt that paying as you go, by contrast, allowed individuals to decide how much they spent rather than the energy suppliers:

> *"No, I wouldn't entertain [switching to direct debit]…if I get direct debit I'm not going to see what's going on. It's just me in here, I can see what's going on and I'm the controller…I know what I'm doing."*
>
> Gayle, 35+ no children, Social renter, Large urban, EFP and EHR

The perceived "fixed" nature of monthly direct debits was also off-putting. One self-employed participant had a variable and unpredictable income, and therefore felt she couldn't commit to a monthly direct debit as she could not guarantee that she would have enough money every month to cover it. She preferred instead to be billed quarterly for what she used and have more time between bills to plan ahead.

There was also a general sense of mistrust around direct debit offers, with concern that the initial lower payments would end up increasing to much higher amounts over time. This was perceived to be a common issue, with those not on direct debit having heard of this type of experience from friends or family and therefore citing it as one of the reasons for not switching.

While the dominant view among those on prepayment was a reluctance to move to direct debit, there was some interest in switching as a more convenient and potentially cheaper means of paying for heat. In these cases, participants had not switched because they were not clear on how to or had simply not gotten around it.

5.4 Summary of differences between groups

5.4.1 Fuel poverty vs extreme fuel poverty

In terms of managing financially, there was no clear distinction between those categorised as in fuel poverty and those categorised as in extreme fuel poverty. Within each of these two groups, there was a mix of participants saying they were comfortably covering their heating costs, those saying they were expensive but manageable, and those who were struggling. Though it should be acknowledged that this is reported behaviour and some may be underplaying the extent to which they are struggling financially. Some of the most extreme cases (e.g. those who had made sacrifices to cover heating bills and were stressed and worried about heating costs) were classed as fuel poor rather than extremely fuel poor.

However, those categorised as in extreme fuel poverty tended to pay for heating using prepayment (mirroring findings from the 2018 SHCS), on receipt of bills, or by purchasing solid fuel or oil. Those who were in (not extreme) fuel poverty, on the other hand, were typically using monthly direct debit. This would suggest that groups categorised as being in extreme fuel poverty were not benefitting from discounts on fuel prices typically offered to those on direct debit.

5.4.2 Households to which an Enhanced Heating Regime applied

Difficulty covering household bills and concerns about the cost of heating were more apparent among participants in households to which an EHR applied, specifically those with chronic health conditions and those aged 75 and over. This may, in part, be a result of higher levels of heating need among these groups, due to health conditions or longer periods of time being spent at home. Financial concerns may also be linked to lower levels of household income for these groups, particularly those dependent on pensions and benefits.

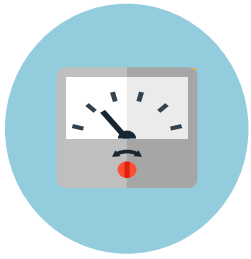
5.4.3 Those with high levels of fuel poverty under the new definition

Difficult financial circumstances were particularly notable in lower income households, including those in receipt of benefits and those in receipt of pensions. Benefits such as the Warm Home Discount Scheme, Winter Fuel Payment and Cold Weather Payment were seen as particularly important among those in lower income households in receipt of pensions or benefits, who commonly said they would otherwise be unable to afford their heating bills

People's ability to cope very much depended on income levels (as mentioned in the Evidence Review) with a few relying on help from friends and family for either food or other household expenses.

In terms of methods of payment, prepayment was prevalent among those living in households that were in one of the groups with higher levels of fuel poverty, including social renters, low income households, and those aged 65 and over.

6. Smart meters



6.1 Introduction

The UK Government's rollout will mean that all households and businesses will be offered a smart meter by end of 2020[24]. The Energy Saving Trust highlights two key benefits of smart meters[25]:

- they enable users to see when they are using the most energy and how much it is costing, meaning they can adapt energy use and cut down on waste to provide long-term carbon and financial savings.
- they provide accurate and real-time information about energy use, enabling users to make informed decisions about their energy behaviour.

This chapter explores the extent to which smart meters had an impact on those living in fuel poverty, answering the research question *"how are smart meters used in fuel poor households and what is their impact?"*

6.2 Use of smart meters

Twelve participants had smart meters. They had all been offered them by suppliers, rather than actively seeking them out. Most users of smart meters recalled having received user guides or manuals that explained how they were used, though participants did not often recall reading these or what specific information they contained.

Those with smart meters described using them to automatically submit meter readings and using the In-Home Display to monitor the amount of energy they were using. However, not everyone discussed both these purposes. Often participants would describe the In-Home Display purpose only and appeared unfamiliar with the automatic meter-submitting function.

In some cases, smart meters were connected to both gas and electricity, while in others they were connected to electricity only. However, even for those with smart meters connected to both gas and electricity, discussions about the use and impacts of smart meters tended to focus on electricity rather than gas.

6.3 Impact of smart meters

There were mixed feelings about the impact of smart meters, with most discussion focusing on the real time information provided on In-Home Displays.

[24] https://www.gov.uk/guidance/smart-meters-how-they-work

[25] https://energysavingtrust.org.uk/home-energy-efficiency/smart-meters

Participants found the In-Home Display useful as it helped them to visualise how much energy they used and to better understand the amount of energy different appliances used. There was often surprise expressed at the amount of energy used by, for example, kettles, dishwashers and washing machines. Those that paid most attention to the In-Home Display tended to be those on prepayment meters, who found it a quick and convenient way of finding out how much energy credit they had left, removing the need to read meters that were difficult to access:

> *"It makes you more aware of what you're using power wise, you know. Before in the old system, the old meter, it was just a dial and numbers, there was nothing physical, no graph to show you."*
>
> Dean, 35+ no children, Owner, Large urban, EFP and EHR

> *"If I'm running down, it's there to tell me to top up, but, I never let it go under £10 if I can help it, never, ever….[before] I had actually to go outside and see how much I had left on the gas meter"*
>
> Gayle, 35+ no children, Social renter, Large urban, EFP and EHR

Even where In-Home Displays were being used, the extent to which this had contributed to a change in behaviour was limited. However, examples were given of changes in electricity use, for example switching off appliances, boiling less water in the kettle, or using washing machines or dishwashers less frequently. Others described looking at the In-Home Display occasionally, but not feeling the need to change their energy use as they did not consider themselves to be using an excessive amount.

> *"You notice how much electricity you're using because it's almost like a record or something. It does make you think about how much you're using, if it's on a bit, why is that on and you realise you've left something on"*
>
> Morag, 35+ no children, Owner, Large urban, FP and EHR

One participant used their smart meter to help budget monthly electricity use, setting the In-Home Display to show a different coloured light if they exceeded the amount of electricity budgeted. However, given other members of the household were not paying attention to the smart meter display, this had not prevented them from going over budget.

Only a few participants noticed a reduction in their energy bills as a result of smart meters. Even participants who were monitoring their energy use via the In-Home Display and changing their use of appliances accordingly were not clear whether this had actually saved them money.

6.4 Problems with smart meters

Around half of users had experienced problems with their smart meters. Examples were given of smart meters being unable to connect to either the gas or electricity meter, with some suggesting that this was due to poor phone or internet signal. This meant that the smart meter was unable to fulfil its meter-reading function. In these cases, participants were continuing to either manually submit meter readings or receive estimates from their supplier. One participant noted that these problems led them to turn off the In-Home Display.

Smart meters were also perceived to be inaccurate. One participant was charged an unexpectedly high amount by a new supplier and thought that this was down to a mismatch between the meter display and the internal meter – an issue that has since caused them financial difficulties. Another described how the information displayed on his In-Home Display was out of date by two weeks, causing him to question how dependable it was.

Issues with connectivity and perceptions of inaccuracy had led to In-Home Displays being turned off by users, sometimes completely. Others had turned off the In-Home Display simply because they felt it made no difference to their energy use and was therefore viewed as redundant:

> *"I chucked it in the drawer out the way because it was getting on my nerves… it tells us how much money we use and I sort of say, well what's the point? If I'm going to use it, I'm going to use it. We don't waste our money."*
>
> Isabel, 35+ no children, Social renter, Other urban/non-remote rural, FP and EHR

Among those without a smart meter, there was little appetite to get one. Concerns were raised about their perceived inaccuracy, with participants having heard media or word of mouth stories about smart meters giving incorrect readings which had led customers to be overcharged. Concerns about data privacy and security were also raised as a barrier to getting a smart meter. Again, these tended to be driven by negative media coverage about energy companies having unrestricted access to customer data via smart meters.

6.5 Summary of differences between groups

There were no notable differences in use of, or attitudes towards, smart meters between the main groups of interest to the research. The one exception was that smart meter In-Home Displays tended to be viewed more favourably by prepayment users, a payment method that was more prevalent among those in extreme fuel poverty. These participants liked In-Home Displays because they provided an easy way of showing how much credit they had left on their account.

7. Taking action and finding support

7.1 Introduction

This chapter looks at the steps taken to help tackle or respond to the challenges associated with fuel poverty. It first explores the actions people might take to improve how they heat their homes and how they pay for heating, as well as barriers that inhibit them from doing so. It then outlines awareness and perceptions of support and advice services for those in fuel poverty.

7.2 Taking action to improve home heating

The research explored a number of potential actions that people might take to find the most suitable way of heating their homes and paying for heating.

The actions most commonly used tended to be those without a financial cost, for example changing supplier or payment method. Around two thirds of participants had taken at least one of those actions. It was less common for participants to report more expensive actions such as changing their heating system, fuel type or buying energy efficient appliances. Where energy efficiency improvements had been made, such as insulation, this was usually as a result of support from government-funded schemes or from social landlords.

Views on the impact of these potential actions are outlined in turn below.

7.2.1 Switching suppler

Experience of switching supplier ranged from those who regularly checked online comparison websites to find the best deal, to those who had switched following an increase in their energy cost, and those who agreed to switch after having been approached by a new supplier. Saving money was the main motivation for switching.

There were mixed views on the effectiveness of switching supplier. Those that were positive about their own experience of switching felt they had saved money as a result. However, this was outweighed by more negative views, which were often linked to a general mistrust of energy companies. There was a belief that energy companies offered low prices initially, but these were often based on an underestimate of a household's actual energy use and therefore increased over time. Participants referenced personal experiences and those of friends and acquaintances who had faced unexpectedly high bills after switching suppliers.

> *"I think the companies are too greedy. It's all profit for them…They all promise you the lower bills, there will be this, there will be that. But once you change then the next thing their prices all go up."*
>
> Anna, 35+ no children, Owner occupier, Remote rural, FP, EHR

Due to the perceived risk of suppliers increasing prices over time, there was a fear that switching suppliers actually posed a financial risk which those on the lowest incomes did not feel they could afford to take.

As well as these financial concerns, others had not switched supplier because they simply felt content with their current supplier, or believed their current supplier was already the cheapest.

7.2.2 Switching tariff

Participants generally assumed that they were already on the best tariff with their supplier. When probed further, however, they were often uncertain as they had not compared tariffs or were not aware of the possibility of changing. Those that had benefitted from changing tariffs had typically done so at the point of switching suppliers, rather than switching tariffs with their existing supplier.

Mirroring the views on switching suppliers, there was a degree of scepticism about the potential benefits of switching tariff. Those who were distrustful of energy suppliers felt that all tariffs were likely to be similar and doubted the potential to save money by switching:

> *"I just can't think I will get anything less than £20 a week for heating and electricity, I can't see it. As I say, I think you're always frightened you may be worse off with another supplier. I had a friend she was in Wales actually and she changed suppliers, and she said it's a nightmare, I was much worse off."*
>
> Eilidh, 35+ no children, Private renter, Remote rural, EFP

As discussed earlier, there were mixed opinions on the benefits of changing the method by which people pay for their heating. Those who had switched from prepayment meters to direct debit described having saved money as a result. However, there were major concerns among those currently using prepayment meters that direct debit would make it more difficult for them to manage their money. Among those who were open to moving to direct debit, other barriers included a lack of knowledge about how to switch or simply not getting around to it.

7.2.4 Home energy efficiency improvements

Among those that had installed insulation and/or double glazing, there were mixed views on the impact it had had. Some believed the measures made homes feel warmer, while others had the view that it had not made a noticeable difference.

Among owner occupiers, the cost of making energy efficiency improvements such as double glazing and insulation was cited as a potential barrier to taking these actions. That said, several participants mentioned having benefitted from free or discounted insulation through government schemes to help make homes warmer when they had the opportunity. None of these participants referred to the specific government scheme they had benefitted from, instead simply referring to getting insulation installed "by the government" or via "a grant". It was therefore not clear

whether they had benefitted from Warmer Homes Scotland, Home Energy Efficiency Programmes for Scotland (HEEPS) Area Based Schemes or other sources.

For private and social tenants, barriers mainly related to the ability to make decisions about changes to their property, including energy efficiency measures. Experience of home energy efficiency improvements are discussed in more detail in chapter three.

The use of energy efficient lightbulbs was fairly common, whereas the cost of replacing larger appliances was widely seen as prohibitive. However, when appliances broke and needed to be replaced, there was evidence that participants took energy efficiency into account.

7.2.5 Changing heating systems or fuel types

Participants were largely satisfied with their heating system and fuel type and therefore showed little interest in changing these. The main exceptions were most of those without central heating, including those using electric storage heaters or solid fuel as their primary heating source. Those that did want to move to gas central heating felt it was prohibitively expensive.

As with installing insulation, both private and social renters felt restricted in the extent to which they could change their heating systems. That said, private and social renters felt somewhat advantaged in relation to the heating systems, as they knew that their landlord would be responsible for covering the cost of fixing or replacing a faulty boiler. There were examples of participants who had already had their boilers replaced or upgraded by their local authority or housing association.

7.2.6 Contacting landlords, councils or housing associations

Social renters were more likely than private renters to have contacted landlords about their home heating. However, satisfaction with the response provided by councils or housing associations varied, with some negative accounts of queries being unanswered or issues not being resolved. For example, one participant described having draughty windows and doors but said their council refused their requests to get these replaced. Another explained that despite contacting the council "constantly" about issues with their heating system, it was difficult to get the council to take the problem seriously and spend money on fixing it properly:

> *"I literally must have had the gas men out, I'm not exaggerating, in a nine-week period, about ten times, till finally I was quite impolite about it…it has always got to be extreme with them before they will come out"*
>
> Kimberley, Family with children 5 and under, Social renter, Large urban, FP, EHR

Private renters described being reluctant to bother their landlord, particularly if they were on good terms, because they did not want to be seen as difficult or

demanding which might sour the relationship with their landlord. This was often combined with a sense of acceptance of issues with heating, caused by a belief that not much that could realistically be done to resolve the issue. This finding echoes that of Ambrose et al. (2016), referenced in the Evidence Review, who highlight a similar reluctance on the part of tenants to contact their landlords.

7.3 Sources of information and support

This section answers the research question: "*What do people know/not know about advice services to help address fuel poverty, and what sources of information are currently used?"*

7.3.1 Financial support

Participants mentioned different types of financial support that they had received to help keep their home warm, including the Warm Home Discount Scheme, the Winter Fuel Payment and the Cold Weather Payment. Schemes to help make insulation and other home improvements more affordable were also mentioned, although people did not refer to them by name and there was low awareness of who exactly had funded this assistance.

Among those who received the Warm Home Discount Scheme, this was generally viewed as being very helpful and participants were appreciative of this. In cases like Catherine's, it was essential for participants to get by and they could not imagine being without it:

> *"I couldn't be without it… if I was running a bath every night normally [like I should be] I don't know how I could afford it."*
>
> Catherine, 35+ no children, Social renter, Large urban, FP, EHR

However, there was also a concern raised about the application process for the Warm Home Discount Scheme, since there were cases of participants who, in previous years, had been sent a letter reminding them that they were eligible and informing them of the deadline, but had not received one this year. This had created worry that they had missed out on the chance to receive the payment altogether.

Similarly, the Winter Fuel Payment was typically seen to make a big difference among those who received it. People used it in different ways, with some making sure it was exclusively spent on heating, for example using it to stockpile coal for the Christmas period, whereas others viewed it more as a general contribution to their living costs. However, there was some confusion surrounding the application process, including what time of year to apply and when it would be paid.

Other forms of financial support included loans for home improvements, for example one participant used a boiler scrappage scheme and had an interest-free loan to help them install a new boiler.

7.3.2 Awareness and use of advice services

Awareness of sources of advice and support on home heating was low, including of Home Energy Scotland, the Energy Savings Trust, Energy Action Scotland and local energy advice centres. Awareness of Citizens' Advice Scotland was higher, although participants did not typically associate it with advice on heating or energy costs.

Low levels of awareness of support and advice services were reflected in low levels of use of these services – only a few had made contact with these sources. Those who had contacted support organisations described having used them for personalised support, such as a virtual tour where a Home Energy Scotland advisor talks you through ways to make savings in different areas of your home over the phone. One participant had an advisor from Home Energy Scotland visit their home to assess whether they could install a biomass boiler. Both these examples related to services that could not be easily accessed online.

Participants were more likely to have contacted their energy supplier than any of the independent sources listed above. Most participants had contacted their energy supplier at some point, typically if they had issues with their supply or to query their bills. A similar finding was seen in a study by Ambrose et al (2019) which found that, among hard to reach groups, around half had made contact with energy suppliers while around one in five had contacted an independent advice service.

Rather than using advice services, participants tended to access the information they needed online, or via word of mouth. Examples were given of using Google to find information, comparison sites to find the best tariffs, and online forums and reviews to find trusted suppliers. Word of mouth, particularly via family and friends, was highlighted as a way of hearing about good energy deals or free insulation schemes in their area. For those who did not use the internet, support networks took on even greater importance. For example, one participant who did not use the internet described talking to friends and neighbours about how they paid for their heating and how much was normal to be paying in their area.

Other sources of information included being approached by door to door salespeople, watching television programs or seeing adverts for different suppliers.

7.3.3 Barriers to accessing support and advice

There were three main reasons why participants had not sought support with their heating.

Firstly, also noted in the Evidence Review, participants did not necessarily consider themselves in need of support and advice. This was particularly the case for those who felt their heating systems worked well, their homes were well insulated and they could afford the amount of heating they needed to feel comfortable. Others showed a tendency to downplay and normalise the impacts of fuel poverty, meaning they did not perceive themselves as needing help. There was a perception that their situations were normal or acceptable, or that they were in a better position

than others. Some also felt they would not qualify for financial support, because of their income level or the fact that they were not in receipt of benefits.

Secondly, there were low levels of awareness of what support and advice was available or how to go about accessing it. More specifically, participants described a lack of awareness of impartial sources of information and support, not associated with energy companies. These participants were open to seeking advice on their heating but were concerned about which organisations they could trust.

Thirdly, there was also a degree of scepticism about whether support and advice would have any significant impact on them, unless the cost of fuel was reduced or they received financial support towards paying for their heating.

One participant faced further barriers as a result of a hearing impairment. He struggled to use the phone because of his hearing impairment, which in turn made contacting support organisations a lot more difficult for him.

7.4 Future support needs

When asked about what kind of advice would help them the most, people found it difficult to think of this unprompted, as their starting point was one of low awareness about what support was available or a perception that they did need any help or advice. The few suggestions that were made related to heating systems, specifically how best to use electric storage heaters efficiently, and information on how to budget effectively.

It was suggested that existing support organisations could be made more visible to help raise awareness of their potential benefits, for example by advertising on television or online. It was highlighted that measures such as sending letters to remind people when to apply for the Warm Homes Discount Scheme would also help ensure they could claim the support they were entitled to.

It was also suggested that any communications from Home Energy Scotland or Energy Savings Trust should emphasise their relationship with the Scottish Government, making clear that they are impartial and independent of energy companies. It was felt that the impartial nature of these sources made them appear more trustworthy.

7.5 Summary of differences between groups

7.5.1 Fuel poverty vs extreme fuel poverty

In terms of taking action, there was little variation between those in households categorised as being in fuel poverty and those categorised as in extreme fuel poverty. However, as noted in section 5.4 Summary of differences between groups, there was a higher use of prepayment among those in extreme fuel poverty and high levels of satisfaction with it as a payment method. These participants were

therefore unlikely to switch payment methods, as they associated direct debits with a loss of control over their finances.

7.5.2 Households to which an Enhanced Heating Regime applied

In terms of those in households to whom an EHR applied, participants aged 75 and over were particularly unlikely to have switched suppliers or want to do so. This age group typically felt content with their supplier as they had used them for a very long time and therefore did not see a need to change. They also showed a lack of interest in looking for information online.

7.5.3 Those with high levels of fuel poverty under the new definition

Those on the lowest income were less likely than other participants to have switched suppliers. For those on the lowest incomes, there was a fear that switching suppliers actually posed a financial risk because of a perceived risk of suppliers increasing prices over time.

For social tenants (as with private tenants), barriers to making changes to their heating systems or energy efficiency mainly related to the ability to make decisions about changes to their property, including energy efficiency measures. However, some social renters felt advantaged in relation to the heating systems, as they knew that their landlord would be responsible for covering the cost of fixing or replacing a faulty boiler. There were examples of participants who had already had their boilers replaced or upgraded by their local authority or housing association.

In terms of support and advice, tenants (both private and social) were more likely than owner occupiers to say they would go online for information. This may reflect the fact that younger people are more likely to fall in this category, and this demographic are typically more used to searching for information on the internet.

8. Policy ideas

8.1 Introduction

This chapter covers participants' views on potential policies that the Scottish Government could put in place to improve its advice offer for those in fuel poverty, as well as further suggestions of what types of support would make a difference for them personally.

Participants were asked what they thought of the following four policy ideas:

1. **Support to help people switch to a different energy supplier or switch to paying by direct debit**, to help them reduce their bills. A Home Energy Scotland advisor would talk through the different options, manage the switch and then call back to check how it was going after one year.

4. **Further support for people already receiving help through programmes like Warmer Homes Scotland**, providing more targeted and tailored support such as switching suppliers, advice on using heating efficiently and maintaining good air quality. They would then receive a call back in six months, and another one year later, to check how things are going.

3. **A benefits check referral**, where Home Energy Scotland could refer people to Citizens Advice Scotland or Social Security Scotland so that they can check whether they were eligible for any benefits that they may not know about. This would involve sharing information – passing on personal details between different organisations.

2. **Further support to help make home improvements,** including help with loft clearances, moving furniture or lifting flooring, and other barriers that make it difficult to improve the energy efficiency of people's homes.

In general, all four policies were seen as good ideas, being perceived as potentially helpful sources of support for those who might need it. However, the ideas were not generally seen as relevant or applicable to participants' individual circumstances, and therefore few felt they would have a direct impact on their personal situation.

8.2 Support switching supplier or payment method

Only a few participants felt they would benefit from support switching supplier or payment methods. Most participants felt that if they wanted to switch supplier they would know to do so, either because they had done so before, or because they could ask family or friends to help them. Others were not interested in switching at all because they were happy with their supplier or payment methods. Therefore, this policy idea was not seen as particularly relevant to participants.

As noted in section 7.2 Taking action to improve home heating, there were also mixed views about the benefits of switching, with some feeling there may be hidden charges or that prices would increase over time.

8.3 Further help for those receiving help via Warmer Homes Scotland

Offering further support to those already receiving help via Warmer Homes Scotland was seen as a good idea in principal**,** but again participants generally assumed that they would not personally need this type of support. Even among those who had benefitted from financial support towards energy efficiency improvements in the past, there was not much interest in this policy idea, though they acknowledged that tailored support could be beneficial for others.

Perceived benefits of this approach were similar to those raised in relation to support with switching, for example providing help to people who may not know how to look for it or access it online. Reference was made to elderly people or even some young people benefitting from this, as there was a view that they may be less well informed about these kinds of issues.

No major concerns were voiced, although it was mentioned that it would be important to get consent from people before signing them up to extra support services.

8.4 Referral for a benefits check

No participants said they would use the referral for a benefits check. Several did, however, feel that this could be a good idea for people that were unaware of what benefits they were entitled to. There was a perception that benefits could be overlooked due to lack of awareness, meaning that those eligible for them might miss out:

> *"Nobody will tell you, 'oh, maybe you should apply for this or maybe you should apply for that'. You have to find out that information yourself."*
>
> Darren, 35+ no children, Social renter, Other urban, FP and EHR

> *"I've got a pal that is [in] constant bother, but […] he wouldn't know to get benefits anywhere like that."*
>
> Matt, 35+ no children, Owner occupier, Large urban, FP and EHR

The sharing of personal details between Home Energy Scotland and other organisations such as Citizens Advice Scotland or Social Security Scotland was not viewed as a significant concern, as long as consent was sought in advance and details were exchanged securely.

8.5 Further support to help make home improvements

Support to help make home improvements, including help with loft clearances, moving furniture or lifting flooring, was generally well received. A few participants said that they would make use of this service. Those who were particularly enthusiastic about this tended to have personal experience of the difficulties that come with getting this type of work done. For example, one participant had been putting off getting their boiler replaced because they did not want the hassle and inconvenience of getting the floor taken up:

> *"When they approached me about that, I said that I didn't want a new boiler because all of the upheaval, because I've got a wooden floor in the kitchen, and it's my responsibility then to get the slats uplifted, and I just don't want to be bothered with it."*
>
> Lorraine, 35+ no children, Social renter, Large urban, EFP and EHR

Older people were thought to be likely to benefit from this kind of help, since they would be less physically able and may have less of a support network.

While this idea was generally supported, it was also questioned whether this was an action the Scottish Government needed to take, as companies carrying out insulation work might already take responsibility for moving furniture and other similar tasks.

8.6 Other suggestions for help from the Scottish Government

In terms of other ways the Scottish Government could help, a common theme was a desire for tighter caps on energy prices. Participants felt that fuel prices were continually increasing and this was a common cause of concern. There was also a perception that the energy industry should be encouraged to take greater advantage of Scotland's renewable resources which could lead to savings for customers:

> *"You would have thought with all these solar panels and wind turbines the price of energy would go down instead"*
>
> Dean, 35+ no children, Owner occupier, Large urban, EFP and EHR

Among private tenants, there was a desire for more regulation of private landlords to ensure that they provide decent heating systems, and a desire on the part of social tenants to make housing associations and councils do more in general. There was a view that councils sometimes 'cut corners' when building and maintaining council houses, for example choosing the cheapest appliances to install which are likely to become faulty. This was described as a false economy, due to the cost of repairs, as well as creating hassle for tenants when things break.

Another suggestion was that the Scottish Government could do more to raise awareness of the help and support that is available, for example through advertising online or on television. At the same time, they stressed the importance of making clear that support was offered by the government or a neutral organisation, to reassure people that it was trustworthy.

> *"They need to make these organisations more known about and more available to people, and more aware of the help that's available"*
>
> Sonia, 35+ no children, Owner occupier, Other urban, FP

Finally, there was a belief that more support for those who were on low incomes, but not on benefits, would be helpful. Some participants who were currently in work and struggling financially felt they were worse off than those on benefits, as they received no financial support towards the costs of heating their homes.

> *"Just because somebody is working doesn't mean they can afford everything. Especially families with children and there is only one parent that's working out of the two, it's a lot more difficult. I think the council should think about that as well, help people that need that bit of support."*
>
> Lisa, Family with children 5 and under, Owner occupier, Other urban, EFP and EHR

> *"Because you are not on benefits, you're paying full price for everything […] give the ones that are paying everything a helping hand as well"*
>
> Kimberley, Family with children 5 and under, Social renter, Large urban, FP and EHR

> *"Make support available to more people. So, a higher cut off than just looking at benefits, or no cut off at all. No harm in turning around and saying available to everyone but on a sliding scale, based on income or similar"*
>
> Jenny, Family with children 5 and under, Owner occupier, Other urban, EFP and EHR

8.7 Summary of differences between groups

There were few differences in attitudes towards the policy ideas between different groups. Participants in households categorised as being in fuel poverty and those categorised as being in extreme fuel poverty often took the similar view that while they agreed that these policies should be implemented, they were not necessarily relevant to their situation.

A few of those aged 75 said they would be interested in help to minimise the disruption if they were getting work done. Among families with young children to whom an EHR applied, one person mentioned that the amount of time they spent looking after their children meant they had less time to sort out home improvements so the policy providing support for this would be particularly helpful.

Notably, working families had similar final messages for the Scottish Government: that people in work need more financial support to heat their homes, and that it was not just people on benefits who struggled to keep warm.

9. Conclusions

This concluding chapter revisits the research aims and research questions and reflects on the main findings with respect to each.

9.1 Enhance understanding of how people experience, make sense of, and respond to living in fuel poverty

The **experience** of those living in fuel poverty varied, both in terms of feelings of warmth in the home and attitudes towards paying for fuel. Reflecting the subjective nature of personal warmth, satisfaction with warmth in the home varied from those reporting no issues to those who were struggling to keep their home as warm as they would like. Most felt their heating costs were generally high, but the extent to which this caused concern varied, depending on individual circumstances and levels of financial resilience.

The way people **responded to** living in fuel poverty also varied, but most were generally mindful of the costs of fuel and heated their homes accordingly, while some limited their use of heating. Those living in poorly heated homes used a number of coping strategies to stay warm, including wearing more layers of clothes, blankets or sleeping bags, using hot water bottles, taping over vents, and parents co-sleeping with children. These strategies were not always enough to reach an adequate level of warmth.

Energy bills were often prioritised over other expenses and those struggling financially had made sacrifices including cutting back on food and other household essentials in order to pay for their heating. When faced with household bills they could not afford, those struggling financially had occasionally got into debt by borrowing money or by using their overdrafts.

In term of how participants **made sense of** living in fuel poverty, there was a tendency to downplay or normalise behaviour associated with living in a cold home. However, some participants reported feeling stressed and frustrated at being unable to afford to heat their homes to the temperature they would like. Further, negative impacts of living in underheated homes on physical health and wellbeing also emerged, particularly for those struggling financially.

9.2 Generate learning that can be used to inform the development of the fuel poverty strategy

Many findings from this study echo and reinforce those of previous research into fuel poverty. However, two areas unique to this study that add to the understanding of fuel poverty are in relation to smart meters and the Scottish Government's policy ideas (see 9.6 and 9.8).

This research also highlighted that although all participants were categorised as being in fuel poverty or extreme fuel poverty, most said their fuel bills were expensive but "manageable", meaning they could cover their costs using their own income. A few also said they rarely or never worried about covering their fuel or

other household bills. This highlights that although fuel poverty is correlated with low income, it is not equivalent to income poverty.

This study also provides additional insights into the experience of those living in fuel poverty from a Scottish perspective. In particular it highlights some of the distinct experiences of those living in remote rural locations. All of those using oil and solid fuel as the main heating source were in remote rural locations. Their experiences show that living in these locations meant having limited options available when it came to their source of fuel. Participants felt that this lack of choice resulted in higher prices than might be available for customers on mains gas with multiple supplier options. While only based on a small number of participants in this study, this finding suggests that those in remote rural locations may face specific supply-based challenges when it comes to affordability of heating their home.

A further learning worth highlighting was in relation to EPC ratings. This research suggests that perceptions of how well homes retained heat did not closely mirror EPC rating data gathered from the SHCS. Participants that lived in homes with the lowest EPC rating (bands E, F and G) were all categorised as being in extreme fuel poverty. However, these participants tended to describe the heat retention of their homes as fair or good.

9.3 What is the experience of those to whom the Enhanced Heating Regimes applies and how does this differ from other households in fuel poverty?

Those with chronic health conditions and disabilities often had a greater sensitivity to cold and reliance on heating, making their experience stand out from others. Most of these participants were experiencing negative impacts on their physical and mental health when they could not afford to heat their homes adequately. As limiting their use of heating was often not an option, they had to cut back on other household essentials in order to keep their homes adequately warm.

Those aged 75 and over tended to keep their heating on all day in the winter. While some managed to do this comfortably, those on lower incomes often found it difficult to afford the costs of heating.

Families with children aged 5 or under were sensitive to inadequate heating regimes because of the need to ensure babies and young children were comfortable at specific times. Some experienced stress associated with living in underheated homes and struggling to cover their bills.

9.4 How does the experience of those in fuel poverty and extreme fuel poverty differ?

In terms of levels of warmth and comfort, heating regimes and impacts on health and wellbeing, there were no obvious patterns that showed the lived experience of those in households categories as in fuel poverty differed greatly from those categorised as in extreme fuel poverty.

Both groups also had similar experiences in terms of managing financially. However, the main differences between these groups was that those categorised

as in extreme fuel poverty tended to pay for heating using prepayment or on receipt of bill, rather than direct debit. Those who were categorised as in (not extreme) fuel poverty, on the other hand, were typically using monthly direct debit.

Some of those in the extreme fuel poverty category also had fewer options available to them to make changes to reduce their bills, either because they lived in a property unsuitable for central heating or because decisions were ultimately out of their control (tenants) or the cost of improvements meant they could not afford to have them carried out (owner occupiers).

9.5 What is the experience of groups that have a high level of fuel poverty under the new definition?

Social renters that were unhappy with the heating in their homes attributed this, at least in part, to issues with the property and were frustrated when the property owner had not made the necessary improvements. However, some had already benefitted from improvements such as insulation, double glazing and boiler replacements paid for by their local authority/housing association.

Those on lowest incomes were often limiting heating use and using the most extreme coping strategies (like staying in one room or wearing outdoor clothing inside). In the worst cases they cut back on buying food and other essentials to pay for fuel, and some had to rely on friends and family for food or money for household expenses. Benefits such as the Warm Home Discount Scheme, Winter Fuel Payment and Cold Weather Payment were seen as particularly important for these participants.

Those aged 65 and over that were on a low pension were often struggling to make ends meet and limiting heating. Whether health issues were present and how socially connected people were, were more obvious factors in shaping older people's ability to deal with fuel poverty.

Finally, **those with electricity as their main source of heating** perceived the cost of their heating systems as expensive. They also said electric storage heaters were difficult to adjust and made the air uncomfortably dry. The experiences of **those in the most deprived areas** were not notably different from those of other participants.

9.6 How are smart meters used in fuel poor households, and what is their impact?

Smart meters were used to automatically submit meter readings and In-Home Displays were used to monitor the amount of energy they were using. Participants found In-Home Displays useful in helping visualise how much energy they used and to better understand the amount of energy different appliances used. They were particularly useful when combined with a prepayment meter, providing a quick and convenient way of finding out how much energy credit remained. However, even where In-Home Displays were being used, the extent to which this had contributed to a change in behaviour was limited. Only a few had noticed a reduction in their energy bills as a result of smart meters. There was also some criticism of smart

meters, including problems with their connectivity and accuracy. Among those without a smart meter, concerns were raised about their perceived inaccuracy, as well as data privacy and security.

9.7 What do people know/not know about advice services to help address fuel poverty, and what sources of information are currently used?

Awareness of and use sources of advice and support on home heating was low. Rather than using advice services, participants tended to access the information they needed online, or via word of mouth. Participants also often did not see themselves as needing to seek out support or advice or were cynical about the extent to which they would personally benefit from it.

9.8 What are people's views on policy ideas relating to how Scottish Government would improve its advice offer?

The four suggested policy ideas were met with a fairly lukewarm response. Most did not think they would use or need these types of support.

Only a few participants felt they would benefit from support switching supplier or payment methods. Perceived benefits included the potential for saving money as a result of switching supplier or to direct debit. However, those sceptical about the benefits of switching were less enthusiastic about this policy idea. Offering further support to those already receiving help via Warmer Homes Scotland was seen as a good idea in principal**,** but again participants generally assumed that they would not personally need this type of support.

No participants said they would use the referral to a benefits check. Several did, however, feel that this could be a good idea for vulnerable people who might be missing out on the benefits they were entitled to. Support to help make home improvements was generally well received, and a few participants said that they would make use of this service.

9.9 What are people’s views on how advice services could be improved?

People found it difficult to think of what types of advice and support would help them, as their starting point was one of low awareness about what support was available as well as a perception that they personally did not really need any help. Participants felt that there should be more information disseminated about support organisations and on the Warm Homes Discount Scheme (including when and how to apply). It was also suggested that any communications from Home Energy Scotland or Energy Savings Trust should emphasise their relationship with the Scottish Government and their impartiality.

Appendix A: Sample design

The research sought to include participants with a range of characteristics, as summarised in the table below.

Table A: Sample design

Geography	In fuel poverty	In extreme fuel poverty	In fuel poverty/extreme fuel poverty and EHR	Total
Large urban (category 1)	Household type: - 1-2 x families with children - 1 x young adult households (<35) - 1 x 35+, no children at home Tenure: - 1 x Private renter - 1-2 x Owner occupier - 1 x social renter **Total** = 3-4	Household type: - 1-2 x families with children - 1 x young adult households (<35) - 1 x 35+, no children at home Tenure: - 1 x Private renter - 1-2 x Owner occupier - 1 x social renter **Total** = 3-4	2-3 x >75 2-3 x chronic health condition (May overlap) 2 x children under 5 **Total** = 7 or 8	15
Other urban and non-remote rural (categories 2, 3 and 5)	Household type: - 1 x families with children - 1 x young adult households (<35) - 1 x 35+, no children at home Tenure: - 1 x Private renter - 1 x Owner occupier - 1 x social renter **Total** = 3	Household type: - 1 x families with children - 1 x young adult households (<35) - 1 x 35+, no children at home Tenure: - 1 x Private renter - 1 x Owner occupier - 1 x social renter **Total** = 3	1-2 x >75 1 x chronic health condition (May overlap) 1 x children under 5 **Total** = 3 or 4	10 Aim for 4 with main fuel type other than gas in other urban/non-remote rural overall
Remote rural and remote small towns (categories 4 and 6)	Household type: - 1-2 x families with children - 1 x young adult households (<35) - 1 x 35 Tenure: - 1-2 x Owner occupier - 1 x social renter **Total** = 3-4	Household type: - 1-2 x families with children - 1 x young adult households (<35) - 1 x 35+, no children at home Tenure: - 1-2 x Owner occupier - 1 x social renter **Total** = 3-4	2-3 x >75 2-3 x chronic health condition (May overlap) 2 x children under 5 **Total** = 7 or 8	15 Aim for at least 6 with main fuel type other than gas in remote rural overall
Total	10	10	20	40

Appendix B: Profile of achieved sample

Table B: Location

	Number of participants
Large urban	13
Other urban / non-remote rural	16
Remote rural	11
Total	**40**

Table C: Dwelling type

	Number of participants
Detached house	9
Semi-detached house	6
Terraced house	10
Tenement	7
4 in a block / other flats	8
Total	**40**

Table D: Tenure

	Total
Owner occupier	17
Renting from local authority or housing association	13
Renting from private landlord	10
Total	**40**

Table E: Household composition

	Total
Adults over 35 with no children at home	31
Children aged 6-16 in households	5
Children aged 5 and under household	3
Young adult households (under 35 with no children)	1
Total	**40**

Table F: Main heating type/fuel source

	Number of participants
Gas central heating with radiators	27
Oil central heating with radiators	4
Electric heaters / storage heaters	4
Solid fuel (coal, wood)	3
Under floor heating (wet/electric)	2
Total	**40**

Table G: Age

	Number of participants
20-39	7
40-59	8
60-74	21
75+	4
Total	**40**

Table H: Fuel poverty status

	Number of participants
Fuel poverty (not extreme)	22
Extreme fuel poverty	18
Total	**40**

Table I: Enhanced Heating Regime

	Number of participants
Households where an Enhanced Heating Regime was applicable	27
Households where an Enhanced Heating Regime was not applicable	13
Total	**40**

Table J: Health and disability

	Number of participants
Had a disability or chronic health condition	17
Someone else in the household had a disability or chronic health condition	5

Table K: Ethnicity

	Number of participants
White	38
Black and Minority Ethnic	2
Total	**40**

Appendix C: Recruitment screener

Recruitment Script & Questionnaire
Affordable Heating Project (Scottish Government)

Hello, may I speak with [name of householder]? (Must be the named contact, only).
Good morning/afternoon/evening. It's …… from Ipsos MORI, the independent research organisation. You may remember you took part in the Scottish Household Survey for us a couple of years ago [**if necessary**: The survey asked about things like your house, work and views on a range of different subjects]? At the end of the survey you said that you'd be happy to be contacted again for follow up research.

I'm calling you now to let you know about some new research we are carrying out on behalf of the Scottish Government.

The research is looking at: how people heat their homes and how affordable their energy bills are.

We are interviewing people across Scotland to help the Scottish Government understand the issues people face, and the types of support and advice it might be helpful for them to provide to the public.

The research would involve two stages
- The first would be a short chat with my colleague [**name**] over the phone, which would take around half an hour.
- And that would be followed up about a week later with them visiting / phoning you to do a longer interview that would last no more than 90 minutes

[**Do not suggest home visits to those living in very remote areas, as noted in the sample**].

In between the two interviews we will ask you to keep track of some of your everyday activities, like when you turn on your heating. Everything you say would be kept anonymous. If you are able to take part your views will be used in our report which will help shape Scottish Government policy around housing and heating.
After the main interview you'd get a £35 high street voucher as a thank you.
Is this something you'd be interested in?

No – thank and close
If yes: That's great, thanks. We need to make sure we get a good mix of different people so can I just ask some quick questions to make sure that you are eligible?
- **NB: if their spoken English seems as though it could be a barrier to them taking part – Ask**: If it would be helpful, you can have a friend or relative present to help you answer questions and to translate. Would this be useful? [if so, take details of who could help them]

Q1 Can you please tell me if you still live at [address]?

Yes	**1**	**Continue**
No	**2**	**Thank & Close**

Q2 Are you responsible for paying your heating bills, either yourself or with another household member?

I am responsible for them myself	**1**	**Continue**
I am responsible for them along with another household member	**2**	
I am not responsible	**3**	**Thank & Close**

Q3 Have there been any major changes to your financial situation in the past two years that have made you either better off or worse off than you were?

Yes – better off	**1**	**Thank & Close**
Yes – worse off	**2**	**Continue**
No	**3**	

Q4 Do you own your home, or rent it?

Owned outright	**1**	**Continue to quota**
Buying on mortgage	**2**	
Rent from council	**3**	
Rent from Housing Association/Trust	**4**	
Rent from private landlord	**5**	
Other (**write in**)	**6**	

Q5 Can I ask what your age was at your last birthday?

Exact Age [ ] Code [ ]

16-30 [code as young adult HH if no kids]	**1**	**Continue to quota**
31-45	**2**	
46-55	**3**	
56-65	**4**	
66-75	**5**	
75+	**6**	

Q6 How many adults, aged 16 and over, live in your household?

Write in number [ ] **Continue**

Q7. And do you have any adults over the age of 30 living in your household?

Yes	**1**	**Continue to quota**
No	**2**	

Q8 Do you have any children under 16 living at home?

Yes, I have children currently living at home	**1**	**Continue to quota**
No, I don't have children living at home	**2**	

Ask those who answered yes (code 1) at Q8
Q9 And how old are the children currently living at home?
Write in exact ages

	Continue

Q10 Do you or somebody you live with have a disability or a physical or mental health condition or illness lasting or expected to last 12 months or more?

Yes, I do	**1**	**Continue to quota**
Yes, somebody else at home does	**2**	
No	**3**	
Prefer not to say	**4**	

Q11 Is your home connected to the mains gas supply?

Yes	**1**	**Continue to quota**
No	**2**	
Don't know	**3**	

Q12 What kind of energy do you use to heat your home? (Multicode)

Gas	**1**	**Continue to quota**
Electricity	**2**	
Oil	**3**	
Coal	**4**	
Other (please specify below)	**5**	

If other please specify:

Q13 What forms of heating do you currently use at home? (Multicode)

Electric storage heaters	**1**	**Continue to quota**
Central heating with radiators	**2**	
Warm air central heating	**3**	
Fixed gas fire	**4**	
Portable gas heater or paraffin heater	**5**	
Plug in electric fire or heater	**6**	
Electric panel heating	**7**	
Solid fuel fire/stove	**8**	
Heat pump system	**9**	
Other (Please specify below)	**10**	

If other please specify:

Q14 Do you have an energy use monitoring device, also known as a smart meter, at home?

Yes	**1**	**Continue to quota**
No	**2**	
Don't know	**3**	

Thanks very much, you are exactly the kind of person we are looking for. I just need to check a few final details about the interviews.

Q15 Ideally, we would like to do the main interview in your home, because we are interested in how you heat your home, is this okay with you?

Do not ask this question to people who live in very remote areas who are being offered a telephone interview (as noted in the sample)

Yes	**1**	**Continue**
No	**2**	

If answer is no, please ask where would better and note this down. (e.g. café, community centre – needs to be quiet enough to record)

Q16 Finally, do you have any special requirements we should be aware of, that might affect whether you can take part in this research?

Yes	**1**	**Take details continue**
No	**2**	

If yes probe for details:

Arrange date and time for both interviews – these should be roughly a week (up to 10 days) apart.

Please take down a telephone number to call them on for the interview.

First Interview

Date: _____ Time: _____

Telephone number:

_____

Second Interview

Date: _____ Time: _____

Location: **Home** ☐

Other ☐

Telephone interview ☐

If other, please take down alternative location & address:

_____

_____

If interview is booked far in advance, let the participant know we will call them a couple of days before the interview to confirm everything is still ok to go ahead.

Thanks very much. I now just need to inform you that the researchers use digital recorders to record the conversation. This is just so that they can listen to the discussions again when they are analysing the results. However, I would like to assure you that everything you say will be anonymous and will be treated confidentially. Is that ok?

Yes	**1**	**Continue**
No	**2**	

Could I take an email address to send you a confirmation of the interview date and time?
If yes, take down email address

If no, explain we will send confirmation in the post.

Prefers confirmation by email	**1**
Prefers confirmation by post	**2**

If you would like more information about how we will use and store your data as part of this research, more information can be found in our privacy policy. Would you like me to email you a copy of our privacy policy?

Yes	**1**	**Continue**
No	**2**	

If answer is yes, but participant didn't previously give email address, please note down email address now [this can also be sent by post if requested]

Thank and close.

Appendix D: Discussion guide: first interview

Home Heating Research
Discussion Guide – First Interview

Note to interviewer: we will already know information about the participant from the sample and the recruitment screener- including whether in FP/extreme FP/enhanced, age, disability status, number of adults/children in hh, type of heating used etc - make sure you refer back and familiarise yourself with each participants' circumstances before interview begins, and adapt questions accordingly.

Objectives

Enhance our understanding of participants' home life and their heating regime/set up to inform the focus of the main interview.

Get an initial idea of how satisfied participants are with the effectiveness and cost of using of their heating system.

A key objective is to understand how participants feel about their situation of living in FP/EFP (not just what they do), so allow time for this to be explored at relevant stages.

Introduction (2-3mins)

Aim: Explain the purpose of the research, cover practicalities (recording, reassurances on anonymity etc), answer any questions.

- Introduce self and Ipsos MORI

- Introduce the research: *As my colleague will have explained, this research is looking at how people heat their homes and how affordable their heating bills are. We are an independent research company and we've been asked by the Scottish Government to speak to people across Scotland. We will be producing a report based on our findings which the Scottish Government will use to understand the issues people face, and the types of support and advice it might be helpful for them to provide to the public.*

- Explain that the interview will last around half an hour and will be followed by a second interview in a week's time, after which we will give participant a £35 high street voucher as a thank you for taking part.

- Explain that participation in the research in entirely voluntary and if, at any time, they decide they no longer wish to take part, they can withdraw from the research and have their data deleted.

- Provide reassurances of anonymity and confidentiality. Explain that no identifying information about individuals will be used in the reporting of the research, and that data will be deleted 3 months after the report is published.

- No right or wrong answers, just really keen to hear their views.

- Request permission to record interview.

Living situation (5 mins)

Aim: To build some rapport with participant and re-cap some of the information about their living set-up and financial situation.

- Thanks again for taking part. How are you today?
- What would you normally be doing today if you weren't taking part in this research?

I am going to start with some questions about your living situation and your home and will then come on to questions about how you heat your home later.

I know my colleague asked some questions about your living situation when he called you, so I don't want to repeat those questions again, but there are a couple of things I just want to confirm first to make sure we have got them right. So, to start:

Note: refer back to information collected at recruitment to cross-check. if anything contradicts recruitment details, note down the updated answer:

Q.1 There are [X] people living in your home at the moment, including [X] children, is that correct?

Q2. And you currently [own/rent] your home, is that correct?

Thanks for confirming that. As I explained, this research is about how people heat their homes and how affordable their fuel is. People heat their homes in different ways, and sometimes the way they heat their home and pay for heating is because of the type of building they live in. So before asking about your own heating system, I'd like to check a couple of details about the building first.

Q3. So, what kind of building do you live in? Prompt if necessary: Is it…

A house or bungalow	**1**
A flat, maisonette or apartment (including four-in-a-block or conversion)	**2**
A room or rooms	**3**
Some other kind of accommodation, please specify:	**4**

Ask if property is a house or bungalow (Q3= 1)
Q4. Is it...

Detached	**1**
Semi-detached	**2**
Terraced/end of terrace?	**3**

Ask if flat/mainsonette (Q3 = 2)
Q5. Is it...

Basement/semi basement	**1**
Ground floor/street	**2**
1st floor	**3**
2nd floor	**4**
3rd-4th floor	**5**
5th floor or higher	**6**

Q6. And how many years have you lived there? If not sure, guess is fine

Heating set-up and perceptions of warmth (around 10 mins)

Aim: To get an initial idea of participant's satisfaction with their current heating regime and any issues / problems / concerns with their current set-up.

Thank you for the details you have given so far. I'd now like to focus on the heating in your home.

Q7. First of all, how warm would you say your home overall is on a scale of 1-10, where 1 is uncomfortably cold, 10 is uncomfortably warm, and 5 is "just right"? /10

Probe fully for reasons behind score

- Is this warm enough for you?
- Out of 10, how warm would you **like** your home to be? /10
- You said you would have liked your home to be a **score** out of 10, why did you say that?
- Does the warmth in your home vary at different times of year?
- Do you think other people living in your home rate it differently? And why do you think that is?

Check back details from the recruitment screener on energy source and heating type

Q8. I understand you have [heating type] installed in your home, is that correct?

- Do you use that system? (**Note: we checking here for any difference between the system that is installed and the system they actually use**)
- **If no:** What do you use instead?
- **If yes:** Do you use any other, additional, means of heating you home? For example portable heaters?

Q9. How often do you turn on/use …?
(Note any differences here in patterns between central heating and ad-hoc/portable hearing if relevant)

- Your central heating (**If they have this**)
- Any other forms of heating you use?
- Do you use the heating all day, or at specific times? (**Prompt**: morning and evening / morning only / evening only / only when really cold?)
- Do you usually heat all of the rooms, or just some of them (and which ones?)

Q10. Overall how satisfied, or unsatisfied, are you with the heating system installed in your home?

Very satisfied	**1**
Fairly satisfied	**2**
Neither satisfied nor dissatisfied	**3**
Fairly unsatisfied	**4**
Very unsatisfied	**5**

Probe fully:

- Why do you say that?
- Do you think it works well for your needs, or not?
- Do you think you heating system is adequate?
- In what ways, if any, could it be improved?

Q11. Would you like to use the heating more or less than you do at the moment?

- Why do you say that?
- What, if anything, prevents you from using it more/less than you would like to?

Paying for heating (5 mins)

Aim: To understand how participant pays for heating and their perceptions of this

I'd like to turn now to how you pay for heating. People pay for heating in different ways, and we are interested in finding out a bit more about why people choose to pay the ways they do, and how they feel about that. We will talk about this in more detail when we meet/talk next week, but for now:

Q12. Do you know who your energy supplier is at the moment? (**note name of supplier if they know**)

Q13. And have you always been with them, or have you switched suppliers?

If they switched – Thanks, I'll ask you a bit more about why and how you switched in the next interview.
Note: we will be covering experience of switching in more detail in the main interview, so for now just want to check if they ever have.

Q14. Could you tell me how you pay for your heating at the moment? Ask openly but use prompts below if needed.

If they use both gas and electricity, they may pay differently for these. so ask about each in turn and note whether or not they use the same payment and if not note the difference.

Monthly Direct Debit *(pay a previously agreed amount each month)*	**1**
Variable Monthly Direct Debit *(pay only for what you use each month)*	**2**
Quarterly Direct Debit *(pay your bill every 3 months by bank transfer)*	**3**
Quarterly Cash or Cheque *(pay your bill every 3 months by cash or writing a cheque)*	**4**
Prompt Pay *(pay by cash or cheque and receive a discount for paying within a set amount of days)*	**5**
"Pay As You Go" *(Pay in advance for your energy and top up your meter whenever you need to)*	**6**
Other, please specify:	**7**
Don't know	**8**

Q15. How satisfied, or unsatisfied, are you with the <u>method</u> by which you pay for your heating?

Very satisfied	**1**
Fairly satisfied	**2**
Neither satisfied nor dissatisfied	**3**
Fairly unsatisfied	**4**
Very unsatisfied	**5**

- Why do you say that?
- In what ways, if any, could it be improved?

Q16. And how do you feel about the <u>amount</u> you pay for your heating?

- **Prompt:** Would you describe it as expensive, reasonable, or cheap?

Q17. And generally, how do you feel about the cost of heating your home at the moment?

(**Probe fully and note anything else not already covered above**)

Wrap up & Pre-task (2-3 mins)
Aim: To bring interview to a close, explain pre-task and confirm details for next interview.

That's all the questions I wanted to ask you today, is there anything else you'd like to add that we haven't covered?

I just have a few final things to go over. You might remember from the first phone call, we'd like you to complete a simple heating diary for a few days between now and our next appointment. It will ask you make a note of what time of day you use the heating and how warm your home feels. I can send it to you in the post so it should arrive in the next day or two. It should be quite straightforward to fill out, but if you have any questions please just call me or drop me an email. Does that sound alright? Any questions?

- Thank participant for taking part [**stop recording**]
- Confirm date, time and location of next interview

Date: **Time:**

Location:

- Ask them if they have any questions
- Make sure they have our contact details if they have any questions later on

Appendix E: Heating diary

The details

Please fill this diary out for **three** of the seven days in the week leading up to our discussion. Please complete for **two weekdays** and **one weekend day.** You can fill it out whenever you have time, but we suggest filling it out **later in the day**.

3 simple tasks

1. Please fill in the table with the **type** of heating you use, **when** you use it and **why** you are heating your home at these times.

2. Please rate how warm your home felt **overall** today. Try to fill this one in later on in the day if you can.

3. And please rate how warm you **would have liked** your home to be today.

Top tip

If you are stuck on **what type of heating** you are using, this list might help:

- Electric storage heaters
- Gas central heating with radiators
- Warm air central heating
- Plug in electric fire or heater
- Electric panel heating
- Fixed gas fire
- Portable gas heater or paraffin heater
- Solid fuel fire/stove
- Heat pump system

If you're still not sure, that's fine, just leave the "type of heating" box blank.

Weekday diary (1)

Please write which day of the week: _____

1

Type of heating (if known):	6am-1pm	1pm-4pm	4pm-8pm	8pm-12am	12am-6am	What time of the day was it used? (please mark all that apply)	How long was it used for?	Why was it used at this specific time?
_____								
Type of heating (if known): _____								

(Use this row if you used another type of heating today)

2 Overall, how warm was your home today? ____ /10

(On a scale of 1-10 where 1 = uncomfortably cold, 10 = uncomfortably warm, and 5 = "just right")

3 How warm would you have liked your home to be today? ____ /10

(On a scale of 1-10 where 1 = uncomfortably cold, 10 = uncomfortably warm, and 5 = "just right")

Appendix F: Discussion guide: second interview

Home Heating Research

Draft Discussion Guide – Main Interview

Introduction (2 mins)

Aim: Explain the purpose of the research, cover practicalities (recording, can withdraw at any time, reassurances on anonymity etc), answer any questions.

- Introduce self and Ipsos MORI
- Remind them of the purpose of the research: As we spoke about on the phone, this research is looking at how people heat their homes and how affordable their energy bills are.
- We are interviewing people across Scotland to help the Scottish Government understand the issues people face, and the types of support and advice it might be helpful for them to provide to the public.
- This interview will build on some of the information you gave me when we last spoke. We will be producing a report based on our findings for the Scottish Government.
- Explain that the interview will last 1.5 hours and we will give participant a £35 high street voucher as a thank you for taking part.
- Provide reassurances of anonymity and confidentiality. Explain that no identifying information about individuals will be used in the reporting of the research.
- Explain that participation in the research in entirely voluntary and if, at any time, they decide they no longer wish to take part, they can withdraw from the research and have their data deleted.
- No right or wrong answers, just really keen to hear their views on a range of topics.
- Request permission to record interview.

Note: refer back to relevant information we know from the sample/recruitment stage and the answers from the first interview, so that each discussion is shaped around participants' own circumstances. Some questions may not be necessary depending on how much detail they provided in the first interview, so adapt this guide as needed.

Context (3 mins)

Aim: To get and initial feel for what life is like for participants and re-cap some of the information covered on the phone, set the scene and put them at ease.

- Thanks again for taking part. Just to re-cap what we spoke about on the phone, you've lived here [X] years, you live with [X family members] and you use mainly [appliance] to heat your home – is that right?
- And how have you been since we last spoke?
- Before we talk more about your heating, it would be nice for me to hear a little but more about you if that's okay. So, if you were to sum up what life is like for you at the moment in a few words, how would you describe it? [**Probe:**
    - Is there anything in particular that worries or annoys you at the moment? [**Probe for reasons, note whether bills/money come up spontaneously**]

Heating the home (25mins)

Aim: To understand more about how they heat their home and any issues / problems / concerns with their current set-up. Gauge how much participants think about fuel use, and what is shaping their decisions on how they use their heating.

Perceptions of warmth and comfort

Now turning to your home…

- Firstly, how comfortable you would say you are in your home at the moment? [**Probe**]
    - What do you think of when you think about being comfortable in your home?
    - How much does it matter to you that your home feels comfortable?
- In terms of the warmth of your home, what is a 'comfortable' level of heat or cold for you?
    - Does that change at all e.g. time of day/year or room in house?
- You said when we last spoke that you felt the home was usually [**warm enough/not warm enough/too warm**] – can you tell me a bit more about that?
    - [**If not already covered**]
    - Are there ever times that you feel your home is not warm enough or too warm?

- Can you describe what that is like? [**probe for perceptions of what is warm enough and what is not**]
- How does that affect you or others in your household?

- Is there anything else that makes your home feel comfortable besides the temperature? [**Probe for examples**]

Heating use / regime (including walk around)

- Do you have your diary task to hand? If so, can you talk me through what you noted?
- [**Explore participant's reflections on how they use their heating**]
- [**If not covered already or task not completed, probe for each**:]
- Please can you talk me through
  - What heating appliances you use on a typical day?

(**Distinguish between central heating and ad-hoc/portable heating devices if relevant**)

- When you use your heating / your routine on a normal day?
- When you use your heating more?
- Whether you heat some rooms more / more often than others?
- Whether you change how much you use your heating on different days?
- How you control the temperature / any issues / difficulties

If they have central heating:

- Do you use a timer for your central hearing?
- Do you ever change the programme, and if so how often?
- Do you use a thermostat?

[**If participant or other HH member has disability / long term health condition, fully explore how health needs shape their use of heating and energy**:

- When we first spoke you mentioned you had a disability of health condition expected to last at least 12 months. Does your disability/health condition have an impact on the way you use heat in your home? In what ways? (**Probe on extent of use of heating and patterns of use**) And how do you feel about that?

- And does your disability/health condition have an impact on any other energy you use in your home, for example any electricity? (**Probe for any equipment they rely on and impact on energy use**) And how do you feel about that?

[**Ask participants if they'd be happy to show you their boiler / heaters / controls if they are comfortable with that. emphasise that this is not essential, and keep in mind it may be difficult for those with mobility issues**]

- Would you mind showing me your boiler / heater / heating controls and talking me through how you use them?
- How do you decide when to turn on your heating and how warm it should be? [**Probe for what factors are shaping decision making: – convenience, necessity, tariff structure etc**.]
- [**If not mentioned already**] Do you try to limit how much you use your heating to save on bills? **Probe**:
    - If yes, how big of a problem is this?
    - Is this getting easier or harder to manage? Why?
- What do you do when it gets really cold? (**Prompt if necessary**: Keep the heating on longer / put on extra clothes / go to bed early / go cold)
- Has the way you use your heating changed compared to what you used to do? [**Explore fully and reasons for any changes in appliance, temperature or routine**]

Ventilation and energy efficiency

- Do you dry clothing inside? And does that work okay? [**Fully explore**]
- How do you air your home? [check whether use fans, trickle vents, open windows]
- Have you ever had any issues with condensation, damp or mould, draughts, stuffy / stale air, or pollution from outside e.g. exhaust fumes? How do you deal with that? [**Fully explore**]
- Generally, how good is your home at retaining heat?
    - [**Explore positives / negatives of their home**]
    - Have you done anything to make your home better at retaining heat? [e.g. double glazing, loft insulation, cavity wall insulation]
        - [**If yes**]: Why and what was the effect of making changes?

- [**If no**]: Why not? Would you consider doing this in the future? [**Probe for reasons / barriers**]

Overall issues

- Thinking about what we've discussed so far, is there anything you'd like to change about your heating and the way it works in your home? **Probe:**
    - How about the type of fuel you use?
    - Your heating system/appliances?
    - How well your home retains heat?
    - The way you pay for your heating?
    - [xplore any issues fully inc. impact on all members of the household]

Smart meters (5mins) [only for participants with one]

Aim: Explore how they are using their smart meter; awareness of different ways in which they can/could be used; and perceptions of usefulness/impact.

Turning now to your smart meter….

- Is your smart meter for gas and electricity? [**it could be for both, but need to focus on main heating fuel**]
- Did it come with a device or an app for your phone that shows you how much energy you're using?
    - [**Clarify here because whether they use this is the 'consumption monitoring unit' part of the system and is important in terms of potential benefits**]
- As far as you know, what do you think smart meters are for?
- Can you tell me a bit more about **how** you use your Smart Meter system in relation to your gas / electricity? [**Make sure focus is on main heating fuel**]
    - Why did you decide to get one?
    - How long have you had it?
    - Have you had any issues with it?
    - Did you get any information from your supplier when you got it? [if yes, what?]
    - How often, if at all, do you look at it?
    - What difference does it make to how you manage your energy use?

- Has it changed things for you?
    - [**Probe fully** – have they used the monitoring device / app info and have they adjusted any behaviours off the back of it?]
- Has it helped you to see how much fuel is used by different appliances?

[**Probe**: If they haven't used it that way, why not?]

[**If not covered**] Has it reduced your bills? And if so, by how much?

Household bills and expenses (15mins)

Aim: Explore levels of concerns over bills and energy bills; how they deal with energy bills; and whether they have changed over time. Gauge levels of financial resilience. Understand awareness of / views on payment methods, and possible benefits of changing payment method.

Now, I would like to spend a bit of time talking about your household bills and expenses, including the cost of heating your home.

- Generally, how easy or difficult do you find it to pay your household bills each month?
- Does paying the bills ever worry you? [**Probe fully for reasons why**]
- Are there any bills you often find it hard to pay? **Probe for examples**
    - **If yes**: which bills do you prioritise paying if you feel you can't manage them all?

Now thinking about your fuel bills specifically:

- You currently pay [**By direct debit, on receipt of bills, using prepayment/pas as you go etc – check**] is that correct?
- Why did you choose to pay for your bills in this way? [**Probe fully for reasons and motivations**]

If using a prepayment meter

- Do you buy the same amount every week or do you just wait till it runs out?
- Do you rely on the emergency credit?
- Do you ever run out? How often?
- How long do you go without when it does?
- How do you get it back on?

If using solid fuel:

- How often do you purchase fuel (e.g. bags of coal)?
- Do you buy fuel as you need it, or buy the same amount of fuel each week so that you are stockpiling in the summer to get through the winter?

Ask all:

- How easy or difficult do you find it to afford the cost of heating your home?

If find it easy:

- What do you think makes it easy for you to afford heating costs? Anything else?

If find it difficult:

- Can you tell me a little bit more about that?
- What do you think are the main reasons that you face difficulties in affording to heat your home? (**Probe in relation to cost, wages, energy efficiency**)
- What effect has that had on you/ others in your household?

Probe in relation to:

  - Having to go without heating (lower temperature or less time)
  - Not able to pay bills / debt
  - Having to cut back in other areas
  - Physical impacts / health
  - Emotional / mental impacts
  - Social impacts (e.g. going out more, not having people over)

- Have you done anything about these difficulties?
- If so, what have you done? What sort of difference did this make?

Ask all:

- Are you aware of any ways in which you could pay less for your heating? [**Probe for details**]
- Do you think that you are currently on the best deal with your provider(s) / supplier or do you feel that you are paying too much for fuel? And what makes you say that?

- Have you considered changing the way you pay for your heating? [**Probe for reasons / awareness of potential savings**]

- **All who are not on direct debit**: Do you think that you would save money if you were to pay by direct debit? Why/why not? **If they say yes, ask them explicitly why they don't go on to direct debit.**

- **Scenario 1:** If you were to get an unexpected fuel bill of £50, what would you do?

- **Scenario 2:** If your fuel bill went down by £10 a week, what would you do? What difference would this make to you?

- **Scenario 3:** If your main heating system broke (e.g. your boiler or main heaters), what would you do? [**Probe for impact this would have financially, how they would manage the situation**]

Taking action (15mins)

Aim: Gauge awareness and views on possible actions they could take to tackle home energy issues. Understand barriers to looking into better deals / moving to Direct Debit, improving heating system or energy efficiency etc.

- [**Re-cap on anything they have already mentioned they do to keep the home warm / manage fuel bills**]

- There are a number of actions people might take to find the most suitable way of paying for heating their homes. I am interested in finding out if you have ever taken, or thought about taking, these actions – some may or may not be relevant to you. I'll read out each one and ask you about them, and they are also written on this card. [use **Showcard**]:

    - Changed how I pay for heating fuel (e.g. from pre-payment meter to Direct Debit)

    - Changed supplier

    - Changed tariff / deal with my supplier

    - Had insulation or double glazing fitted to help keep heat in

    - Bought more energy efficient appliances

    - Changed heating system (e.g. from electric to gas boiler)

    - Changed fuel type (e.g. from coal to gas)

    - Got a smart meter

    - Contacted my landlord about my heating or the warmth of my home

- [**For each**]:
    - Have you done or thought about doing this?
    - [**If done it**] Why? Sources of info? What changed / what was the impact?
    - [**If not done it and relevant**] Why not?
    - Would you consider trying this? Why / why not?
    - [**Probe fully for reasons (esp. barriers to making changes / seeking info) and level of appeal of each**]
- Are any of these of particular interest to you? And why?
- Do you think you'll look into this / these?
- How / who would you contact?
- What would make it easier for you to do this / [**Preferred actions**]?

If they have switched suppliers [if not covered already]:

- How many times have you switched suppliers?
- Did you do the switch yourself or did you use an online switching service provider? [**probe for details**]
- Have you ever been forced to switch because a supplier went bust?
- Do they feel your fuel bills were lower as a result or did they go up?

Seeking advice and support (10mins)

Aim: Understand experiences of seeking advice; whether they've already received some help (e.g. through HEEPS); awareness and knowledge of what's available; and confidence seeking help.

Moving on, I would like to talk about some of the advice and support that it available for people that require help to keep their home warm.

- What kind of advice and support do you think is out there generally – to help people keep their homes warm? Where have you heard about this?
- Have you ever received any financial support to help with or paying your bills? For example the Warm Home Discount Scheme? **If yes probe for details.**
- Have you ever received any financial support to help install or replace heating in the home or to provide insulation? **If yes probe for name of the scheme of for details of what it involved**

- [**If yes to either**]: Why did you choose to go down this route?
    - What was the outcome? / was it helpful?
- [IF NOT]. There are different types of financial support available to help people insulate their homes, depending on each individual's circumstances. Would you welcome this type of financial support?
    - **Probe for reasons why/why not**
    - What if this meant you experienced some disruption with work being carried out in your home, would that make a difference to how you feel?
- Apart from anything we have already discussed, have you ever contacted anyone about keeping your home warm or about energy bills? **If yes who did you contact?**
- What about the following sources of information? [**Show sortcards**] Have you made use of any of these? [if not mentioned yet]:
    - Home Energy Scotland
    - Energy Savings Trust
    - Local energy advice centre
    - Energy Action Scotland
    - Citizens Advice
    - Your fuel supplier (e.g. Scottish Power)
    - Family or friends
    - Your landlord or housing association (if renting)
    - Another source not listed here
- [**If they have sought advice**]: Why did you choose to go down this route?
    - What was the outcome? / was it helpful?
    - Is there a way this advice service could be improved?
- [**If they haven't sought advice**]: Why do you think you've never looked for this kind of advice? [**Probe to understand any barriers**]
- If you needed support or advice in future about heating your home, what kind of advice or support would be the most helpful to you? **Probe**
    - Advice/ guidance on finding the best deal or on changing providers

    - Advice/ guidance on budgeting
    - Advice/ guidance on using heating efficiently
    - Advice/ guidance on accessing financial support
    - Advice/ guidance on accessing technical support
    - Any other types?

- And who would you be most likely to contact for that support or advice? [**Ask to sort cards – according to which they might use the most for information and support in the future**]
    - Can you tell me why you're more likely to use these? [**Probe**]
    - And least likely to use these? [probe for reasons and levels of trust]

Policy ideas (15mins)

Aim: Test reactions to policy ideas; explore participants views on what would make the biggest difference to them.

In this final section, I'd like to ask for you views on some ideas which the Scottish Government are thinking about doing to make sure everyone in Scotland is able to keep their homes as warm as they need to in Winter.

- **Use sortcards to present c.4 policy ideas [read each in full and then provide as prompt**]

1. Switching services
2. Further support for people already receiving help through programmes likes Warmer Homes Scotland
3. Benefits check
4. Further support to help make improvements to your home

For each:

- Please can you take a look at each and tell me how helpful you would find that? [probe for reasons]
    - Perceived pros and cons
- Can you arrange of them in order of preference?
- Which one would make the biggest difference to you?
- What else do you think the Scottish Government could do to help people?

- Finally, if you had one message for the Scottish Government about home energy, what would it be?

Thank you very much for taking part.

- Would you like to receive a summary of the findings from this research project? [to be posted out in Spring 2020]
- And would you be interested in taking part in any similar research projects in the future? [explain, this is not a commitment to do so, but if they opt in they may be contacted about taking part in other projects]
- [**provide incentive and home energy scotland leaflet**]
- We can pass on your details to Home Energy Scotland if you would like them to call you back?
- Would that be of interest?
- **If yes, read full statement**:

If you would like us to, we can pass your information to Home Energy Scotland, who will contact you to provide energy advice.

They are able to advise on saving energy, reducing bills and keeping warm, and whether you may be eligible for any extra support.

This will include a Home Energy Check, and may include an assessment for financial help to make energy-saving improvements to the home.

If Home Energy Scotland is not able to make contact by phone after 3 attempts, an email or letter will be sent to you instead.

[NB: the Home Energy Check is usually done over the phone – a series of questions designed to how people can save energy and reduce bills]

Are you happy for us to pass on your name and contact details?	**Y/N**
And would you like us to pass them a few notes about the main issues you are having?	**if yes, sum up issues**
Preferred method of contact?	**email, phone or letter**

Best time to call?	
Would you like the caller to use a memorable word or phrase when they contact you?	**Word**:
Any special communication needs?	

[**stop recording**]

Thank and close

Appendix G: Methodological learnings

Reflections from the research team

The research team at Ipsos MORI identified a number of lessons from this study that could be applied to future research:

1. **The SHS recontact database is an effective source for identifying participants living in households categorised as being in fuel poverty**. It is the only source of contacts for which the fuel poverty estimates have already been carried out, therefore by using this sample source we knew that everyone we contacted had already been categorised as living in fuel poverty. If using other methods such as face-to-face free find recruitment, from research panels, or via gatekeeper organisations, we would not know if potential participants fitted the fuel poverty definition. The SHS database also allowed us to effectively target different groups to match the groups we wanted to include in the research (e.g. those categorised as in extreme fuel poverty, those with long term health conditions, those with children aged 5 and under, etc.)

2. While the SHS was an ideal sample source, time had passed between participants taking part in the SHCS and taking part in this research. This therefore presented the risk that their situations may have changed, meaning they may no longer have been in fuel poverty. At recruitment stage it was therefore **important to clarify if their circumstances had changed significantly since they took part in the SHS.** If they told us they were better off since they took part in the SHS, they were screened out and not asked to participate.

3. **In designing the research materials, it was helpful to refer to previous research** (as outlined in the Evidence Review) to identify the types of topics that we would want to cover in these interviews, including those where there was an evidence gap (e.g. in relation to use of smart meter and in relation to policy ideas).

4. **Conducting the interviews over two stages was helpful for this type of lived experience research**. The first interview helped to establish a rapport with participants, which was particularly important as we were asking them to discuss relatively sensitive topics such as their financial circumstances, their health, and how these made them feel. It also helped to shape the focus the content of the second interviews, where we could pick up on points raised in the first interview.

5. **The use of a heating diary did not provide the level of detail we expected it would.** Not all participants completed the diary (mainly because they simply forgot to) and several of those that did provided the same information for each day in the diary (e.g. the content of each day simply said that the heating was on all day, and that they felt comfortable). While it helped provide a stimulus for some of the discussions around heating patterns, it did not necessarily add much to the findings. More in-depth and engaging methods, such as mobile app diaries which ask participants to upload content daily including photo and video content, may have provided richer findings.

6. **We had a research team of four, which felt the right size.** With 40 interviews being completed, having four team members meant that interviews could be shared in a way that did not overly burden any member of the team, but also meant that the findings were not influenced by the perspective of one or two researchers.

Appendix H: List of acronyms

COPD	Chronic Obstructive Pulmonary Disease
EFP	Extreme Fuel Poverty
EHR	Enhanced Heating Regime
EPC	Energy Performance Certificate
FP	Fuel Poverty
HEEPS	Home Energy Efficiency Programmes for Scotland
RAG	Research Advisory Group
SAP	Standard Assessment Procedure
SIMD	Scottish Index of Multiple Deprivation
SHCS	Scottish House Condition Survey
SHS	Scottish Household Survey

social research

The views expressed in this report are those of the researcher and do not necessarily represent those of the Scottish Government or Scottish Ministers.

This document is also available from our website at www.gov.scot.
ISBN: 978-1-83960-790-5

The Scottish Government
St Andrew's House
Edinburgh
EH1 3DG

Produced for
the Scottish Government
by APS Group Scotland
PPDAS753046 (09/20)
Published by
the Scottish Government,
September 2020

GSR
GOVERNMENT SOCIAL RESEARCH
Social Science in Government

Social Research series
ISSN 2045-6964
ISBN 978-1-83960-790-5

Web Publication
www.gov.scot/socialresearch

PPDAS753046 (09/20)