

Down to the Wire

Research into support and advice services for households in Scotland reliant on electric heating

Report for the Consumer Futures Unit, Citizens Advice Scotland

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Executive Summary

In a recent summary of case evidence from across the Citizens Advice network in Scotland 2016-17, issues directly related to regulated electricity supply featured most prominently. Through a review of existing evidence and in consultation with users of electric heating who contributed over four deliberative workshops held across Scotland, a compelling picture of the lived experience of householders reliant on using electricity for heating has emerged. This report expands on the particular issues related to the support and advice service needs of these households in Scotland.

Wider policies and strategies that specifically target homes with electric heating will often generalise about the experiences and realities for those households. Evidence shows that attempts to classify and describe the issues relating to electric heating will tend to overshadow and seek to normalise these as a 'hard to treat' scenario, mitigating the urgency of the individual's concerns. This approach to labelling is perhaps a necessity for remote advice service provision where the management of large volumes of queries exists across a range of different advisors.

Services that target support and advice to electrically heated homes tend to do so as part of a wider and more general approach to energy advice. Those agencies serving more rural and off-gas locations will, by necessity, have a greater experience of the issues relating to electric heating, and so will have a greater level of expert help available. Methods to communicate advice on using appliances, heating controls and the electricity supply market can be provided online, in written form, verbally over the phone and, in some cases, from a face-to-face meeting or support visit. Those consumers that had accessed advice from a range of methods reported inconsistencies in the messages being promoted, and in some cases contradictory views, particularly in relation to the operation of certain electricity tariff products.

Agencies providing a face-to-face in-home advice service report that the complexity of issues experienced by consumers reliant on electricity for heating are such that they could only be resolved with this type of intervention or advocacy. This reinforces the view that the resolution of complex issues of this nature is likely to be unsatisfactory where consumers are expected to tackle retail market systems or understand complex engineering solutions to the efficient provision of affordable heat. Certain consumer vulnerabilities can make this activity practically impossible.

Industry innovation in the electric heating market exists on many levels, from advancements in product design and demand side system engineering to time of use tariffs encouraging consumption in low demand periods. In addition to this, market interventions from regulation have sought to improve the position of competitiveness and reduce apparent inequalities for consumers reliant on electric heating. The focus for this has been more about ensuring market equity across suppliers, and it is apparent that there is a great deal of concern over the removal of barriers to ensure that vulnerable consumers have access to and are treated with fairness.

The Scottish Energy Strategy describes a future where decarbonised grid supplied electricity will become more relied upon in Scotland to provide energy for space and water heating. This research provides an insight into the existing challenges needing addressed to avoid compounding consumer experiences and achieve the strategic outcome of 'Consumer Engagement and Protection' in this market, as Scotland moves forward to a low carbon future.

Key Findings

- The energy advice and support needs of fuel poor and otherwise vulnerable households are most effectively delivered face-to-face and in-home by 'trusted intermediaries' operating from services with strong local and social recognition. The complex and rapid changing domestic retail market for electrical energy, from tariff products to the impact of regulation makes this method of engagement critical to positive outcome for consumers.
- Where dispute resolution or advocacy is required, there are long waiting times to obtain help, and in many cases, this is adding to the disengagement with the market and general feelings of distrust and despondency. Whilst this is not necessarily just an issue for electric heating, the complexity of the electricity supply industry in Scotland means that there are very particular problems that are unique to this energy market.
- Different messages are coming to consumers from support agencies, energy suppliers, installers of energy efficient measures, and governments; making the advice around electricity use and the wider issues of saving energy at home confusing. Delivery of effective advice in this area needs to be consistent across all agencies - a common message but with a local context.
- The current tariff market is creating disengagement amongst householders, particularly those on dual electric meters where the tariffs being promoted are not always the most appropriate for them.
- Innovations in off-peak tariffs and electric heating and storage are out-pacing legislative and regulatory change. The current regulatory environment, the treatment of electric heating by energy labelling schemes and domestic energy models such as Standard Assessment Procedure (SAP), and the advice being provided to households with electric heating systems is outdated.
- The current remedies to inequalities and fairness in the energy markets concentrate on a form of individual price control applied to a consensus around vulnerabilities. These safeguard tariffs or 'price caps' will impact on households on pre-payment meters and those currently eligible for the Warm Home Discount. Progress in untangling the complexity of the electricity retail market appears so far to have focused on so the called 'restricted meters'. The implementation of remedies in this area has generated significant confusion and this is unduly impacting on Scottish consumers.

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Document History

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1. Introduction

In October 2017 the Consumer Futures Unit at Citizens Advice Scotland commissioned Energy Action Scotland, Glasgow Caledonian University, and independent consultant Dr Fraser Stewart to conduct a research project on the support and advice service needs of households in Scotland reliant on electric heating. The aims of this research were to understand how existing services meet the needs of this group, and identify any gaps in provision. In doing so the project also sought to gather further information on the issues faced by consumers through engagement with these organisations and their clients.

The objectives of the project were to:

1. Review the available existing support that includes tailored support specifically for consumers who rely on electric heating in Scotland, and identify any gaps in provision, including gathering information on:
 - The types of issues encountered by the clients who use the service.
 - The demographic characteristics of clients using the service.
 - The types of support that they are able to provide, including the limitations of services.
2. Assess the starting points, activities and impacts of different interventions to identify effective models for holistic support for electric heating consumers.
3. Make recommendations as to how and where services could be developed, expanded or altered.

The objectives were met through feedback from a systematic review of academic and 'grey' literature [Section 2](#). To provide further context to the findings, a short snapshot study of the perspectives of the energy industry was conducted by interviewing representatives of four key stakeholder companies [Section 3](#). These insights contributed to the development of a series of 4 half-day deliberative workshops held across communities in Scotland over November 2017 see [Appendix D](#). The workshops were hosted and delivered in partnership with key community based support organisations in association with: Renfrewshire Council, Linstone Housing Association, ALLenergy, Kyle of Sutherland Development Trust, and Tighean Innse Gall. The findings from this research can be found in [Section 5](#), our conclusions in [Section 6](#), and our recommendations in [Section 7](#).

Following early findings from the literature review, the research team agreed that additional supporting evidence was necessary from two key areas: the accessibility to information and support for electric heating across Scotland's minority communities and; a deeper understanding of the very strong negative issues associated with living with electric heating, i.e. the lived experience. There were concerns that users of electric heating may be completely disengaged with actively seeking support for their heating systems, and therefore may not be aware of the assistance available, regardless of its effectiveness.

The Project Team wish to thank all those who gave us their time to support and participate in this research, see [Acknowledgements](#).

2. Literature Review

2.1 Introduction

In 2014, 845,000 homes in Scotland were technically fuel poor¹, constituting over one third of Scotland's households, with levels of fuel poverty amongst elderly householders at 69% in Western Isles (Na h-Eileanan Siar)². Since then, fuel poverty in Scotland has declined by 8.4% to 649,000³. The reasons for this have mostly been attributed to the modest drops year on year in energy prices between 2014 and 2016 (2.3 and 2.7 percentage points respectively). On 15 September 2017, British Gas (BG) was the last of the 'big six' energy suppliers to increase their energy prices, reversing the small gain that benefitted Scottish consumers since the high point in 2014 and in particular, increasing the costs of electricity for BG consumers by 12.5% and further disadvantaging their significant customer base reliant on electricity to heat their homes.

Fuel poverty is itself the result of a complex interplay of many factors, from the condition and quality of the buildings that we live in to the ways we use energy in our homes. Whether economically active or inactive, our ability to afford even a basic modern standard of living and mitigate the impacts of these physical and behavioural factors can become an overwhelming component of the fuel poverty condition. Therefore, a key aim of this project was to provide new evidence on the particular vulnerabilities to the energy market faced by consumers reliant on achieving affordable warmth with electric heating appliances.

This literature review was designed to capture the available evidence on the support needs of householders with electric heating systems, with a particular focus on the needs of the fuel poor, vulnerable, and 'hard to reach'. However, as would be expected, much of the available evidence on designing and delivering support services relates to energy more generally, and other essential household needs. Notes on the approach to the literature review and the full bibliography is included in [Appendix A](#).

2.2 Summary of key learning points

The key learning points that emerged from the literature review are as follows:

- The Scottish Government's proposal not to include an adjustment for rural and island households in the new definition of fuel poverty is likely to disproportionately disadvantage a significant number of households using electric heating, and those who will need to be supported to replace solid fuel and LPG heating with electric systems, see [Section 2.3](#)
- There is a danger in assuming policies successfully implemented in countries such as Denmark and Germany can simply be transferred into Scottish policy to achieve the same benefits, see [Section 2.4](#)
- There is a significant differential in costs related to space heating where Scottish consumers are reliant on electricity over any other fuel type, see [Section 2.5](#)

¹ Scottish Government, 2016. Scottish House Condition Survey 2015: Key Findings.

² <http://www.gov.scot/Topics/Statistics/SHCS/keyanalyses/LAtables1315FP>

³ <http://www.gov.scot/Publications/2017/12/5401>

- Encouraging householders to switch tariff or supplier is a short-term solution however, through effective engagement with householders switching campaigns may have benefits for identifying and delivering more appropriate individualised support to householders, see [Section 2.6](#).
- The provision of energy advice by phone (and online), has been found to present substantial barriers to successfully engaging 'hard to reach' clients, see [Section 2.7](#) and [Section 2.10](#).
- The term 'hard to reach' is unhelpful and, along with the use of archetypes in policy making, is an example of how verbal overshadowing can limit our understanding of complex problems, see [Section 2.8](#)
- The use of blunt thresholds and assumptions for apportioning support to fuel poor and otherwise vulnerable householders present further barriers to supporting clients, see [Section 2.9](#).
- There is a growing body of evidence on effective approaches to reaching 'hard to reach' householders, suggesting the emergence of the term is a tacit admission of policy failures, see [Section 2.10](#).
- The use of 'trusted intermediaries', specifically suitably qualified staff providing face-to-face and in-home advice, working for community-based organisations and living in those communities, is essential in overcoming barriers to engaging and supporting 'hard to reach' householders, see [Section 2.11](#).
- Evidence from successful projects emphasises the benefits of such personalised, face-to-face, community-based support delivered by long-established services with strong local recognition. For example, by being able to overcome the 'presentation problem' and by employing opportunistic approaches to engagement, see [Section 2.12](#).

2.3 The current policy landscape

The Scottish Government's efforts to tackle both energy efficiency and fuel poverty are currently administered through the Home Energy Efficiency Programmes for Scotland⁴ an umbrella programme that delivers advice and support through a combination of national and locally-based schemes, in partnership with public, private and third sector organisations. The cornerstone of HEEPS is the national Home Energy Scotland (HES) telephone helpline and website, which is intended to deliver all these schemes and services under a unified brand⁵ Going forward from 2018, activity in this area will be co-ordinated through a national infrastructure programme called Scotland's Energy Efficiency Programme (SEEP)⁶.

⁴ <https://beta.gov.scot/policies/home-energy-and-fuel-poverty/energy-saving-home-improvements/> [last accessed 04/10/17]

⁵ EST, 2017. Home Energy Scotland. Energy Saving Trust. Available at: <http://www.energysavingtrust.org.uk/scotland/home-energy-scotland> [last accessed 20/11/2017]

⁶ Scottish Government, 2016. Scotland's Energy Efficiency Programme. Available at: <http://www.gov.scot/Topics/Business-Industry/Energy/Action/lowcarbon/LCITP/SEEP> [last accessed 12/10/17]

The Scottish Government conducted a consultation on SEEP in 2017 and the responses will inform the development of the Warm Homes Bill due to go before Parliament in 2018⁷. As part of developing SEEP the Scottish Government provided over £9 million in pathfinder funding for eleven pilot projects targeted at fuel poor areas of the country⁸. Within the Phase 1 pilots, there was little activity that specifically targeted households reliant on electric heating.

The Scottish Government is also in the process of revising the definition of fuel poverty, following the commissioning of a review by an academic panel⁹ and a consultation which closed on 1 February 2018¹⁰.

The development of SEEP also forms part of the Scottish Energy Strategy¹¹ and is proceeding in parallel with the development of the Local Heat and Energy Efficiency Strategies (LHEES)¹². These strategies will also need to become contiguous with a range of related legislation including the Scottish Building Standards¹³, the Scottish Housing Quality Standard (SHQS)¹⁴ and the Energy Efficiency Standard for Social Housing (ESSH)¹⁵ recently updated to allow for the inclusion of new technologies not currently able to be modelled using the Standard Assessment Procedure¹⁶.

As regards these policies we note the omission of the academic panel's recommendation to include an adjustment in the proposed fuel poverty definition for households in rural and island areas. This is likely to disproportionately disadvantage a significant number of households using electric heating, and those who will need to be supported to replace solid fuel and LPG heating with electric systems as part of meeting Scotland's emissions reduction targets. Previous research using actual recorded energy expenditure data has shown that not only are the real costs for these households higher than the modelled costs predict, but also that the distributions of household energy expenditure in rural and island

⁷ Scottish Government, 2017. Scotland's Energy Efficiency Programme (SEEP). Available at: <http://www.gov.scot/Topics/Business-Industry/Energy/SEEP> [last accessed 17/01/18]

⁸ Scottish Government, 2016. Action on fuel poverty. Available at: <https://news.gov.scot/news/action-on-fuel-poverty> [last accessed 17/01/18]

⁹ Bramley, G., Fitzpatrick, S., Liddell, C., & Webb, J., 2017. A new definition of fuel poverty in Scotland: A review of recent evidence. Report for the Scottish Government. Available at: <http://www.gov.scot/Publications/2017/11/7715> [last accessed 17/01/18]

¹⁰ Scottish Government, 2017. Fuel Poverty Strategy Consultation. Available at: <https://consult.gov.scot/better-homes-division/fuel-poverty/> [last accessed 17/01/18]

¹¹ Scottish Government, 2017. Scottish Energy Strategy: The Future of Energy in Scotland. Scottish Government publication. Available at: <http://www.gov.scot/Publications/2017/12/5661> [last accessed 15/01/18]

¹² Scottish Government, 2017. Scotland's Energy Efficiency Programme: Second Consultation on Local Heat & Energy Efficiency Strategies, and Regulation of District and Communal Heating. Available at: <http://www.gov.scot/Publications/2017/11/6232> [last accessed 17/01/18]

¹³ Scottish Government, 2017. Building Standards technical handbook 2017: domestic. Available at: <https://beta.gov.scot/publications/building-standards-technical-handbook-2017-domestic/> [last accessed 17/01/18]

¹⁴ Scottish Government, 2018. Social Housing. Available at: <https://beta.gov.scot/policies/social-housing/improving-standards/> [last accessed 17/01/18]

¹⁵ Scottish Government, 2014. The Energy Efficiency Standard for Social Housing (ESSH) - Background and guidance for social landlords. Available at: <http://www.gov.scot/Publications/2014/03/3154> [last accessed 17/01/18]

¹⁶ <http://www.gov.scot/Publications/2017/12/2678> [last accessed 24/01/18]

areas are significantly different than for households in urban areas^{17,18,19}. An argument to incorporate real data²⁰ to underpin policy development was another finding made by the same academic panel, but this point has not been specifically incorporated within the new fuel poverty definition.

At a UK level, Ofgem has designated 'non-gas households' as one of its three priority areas for its Consumer Vulnerability Strategy²¹ and that the 2016 energy market investigation by the Competition and Markets Authority (CMA)²² proposes the introduction of locational adjustments for transmission losses to tackle a perceived 'adverse effect on competition' (AEC)²³. However, as these largely target supply-side issues, they add further weight to our view that a Scotland-specific strategy is needed in order to better reflect real (as opposed to modelled) off-gas energy costs, and the logistics of delivering household interventions and support to isolated off-gas rural and island communities.

A parallel issue is the methodology²⁴ employed by the Scottish House Condition Survey to estimate the cost of electrical energy. This recognises pre-payment meter (PPM) costs for electrical energy as different from other payment methods (credit and direct debit) however, the price applied in the current fuel poverty modelling for Scotland's households not using a PPM is a weighted average between credit and direct debit methods. Ofgem currently reports²⁵ that the range between standard variable tariffs and the best direct debit rates results in average bills of £1,135 and £827 per annum respectively.

The following data on the Scottish market for electricity was requested from Ofgem (Ref: FOI-19-2018):

'Ofgem produces many Retail Market Indicators for the GB market, my query is around whether it is possible to provide this data for the Scottish market alone?'

- *Electricity supply market shares by company: Domestic (GB) –*
- *Number of domestic customers switching supplier by fuel type (GB)*

¹⁷ Mould, R., & Baker, K.J., 2017. Uncovering hidden geographies and socio-economic influences on fuel poverty using household fuel spend data: A meso-scale study in Scotland. *Indoor and Built Environment*, 0 (0), 1-23, DOI: 10.1177/1420326X17707326.

¹⁸ Baker, K.J., Mould, R., & Restrict, S., 2016. *Proiseact Spéird – The Spéird Project: Understanding influences on fuel poverty in rural and island Scotland*. Final report for the Eaga Charitable Trust, November 2016. Available at: <https://www.eagacharitabletrust.org/the-speird-project/> [last accessed 05/11/17]

¹⁹ Mould, R., Baker, K.J., & Emmanuel, R., 2014. Behind the Definition of Fuel Poverty: Understanding differences between the Fuel Spend of Rural and Urban Homes. *Queens Political Review*, Vol. II, 2014, Issue 2, pp. 7-24.

²⁰ <https://www.gov.uk/government/statistics/postcode-level-electricity-estimates-2015-experimental> [last accessed 24/01/18]

²¹ Ofgem, 2018. *Consumer Vulnerability Strategy Progress Report*. Office of Gas and Electricity Markets, UK. Available at: <https://www.ofgem.gov.uk/publications-and-updates/consumer-vulnerability-strategy-progress-report> [last accessed 17/01/18]

²² CMA, 2016. *Energy market Investigation: Final Report*. Competition and Markets Authority, UK. Available at: <https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf> [last accessed 17/01/18]

²³ Ofgem, 2016. *CMA Remedies Implementation Plan*. Office of Gas and Electricity Markets, UK. Available at: <https://www.ofgem.gov.uk/publications-and-updates/cma-remedies-implementation-plan> [last accessed 17/01/18]

²⁴ <http://www.gov.scot/Resource/0052/00529706.pdf> [last accessed 24/01/18]

²⁵ <https://www.ofgem.gov.uk/publications-and-updates/infographic-bills-prices-and-profits> [last accessed 24/01/18]

- *Energy customers satisfied or very satisfied with their supplier's services (GB)*

Can this be output for Scotland only?

The research team received the following response from the Consumer Contacts and Information Rights service within Ofgem:

“Unfortunately we are unable to provide the market shares and the net gains for medium suppliers for Scotland as this is covered by s.105, it is commercially sensitive data. That data is supplied to us as part of our regulatory duties and is therefore protected by section 105 of the Utilities Act.”

The switching data whilst interesting added little to the understanding of the electricity market in the Scottish context.

2.4 International comparators

Denmark, often cited as an example of a country whose energy policies Scotland should seek to emulate, pursued a policy of leveraging households to convert to electric heating in the mid-1990s. This energy transition was enabled through a mix of regulation, public engagement, and technical and behavioural support for households switching to electric heating. Lund (1999) notes that one key factor in this successful transition were a letter sent to households without access to gas or district heating networks to explain why the government wanted this policy, and to inform them of their options for replacing their existing heating systems and the availability of subsidies for new systems. Another key factor was the use of a network of sixteen regional advice offices which typically provided access to local tradespersons able to install renewable electricity systems²⁶.

However, whilst the experiences of countries such as Denmark and Germany in managing extensive energy transitions provide useful evidence on the effectiveness of the policies that have leveraged them, there is a danger in assuming they can simply be replicated in Scotland to achieve the same results. The reasons for this, which include long term political leadership, public education, and driving attitudinal change, are covered in a prescient paper in Nature Outlook²⁷.

Furthermore, whereas the Danish programme focussed specifically on a concentrated programme of converting households to electric heating to be supplied largely from large scale renewables, the ‘Scottish solution’ being envisaged under current policies will necessarily need to consider more diverse supply options such as incorporating electricity supplies from local co-generation plants and using solar PV to power secondary heating for households connected to district heating systems. The former is the subject of a SEEP pilot project using a nursing home on Shetland, whilst the 60 MWe co-generation plant at the Tullis Russel paper mill in Fife which exports excess electricity to the grid is cited as an example in a 2014 report by the International Energy Agency²⁸. The report also notes solar thermal as another solution, and serves as a reminder that in future the need for cooling will become an increasing source of electricity demand.

²⁶ Lund, H., 1999. Implementation of energy-conservation policies: the case of electric heating conversion in Denmark. *Applied Energy*, Vol. 64, Issues 1–4, 1 September 1999, pp. 117-127.

²⁷ Morris, C., & Jungjohann, A., 2017. Energize the people to effect policy change. *Nature*, 29th November 2017.

²⁸ International Energy Agency, 2014. *Linking Heat and Electricity Systems*.

2.5 Electric Heating in Scotland

The latest Scottish House Condition Survey (SHCS 2016) reports that winter heating satisfaction amongst households reliant on electricity to heat their homes differs significantly from those using gas or other fuels (see Figure 1). 33% reported a dissatisfaction with electric heating, with a significant 11% stating that their system never keeps them warm in the winter. This is a slight improvement on the levels of satisfaction for electric systems in the SHCS 2015: Key Findings report which stated 39% overall dissatisfaction and 13% never experiencing satisfaction with heating.

There is no strong evidence within the SHCS data set to determine an understanding of 'dissatisfaction' – the heating could be considered too expensive or the heating appliances could be insufficient to achieve adequate warmth. These two factors can be related, and the twin themes of energy cost and appliance complexity were two themes taken into the workshops sessions for deliberation. Is electric heating complex because of a lack of understanding in appliances operation and/or the confusing landscape of the retail energy market for electricity tariffs?

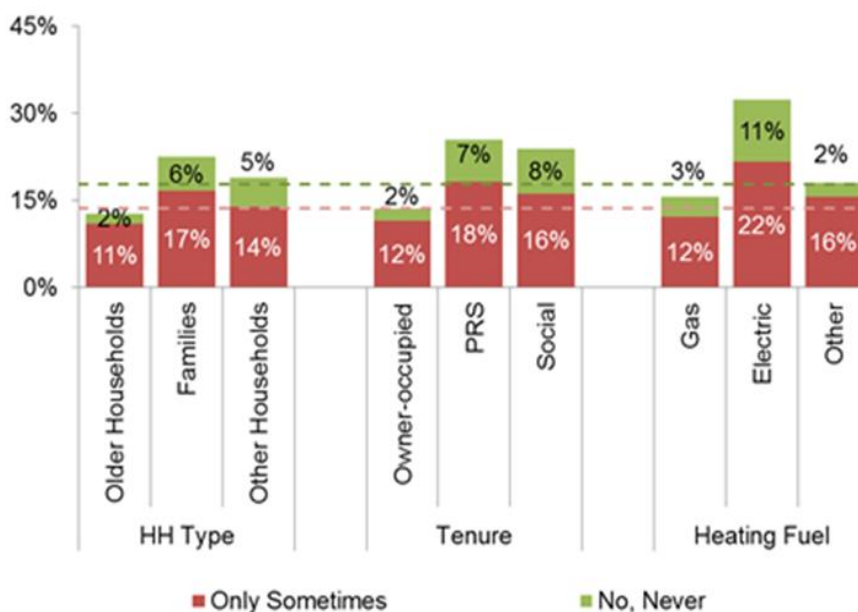


Figure 1 - "Does Your Heating Keep You Warm Enough in the Winter?"²⁹

Unpublished EAS research into the SHCS 2015 focussed the cost relationship with energy end use in the home across different main fuel types, paragraph 141³⁰ in the SHCS 2015 shows the end use distribution of energy in a typical Scottish home. To expand our understanding of this, EAS requested further analysis from Scottish Government's Communities Analytical Services to produce the same end use distribution for energy cost rather than for energy in kWh.

²⁹ Scottish Government, 2017. Scottish House Condition Survey 2016: Key Findings.

³⁰ BEIS, 2016. Domestic energy bills in 2016: The impact of variable consumption.

Table 1 - Average cost of space heating in Scotland

Main heating fuel	% of Annual energy cost
Electricity	65%
Mains gas	52%
All fuels	55%

Source: SHCS³¹

The results of the EAS research show a significant differential in costs related to space heating where consumers were reliant on electricity over any other fuel type. Further, there were some concerns raised over the reliance on and robustness of GB fuel cost data to inform Scottish policy when comparing the results of this research with the data presented in the UK Government's review, Energy Trends: March 2017³². Average costs for dual fuel consumers in 2015 were £1,172, which compares poorly with the Scottish average for a mains gas heated home of £1,600. The costs for all electric homes were significantly higher.

Furthermore, whilst the SHCS figures for local authorities do not report the complete mix of heating types in use by householders they do show lower rates for 'Full Central Heating' in local authorities covering rural and island areas³³. In line with evidence from our own research³⁴ we would expect this to reflect a greater diversity of heating types in these areas, which may be appropriate for householders capable of managing multiple system types. However, designing policies to encourage such diversity, and the tariffs needed to support them, also risks disadvantaging vulnerable householders who struggle to understand and manage their energy use. For example, offering householders a range of competing technologies with different advantages, disadvantages, costs and benefits means they will need to understand and assess competing claims in order to make the best choice from what's available. For vulnerable householders this means the staff advising them will need to understand and be able to communicate increasing volumes of technical information, and this will also need to be translated for those with weaker English language skills. This will, naturally, place additional demands on those services.

2.6 Electricity Tariffs and the Scottish Market

At present, some 400,000 households in Scotland have restricted non-Economy 7 tariffs. Almost half of these have dynamic teleswitch (DTS) meters, which allow the supplier to vary the off-peak periods within a set start and end point, e.g. 8½ hours between 10pm and 10am, not necessarily contiguous hours. This is quite different from the block timer based off-peak system in England and Wales where Economy 7 operates between 11pm and 6am. DTS-based detriment derives particularly from low consumer awareness (complexities of the DTS charging periods, effective system use) and manifests in limited thermal control (subsequent dissatisfaction with electric heating, higher fuel costs) and limited consumer

³¹ Palombi, S., 2017. Personal communication – ad hoc data request. Scottish House Condition Survey, Scottish Government.

³² National Statistics, 2017. Energy Trends: March 2017.

³³ Scottish Government, 2017. SHCS Local Authority Tables 2013-2015.

³⁴ Baker, K.J., Mould, R., & Restrict, S., 2016. Proiseact Spéird – The Spéird Project: Understanding influences on fuel poverty in rural and island Scotland. Final report for the Eaga Charitable Trust.

engagement e.g. low levels of switching (3.6 - 4.1%) for Scottish households reliant on time-of-use (TOU) tariffs, compared to (9.3 – 11.2)% for single electric meters³⁵.

Fuel poverty figures further highlight the issues faced by those with electric heating, with 48% of households with storage heating in fuel poverty and 68% of households with direct-acting electric heating in fuel poverty³⁶. This compares with a 31% average for Scotland. Whilst we would expect the CMA remedies to impact positively on those with electric heating by enabling those on TOU tariffs to access effective competition, these market revisions are very recent (September 2017) and it may be too early to see any positive switching action from consumers.

Encouraging householders to switch tariff or supplier is a short-term solution³⁷ however, it is a means to ensure that consumers are on the most appropriate tariff and, on a cheaper tariff (i.e. a time bound fixed price and not a standard variable tariff) and effective engagement with householders switching campaigns may have benefits for identifying and delivering more appropriate individualised support to householders.

The UK Government has already committed to a form of price control or ‘safeguard tariff’ as competition in the PPM market³⁸ was considered ineffective following the CMA’s investigation in 2016. The PPM ‘safeguard tariff’ does not apply to customers with smart PPM meters. The principle of an upper limit on the price applicable to mains gas and electricity will also be extended as a short interim measure (effective from 2 February 2018) to those customers currently in receipt of the Warm Home Discount (WHD) scheme. This currently provides an annual payment of £140 which is credited to their electricity account, however, it is only provided where consumers are customers of obligated suppliers i.e. where a licenced supplier has more than 250,000 customers. This short-term measure (for winter 2017-18) linked to WHD eligibility is being considered as a proxy for ‘vulnerability’ in the energy market. A wider definition of ‘vulnerability’ is the subject of a separate consultation³⁹ which may result in the widening of this application of the ‘safeguard tariff’ for a broader group of consumers to be applied over the winter period 2018-19.

2.7 Evidence on the value of different routes to householder engagement

Organisations providing support to householders invariably deliver this through one of more of the following delivery routes:

- Telephone-based services
- Online platforms (websites, social media, etc)
- Workshops and community events
- Face-to-face services
- In-home services

³⁵ Ofgem, 2014. Understanding the consumer experience of Dynamically Teleswitched (DTS) meters and tariffs.

³⁶ Ofgem, 2015. Insights paper on households with electric and other non-gas heating.

³⁷ Baker, K.J., 2017. Electricity is a rip-off – we need a truly radical intervention in the energy market. The Conversation, August 2017.

³⁸ <https://www.ofgem.gov.uk/consumers/household-gas-and-electricity-guide/understand-your-gas-and-electricity-bills/energy-plans-what-prepayment-meter-price-cap-or-safeguard-tariff>

³⁹ <https://www.ofgem.gov.uk/publications-and-updates/providing-financial-protection-more-vulnerable-consumers>

We note that whilst previous research commissioned for Citizens Advice Scotland has considered the value of providing face-to-face support, this did not address the question of the relative value or effectiveness of each of these routes⁴⁰.

In response to this we note that the provision of energy advice by phone (and online), has been found to present substantial barriers to successful engagement^{41,42,43,44}. However, face-to-face communication enables more than simple information transfer, it also enables empathy and the establishment of personal trust. In the USA a study on the diffusion of innovation⁴⁵ found that communication habits influence consumers when it comes to adopting or rejecting an innovation, as inter-personal communication conveys not only information but also the degree and intensity of feelings and conviction. Consequently, consumers often rated information gained through personal communication as most important, especially when they perceive a high risk, or when they are generally susceptible to interpersonal influence⁴⁶. This learning can also be applied to supporting fuel poor households, for example those concerned about the risks of substantial interventions (such as installing a new heating system) and those susceptible to interpersonal influence due to being vulnerable.

2.8 Barriers to receiving support - Archetypes

The use of such broad-brush labels, be they positive or negative, is problematic for developing more nuanced insights into these groups due to phenomena known as ‘verbal overshadowing’⁴⁷ and ‘unconscious transference’⁴⁸. To date, much of the evidence of these effects comes from the fields of psychology and criminology, where it has been found to explain how witnesses to a crime may mis-identify the suspect or a judge and jury may reach the wrong conclusion, even where there is no direct evidence of bias (e.g. racial bias) on behalf of the participants.

As regards developing policy and support packages for householders, by verbally labelling individuals as ‘hard to reach’, ‘vulnerable’, etc, and grouping them into a limited number of simplistic archetypes (‘putting people in boxes’)⁴⁹ it both excludes other information and introduces potential subconscious contextual and cultural biases. For example, labelling a householder as ‘disabled’ says nothing about the type or severity of that disability (or

⁴⁰ Changeworks, 2017. Facing Fuel Poverty: Research on face-to-face actions to help consumers in fuel poverty in Scotland. Report for Citizens Advice Scotland. Available at: https://www.cas.org.uk/system/files/publications/changeworks_facing_fuel_poverty_research_report_final.pdf [last accessed 20/11/2017]

⁴¹ Baker, K.J., Emmanuel, R., & Phillipson, M., 2014. Review of the Energy Assistance Package. Report for the Scottish Government.

⁴² Darby, S., 2003. Making sense of energy advice. In ‘Time to Turn Down the Energy Demand’, Proceedings of the European Council for an Energy-Efficient Economy Summer Study, pp. 1217-1226.

⁴³ Ofcom, n.d. Disabled customers and call centres.

⁴⁴ George, M., Graham, C., & Lennard, L., 2011. Too many hurdles: information and advice barriers in the energy market. Report for the Eaga Charitable Trust.

⁴⁵ Rogers, E.M., 2003. Diffusion of Innovations (5th ed.). Free Press, New York.

⁴⁶ Gilly, M.C., Graham J.L, Wolfinbarger, M.F., Yale L.J., 1998. A dyadic study of interpersonal information search. Journal of the Academy of Marketing Science, 26 (1998), pp. 83-100.

⁴⁷ E.g. Schooler, J. W., Ohlsson, S., & Brooks, K., 1993. Thoughts beyond words: When language overshadows insight. Journal of Experimental Psychology: General, 122, (2), pp.166-183.

⁴⁸ E.g. Ainsworth, P.B., 1998. Turning Heroes into Villains: The Role of Unconscious Transference in Media Crime Reporting.

⁴⁹ For example, as in: CSE, 2014. Beyond average consumption: Development of a framework for assessing impact of policy proposals on different consumer groups..

disabilities), if and how this affects their household energy behaviours and capacity to modify them, the support they need (or don't) to adopt lower energy behaviours, and therefore how responsive they are likely to be to different engagement routes. As such, the use of archetypes is particularly counter-productive for supporting vulnerable householders with complex circumstances and support needs^{50,51}.

2.9 Barriers to receiving support - Thresholds and Proxies

A closely related problem to the use of archetypes is the use of blunt thresholds and 'passport benefits' for targeting and apportioning support to householders. Thresholds used for UK-level energy efficiency and fuel poverty schemes are restricted by age (those over 70 or with children under 5 years) and receipt of welfare benefits, whereas the Scotland-only schemes also prioritise older households with no main heating systems. However, previous studies have shown that these do not effectively target and support those most in need, for example because householders are unwilling to apply for the necessary means-tested benefits due to the associated social stigma^{52,53,54,55}.

Using thresholds also fails to address the evidence that the impacts of fuel poverty exhibit a dose-response relationship, whereby occupants experience greater severity of illness, and for longer, in relation to exposure to poor housing conditions⁵⁶, and which has been found to be significant regardless of socio-economic group⁵⁷. This means that those in fuel poverty for longer suffer proportionately greater impacts, so householders with poor health will exhibit more severe symptoms and for longer, and can last even after they have been lifted out of fuel poverty. Nevertheless, threshold-based approaches remain the predominant mechanism for determining eligibility for support for fuel poor households in the UK.

The related problem of using proxy data is prevalent in Scottish policy making and has been recognised as a barrier to improving the provision of support in the recent review of the Scottish definition of fuel poverty⁵⁸. For example, research has shown how the use of the income domain of the Scottish Indices of Multiple Deprivation as a proxy indicator for fuel poverty is disadvantaging households in rural and island areas^{59,60}, a finding noted in the 2016 report by the Scottish Fuel Poverty Strategic Working Group⁶¹.

⁵⁰ Mould, R., & Baker, K.J., 2017. Documenting fuel poverty from the householders' perspective. *Energy Research & Social Science*, 31, (2017), pp.21–31.

⁵¹ Baker, K.J., 2017. Hidden Geographies of Fuel Poverty: Going beyond a conventional approach. Holyrood conference on Eradicating Fuel Poverty: Delivering Warm Homes.

⁵² Baker, W., White, V., & Preston, I., 2008. Quantifying rural fuel poverty. Report for the Eaga Charitable Trust.

⁵³ Wright, F., 2004. Old and Cold: Older People and Policies Failing to Address Fuel Poverty. *Social Policy and Administration*, Vol. 38, No. 5, October 2004, pp. 488–503.

⁵⁴ Scott, S., Lyons, S., Keane, C., McCarthy, D., & Tol, R.S.J., 2008. Fuel poverty in Ireland: Extent, affected groups, and policy issues. ERSI Working Paper No. 262, October 2008.

⁵⁵ Boardman, B., 2010. Fixing Fuel Poverty: Challenges and Solutions. Earthscan.

⁵⁶ Taske, N., Taylor, L., Mulvihill, C., & Doyle, N., 2005. Housing and public health: a review of reviews of interventions for improving health. Evidence Briefing the National Institute for Health and Care Excellence (NICE), UK.

⁵⁷ Fisk, W., Lei-Gomez, Q. and Mendell, M., 2007. Meta-analyses of the associations of respiratory health effects with dampness and mold in homes. *Indoor Air*. 17 (4), pp.284-296.

⁵⁸ Bramley, G., Fitzpatrick, S., Liddell, C., & Webb, J., 2017. A new definition of fuel poverty in Scotland: A review of recent evidence. Report for the Scottish Government.

⁵⁹ Mould, R., & Baker, K.J., 2017. Uncovering hidden geographies and socio-economic influences on fuel poverty using household fuel spend data: A meso-scale study in Scotland. *Indoor and Built Environment*, 0 (0), pp.1-23.

2.10 Reaching the ‘hard to reach’

There is a growing body of evidence on effective approaches to reaching ‘hard to reach’ householders, for example an Australian study on engaging ‘hard to reach’ families⁶² noted a wide range of barriers to engaging with community services including:

- Access to information
- Attitudes to help-seeking
- Fear
- Misperceptions about services
- Communication difficulties
- Hostility to interventions by family members
- Daily stresses and complexities
- Social norms and expectations
- Social disorganisation and poor social capital
- Social and geographical isolation
- The absence of social networks
- ‘Initiative fatigue’ within communities

In terms of engaging the hard to reach, the report notes that successful strategies emphasise client-centred approaches with appropriate ‘soft’ outreach and entry points, for example engaging clients at natural gathering points in their communities.

In Scotland, the problem of how to better engage with ‘hard to reach’ groups was set out in a 2008 report for the Scottish Government⁶³, which identifies a number of ‘excluded groups’ as tending to be under-represented in participatory activities^{64,65}:

- Those on low incomes
- Members of black and ethnic minority groups
- Disabled people
- Young people
- Homeless people

⁶⁰ Baker, K.J., Mould, R., & Restrict, S., 2016. Proiseact Spéird – The Spéird Project: Understanding influences on fuel poverty in rural and island Scotland. Final report for the Eaga Charitable Trust.

⁶¹ Scottish Government, 2016. A Scotland without fuel poverty is a fairer Scotland: Four steps to achieving sustainable, affordable and attainable warmth and energy use for all.

⁶² Cortis, N., Katz, I., & Patulny, R., 2009. Engaging hard-to-reach families and children. Occasional Paper No 26. Department of Families, Housing, Community Services and Indigenous Affairs, Australian Government.

⁶³ Scottish Government, 2008. Public Value and Participation: A Literature Review for the Scottish Government.

⁶⁴ Mackinnon, J., Reid, M., & Kearns, A., 2006. Communities and Health Improvement: A review of evidence and approaches. Report for Health Scotland. Department of Urban Studies, University of Glasgow.

⁶⁵ Morris, J., 2006. Removing the Barriers to Participation. Report for the Institute for Public Policy Research (IPPR) and the National Community Forum, London.

- Members of faith communities
- Members of rural communities
- Those in full-time employment

Although the focus of this study was engaging individuals in participatory decision-making and democracy there are many parallels with engaging householders with support services, for example those in full-time employment are considered hard to reach because they are less likely to be able to attend events (or engage with support services) during normal office hours. However, we argue, the labelling of individuals as ‘hard to reach’ is itself problematic for a number of reasons. Foremost amongst these is that, simply by its emergence in the policy lexicon, is a tacit admission of policy failures. Stearn (2016) draws this same conclusion when it comes to labelling householders as ‘vulnerable’ - *“Consumer vulnerability cannot simply be seen as consumers’ failure to engage with the market when markets are failing to engage with consumers”*⁶⁶.

Similarly, in the same year ‘hard to reach’ was defined the Scottish Government also defined around one third of the domestic housing stock as ‘hard to treat’⁶⁷. Yet the intention of this latter report was not to demonstrate that properties classified as ‘hard-to-treat’ are particularly technically difficult or costly to remediate, indeed quite the opposite, but to point to a number of largely socio-economic factors, such as the high prevalence of multiple-occupancy and multiple-tenure buildings, which pose specific non-technical barriers to delivering ‘whole house’ packages of solutions. That is to say, we also argued that in reality ‘hard-to-treat’ properties represent market and legislative failures, not technical barriers.

2.11 The role of trusted intermediaries

The value of using ‘trusted intermediaries’ merits particular attention as part of this review as the empirical research that follows covers material from organisations delivering support at different distances from the householders. The improved understanding and insights that can be gleaned from engaging staff based within the communities they are studying to conduct research is recognised in academic studies on fuel poverty and vulnerability^{68,69,70,71}. This also applies to the delivery of support, as evidenced by previous studies that have highlighted the need for, and benefits of, using trusted intermediaries to deliver more individualised support to householders^{72,73,74,75}.

⁶⁶ Stearn, J., 2016. Consumer vulnerability is market failure. In Hamilton, K., Dunnett, S., & Piacentini, M., (eds), 2016. *Consumer Vulnerability: Conditions, contexts and characteristics*. Routledge.

⁶⁷ Roaf, S., Baker, K.J., & Peacock, A., 2008. *Evidence on Hard to Treat Properties*. Scottish Government.

⁶⁸ Mould, R., & Baker, K.J., 2017. Documenting fuel poverty from the householders’ perspective. *Energy Research & Social Science*, 31, (2017), pp.21–31.

⁶⁹ Middlemiss, L., & Gillard, R., 2015. Fuel poverty from the bottom-up: Characterising household energy vulnerability through the lived experience of the fuel poor: *Energy Research and Social Science*, 6, pp.146-154.

⁷⁰ Speirs, J., 2000. New perspectives on vulnerability using emic and etic approaches. *Journal of Advanced Nursing*, 31, (3), pp.715-21.

⁷¹ Baker, K.J., Mould, R., Stewart, F., Restrict, S., Melone, H., & Atterson, B., 2018. Never try and face the journey alone: Exploring the face-to-face advocacy needs of fuel poor and vulnerable householders. Journal paper, in draft.

⁷² Baker, K.J., & Stewart, F., 2017. “Warm, friendly, reliable, and do what they say they do”: An Evaluation of South Seeds’ Energy Advocacy Services. Glasgow Caledonian University & Dr Fraser Stewart, December 2017.

This naturally raises the question of who, in Scotland, are considered by householders to be such trusted intermediaries. Here, our previous research leads us strongly to the conclusion that, for the most vulnerable, these are locally-based support staff working for trusted and community-based services organisations, who are known to residents, and who deliver face-to-face and in-home advocacy and support. Specifically, these are local authorities, Citizens Advice Bureaux, GPs and NHS services, housing associations, and community-led projects such as those supported by the Climate Challenge Fund (CCF)^{76,77,78}. For local authorities in particular, the experience of delivering the Community Energy Saving Programme in Wales highlights their value as ‘honest brokers’ in developing community-led projects⁷⁹. Whilst in Scotland CCF-funded projects such as South Seeds (Glasgow)⁸⁰ and Greener Kirkcaldy demonstrate the benefits of community based and led approaches, and that there is no such thing as ‘hard to reach’ householders if the approach is the most appropriate one. Where the intermediaries involved are motivated to gain the best outcome for their communities and there is the willingness from public bodies and other agencies to fund the activity as outcome focused rather than being purely output focused.

2.12 Evidence from successful projects

In a recent study of home energy advice visits Reeves (2016) identifies a number of qualities of successful delivery approaches:

- A long-term service with strong local recognition
- Delivery by or in close partnership with a local authority
- Using a multi-partner referral network to connect vulnerable households with support
- Using targeted mail-outs to vulnerable demographic groups

The study also found that housing a local fuel poverty support service within a local authority offers many benefits in terms of access to data on local households and linkages with partner organisations. Similarly the model of a local authority commissioning this service from a specialist voluntary sector organisation appears effective, and could bring the benefits of dedicated expertise and a strong independent brand⁸¹.

⁷³ Baker, K.J., Mould, R., & Restrict, S., 2016. Proiseact Spéird – The Spéird Project: Understanding influences on fuel poverty in rural and island Scotland. Final report for the Eaga Charitable Trust.

⁷⁴ Darby, S., 1999. Energy advice - what is it worth? Panel 5, Paper III Proceedings of the European Council for an Energy-Efficient Economy Summer Study.

⁷⁵ Maiden, T., Baker, K.J., & Faulk, A., 2016. Taking the Temperature: Review of Energy Efficiency and Fuel Poverty Programmes in Scotland. Report for Citizens Advice Scotland by CAG Consultants, Glasgow Caledonian University, and the Energy Agency.

⁷⁶ Ibid.

⁷⁷ Baker, K.J., Mould, R., Stewart, F., Restrict, S., Melone, H., & Atterson, B., 2018. Never try and face the journey alone: Exploring the face-to-face advocacy needs of fuel poor and vulnerable householders. Journal paper, in draft.

⁷⁸ Baker, K.J., Emmanuel, R., & Phillipson, M., 2014. Review of the Energy Assistance Package. Report for the Scottish Government.

⁷⁹ Ibid.

⁸⁰ Baker, K.J., & Stewart, F., 2017. “Warm, friendly, reliable, and do what they say they do”: An Evaluation of South Seeds’ Energy Advocacy Services. Glasgow Caledonian University & Dr Fraser Stewart, December 2017.

⁸¹ Reeves, A., 2016. Exploring Local and Community Capacity to Reduce Fuel Poverty: The Case of Home Energy Advice Visits in the UK. *Energies*, 8th April 2016.

More specifically, Boardman and Darby (2000)⁸² conclude that the delivery of effective advice to the disadvantaged has some or all of the following characteristics:

- Seeking out potential clients and offering a Freephone service
- Offering home visits where needed
- Having information on grants from all sources and assisting customers in applying for them
- Having well-trained and experienced staff
- Using bills as a source of information and feedback
- Viewing advice as an interactive process between householder and adviser, in which dialogue is necessary and productive
- Networking with trusted agencies who are responsible for visiting people in their homes and giving assistance, and training such frontline workers
- Providing follow-up visits or phone calls as needed
- Taking into account the fact that many customers have difficulty with seeing, hearing, mobility, literacy and numeracy

Further evidence comes from a 2005 report by the EST and partners, which found that minimising the number of contacts needed between clients and service providers, and minimising the number of service providers involved in delivering an intervention, is critical to minimising the drop-out rates from support schemes, particularly amongst the most vulnerable⁸³.

A corollary to this is the evidence for the benefits of ‘opportunistic’ approaches that capture householders at points in their lives where receiving support offers particular benefits^{84,85}. Such trigger points include technical triggers such as changes of ownership, occupancy, or extending properties, as used effectively as part of the Residential Energy Conservation Ordinances (RECOs) used in parts of the USA^{86,87} and also, more importantly, changes of personal circumstances that leave them particularly vulnerable to fuel poverty and its impacts. In the case of the latter, a further issue is the need to capture householders for whom this may only be temporary, for example due to a relationship breakdown, but whose well-being is at risk of falling into negative feedback loops if their problems cannot be addressed at their time of need⁸⁸.

⁸² Boardman, B., & Darby, S., 2000. Effective Advice: energy efficiency and the disadvantaged. Environmental Change Institute, University of Oxford, UK.

⁸³ Energy Saving Trust, Centre for Sustainable Energy, & National Energy Action, 2005. Warm Zones Evaluation: Final Report.

⁸⁴ Green, J., Darby, S., Maby, C., & Boardman, B., 1998. Advice into action: An evaluation of the effectiveness of energy advice to low income households. Report for the Eaga Charitable Trust.

⁸⁵ Parnell, R., & Popovic Larsen, O., 2005. Informing the development of domestic energy efficiency initiatives: An everyday householder-centred approach. *Environment and Behaviour*, Vol. 37, No. 6, November 2005, pp.787-807.

⁸⁶ Emmanuel, R., & Baker, K.J., 2012. *Carbon Management in the Built Environment*. Routledge.

⁸⁷ Baker, K.J., Emmanuel, R., & Phillipson, M., 2012. Support for RPP2 - Housing Futures. Report for ClimateXChange.

⁸⁸ Mould, R., & Baker, K.J., 2017. Documenting fuel poverty from the householders’ perspective. *Energy Research & Social Science*, 31, (2017), pp.21–31.

This, therefore, demonstrates another important benefit of such trusted and householder-centred approaches, in that they can overcome the ‘presentation problem’ as face-to-face support staff are better able to identify householder needs, and solutions for them, which may not be their reasons for seeking support but which, by addressing them, may nonetheless lead to them receiving more appropriate and beneficial support⁸⁹. This is simply because these roles enable staff to develop trusted relationships, meaning clients are more likely to be willing to divulge more personal information, and to develop tacit knowledge of their clients and communities, and in some cases may be able to enable confidence in solutions by referring to the experiences of other members of the community known to the client⁹⁰.

⁸⁹ Darby, S., 2003. Making sense of energy advice. In ‘Time to Turn Down the Energy Demand’, Proceedings of the European Council for an Energy-Efficient Economy Summer Study, pp. 1217-1226.

⁹⁰ Baker, K.J., Mould, R., & Restrict, S., 2016. Proiseact Spéird – The Spéird Project: Understanding influences on fuel poverty in rural and island Scotland. Final report for the Eaga Charitable Trust.

3. The Industry Perspective

In order to provide further context to the findings of this report the project team conducted a snapshot study using interviews with four representatives from industry, chosen to capture a major supplier, a network operator, a heating manufacturer, and a not-for-profit supplier that may become a model for a Scottish energy company⁹¹. The interviews were conducted by telephone in January 2018. Participants were circulated the questions in advance and offered approval of the summaries. We'd like to thank all those who took part for giving us their time.

In addition, the voices of consumers reliant on using electrical heating were sought from two other perspectives – a project in Glasgow providing a technical solution to the provision of off-peak charged heat during consumer demand times and the experiences of ethnic minority communities in Scotland engaging with the domestic electricity retail market.

3.1 SSE - Customer Service Operations and Electric Heating divisions

In order to capture the perspective of a major energy supplier we interviewed representatives of SSE's Customer Service Operations and Electric Heating divisions. The interview centred on three key questions intended to inform and provide context to the conclusions of this report. The interviewees were asked for their views on:

- The provision of advice and support for householders using electric heating by SSE and other service providers with a particular emphasis on the SSE specialist electric heating team.
- The implementation of the restricted meter regulation following the CMA report.
- The role of the priority service register to identify vulnerable consumers in remote/rural locations dependent on continuous electricity supply to heat water and their homes.

The following is a summary of that discussion:

SSE employs around 3,500 front-facing customer support staff in four contact centres across the UK, including a specialist team for customers using electric heating. SSE is one of the most active suppliers in this market, working hard to ensure their electric heating customers are aware of the Centre of Excellence, which was set up in January 2015 to offer bespoke service to suit individual customer requirements based on their specific needs and heating type. SSE also employs two energy liaison officers in Scotland, who work with third parties across Scotland to provide face-to-face support to customers. This home visit service is also available in England and Wales. Supporting customers in the Western Isles and remote areas is a priority and SSE is in partnership with the Western Isles Council, Hebridean Housing Partnership, Citizens Advice bureau and Tighean Innse Gall to offer additional services. The company ran six well-publicised customer advice sessions to these areas in 2017 and based on the success of these is planning to run more in 2018. SSE also holds customer forums and the forum held in Inverness highlighted problems faced by customers moving house in the highlands and islands who have previously not lived in properties with electric heating. In light of this SSE has made improvements to its website and provides detail of individual heating types in leaflet format online too.

⁹¹ Scottish Government, 2017. Scottish Energy Strategy: The Future of Energy in Scotland.

SSE is very supportive of the CMA's findings and agrees they are the right thing to do and are already going beyond them. Following the report, they wrote to all affected customers informing them of the remedy as part of their continuous improvement policy. The response to this campaign was positive, and as well as moving customers to single rate tariffs it also provided opportunities to help them in other ways. Reasons for not switching to a single rate tariff were generally either there was no financial saving or because customers (for whatever reasons) chose not to switch. Again, the lessons learned from this campaign are being used for continuous improvement.

SSE aims to give all customers the same level of service wherever they are, but also specifically targets customers on electric heating, with those in particular need of support identified through vulnerability markers, meter types, and high electricity bills. This allows them to capture those who can benefit from material adapted to their needs, such as information provided in Braille. They have seen a huge uptake of support since using the new vulnerability markers, but also recognise the need to do more to capture customers who are vulnerable at specific points in time, and this will be addressed as part of the next evolution of the service. Vulnerable customers on electric heating can also benefit from a targeted fund established in April 2017, in recognition that customers using electric heating may be disproportionately affected by price increases.

3.2 Our Power

In order to capture the perspective of an innovative new energy supplier with a business model that may inform the design of the proposed Scottish public energy company we interviewed a representative of Our Power. The interview centred on three key questions intended to inform and provide context to the conclusions of this report. The interviewee was asked for their views on:

- Recent innovations in energy tariffs and technologies
- Whether Governments should establish energy supply businesses, for example to enable further deployment of solar photovoltaics
- As a supplier developing a new dual rate tariff, their views on the domestic electricity market and the provision of advice and support for householders using electric heating

The following is a summary of that discussion:

Our Power expect to see lots of innovation in the energy sector and in particular, in electric storage heating, smart grids, demand side response, using blockchain technology, and integration with the deployment of electric vehicles. They see significant potential for reducing costs and cutting carbon emissions, especially in rural areas. However, to date the pace of change has been slow, with barriers arising from access and cost of grid, the delays in smart meter rollout, and Ofgem's ability to regulate and handle different tariff types. The system isn't yet sufficiently geared up for these changes. Our Power are very proud to have developed an alternative dual meter tariff and see this as a key indicator of their intent to innovate to bring through social benefits.

They are very enthusiastic about the potential uses of new technologies for overhauling demand side response and the electric heating market, based on insights from their background (growing out of a housing association) that other suppliers might not necessarily have. The deployment of household batteries is one aspect of this, and have a project with VCharge (now owned by Ovo) that has ~3MW of batteries installed in social housing.

As deployment of these technologies will take some time they are also looking at how to help residents make better use of existing electric heaters which are not yet due for replacement, for example by signing up to purchasing agreements with renewable energy suppliers – noting that you don't necessarily need to establish new energy companies to promote renewables.

Our Power are driven by their mission to alleviate fuel poverty and has focused on delivering fairer energy. An example of this is those using prepayment meters, until the prepayment price cap was introduced, left disadvantaged people being charged around 25% more for their energy. Our Power saw this as a scandal and introduced a single price regardless of payment method. Our Power noted that across the wider domestic market and despite the cap, prepayment tariffs are higher than direct debit tariffs. They are also driven by supporting the development of renewable energy but see two critical barriers to this: the current subsidy / feed in tariff regime; and the costs, legislative and technical problems of connecting to the grid. They are currently looking at how a community ownership model could help overcome these barriers. They are technology agnostic to the type of generation, with purchasing agreements covering wind, solar and hydro (including small scale hydro).

In looking at energy efficiency, Our Power have adopted a boutique-type approach to supporting their customers, again building on their background of growing out of a housing association. From this experience they note that many householders are still making decisions that aren't cost effective (e.g. using portable electric heaters). This arises, at least in part, from tariffs that don't work for these households, and addressing this problem is an increasingly important issue. For these clients, social housing also acts as a valuable buffer for ensuring they receive appropriate advice and support. As we move towards a smart energy world they also see significant potential in using real energy consumption and consumption profile data (e.g. from smart metering) to adapt pricing and tariffs to better serve these clients and, in future, a convergence with tariffs to support the deployment of electric vehicles.

Finally, they note that traditionally, their clients are the last to receive the benefits of change and innovation, when they should be the first to benefit from these.

3.3. Glen Dimplex

In order to capture the perspective of a major manufacturer of electric heating and storage technologies we interviewed a representative of Glen Dimplex. The interview centred on three key questions intended to inform and provide context to the conclusions of this report. The interviewee was asked for their views on:

- Recent innovations in energy tariffs and technologies
- The domestic electricity market and the provision of advice and support for householders using electric heating
- Fuel poverty and why [as raised in their blogs] householders are still paying over the odds for their electric heating

The following is a summary of that discussion:

Glen Dimplex have been working on developing innovative technologies and tariffs for several years however, the regulatory environment is not keeping pace with those developments. This means manufacturers are exposed to significant risks by having to invest in developing and demonstrating technology and then getting its benefits recognised in legislation. For example, work by one utility has shown customer savings of around 20%

from using smart technology for enabling demand side response (DSR) adjustments in storage heating, with others reporting similar results, so now better legislation is needed to realise the full benefits of that technology to both customers and the National Grid. Centralised smart controls such as Hive, Nest etc. have become really popular lately, and no domestic system can be controlled by these to the same accuracy as an electric system.

GD are looking at developing all types of storage, including water storage and remote switching (learning from progress in Norway), and note that water heating will become an increasing proportion of domestic energy demand as modern homes becoming increasingly well insulated. They are also involved with a lot of demand side response projects, e.g. on Shetland where excess renewable energy generation at low load times is being used to charge storage heaters and save costs to consumers.

The Standard Assessment Procedure (SAP) is acting as a barrier as the components of the underlying model (BREDEM) that deal with off-peak heating are antiquated and do not model the benefits accurately. This means manufacturers are having to do this themselves, and the use of SAP is driving these benefits away from the fuel poor, meaning fuel poor households are receiving low tech solutions when they should be being targeted for the high tech solutions that would benefit them the most.

Another barrier is the advice being provided to customers using electric heating. Advice and support for householders using electric is outdated and poor, with two key issues taking place when a consumer looks for information.

The first is negative advice, with many 'official' sources (such as the Energy Saving Trust) giving a very poor review of electric heating, which is not being kept up to date with the capabilities of the current products, tariffs or carbon values. The new SAP 10 system is recognising that electric is a much more carbon efficient option and becoming the best, not last, choice.

The second issue, which the first is fuelling, is the promotion of direct-acting products as replacements for off-peak storage heating systems. European suppliers have been making false claims about significant savings that are simply not possible. This is reducing the potential flexible 'battery' of off-peak households in the market, massively increasing load on the grid at peak times and pushing people in fuel poverty

The average electric heating user needs to be told about the actions that they can take to reap the full benefit of their off-peak electric meter, rather than encouraged to move away from it because of how the products and regulations were ten years ago.

This leaves customers feeling that they are lumbered with their heating systems unless they can afford the considerable investment needed to replace them, and therefore they make do with what they have and accept higher energy bills. Again, a key issue here is that innovation in off-peak heating and the flexibility it can offer has moved much faster than regulation, but expensive direct heating is still being promoted to fuel poor householders. GD have seen cases where this advice has led customers to make investments of around twelve thousand pounds in replacement direct heating, and ending up doubling their heating bills in the process.

Much more freedom is needed in the market in terms of switching, metering, energy use, and technology choices. Flexibility is key, and their tests show that if people can switch tariffs and technologies easily they will do so. Such flexibility also means they can choose to reduce their heating temperatures if they so wish, and so receive additional savings – SAP models a ~27% saving from high efficiency storage heating, but in practice they have seen

savings of around 50% from this combination of better technology and householder behaviour changes.

To tackle fuel poverty consumers need a modern, High Heat Retention Storage Heaters (HHRSH) system that is future-proofed for smart in-home and grid / DSR control. This is available under schemes such as ECO, where ECO3 (launching in September) is drastically reducing the number of gas boiler replacements and putting a high carbon value on replacing traditional storage with HHRSH systems. This is another example of the research-driven market resources driving towards modern electric off-peak systems.

In addition to the fuel poverty issues caused to the householder by Fischer type products displacing storage, there is the DSR case to make, with potentially 7GW of load going back on the grid at 5pm if all storage were displaced.

On fuel poverty, they note that it is worth remembering that 79% of all households in UK in fuel poverty have gas as their main heating fuel, so in absolute terms there are millions more families with gas who are fuel poor, so switching from another fuel to gas is not necessarily an instant solution, without incorporating insulation improvements. They also note that a disproportionately higher number of those electrically heated households in fuel poverty are heated with direct-acting only products.

Distribution pricing structures currently operating in the in the market mean that rural and northern areas pay more per unit as well as consume more units due to climatic differences. Therefore government levies on electricity users to fund such things as RHI, smart meters (etc) unfairly penalises electrically heated households as opposed to households heated with other fuels. At worst the levies should be on lighting and power only which would then affect all households on a more equitable basis.

3.4 Scottish Power Energy Networks

In order to capture the perspective of a major distribution network operator an interview was conducted with a representative of Scottish Power Energy Networks. The interview centred on three key questions intended to inform and provide context to the conclusions of this report. The interviewee was asked for their views on:

- How future changes to electricity demand – households switching to electric heating, electric vehicles, etc – will affect grid management and balancing
- The future of batteries for grid and domestic electricity storage
- Any emerging issues that may impact on householders using electric heating, e.g. changing demand profiles as generation becomes more mixed (diurnally and seasonally) and demand patterns less confined to peak periods

The following is a summary of that discussion:

SPEN's primary concern is the huge amount of uncertainty around future technological trajectories and the economy, and the impact these will have network requirements to 2023 and the subsequent costs to householders. At a UK level, falling costs and the availability of subsidies has meant the penetration of solar photovoltaics met the forecast for 2030 in 2014 (although proportionately less in Scotland), with consent for new installations now running up against grid capacity issues.

As regards heat pumps, these have a much greater impact on the network because of their size, and their proliferation in rural areas. However, take up has been lower than forecast and is expected to be dependent on dwindling gas supplies and incentives and regulations to encourage households to move away from gas. Therefore they are likely to have a much

more significant impact (than PVs) but there is also greater uncertainty around the timing of this and the levels of demand they will generate. Dumfries and Galloway is a particularly challenging area for renewables, with the available supply being double the demand, and four times as many installations wanting to connect.

In the longer term, the growth of electric vehicles is a major risk to grid capacity towards the mid 2020's. EVs are currently low in number but forecasts (e.g. by OPEC) show future uptake will be more rapid than previously suggested. More detailed modelling of EVs (to minimise costs and manage the deployment of technology) shows that managing customer charging and demand will mean the electricity network will need reinforcement – this can't be managed through additional flexibility. SPEN are now modelling based on 700,000 electric vehicles by 2032, from which they expect to need to invest £300-£700m in network upgrades, depending on the savings from managed charging. For 100% deployment of EVs they estimate needing to invest £1.7-£2.2bn, but that this could be reduced to £1bn with managed charging. This would add ~£25 per year to customer bills, but the average family household would be expected to save over £1,100 per year from transport energy costs. Further uncertainty arises here over the expected contribution of hydrogen vehicles for decarbonising transport.

SPEN are also considering the future impact of network charging as early adopters of technology (PVs, EVs, etc) benefit from reduced bills to the detriment of those (e.g. the fuel poor and otherwise vulnerable) who don't have the capacity to take advantage of them. For example, based on using a Nissan Leaf for a customer to effectively go off-grid for transport they would require two Tesla Powerwalls and 24 x 240W PV panels, requiring an investment of ~£21,000 plus a minimal grid charge. If 700,000 customers went this route the total cost to customers would be ~£15bn, but with investment in network reinforcement it could be brought down to <£1bn however, customers only see this as added network charges. Domestic battery costs are expected to fall, but not by a factor of fifteen. More widely, they expect batteries to have a role to play in enabling system security (e.g. following the closure of Longannet) and also to have a role in grid balancing however, in this case this will be for demand shifting rather than managing mismatches in supply and demand. The on-going challenge here will be how to equitably socialise the costs of energy storage.

Heat, therefore, becomes the big uncertainty in this picture and risks losing out due to the momentum behind the growth of EVs. SPEN are trying to communicate that as well as network solutions being the most cost effective means of managing future supply and demand better regulation is needed to drive network upgrades in advance of need - energy efficiency improvements since 2010 have seen demand fall, but the growth in EVs will turn this trend on its head.

SPEN have been engaging with stakeholders on future vulnerability issues, such as elderly and infirm customers in isolated areas who are reliant on electricity. Currently in the event of a twenty four hour blackout SPEN puts these customers up in hotels, but if they are using an EV for transport they become more vulnerable to the impacts of blackouts. This further emphasises the need for better quality and resilience of grid supplies.

Returning to heating, SPEN have ~200,000 dynamically switched customers across south and central Scotland. Smart metering will mean those can be managed more flexibly but there will be a growing challenge to match local populations with the UK demand peak, and will benefit customers using storage heaters, but there are outstanding issues with the SMETS specification and data protection that need to be resolved to avoid limiting their benefits. For example, SPEN have found that the local demand peak for St Andrews is in the mid-afternoon (due to the high student population), but this is also when many EVs would be

expected to be charging. This shows the need for much more localised network management and balancing, and under current conditions it would be very challenging to bring the needed flexibility online fast enough.

SPEN accept that there is a debate about who is best placed to manage this transition but, at least in the short term, argue that this should be the distribution network operators, as the immediate challenge is getting the most out of existing assets.

3.5 Consumer Voices: Residents of Glasgow's High-Rise Dwellings

The promoted benefits to the consumer of utilising off-peak electrical energy is that it can be provided to them at a rate which is cheaper than that provided through a normal single rate supply. However, in order to make practical use of electricity sold in non-demand periods, the energy needs to be stored in a way which makes it available for a heating amenity when there is a demand.

Dissatisfaction with electric storage heating is often cited as being a problem with the reality of that service for consumers. For some, the heating amenity is provided during the charging times, and mostly discharged over the hours immediately following the end of the charging period, i.e. that the heating amenity is delivered irrespective of the consumer demand for it. Some electricity tariffs are available which attempt to rectify this situation on behalf of consumers, providing boosts of off-peak energy during 'daytime' hours. However, these boosts, whilst cheaper than the tariffs paid for 'daytime' units, are still paid for by the consumer.

This need for additional heating is recognisable to any user of electric storage heating. However, the operation of special corrective tariffs to provide boosts is often not well understood by customers. From an engineering point of view, this consequence can be as a result of failing appliances and is a challenge which the industry is only recently beginning to address (see section on Glen Dimplex Heating and Ventilation). Another way to address the fundamental problem is presented in the evidence from a project supported by the Scottish Government's Low Carbon Infrastructure Transition Programme⁹² 'Tackling Fuel Poverty & Grid Balancing with Smart Electric Storage Heat'⁹³. Full detail of the evidence provided by the programme manager is provided in [Appendix E1](#).

A summary of the points relevant to this report is as follows:

To provide a consumer perspective the project team interviewed the Project Manager of an electric storage heating upgrade project in eight Glasgow tower blocks. Prior to the upgrade being implemented, two-thirds of the 900 residents took part in one-to-one discussions about their current heating experience and their appetite for change. Almost all of the residents were supplied by ScottishPower, with 90% of these on the ComfortPlus White Meter tariff and 10% on the ComfortPlus Control tariff.

Findings from the one-to-one discussions (which included a short survey) showed that overall satisfaction levels with existing storage heating were low and that residents considered that they were not kept warm enough at home. They often used supplementary heating such as electric fires, halogen heaters and oil-filled radiators. The Project Manager stated that they had found that more than half of the residents did not use their storage heating at all and were fully reliant on other forms of portable heating.

⁹² <http://www.gov.scot/Topics/Business-Industry/Energy/Action/lowcarbon/LCITP>

⁹³ <http://www.gov.scot/Resource/0053/00530338.pdf>

Although the storage heating had been installed in the 1980s, few residents understood how this worked, with only 10% acknowledging that they ever adjusted their input and output controls. The Project Manager advised that there were a number of commonly-held misconceptions and misunderstandings about storage heating/controls that often resulted in homes not being sufficiently warm and led to supplementary heating being used. These included 'misuse' of output controls leading to stored heat being released too early – a factor that led to homes not being considered warm enough - but also issues such as time-switch meters being inaccurate (following protracted power outage for example) and storage heaters therefore charging at the wrong times.

The Project Manager's findings prior to the upgrade were that the residents did not like a heating regime that in effect, assumed that everyone had the same needs. He added that the recurrent themes were lack of knowledge/understanding, running costs and insufficient warmth.

It is worth noting that following the upgrade, which was accompanied by advice and support visits to every home, overall satisfaction levels had increased significantly.

3.6 Consumer Voices: Minority Communities across Edinburgh and the Lothians

Engaging with the domestic energy markets can be viewed by some as a daunting task, understanding the range of tariffs available and making smart choices between the 60 currently registered GB suppliers is arguably a task best facilitated by trusted advocates. When there is a breakdown in the relationship between the supplier and the customer, mechanisms do exist to reach a resolution. These may be internal processes between supplier and customer to agree a consensus however, when that cannot be reached further consumer protection process external to both parties can be brought to reach an arbitrated solution.

Whether is it shopping for the best electricity supply deal, or trying to resolve a dispute, the task can be challenging for native English speakers. For members of Scotland's ethnic communities where English may not be a first language, navigating through the complexities of the market can elicit feelings of fear and disengagement. Knowledge of the purpose of arbitration services, which many native speakers may view as an entitlement, can appear quite unfamiliar and perhaps exclusive.

To capture these voices, a representative of ELREC⁹⁴, an organisation representing the views and equality issues of ethnic communities living and working in Scotland was interviewed about their experiences of delivering energy advocacy support to a range of minority communities in Edinburgh and the Lothians. Full detail of the evidence provided by ELREC's Project Co-ordinator is provided in [Appendix E2](#).

A summary of the points relevant to this report is presented here:

Additional consumer perspective was provided via interview with ELREC, a regional equality organisation that supports its communities across a range of public services, housing and social work matters. From its basis of delivering climate action activities, ELREC's activities now specifically include energy advice.

⁹⁴ <http://www.elrec.org.uk/>

During the course of the interview, it became clear to the project team that some of the issues faced by ELREC were of a different nature to those faced by other consumer support organisations. ELREC works with Polish, South Asian, Chinese and Spanish communities in Edinburgh.

ELREC's Project Co-ordinator outlined a number of the challenges they face which includes the perhaps expected linguistic and cultural barriers. Their response has been to create 'Link Officers' who are trained as energy advisors and who are then able to interpret for the communities they work within. The Link Officers themselves are from these communities. The Project Co-ordinator stated that they find this approach of particular benefit – as well as the initial level of trust that exists, the Link Officers share and relate closely to the culture and are more receptive and responsive to community concerns. The Project Co-ordinator stated that the energy awareness training they received was crucial in enabling development and implementation of an effective service.

ELREC's aim is to empower their individual clients to handle energy-related issues themselves, but they find it is often the case that Link Officers become advocates and the relationship becomes an extended one. ELREC believes this is primarily beneficial but has huge implications for their limited resources.

The Project Co-ordinator confirmed that a number of their clients had electric heating and that one of the issues they had to deal with was off peak tariffs. Enabling switching from these tariffs was considered complex and time-consuming by the Link Officers – a process they did not feel their clients could have managed themselves. They highlighted that there was a broad range of competences within the call centres and whilst some of their clients were conversationally fluent in English, there were several instances where the caller (i.e. the Link Officer) was expected to know the system and process, and had to prompt/manage the call centre operative. In addition, they feel that some call centres automatically 'disengage' when they hear a foreign accent, resulting in truncated calls and an unsatisfactory experience for the client.

For most native UK citizens, there is an inherent awareness, an understanding developed over time, that they have certain rights and that there are systems they can access, for example to complain (even if they are not fully aware of what the system is). For those more recently arrived, there is not that same recognition of their rights and entitlements and this can create an additional inequality when dealing with for example the energy market.

Some of ELREC's communities find it difficult to understand all the aspects of space heating – many have come from countries where there is no need. Consequently, awareness of relative costs is low. Storage heating presents a particular challenge – there is a need to explain the concept of stored heat and its release as well as the different costs that apply at different times of day and/or for different types of energy use.

The Project Co-ordinator firmly believes that the only way to communicate the type of advice needed is face-to-face and in the home.

4. Research Methodology

The core element of this research was the delivery of four deliberative workshops across Scotland, designed in accordance with guidance from the Scottish Government and relevant academic and professional sources⁹⁵.

The workshop locations were selected to capture households in Scottish communities with large proportions of off-gas properties and exhibiting characteristics that pose particular problems for improving the provision of electric heating. These were:

- Renfrewshire (**W1**) - mixed urban / rural communities bordering an urban centre, high levels of poverty, fuel poverty, and other indicators of vulnerability. Also serves as the 'urban baseline' for the study.
- The Western Isles (**W2**) - isolated island area, far off the gas grid (unlikely ever to be connected), with high levels of fuel poverty.
- Argyll & Bute (**W3**) - rural and island region that poses associated problems for improving energy infrastructure.
- Kyle of Sutherland (**W4**) - Highland region, highly rural area with small, isolated communities, and with high levels of fuel poverty.

Prior to attending the workshops participants were sent a survey composed of questions on socio-demographic information and information about their homes (for relating to SHCS) and questions asking their opinions of examples of energy advice material available to them in their region. Participants were also provided with Stamped Addressed Envelopes (SAEs) and an email contact to return the surveys to EAS / GCU. An example is included in [Appendix B](#). Complete lists of the support material collated as part of this exercise are included in [Appendix D](#).

The purposes of this prior surveying were to ensure the participants had time to read the material and comment in their own time, and so would not need to read new information in the workshop environment, and to allow them to disclose any personal information that they might be uncomfortable disclosing to a group. Although only a limited number of participants returned the surveys the objective of providing prior information was met and in many cases, it was still possible to set them against SHCS categories using information held by the host organisation.

The workshops were designed to capture householders utilising a range of electrical appliance to heat space and water. Participants were recruited by the host organisations who, as far as possible, ensured that participants were a representative mix of their clients, and could be mapped to one of the household types as identified in the SHCS methodology. This is an adaption of '*stratified purposeful sampling*⁹⁶', where enough information is known

⁹⁵ E.g. Scottish Government, n.d. Scottish Government Social Research Group Social Science Methods Series: Guide 1: Deliberative Methods.

Rauschmayr, F., & Wittmer, H., 2006. Evaluating deliberative and analytical methods for the resolution of environmental conflicts. *Land Use Policy*. Vol. 23, Issue 1, January 2006, pp.108-122.

⁹⁶ Creswell, J.W. and Poth, C.N., 2017. *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.

to identify characteristics that may influence how the phenomenon is manifest. The sample sizes involved are so small that there is no intention to form generalisations about the whole population from the data, and therefore no need to employ random methods designed to preserve the central limit theorem⁹⁷.

The workshops used a semi-structured format to allow the research team to capture data on householder's perceptions and experiences on the costs and practices of using electric heating, their understanding of the support available nationally and locally, and the factors that exacerbate (vulnerabilities) or protect (resilience) those reliant on electric heating. The workshops were recorded in hand written notes and, with the permission of participants, recorded. The workshop structure and questions are provided in [Appendix D](#).

An important benefit of working with local partners to deliver the workshops is that the staff who facilitated them were 'emic' observers who had an established rapport with their clients and were able to provide clarifications from local and tacit knowledge. The term 'emic' means defining or relating to cultural phenomena as viewed from perspective of someone within that society, as opposed to an observer outwith the society (termed 'etic')^{98,99,100}. In this context we are able to place particular value and trust in what participants reported during the workshops.

To supplement this research a modified version of the survey was also sent to participants in EAS's 'Stay Warm, Stay Well' project however, the response rate was too low to provide valid quantitative evidence.

⁹⁷ Boston University School of Public Health, 2016. Central Limit Theorem.

⁹⁸ Speirs, J., 2000. New perspectives on vulnerability using emic and etic approaches. *Journal of Advanced Nursing*, 31, (3), pp.715-21.

⁹⁹ Middlemiss, L., & Gillard, R., 2015. Fuel poverty from the bottom-up: Characterising household energy vulnerability through the lived experience of the fuel poor: *Energy Research and Social Science*, 6, pp.146-154.

¹⁰⁰ Mould, R., & Baker, K.J., 2017. Documenting fuel poverty from the householders' perspective. *Energy Research & Social Science*, 31, (2017), pp.21–31.

5. Results and Discussion

Thematic Analysis of Workshop Outputs

Methodology

In developing a purposeful thematic analysis for the output of the four deliberative workshops, the methodology employed was derived from (Braun & Clarke: 2006)¹⁰¹. Close reading of the workshop data and mind mapping tools were employed to develop and codify the emergent themes. At first glance, data on the 'lived experience' of people with electric central heating appeared very negative however some positives did emerge from the analysis.

The data takes the form of detailed narrative descriptions from the researcher of the discussions that took place at the workshops. There are notes on the structure of each workshop and the level of knowledge of the participants. It is worth noting that the deliberative approach to the workshops necessarily incorporated the experiences of the support and advice available for electric heating from those with first hand or 'lived experience' through to those whose experience of electric heating is from professional expertise. Participants' views therefore reflected a more intimate knowledge of the issues than may be expected from a more general survey of the population. A decision was made by the project team, at an early stage, to reduce the structure of the workshops as described in [Appendix D](#) to allow the high level of knowledge of heating issues to flow more easily in a conversation style.

The broad themes all relate back to the research question / topic – “research into the advice and support services for households in Scotland reliant on electric heating”. All of the themes are inter-related and this was explored per theme.

Once the themes and their relationships have been established, Braun and Clarke suggest asking further questions of the data, including a story of the theme. Questions would be along the lines of:

- What are the assumptions underpinning this data?
- What are the implications of this theme?
- What conditions are likely to have given rise to this?

1. Engagement with the Energy Market

Engagement with the energy market emerged as a clear theme from the analysis.

The story that became apparent here is of customers feeling abandoned by 'big energy suppliers', and other organisations such as the Energy Ombudsman and the energy regulator (Office of Gas and Electricity Markets (Ofgem)), assumptions are being made about properties and applied across the board, and switching is very complicated. There are uncertainties with technical issues such as tariffs, issues around billing and problems with meters. During the workshops, negative emotions were expressed such as fear, frustration, feeling abandoned and also suspicion. Miscommunication was rife, and cost was a major concern. Mixed messages were received from energy suppliers and advice bodies. There was a concern that energy market policy was also causing issues, including misplaced priorities on competition and targets instead of individual customers' needs.

¹⁰¹ Virginia Braun & Victoria Clarke (2006) Using thematic analysis in psychology, *Qualitative Research in Psychology*, 3:2, 77 – 101

The mixed messages that were apparent in this theme, across all of the workshops, could be a result of poor or inadequate training of staff, or processes / procedures / policy changing and advisers not keeping up to date with developments. This point for the participants was that they don't really care; they just want reliable and impartial information so they can make informed choices and to know that they are paying a fair price for the energy they actually use.

It is important to highlight issues surrounding electricity tariffs in this theme. There were mixed messages surrounding the tariffs, which came across as overly complicated. Another technical issue in this theme which is particularly relevant to electric heating customers is that of restricted meters. There was a general lack of knowledge and confusion around switching when on a restricted meter / tariff.

There were some positive discussions around the potential of new technologies, such as smart meters and renewables, but it was generally felt by most, that they were too distant in the future, and most participants were worried about the cost implications of these and the requirement for advice on how to use them properly. There was also suspicion (especially in rural areas) about such technology (e.g. smart meters) unnecessarily spying on people, used to limit consumption or add to energy costs.

There was positive thought about the potential of new technologies. This potential was also inter-linked to the theme on [Control](#). Many felt that new technologies, such as smart meters, could lead to more control on their behalf; however, it was recognised that this is still a long way off, due to connectivity issues in rural areas. Other technologies discussed were a newer version of storage heaters e.g. Fischer and Quantum – there were hopes that these would be more efficient. There were a few hopes for the possibility of engaging more effectively with the energy market. The positives around engaging with the energy market were also about promise, not reality.

Switching energy supplier is one of the main pieces of advice given by the UK Government and other agencies to reduce costs. However, as shown here, it is not an easy fix. This has implications on the advice given by organisations. There is widespread confusion, especially among those with restricted meters/tariffs, about whether it is in their best interest to switch in the first place; if they do switch and it is not, it is then impossible for them to return to a legacy deal.

Other implications surround the communication given out on tariffs and energy bills, as according to this analysis, a clearer message is required. Historically, consumer engagement with the energy market has not been very positive. Despite the energy market having been referred to the Competitions and Market Authority (CMA) and recommendations made to improve competition, consumer confidence is going to take a long time to improve.

Data extracts from the workshops:

Mixed messages:

Re: discussion about the Homes Energy Scotland adverts featuring Doug the caterpillar–
“What’s it trying to say? Because it has nothing to do with those in fuel poverty, who are struggling to afford to heat their homes” W4

“Frustration re: some of the messages sent by e.g. Warmworks and (HES). People are being advised that the best option is renewables, but then told that the only installation they can have is electric storage heating” W2

Cost:

“It is too expensive to run properly” (speaking of experiences of living with electric heating)
W3

“Electric heating system from hell due to the excessive cost” W3

Switching

Seen as being a “complex process” – and “a one –off event” W4

Fear

“[Resident] doesn’t dare to touch the controls” W4

“An example was given of an elderly neighbour, sitting in the dark, wrapped in blankets, because she was paying £200 a month for her energy, which was unaffordable” W3

Metering Issues

“When a faulty meter is suspected, it can be difficult to get suppliers to acknowledge a problem exists” W4

Tariff Issues

“Caution to anyone interested in switching away from restricted tariffs (e.g. Total Heat Total Control) because it could end up costing individual customers more money” -comment attributed to a representative from Home Energy Scotland.

Frustration

“[Householders] are desperate for help, but they are often ‘bamboozled’ by energy” W1

Policy

“Quantum helps the council reach targets on energy efficiency, without any consideration of whether it is appropriate” W4

“The participants felt that Ofgem and individual suppliers are only interested in competition, reducing costs and maximising profits” W3

2. Local/Community Approach - focus on individual needs

The story rising from this theme is one of the high levels of support provided by the community. Whilst closely related to the following theme on [Knowledge and Understanding](#) this theme focuses more on the experiences of individuals rather than on the many.

A strong theme emerged around the benefits of the local communities and the services they offered, for example, the local community hub in one of the areas offered drop-in sessions, demonstrations and community activities. There was a clear feeling of the trustworthiness of these local communities. There are community benefits in terms of cash payments for energy, there is a sense of collaboration, all working together for the benefit of the community.

One issue strongly expressed at the workshops was that having their energy issue dealt with in the community resulted in a reduction in stress however health impacts were not mentioned explicitly. Concerns were raised in all of the workshops that trying to get help from someone located far away, by phone or internet, was difficult, due to that person not being able to see the individual circumstances that led to the need for help. Examples given were of the adviser not being able to see the specific heating and hot water systems, specific tariffs, unknown meter types, clear signs of dampness, reliance on blankets to keep warm etc. The implications of this arising from the workshops were that phone energy audits often get things wrong, such that a person may appear to qualify for support at first however, on subsequent contact they discover that they don’t. This often adds inconvenience, stress and

disappointment and could be avoided if community-based organisations are able to visit people in their own homes.

There was a link between the assumptions made by energy suppliers regarding peoples' properties in [Engagement with the Energy Market](#) and the absence of the need to make assumptions for the same by those working within the local community. A more intimate and empathetic knowledge of the individual circumstances of neighbours creating a more believable outcome, even where that outcome perhaps resulted in no real gain or a negative outcome.

Data extracts from the workshops

Individuals – “There is a widely held view that individual customers are not prioritised by the regulator or suppliers” W3

“it is essential that the adviser knows what the householder has in terms of heating/hot water system, tariff, meter type, etc.; so that the advice can be accurate and reliable” W4

“Treat people as individuals and everyone being entitled to help and support, rather than targeting help at certain groups” – W3

Comment made about the local advice service

“They treat everyone as an individual and not the same” W3 and also, “a holistic service that meets the needs of the local community” W4

Emphasis on local

“Encouraging the development of locally-owned power generation that can get consumers' costs down” W3

Under **individual needs**, on telephone advice “it is always going to be limited because a person at the end of the phone is never going to know about the person's home” W4

Individual – “Qualifying for assistance is complex and something that is difficult for individuals to navigate” W4

Community – “Community benefit funds have potential to develop communities at a time of scarce resources” W3

From the questionnaires:

“Meeting shorter term needs are more important for housebound elderly. Longer term spends to save benefit not so important for 85+ year olds!”

3. Knowledge and understanding

The following main theme is closely inter-linked with the previous theme on the [Local/Community Approach](#). Whilst that was concerned with how support services are delivered and the individual's experience of the advice, this theme was centred more on the ways that individuals and communities learn about the energy markets and systems in their homes; it covers repeat face-to-face advice, as well as leaflets and demonstrations and the potential for new technologies and the correct use of heating systems. It also covers the abilities of people to understand the advice and support.

This theme has both positive and negative strands. The positive story being told here has examples from the workshops on the quality of the advice and support received. There are many references to repeat face-to-face advice on a long-term basis being the best kind of advice, giving continual positive reinforcement. This advice helps vulnerable people, it gives

people the confidence to be able to correctly use their heating systems, and it provides a handholding service.

The promise of new technologies also comes into play here. Good advice and support could reduce stress. Repeat face-to-face advice has funding implications; many local advice agencies are struggling from year to year on short-term project funding; longer term funding is necessary for the continuation of these services.

From the questionnaires:

On local advice agencies - "They seem to be on a limited budget for literature to hand out. Pity as what they did give was easily read and understood"

Assumptions underpinning this theme are that people are able to understand the advice and support given; this assumes that all people are equal. There is a common view that providing advice and support is a one-off event, but as these workshops have shown, people themselves are complex and don't engage with information in a straightforward, linear way. As a result of this, repeat face-to-face long-term advice and support is essential.

Data extracts from the workshops

"Drop-in sessions at the Hub are well-attended for dealing with residents' queries, demonstrations and providing support for WHD applications" W1

"Handholding is important, so they can ask questions to check understanding 'keep him until I get it'" W1

"Group members specifically stated that they were more confident about asking questions while at the Hub/drop-in sessions" W1

From the questionnaires:

"We need face-to-face advice. We received no advice at all after the install"

The negative strand of this theme is associated with [Engagement with the Energy Market](#), but it is also linked with the other overarching themes. There are lots of emotions and feelings around barriers, lack of awareness, the conflicting messages coming through here, the worries. There were many instances of confusion, frustration, fear being expressed through the workshops. The confusion was related to the complexity of the issues surrounding electric heating – 'complex' and 'complexity' was frequently mentioned in connection to most issues raised in the workshops.

The ability of individuals to understand the advice and support available was a common message, we don't all learn and comprehend in the same ways, examples of this are mechanisms to cope with dyslexia and dementia. Some mention is made of basic literacy and numeracy issues as primary factors for customers leading to debt. All this has implications on the type of advice given, this needs to be clear and coherent for all audiences. There needs to be checking for understanding over more than one visit.

The conditions likely to have given rise to this theme are lack of funding for face-to-face advice, many projects being short-term only and information coming from lots of different agencies with different priorities.

Frustration with telephone support is included under this theme, also frustration at the lack of choices. The telephone support referred to was advice lines and those of energy suppliers. Another issue under this theme was time, this taking a few different forms, such as the time

it can take to access support from energy suppliers, the time before new technologies, such as smart meters, come into effect, disputes on metering issues lasting a long time.

Data extracts from the workshops

“Not knowing” and “not receiving advice” were common phrases from the workshops.

“It is the lack of support available to households that is the biggest problem. Numerous people talked about ‘getting lost’ using the manual controls, and the handbooks that come with the heaters just make things more confusing” W4

“There was no knowledge amongst the householders of the CMA’s single rate remedy” W4

“The council should be providing advice and support to council tenants, but provision is patchy and fragmented” W4

“Vulnerable consumers find it difficult to engage with material that is overly complex and full of jargon” W3

“The population is generally disengaged and feels abandoned” W3

From the questionnaires:

“The written advice contradicts what was offered....Told we needed an E7 meter but not given any info about what that means” This also links to the issues around mixed messages coming via the engaging with the energy market theme.

“All energy advice useful but can be irritating when you aren’t able to change or afford the cheaper options and [it] being rubbed in that electric [is] the worst for your pocket and environment”

“Language – Chinese. One to one engagement (rely on other people)”

4. Affordability/fairness

This theme is linked to the potential of the energy market and new technologies which came through in the analysis. It is also linked to [Engagement with the Energy Market](#), due to the cost references. There was a real sense of ‘able to afford’ cutting past all of the schemes and initiatives available. Participants, especially in the workshops in rural areas, were concerned about the ‘rural premium’; they were also worried about the fairness of having different people in different areas of the country paying different amounts for their energy.

There was a real emphasis that people think more about saving money than anything else. There were a few mentions of fuel poverty, in relation to policy such as the fuel poverty definition and cutting off support to those who need it, and in relation to being helped by renewable technology. The narrative developing in this theme is focused on high costs; almost every subject discussed in the workshops had some expression of concern / worry regarding high costs. Even the potential that new technologies may bring was offset by worries over high costs. People are facing difficulties with costs in all areas, making this theme highly inter-linked with the others.

One implication of this theme is that people are most concerned about their own individual ability to pay, this needs to be taken into account by policy-makers, when designing schemes, rather than focusing on targets. Conditions likely to have led to this theme is that there are issues at present with people paying different amounts of energy depending on where they live, due to the cost of transporting that energy.

Data extracts from the workshops

“[The] variation between customers’ experience and the amounts of money they are spending for energy is staggering” W3

“People just want to know what they are paying for and that they are paying a fair price” W2

“People want to be paying for just the energy they use” W2

“Climate change isn’t strong with most ordinary folk, especially the elderly. Saving money is, because financial decisions are seen as important” W2

“[The] key issue was the cost per unit of electricity which is excessive compared to other types of energy” W4

“Most people in the room felt that those on Total Heat Total Control were being penalised unfairly due to having little or no choice in how to heat their homes” W4

From the questionnaires:

“Not sure costs are accurate” (re: Changeworks’ information)

“Discouraging to learn only option is the most expensive!”

“Other than stating the obvious that electric heating is the most expensive heating, there is no comparative costs with other forms of heating, or details of the different electric heating tariffs”

“A lot of people have no option when they rent a property, you have to go with the heating installed. Landlords should be more considerate of their tenants’ affordability of the heating they have in the property”

5. Control

Control, in the workshops, was expressed as a concept, as well as the control afforded by using heaters in a certain way. This is also linked with the engagement with the energy market theme, under technical issues such as the inefficiency of heating systems. This inefficiency belongs under this theme as this resulted in a lack of control over the heating systems. It also relates to the consumer and their willingness, but inability, to engage fully in the market.

Control was most often expressed as a lack of control. There were coping mechanisms explicitly discussed in order to bring control back to the customer. Examples of these include turning individual heaters off, using plug-in heaters rather than storage heaters, not using storage heating at all, only heating certain rooms, putting on extra clothes. Lack of control leads to stress.

The negativity and suspicion felt towards energy suppliers was also grouped under this theme, because of the feeling of a lack of control.

One assumption underpinning this theme is that people know how to use their heating systems correctly. Lack of advice and support post-installation are likely to have given rise to this theme. The mixed messages and misinformation, referred to under the knowledge and understanding theme, could potentially have led to this situation.

Data extracts from the workshops

“The residents have been promised by the HA that their old storage heaters will be replaced by Dimplex Quantum storage heaters, which will give them more control” W1

“Lack of control with much electric heating is a difficulty e.g. storage heaters aren’t always controllable” W2

“[Plug-in heaters] give households control about what heat is used and when” – W3

The name of the tariff Total Heat Total Control gives the impression that control is achieved however, in one workshop, it is viewed as “being a waste of money because the heating is coming on during the day when most people are out at work” W3

From the questionnaires:

“I feel powerless as being a tenant I do not have the opportunity to change or upgrade the heating system”

6. Conclusions

- There is a substantial and growing body of evidence, to which this report adds, that the energy advice and support needs of fuel poor and otherwise vulnerable households is most effectively delivered by personalised, face-to-face and in-home, community-based support delivered by locally-based staff ('trusted intermediaries') operating from services with strong local and social recognition. The complex and rapid changing domestic retail market for electrical energy, from tariff products to the impact of regulation makes this method of engagement critical to positive outcome for consumers.
- Services described as 'energy advice' around Scotland are very varied in both what is provided and how householders describe the usefulness of this to the issues they experience. It was not the intention of this research to generalize about the effectiveness of different delivery modes for 'energy advice' however, the deliberation at the workshops did offer a strong opinion of this range which can be grouped into one of three broad categories and one very specific critical support service.
 - a. Basic information service e.g. websites, social media, leaflets, etc, characterised by a one-way information flow
 - b. Remote advice service - telephone or online i.e. some level of interaction and tailoring of information provided
 - c. Face-to-face energy advice -
 - i. Energy advice provided outwith the home context, e.g. events or surgeries
 - ii. Energy advocacy – usually in the home, characterised by a longer-term advisor / client relationship, probably engaged in representing the customer in some way with their energy supplier.

Note on the Extra Help Unit (EHU) - where complexity or particular vulnerability requires a professional level of help to navigate around the conventions, rules and legalities of the energy supply market in GB. It is important to note that the EHU should not be considered as operating in the same space as telephone based energy advice even though much of its work is conducted in this way. The EHU caseload covers very complex issues, and often the telephone is the only reasonable means to managing the process for customer and supplier.

- The issue of effective communication is critical for minority communities who already face linguistic barriers. Supplier call centre staff do not all have a uniform level of understanding about complex issues (e.g. restricted electricity tariffs) that would enable them to provide information and support in a way that in turn would suit the level of understanding for some of Scotland's minority communities. Without advocacy, consumers from these communities are unable to access the type of support available to the wider population. It is also recognised that an accented customer voice on the telephone creates a disconnect that leads to call centre staff engaging less fully and resulting in a poorer service for these consumers.
- Amongst respondents there is a recognition that services acting as advocates for consumer issues are at breaking point. There is an epidemic of disputes between

customers and suppliers across the energy industry that statutory services such as Citizens Advice Scotland are constantly dealing with. There are long waiting times to obtain help and, in many cases, this is adding to the disengagement with the market and general feelings of distrust and despondency. Whilst this is not necessarily just an issue for electric heating, the complexity of the electricity supply industry in Scotland means that there are very particular problems that are unique to this energy market.

- There was substantial evidence coming through the workshops about consumers receiving mixed messages on all aspects of the electricity market, such as tariffs, types of meters, energy saving tips, and switching. There are so many different messages coming to consumers from support agencies, energy suppliers, installers of energy efficient measures, government that the messages around electricity and the wider issue of saving energy are becoming confused. On one level, there is confusion with the information which advisors are passing on to consumers, and on another level, the information being provided by industry does not match the advice being given by advisors. Clarity and coherence is needed across all levels of organisation and service delivery.
- Labelling of large numbers of households and the use of broad-brush archetypes to categorise householders, along with the related problems of using blunt thresholds to apportion eligibility for support, are, we argue, key failings of the current support and advice services available for fuel poor and otherwise vulnerable householders reliant on using electricity as their main energy source. A client-centred approach led from community intelligence with advocate facilitated outcomes may not fit with a volume focussed output. However, there are undeniably many un-costed benefits associated with this type of intervention.
- The current tariff market is creating disengagement amongst householders, particularly those on dual electric meters where the tariffs being promoted are not always the most appropriate for them. This is one reason why householders targeted by tariff switching campaigns drop out of the process whilst others simply refuse to switch, even when this is to a cheaper tariff with the same supplier.
- Householders using electric heating have specific information and support needs in relation to both technologies and tariffs. As regards information on how to use electric heating, clients with the capacity to understand and act on the written information currently available to them were generally positive about it however, such information is insufficient for addressing the needs of less able householders.
- Where householders are able to have greater control over their heating they do make use of that flexibility, and electric heating systems offer particularly high levels of flexibility. In some cases, householders will choose to make savings by reducing internal temperatures (energy rationing) which introduces a significant condensation risk. However, such greater flexibility enables consumers to make more incremental adjustments and benefit from lower costs at times of low network demand, rather than making 'all or nothing' choices. The key to the implementation of consumer flexibility is clear advice and support which may require a closer advocacy relationship where vulnerabilities or inequalities are present.

- There are many factors that influence the cost/affordability of fuel bills for those using electricity to heat their homes. There are many measures already in place, e.g. the 'safeguard tariff', (following on from the CMA Energy market investigation, 2016) that will help reduce costs for some consumers such as those in the pre-payment meter market and those considered 'vulnerable', but these are currently quite reactionary and this individualistic 'price control' approach is in its infancy. It is not known what, if any, unintended consequences may arise from these actions.
- Innovations in off-peak tariffs and electric heating and storage are out-pacing legislative and regulatory change. The current regulatory environment, the treatment of electric heating by energy labelling schemes and domestic energy models e.g. Standard Assessment Procedure (SAP), and the advice being provided to households with electric heating systems is outdated, and is serving to drive low technology solutions to the fuel poor, when they have the most to gain from high technology solutions.
- The preponderance of low tech 'solutions' to fuel poor householders with electric heating who cannot afford costly (and often unadvisable) heating system conversions is engendering feelings of being left lumbered with their systems and having to make do with poor quality heating, whereas they could be receiving significant benefits from new technologies and tariffs.

7. Recommendations

Four broad domains are presented in which recommendations are proposed to either provide a better experience for consumers reliant on electric heating or where a clearer understanding of the reality for electric heating may assist in the development of improved support services. Going forward and building on this research, it may be constructive to present the findings and recommendations to key stakeholders operating in these domains to gauge the feasibility and practicality of such consumer generated insight.

7.1 Delivery of Energy Advice and Advocacy

- I. An industry consensus and standardised approach to the training of energy advisors/advocates is urgently needed, organisations need to be confident that advisors are able and competent to deliver robust and consistent advice. Lessons from the Green Deal highlight a need for some thorough risk analysis and indemnity for the type of advice being provided by organisations. An industry consensus view on a 'code of practice' (CoP), the shape of which would by its nature need to be determined by the industry at large. Within the context of such a CoP we would see the issue of skills and knowledge being handled either by proscribed qualification(s) or internally within organisations, some approved induction and coaching which would satisfy the organisation's indemnity for provision of energy advice. For certain types of energy advice support services, this could go as far as requiring a professional approval or 'quality mark' for energy advisors.
- II. The advice and guidance on options for upgrading electric heating systems that is currently available to householders needs reviewed to reflect the savings and other benefits available from new heating and storage technologies.
- III. More funding and resourcing is needed to realise the significant benefits (and co-benefits) of personalised, face-to-face and in-home, community-based support delivered by locally-based staff ('trusted intermediaries') at long-established services with strong local and social recognition. These services are fundamental to overcoming the perceived barriers around reaching the 'hard to reach', this is particularly so where electricity is used to provide heat. A particular complexity exists in both the retail market for tariffs and in the technical/engineering solutions for delivery of affordable warmth with electrical appliances.

7.2 Energy Markets

- IV. The implementation of measures such as the safeguard tariff price is a limit determined from the average market price paid for by gas and electricity. An unintended consequence of this may be that more generally energy prices outwith the scope of the safeguard are increased to maintain an equivalent market profit level and that the average cost in effect rises, thus increasing the safeguard. However, a positive outcome would be that vulnerable consumers should not be exposed to the extremes of pricing or evergreen SVTs.
- V. The regulator should take a specific interest in those energy services that are electricity only, and within a Scottish market context. Published market data on pricing differentials in the electricity only market alongside that expressed for the dual fuel markets. The regulator does appear fixated on dual fuel, and we would question if the gaps between SVT and the cheapest direct debit are as wide a span for

electricity alone. Much of what is publicised as ‘the market’ is in fact the dual fuel market, and may not reflect the position of electricity only consumers. In addition, the data presented in much of Ofgem’s retail market indicators (RMI) analysis does ignore the sub-250k market.

7.3 Impact on Fuel Poverty

- VI. More needs to be done to enable support services to identify and support householders at transition points in their lives. These may be positive transitions that can be used to leverage energy efficiency improvements (e.g. moving home, expanding families) or negative transitions (e.g. relationship breakdowns, poor health diagnoses) that leave them exposed to falling into the negative feedback loops associated with fuel poverty and its impacts. There is a strong relationship between changes in life and the need to change energy use i.e. requirement for longer heating periods or higher temperatures.

- VII. Amongst those who commented there is a general consensus across service users, service providers, industry, and researchers that an adjustment is needed for rural and island householders under the new Scottish definition of fuel poverty. In particular, not including an adjustment is expected to disproportionately affect households in these areas using electric heating. The issues relating to a wider disparity in the costs of living or ‘rural premium’ are also expressed in rural consumer fuel choices. In relation to electricity used for heating, customers are reliant on using off-peak or time of use (ToU) tariffs which in most cases are more expensive for the on-peak units, or which have much higher standing charges (daily service charges). In practice this means that supplementary heating not utilising off-peak electricity is more expensive per unit, additionally the cost of using electricity for non-heating purposes is more expensive for those on ToU tariffs.

7.4 Public Policy

- VIII. There needs to be a critical review of how the true costs of electric heating are reflected within the national statistics which inform the policy to tackle fuel poverty. There are some structural issues in the methodology relating to how different tariffs and the range of prices actually paid by consumers are modelled to provide a true cost picture of the reality of using electric heating in Scotland.

- IX. The environment needs to change to drive high technology electric heating, innovative tariffs, smart technology and storage solutions to fuel poor householders first, as they stand to receive the greatest benefits from these technologies. New product development will tend to follow an inside-out strategy to target innovation at volume profit consumers. A social justice principle would demand that we follow an outside-in market development which focuses success on tackling those most in need first.

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Appendices

Appendix A: Bibliography

Appendix B: Energy advice survey

Appendix C: Support literature collated as part of delivering the workshops

Appendix D: Workshop structure and questions

Appendix E: Consumer Voices

Appendix F: Organisations and initiatives in Scotland providing support and advice services for electric heating

Appendix A: Bibliography

Notes on the approach to the literature review

- 'Grey' literature was time-limited to the last 10 years unless it covered material or issues not covered substantially elsewhere. Academic literature was not time-limited.
- Annual publications and any that have subsequently been updated, aside from Government publications, were excluded.
- Position papers, responses to consultations, and presentations were generally excluded unless they relate to planned or proposed schemes.
- Paid-for publications (aside from journal papers) were generally excluded.
- The scope of literature covered was designed to support the wider needs of the project so and includes coverage of methodological studies (e.g. on designing participatory studies) as well as evidence on householders' needs.

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Appendix B: Energy advice survey

NB: The following questionnaire is an example of that provided to workshop participants. The surveys were tailored to the materials available in each region. All advice and information provided on electric heating has been faithfully reproduced from publicly accessible internet based sources in order to facilitate this research. All rights and responsibilities for the information are reserved to the original author.

Personal Details

In order to better understand your circumstances as a householder we are asking for a small amount of personal information. This is optional but would greatly aid our understanding of the results. The information you provide here will be treated in strictest confidence and not reported individually.

Q1. Please tell us about your gender:

Prefer Not to Say <input type="radio"/>		
Male <input type="radio"/>	Female <input type="radio"/>	Other (please specify) <input type="radio"/>

Q2. Please tell us about your age:

16 to 25 years old <input type="radio"/>	26 to 39 years old <input type="radio"/>	40 to 55 years old <input type="radio"/>
56 to 64 years old <input type="radio"/>	65 years and over <input type="radio"/>	

Q3. Please tell us about your highest level of education:

No formal education <input type="radio"/>	College (NVQ, BTEC, etc) <input type="radio"/>	Other vocational qualification <input type="radio"/>
Standard Grade / GCSE <input type="radio"/>	Scottish Higher / Advanced Higher / 'A' or 'AS' Level <input type="radio"/>	
Undergraduate BSc / BA Degree <input type="radio"/>	Post-graduate degree / PhD <input type="radio"/>	
Other professional qualification <input type="radio"/> (<i>please explain</i>)?		

Q4. Please tell us about your proficiency with the English language:

No proficiency <input type="radio"/>	Elementary proficiency <input type="radio"/>	Limited working proficiency <input type="radio"/>
Professional working proficiency <input type="radio"/>	Native or bilingual proficiency <input type="radio"/>	

Q5. Please tell us about your employment status:

Employed full time <input type="radio"/>	Employed part time <input type="radio"/>	Unemployed and seeking work <input type="radio"/>
Permanently retired from work <input type="radio"/>	Self employed <input type="radio"/>	In further/higher education <input type="radio"/>
Looking after the home or family <input type="radio"/>	Government work or training scheme <input type="radio"/>	
Permanently sick or disabled <input type="radio"/>	Unable to work due to short-term illness or injury <input type="radio"/>	
Other <input type="radio"/> (<i>please explain</i>)?		

Q6. Please tell us about how you occupy your home:

Owned outright <input type="radio"/>	Owned with a mortgage <input type="radio"/>	Rented from a council <input type="radio"/>
Rented from a housing association <input type="radio"/>	Rented from a private landlord <input type="radio"/>	
Other <input type="radio"/> (<i>please explain</i>)?		

Q7. Please tell us about the total number of people living in your home:

1 person <input type="radio"/>	2 persons <input type="radio"/>	3 persons <input type="radio"/>	4 persons <input type="radio"/>
5 persons <input type="radio"/>	6 persons <input type="radio"/>	7 or more persons <input type="radio"/>	

Q8. Please tell us about your total annual household income:

(NB this is a rough estimate of your **net income**, plus that of your spouse / partner)

£0 - £7,500 <input type="radio"/>	£7,501 - £16,500 <input type="radio"/>	£16,501 - £23,000 <input type="radio"/>	£23,001 - £30,000 <input type="radio"/>
	£30,001 - £35,000 <input type="radio"/>	£35,501 - £40,000 <input type="radio"/>	Over 40,000 <input type="radio"/>

Q9. Please tell us how much you spend per year on electricity:

(NB you may find this figure on an annual statement from your supplier)

Under £600 <input type="radio"/>	£601 to £1000 <input type="radio"/>	£1001 to £1500 <input type="radio"/>	£1501 to £2000 <input type="radio"/>
£2001 to £2500 <input type="radio"/>	£2501 to £3000 <input type="radio"/>	£3001 to 3500 <input type="radio"/>	Over £3500 <input type="radio"/>

Changeworks

Overleaf are examples of advice provided by *Changeworks*. Based on this and any other advice on electric heating you may have received from the organisation please could you tell us:

Q1a	If you were aware of the service before receiving this survey?	Yes <input type="radio"/>	No <input type="radio"/>
Q1b	If you have previously received advice from this organisation?	Yes <input type="radio"/>	No <input type="radio"/>

Any additional comments:

Q2. As a householder with electric heating, how useful do you find this information:

Not very useful | Not useful | Neutral / no opinion | Useful | Very useful

Please explain your answer:

Q3. What, in particular, was most useful about this advice:

Q4. What was least useful about this advice:

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Q5. What further action(s) might you consider to improve your understanding of electric heating?

Contact organisation by telephone <input type="radio"/>	Contact organisation by email <input type="radio"/>	Check social media for advice <input type="radio"/>	Go to another trusted organisation <input type="radio"/>
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I'm happy with information provided, and it would meet my needs

This does not meet my needs and would not encourage me to seek further advice from this organisation or any other

Q6. Please add other comments you wish to make here?

Any additional comments:

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Heating Cost Comparison

Fuel	Appliance	cost per hour
Gas	Gas fire on full on medium on low	12p 8p 5p
	Normal gas central heating, (including water heating) in very cold weather in cold weather in mild weather	48p 25p 19p
	Warm-air gas central heating (including water heating) in very cold weather in cold weather in mild weather	17p 12p 6p
	Wall-mounted gas flued heater on full on medium on low	7p 6p 3p
Bottled Gas	Calor gas heater on full on medium on low	69p 50p 17p
Electric	Bar fire 3 bars – 3kW 2 bars – 2kW 1 bar – 1kW	43p 29p 14p
	Oil filled radiator – 1kW	14p
	Fan heater – 2kW	29p
	Convactor heater – 2kW	29p
	Immersion water heater	43p

Mains gas is cheaper than electricity

Bottled gas is expensive, and causes condensation

Remember – You may also pay a daily standing charge for your fuel. Fuel suppliers who do not have a standing charge generally charge more for some of the fuel that you use.

Energy saving tips

1. It is cheaper to use your gas central heating system or gas fire than to use plug in electric heaters like bar fires and fan heaters.
2. If you have gas central heating don't use an electric immersion to heat your water. It is much cheaper to heat your water using the gas central heating system.
3. Replacing an old, inefficient boiler with a more efficient modern one will save you money in the long-run. This is because an old inefficient boiler needs more gas to heat your house than a new efficient boiler.
4. If you are going to replace your gas boiler, speak to Home Energy Scotland on 0808 808 2282 about what to replace it with. The most efficient (condensing) boilers are up to 90% efficient. Conventional boilers and back boilers are usually less than 70% efficient.

Electricity costs are worked out using a rate of 14p per kWh. Gas costs are worked out using a rate of 3.9p per kWh. You may also have to pay standing charges of approximately £1.95 for gas and £1.60 for electricity per week. These are an average of the prices of the six major suppliers' standard tariffs in June 2016 and include VAT.

Calor Gas prices are based on manufacturers' own data.

All figures are approximate – actual costs will depend on a number of factors including: the size of your house, the age and size of your heating system and the level of insulation which you have. Central heating costs are based on an average 3 bedroom semi-detached house in Scotland.

**For more advice call
Home Energy Scotland
on freephone 0808 808 2282**

Storage Heaters

What are storage heaters?

Storage heaters switch on at night when electricity is cheapest, and are the cheapest form of electric heating when used correctly. The electricity heats a core of heat retaining bricks inside the storage heater. The bricks store the heat at night and release the heat during the day.

How are they controlled?

There are two controls on most storage heaters, an INPUT control and an OUTPUT control.

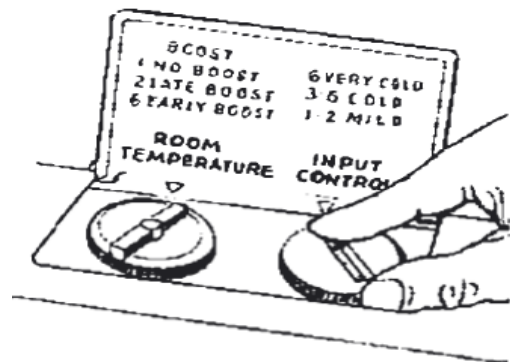
1. The INPUT control tells the heater how much heat to store up during the night. This should be set dependent on how cold you think it is going to be the following day. Generally the settings are:

- Low to medium (1 to 4) in spring and autumn
- Medium to high (5 to 9) in winter.

The higher the setting, the more electricity it will use. If there is no input control the heater will automatically decide how much heat to store.

2. The OUTPUT control tells the heater how much heat to let out into the room by opening and closing a vent inside the heater. It can also be called **BOOST** or **ROOM TEMPERATURE**.

- If the output is set at 1, the vent will not open at all
- If the output is set at 2, the vent is opened and closed automatically by a thermostat. The vent closes when the heater stores up heat. It opens to let the heat out gradually through the day, before closing again at night when it stores up heat.
- If the output is set higher than 2, heat is released faster and the heater will get cold very quickly. The vent will close when the heater stores up heat, but will open again to let the heat out afterwards.



Points to note

- Do not put ornaments or clothing on top of the heaters as the cases of the heaters can get very hot and you could risk a fire, or break your heater.
- Sometimes the thermostats inside the heaters can become faulty, so if your heaters start to get very hot or do not switch on at all, either contact your landlord or an electrician for their advice.
- If you have storage heaters, use them! They may look big and bulky but because they use off-peak electricity they are much cheaper to use than bar fires or panel heaters. A well controlled storage heater should give you 10 hours of useful heat a day.

Hot water heating with off-peak electricity

If you have storage heaters you should also be able to make use of cheaper electricity to heat your hot water. You should have a hot water timer either in your kitchen or in the cupboard near the hot water tank.

The timer will automatically switch an immersion heater in the hot water tank on for about 5 hours at night when cheaper electricity is available. If you need to heat extra water during the day you can use the 'boost' control.

To heat water up during the day is much more expensive, so if you find you are using your boost control frequently, check that the clock on your timer is set to the correct time.

**For more advice call
Home Energy Scotland
on freephone 0808 808 2282**



Electric storage heaters

Storage heaters are commonly used in tenements. They use cheaper electricity overnight to store heat in the heaters 'thermal' bricks which release heat during the day.

Storage heaters are more expensive to run than gas central heating, do not provide heat on demand and some people find them difficult to use. However they are low maintenance and don't require regular servicing.

Newer storage heaters are more efficient. You may decide to replace your storage heaters if they are very old or broken. Putting in newer models will save you money on your heating bills. New heaters will cost about £700 each⁴. You might be interested in installing gas central heating; this is likely to be more expensive as you will need a new boiler, radiators and pipes.

New storage heaters

Modern storage heaters are typically slimmer and take up less space. They are better insulated and keep heat in for longer.

You can also buy smart storage heaters. These give you better control as you can time when you want heat to be released, as with a gas central heating system. You can set the temperature you want to heat the room to. These heaters also contain fans to push more heat into the room and only charge up when needed.

⁴ Source: Energy Saving Trust (2015)

- Understand how to use your storage heater controls – refer to [Factsheet 6](#).



Things to consider

- Modern storage heaters are expensive to buy but you can replace them one at a time, unlike putting in gas central heating.
- Make sure your electricity is set to an Economy 7 tariff (or similar, such as Economy 10) as this will be cheaper. To check this, look at your electricity bill or phone your electricity supplier. If you don't have an Economy 7 meter, your supplier can install one.
- If you are on Economy 7, you will get seven hours of cheaper electricity, usually overnight. Electricity during the day is more expensive. Using other electric heaters (e.g. fan heaters) regularly during the day is likely to be much more expensive than using your storage heaters.





Wood burning stoves

These are heaters which burn wood to heat the room that they are in. They can be used in addition to other heating systems such as gas central heating and are considered more environmentally friendly because they use wood.

You will need a qualified heating engineer to size and install the system. A stove using wood pellets will cost around £4,300⁵ to put in and a stove using logs will cost about half this.

Wood burning stoves can be used in tenements if:

- You are not in a 'smoke control area'. Check with your local authority.
- Your chimney is in good condition. You will need to fit a flue: this will cost more if you are in a lower floor flat (as it has to go further to reach the chimney top) and you may need planning permission. The flue will need to be swept regularly.
- You have a sheltered space outside where logs or wood pellets can be stored (unless you buy them a bag at a time and keep them in your flat).
- You can get a regular supply of good quality wood, preferably from a local and sustainable source.
- You are able and happy to do the work required to use and maintain the stove. This may involve collecting fuel from outside (sometimes in bad weather), carrying it upstairs and clearing ash from the stove regularly.
- You have adequate ventilation in the room. A heating engineer can check this.



Heat pumps

There are two main types suitable for homes: **air source heat pumps** (ASHPs) and **ground source heat pumps** (GSHPs). Heat pumps use electricity to take energy from the air or the ground to then heat your home. They are classed as 'renewable' because they generate more energy than they use. Because of their running costs, they are best suited to homes where they can replace electric or oil heating, not gas.

ASHPs typically cost around £7,000 – £11,000⁶ and GSHPs £11,000 – £15,000⁷. You may be able to get **Renewable Heat Incentive** (RHI) funding – see [Factsheet 1](#).

Seek advice on the suitability of your home. Both systems are best suited to homes that are well insulated, draught-proofed and have large radiators or underfloor heating. ASHPs fit on or near an outside wall so are only suitable if you live in a ground floor flat with outside space. GSHPs require outside space such as a garden to bury the pipework. They are not suitable for most tenements due to the space they need.

You will need planning permission for both types of heat pump. You may also need permission from your neighbours if the area you put the heat pump in is shared.

FOR MORE INFORMATION about renewable heating systems call Home Energy Scotland on 0808 808 2282 or go to the [Energy Saving Trust](#) website.

5, 6, 7 Source: Energy Saving Trust (2015)


CHANGEWORCS



Produced June 2015 by Changeworks for Citizens Advice Scotland as part of Save energy, save money and stay warm: your guide to energy efficiency in tenements.

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[Changeworks.org.uk](#) Inspiring change for people and the environment

Home Energy Scotland

Overleaf are examples of advice provided by *Home Energy Scotland*, which also operates a national telephone helpline for energy advice. Based on this and any other advice on electric heating you may have received from this organisation please could you tell us:

Q1a	If you were aware of the service before receiving this survey?	Yes <input type="radio"/>	No <input type="radio"/>
Q1b	If you have previously received advice from this organisation?	Yes <input type="radio"/>	No <input type="radio"/>

Any additional comments:

Q2. As a householder with electric heating, how useful do you find this information:

Not very useful | Not useful | Neutral / no opinion | Useful | Very useful

Please explain your answer:

Q3. What, in particular, was most useful about this advice:

Q4. What was least useful about this advice:

Q5. What further action(s) might you consider to improve your understanding of electric heating?

Contact organisation by telephone <input type="radio"/>	Contact organisation by email <input type="radio"/>	Check social media for advice <input type="radio"/>	Go to another trusted organisation <input type="radio"/>
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I'm happy with information provided, and it would meet my needs

This does not meet my needs and would not encourage me to seek further advice from this organisation or any other

Q6. Please add other comments you wish to make here?

Any additional comments:

Electricity is currently the most expensive and carbon-intensive heating fuel available in the UK.

Electricity is currently the most expensive and carbon-intensive heating fuel available in the UK. The preferred option for anyone with storage heaters is to replace them with a boiler or heat pump, with radiators or underfloor heating. This can cost a considerable amount to install but can save money in the long term.

It might be worth considering a form of low carbon heating such as a heat pump or biomass boiler. Whilst these can be expensive to install, they can bring large savings on your energy bills and you can also get payments from the government from the Renewable Heat Incentive (RHI). This means a renewable system these may be a cheaper overall, as well as reducing your carbon emissions.

Alternatively you may want to get a gas connection to your home. The company that owns and operates the gas network in your area may be able to help with the cost of getting a new connection, and it may even be fully funded. Contact them for further information.

A new gas boiler will typically cost around £2,300 plus the cost of the radiators, but you could cut the cost of your heating bill by nearly half and save by around £560 a year.

If you don't have a gas supply to your house but it is available nearby, you may be eligible for a grant towards the cost of having a connection put in.

If you decide to keep your electric heating then it could be beneficial for you to upgrade your heaters.



How can I upgrade my electric storage heaters?

If you cannot install a whole new central heating system, then you could install new heaters with better heat retention and improved controls. New storage heaters can be quite pricey, but can be cheaper to install than central heating, and you don't have to replace them all at once.

Fan-assisted storage heaters

Modern slim line fan-assisted storage heaters are better insulated, so are more able to store heat - that can be used when you need it, rather than leaking heat constantly throughout the day. Their heat output is more controllable, so you can heat a room up faster or keep it cool if you're not using it. They vary considerably in price, but expect to pay around £700 each.

Automatic charge controls

Modern controls on storage heaters allow you to set a thermostat so that the heater switches off when it has reached a certain temperature. A heater with automatic charge controls will automatically control how much heat it stores overnight, depending on the heater's internal thermostat as well as changes in daily weather patterns.

Celect-type controls

A system with Celect-type controller will monitor heaters in all rooms and automatically control how much heat is stored or released in different rooms.

High heat retention storage heaters

These are storage heaters that are able to retain more heat than other models. This means that less heat is wasted throughout the day and more heat should be available when it is needed, for example in the evening.

These storage heaters will come with Celect-type controls.

Finding an installer

You should always use a qualified electrician to fit or replace storage heaters.

In England and Wales you can use the [Competent Persons Register](#) to find an electrician who is registered with a Government-approved accreditation scheme.

In Scotland you can use the trade association for the electrical industry, SELECT, has a 'find a contractor' search engine so that you can find a SELECT electrician in your area. SELECT members follow the association's [sic] code of practice to ensure high quality customer service.

Is replacing storage heaters a DIY job?

Replacing storage heaters is never a DIY activity as the heaters need to be wired into their own electricity circuit in your home.

How should I use the controls for storage heaters?

If you cannot replace your storage heaters right now, then you need to use the controls effectively to keep warm without wasting energy and money.

Electric storage heaters use off-peak electricity to 'charge up' overnight and then release heat during the day.

A standard electric storage heater has two controls - an 'output' setting and an 'input' setting. The output setting will control how much heat is given out (as long as there is stored heat available). The input control determines how much electricity the heater will take from the grid during the coming night, and hence how much stored heat will be available the following day.

So you need to set the output dial according to how much heat you want now, and the input dial according to how much heat you think you will need tomorrow. If a heater runs out of heat in the evening while you still need it, or if the weather gets colder, you may need to turn the input dial up. If the weather gets warmer, or the heater never runs out of heat in the evening, you can probably save money without getting cold by turning the input dial down.

Turn the output dial to zero before you go to bed or go out, so you're not wasting energy overheating empty rooms. You can do this about an hour before you go to bed, as it will take a while for the heater and room to cool down.

When summer comes and you don't need the heaters any more, turn them off at the wall, not just by turning the dials to zero. You will need to turn them on again the day before you need the heating to come back on.

Room thermostats

Similar to a central heating room thermostat, a room thermostat helps keep rooms at a comfortable temperature. When the air around the thermostat dips below a set temperature, the storage heaters will release heat until that temperature is reached.

Room thermostats need a free flow of air to sense the temperature, so they must not be blocked by curtains or furniture, or put near heat sources.

Your room thermostat should be set to the lowest comfortable temperature - typically between 18 and 21 degrees.

How should I use the controls for an electric water heater?

Cylinder thermostat

Your hot water is stored in a cylinder, and the thermostat prevents it becoming hotter than necessary. Once the water has reached the temperature you have set, the immersion heater will switch off.

Cylinder thermostats are usually fitted between one quarter and one third of the way up the cylinder. They have temperature scales marked; you should set it at between 60 and 65 degrees.

Time switch

A separate hot water time switch will let you heat the right amount of water at the right time, and take advantage of off-peak Economy 7/10 tariffs. By signing up to one of these tariffs, and setting the timer to heat water at a cheaper, off-peak rate, you will use less electricity and save money.

Set your water to heat up only when you need it. The better insulated your tank, the longer your water will stay hot.

Boost switch

Most systems have a second, smaller heating element at the top of the immersion cylinder, activated by a boost switch. Use this to heat a small amount of water at expensive peak times during the day.

Sources:

HES Homepage: <http://www.energysavingtrust.org.uk/scotland/home-energy-scotland>

Advice on electric heating: <http://www.energysavingtrust.org.uk/home-energy-efficiency/heating-and-hot-water/electric-heating-systems>

East Sutherland Energy Advice Service (ESEAS)

Overleaf are examples of advice provided by ESEAS. Based on this and any other advice on electric heating you may have received from this organisation please could you tell us:

Q1a	If you were aware of the service before receiving this survey?	Yes <input type="radio"/>	No <input type="radio"/>
Q1b	If you have previously received advice from this organisation?	Yes <input type="radio"/>	No <input type="radio"/>

Any additional comments:

Q2. As a householder with electric heating, how useful do you find this information:

Not very useful | Not useful | Neutral / no opinion | Useful | Very useful

Please explain your answer:

Q3. What, in particular, was most useful about this advice:

Q4. What was least useful about this advice:

Q5. What further action(s) might you consider to improve your understanding of electric heating?

Contact organisation by telephone <input type="radio"/>	Contact organisation by email <input type="radio"/>	Check social media for advice <input type="radio"/>	Go to another trusted organisation <input type="radio"/>
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I'm happy with information provided, and it would meet my needs

This does not meet my needs and would not encourage me to seek further advice from this organisation or any other

Q6. Please add other comments you wish to make here?

Any additional comments:

Appendix C: Examples of support literature provided by local advice agencies on electric heating and general energy advice during workshops

Renfrewshire Workshop	
In house	Electric Storage heating
In house	Gas Central heating
Renfrewshire Wide Credit Union	General service leaflet

Western Isles Workshop	
Tighean Innese Gall (TIG)	Aiming to be the first LED community in the UK.
TIG	A guide to saving energy & saving £100s.
TIG	Switch your energy supplier/tariff.

Argyll & Bute Workshop	
ALLenergy	Affordable warmth team information leaflet.
Scottish Hydro	Save energy, save money. A helpful guide to energy efficiency in your home.
Scottish Hydro	Saving energy together. We can help you cut your bills and save money.
Scottish Hydro	Is your home the right temperature? Check the temperature with your free room thermometer.
Scottish Hydro	Economy 10 – One easy way to save money. How to make the most if your electricity tariff.
Scottish Hydro Electric	Total heating total control. Making it work around your home.
Scottish Hydro	Helping you make the most of your storage heating. How to stay warm without wasting energy.
Scottish Hydro	Your key meter.

East Sutherland Workshop	
Age UK	Winter wrapped up. A guide to keeping well and staying warm in winter.
Climate Challenge Fund (Keep Scotland Beautiful)	Climate Change: A guide from Keep Scotland Beautiful.
Dementia Services Development Centre	10 helpful hints on heating and lighting for people with dementia and their carers.
Energy Saving Trust	Saving energy in your home.
Highland Council	Assistance with adaptations to your home.
Highland Council	Assistance with repairing and improving your home.
Home Energy Scotland	Simple changes to reduce your energy bills.
Kyle of Sutherland Development Trust (KSDT)	How to use your storage heater.
KSDT	"My activity book" for children funded by the CCF.
Mould Growth Consultants Ltd	Condensation and mould in rented flats and houses. A practical guide to the cause prevention and treatment.
RSABI. Supporting people in Scottish agriculture	Help for heating. (Helpline info. leaflet).
RSABI. Supporting people in Scottish agriculture	A helping hand. (Helpline info. leaflet).
SSE	Welcome to Priority Services. Your guide to support available and energy saving tips.
SSE Hydro	Helping you make the most of your storage heating. How to stay warm without wasting energy.
Scottish Hydro Electric	Total heating total control. Making it work around your home.
Zero Waste Scotland	Easy ways to save money and save the planet.

Appendix D: Workshop structure and questions

Key considerations for designing the workshops

Understanding the support and advice services households in Scotland reliant on electric heating need and want is a complex topic, with few easy answers. It is, however, one that everyone can quickly have an opinion on. This means that views can often be inaccurate, or based on anecdotal evidence, rather than concrete insights. Nevertheless, insights which are based on myth or incorrect assumptions are just as valuable for our purposes as binary responses. While responses to questions may be wrong, they are still data. A key question for us as researchers is how and what we record as data from the workshops.

Traditional research approaches (e.g. standard focus groups) would only tell us what the people in the workshop already know or don't know. Our deliberative approach is designed to allow workshop participants to develop an informed viewpoint and give greater clarity to the overall conclusions.

The choice of deliberative workshops was intentional as it provides us an opportunity to start with where our already informed participants living with electric heating are at, and present them with information they may, or may not, have come across previously. This allows the participants to understand, interrogate and scrutinise the issue in detail so that they can start to understand the issues in the search for solutions.

The workshop is principally about getting participants talking about the issues and bringing their own views, experience and expectations to bear on the deliberations.

A plan for the workshops is detailed below. Each workshop will be divided into sections so that we can be sure we are covering everything we need to know. They will principally involve facilitated group discussions, with additional supporting material that can act as stimulus material where it is deemed necessary by the facilitators to move the conversation on.

Key points will be captured on flip chart paper by the facilitator, and real time handwritten notes will be compiled by members of the project team in attendance, and (if they are willing) the partner organisations who are attending. A component of the workshops will be for participants to offer individual comments, separate from the group dynamic. This is to avoid the common problem in group work whereby one or two persons will emerge as group 'spokespersons' that can result in other members of the group feeling unable to voice their own experiences for whatever reason. A simple exercise using post-it notes at the end of each session that can be collected will provide a partial anonymous means to reporting.

Each activity will start with where the participants are at based on their experience of living with electric heating and accessing support. If it is deemed necessary because the conversation is floundering or going off-piste we will use videos from selected organisations to bring things back to the point of the session. This will only be done towards the end of the session, after we've exhausted all of our facilitator skills and abilities to get participants talking freely about the issues. The hope is to get participants thinking about the issues from different standpoints so that the group can try to agree what the issues are, what the solutions/barriers might be and what the priority areas are for taking action forward.

A note on timings

Please be aware that while it would be a preference is to keep each workshop as close to 2 hours as possible, covering everything in sufficient detail in this timeframe would be a challenge. As it currently stands, the full workshop is 3h 5mins (including comfort breaks) long.

To allow participants an opportunity to add any further views on issues discussed at the workshop, we will provide a grace period of 24 hours post-event for any additional comments or insights to be made by twitter, email or telephone to the EAS office.

Plan for the Workshops (with approximate timings)

1. Welcome & introduction (15 minutes)

- Participants are welcomed
- Purpose of the day
- Introductions to the team
- General housekeeping

2. Activity 1 – The experience of living with electric heating (45 mins)

- Main aim of the activity is to identify differences in the characteristics of households reliant on electric heating and their main fuel source for heating and hot water.
- We will also look to capture data on householders' perceptions and experiences on the costs and practices of using electric heating.
- In addition, we will explore the factors that exacerbate or protect those reliant on electric heating, including myths and a lack of accurate information.
- The activity will be introduced by the facilitators, to outline the point of the session and the key issues to be considered by the group.
- Stimulus material required:
 - In this session, we will begin with the participants themselves, looking to identify their experience and views.
 - The local advocacy partners will be asked to contribute 'expert' views to fill any gaps, e.g. those households they have helped who are reliant on electric heating and not in attendance.
 - The intention is to identify the challenges and opportunities, by prompting participants to talk about their own experience of electric heating. How similar or different are they from each other?
 - Through facilitation and probing by the research team, we will look to avoid creating anecdotes and aim to draw out the experiences of those participating in the workshop.
- The facilitators will look to avoid forcing the discussion down a particular route. We are looking to avoid hearing our opinions being vocalised by others. Having said that, in preparing for each workshop, we will prepare some questions and prompts in advance that can be used to stimulate discussion.
- Data captured:
 - Notes on the key issues identified by the group captured on flipchart by the facilitator
 - Handwritten notes captured separately by the research team.
 - Post-it notes on any other issues participants want to raise captured at the end of the activity.

3. Comfort break (10 mins)

4. Activity 2 – Support currently available to people living with electric heating (45 mins)

- Aim of the activity is to explore participants' attitudes and views on to the advice and support currently available (e.g. online information, help leaflets, how to videos, etc.).
- As a follow up to the pre-workshop questionnaire, we will also give participants an opportunity to give further comments on the information that has already been provided to them (e.g. HES, CW and local partners). In addition to capturing data on participants' understanding of the support available locally and nationally, this may illicit different views/ strength of views.
- We will also identify the barriers participants experience when seeking support from local or national agencies.
- The facilitators will introduce the session, to outline the point of the session and the key issues to be considered by the group.
- Stimulus material required:
 - In this session, we will begin with the participants themselves, looking to identify their experience and views.
 - If it is deemed necessary because the conversation is floundering or going off-piste we will use 1 or 2 videos (i.e. HES or Ofgem) to bring things back to the point of the session. This should only be done towards the end of the session after we've exhausted all of our facilitator skills and abilities to get them talking freely about the issues.
- Through facilitation and probing by the research team, we will look to draw out participants views and/or experiences of the (local & national) support available.
- The facilitators will look to avoid forcing the discussion down a particular route. We are looking to avoid hearing our opinions being vocalised by others. Having said that, in preparing for each workshop, we will prepare some questions/prompts in advance that can stimulate discussion.
- Data captured:
 - Notes on the key issues identified by the group captured on flipchart by the facilitator
 - Handwritten notes captured separately by the research team.
 - Post-it notes on any other issues participants want to raise captured at the end of the activity.

5. Comfort break (10 mins)

6. Activity 3 – Looking to the future: Potential remedies/solutions for those reliant on electric heating (45 mins)

- In this activity, we will explore the attitudes and views of the participants on the range of energy services and tariffs available for 'all-electric' consumers.
- The participants will be asked to reflect upon who they view as 'enabling' agents and what that support might look like in the future.
- We will ask participants to consider a range of possible futures, such as market or technological changes designed to make electric heating more affordable, less carbon intensive and user-friendly. To keep things simple, we will look to limit the discussion to the broader topic of smart metering and the opportunities future technological developments might make possible.

- More speculatively, we will ask people to think about the generator – supplier – consumer paradigm. Here we will attempt to explore participants' understanding of the idea of local generation and local supply (peer-to-peer). The other thing which could be related to this is the idea of buying a 'service' rather than energy. So, what would a future look like if rather than kWhs of electricity, that we as consumers bought 21°C for 9 hours per day?
- The activity will be introduced by the facilitators to outline the key issues/questions to be considered by the group.
- Stimulus material required:
 - In this session, we shouldn't assume that the participants don't know anything about the future remedies or solutions. So again, we will begin with the participants themselves, looking to identify their experience and views.
 - If the conversation flounders, we can show 1 or 2 videos to stimulate contributions. Here we could use the SEGB, heat pumps or Dimplex quantum videos. Again, this should only be done towards the end of the session after we've exhausted all of our facilitator skills and abilities to get them talking freely about the issues.
- Through facilitation and probing by the research team, we will look to draw out participants views on a range of possible futures.
- The facilitators will look to avoid forcing the discussion down a particular route. We are looking to avoid hearing our opinions being vocalised by others. Having said that, in preparing for each workshop, we will prepare some questions in advance that can stimulate discussion.
- Data captured:
 - Notes on the key issues identified by the group captured on flipchart by the facilitator
 - Handwritten notes captured separately by the research team.
 - Post-it notes on any other issues participants want to raise captured at the end of the activity

7. Wrap-up & end (15 mins)

- Sum up workshop, identifying key insights
- Invite any further comments – now, on post-its, in next 24 hours by twitter, email and/or telephone to the EAS office
- Detail the research team's next steps and the end result we are aiming for
- Provide contact details for the research team
- Thank all participants for their participation

Appendix E: Consumer Voices

E.1 Residents of Glasgow's High-Rise Dwellings

This report is extracted from a project to upgrade the electric storage heating in 8 tower blocks in Glasgow. This has involved contact with 900 residents, of which around 600 have engaged in a one-to-one discussion to understand their current heating experience and identify their appetite for change.

Electric Storage Heating has been the primary form of heating in these blocks since the 1980s, with 6 of the blocks having storage heaters in all rooms and the remaining 2 having storage heaters in living rooms and halls with direct acting panel heaters in bedrooms.

Over 95% of the residents were supplied by Scottish Power with two tariffs most prevalent:

- 90% were on Comfort Plus White Meter – this provides night-time charging to heaters during the 8.5 hours allowed for Economy 7 in Central Scotland (between 23.00 and 07.30)
- 10% were on Comfort Plus Control – this also provides night-time charging as above but also offers a lower rate for using bedroom panel heaters

Their overall experience is summarised below under the following headings:

1. Overall customer satisfaction
2. Do they understand how storage heating works?
3. Do they operate the controls?
4. Do they use other forms of heating?
5. Are their heaters working correctly?
6. Personal Stories

1. Overall customer satisfaction

A survey was done at the start of the project with a sample of around 20 residents based on three simple questions with responses scored on a scale of 1 to 5

Q1. “Are you warm enough when you're at home?”

Response range: 1 = Not at all 5 = Nearly always

Q2. “How often do you use supplementary heat like fan heaters or oil filled radiators?”

Response range: 1 = Always 5 = Never

Q3. “Overall, how satisfied are you with your heating system?”

Response range: 1 = Completely dissatisfied 5 = Completely satisfied

The average scores from the survey were

Q1 = 2.0 Q2 = 2.5 Q3 = 2.1 A combined average score of 6.6 out of 15.

The same survey was carried out post intervention, ratings were found improved with a combined average score of 12 out of 15 over a six-month period.

2. Do they understand how storage heating works?

Most residents had a very poor understanding of how storage heaters work, illustrated by the comments below:

“I moved here in 2010 but have never used them – no one showed me and I am frightened they will be expensive to run”

Project Manager noted – *There were no instruction manuals available in any properties*

“I try not to use them because daytime electricity is expensive and they seem to be warm during the day”

Around 90% of those engaged said - “I never touch the controls (Input and Output) – don’t understand them”

“I turn the Output up high to 6 when it’s cold”

Project Manager noted - *This is a common misconception and results in all stored heat being released prematurely giving a warm morning and a cold evening.*

3. Do they operate the controls?

Only around 10% of residents acknowledged that they ever adjust their Input and Output controls

Most do not understand the “Engineering Terms” of Input and Output

4. Do they use other forms of heating?

Over 80% of resident rely on supplementary heating in the form of electric fires, fan heaters, halogen heaters etc. These are typically used from around 4pm on winter days and nights

Most people with fixed panel heaters in bedrooms claim to not use them mainly due to the perception of higher costs due to higher daytime tariffs.

5. Are their heaters working correctly?

Some heaters were found to have a burned-out heater element that was only identified as part of the project survey

Some heaters were identified with damaged Output controls that no longer functioned, too tight or control dial spinning (disconnected).

Heaters are typically switched in three ways in Scotland – by RadioTeleswitch, by modern 5-terminal meters or by timeswitches. Although the first two are reliable, the latter have an integral spring that fails to re-set after a cumulative 8 hours of power outage and consequently lose their accuracy - this generally means that heaters are charged at the wrong times further detracting from the resident’s heating experience.

6. Personal stories

There have been many stories collected from residents throughout the project, all of whom have their own individual heating requirements dependent on age, family size, employment status and the times at which they rise or go to bed. The over-riding message was that residents do not like a one-size-fits-all heating regime that assumes everyone has the same needs.

The three recurring themes identified were:

1. "I don't use my storage heaters as I don't know how to work them"
2. "They cost too much to run"
3. "They don't keep you warm"

It was surprising to find that more than 50% of the tower block residents interviewed stated they did not use their storage heating system and instead were using alternative forms of portable heating (fan heaters, halogen heaters, oil-filled radiators).

Below are some representative quotes from residents:

"We can't keep warm in the evening as our heaters are cold by 4pm and don't come back on until 11pm"

"It can be too warm in the morning so I switch them off and when I turn them on again in the afternoon they don't heat up!"

"I wanted to change my energy supplier but was told that I was not allowed to change"

"I get up at 2am to do put my washing machine on because that's the cheap time"

"I normally go to bed around 6pm because that's the best way to keep warm (elderly lady)"

"When my daughter has a shower, she has to run from the freezing cold bathroom into her bedroom where she has a hot air heater"

"The heating in my son's bedroom is so poor that there is damp on the walls and as he has asthma he normally comes in and sleeps with me"

"I have my grandson to stay at weekends and have to heat his bedroom with an oil radiator as the storage heater is useless"

"My wife is disabled and housebound so she needs to be warm. In the winter it is difficult to keep her and the kids warm particularly in the late afternoon/early evening period and it is costing us a fortune to run extra heaters"

"We've lived here since we married in the late 60s - we always get cold in the evening and have to wrap up well – it's too expensive to put on fan heaters and electric fires"

*David Stern, Supplier Coordination and Compliance Manager
Low Carbon Infrastructure Transition Programme – Smart Storage Heat
23rd January, 2018*

E.2 Minority Communities across Edinburgh and the Lothians

ELREC started its journey with climate action activities, providing energy advice and switching tariffs, initially receiving energy awareness training with Energy Action Scotland. When engaging with different communities, the aim is to empower individuals to be able to handle issues with suppliers themselves, however in practice it is often the case that advisors are often called upon to advocate for customers on many occasions and the relationship becomes a much longer term and more familiar process. This is both a benefit, and a problem for ELREC as staff time is a limited resource.

ELREC supports communities across a range of public services, housing and social work. It is noticeable that organisations that represent authority are feared in many cases and this presents a great barrier to an equality of service. The fear of engagement is not confined to energy supply, however the rationing and access to the amenity of energy can have some very immediate and serious impacts on families.

Information on Electric Suppliers and Tariffs (Switching)

ELREC's Communities for Conservation project targets Polish / South Asian / Chinese / Spanish, and African communities in Edinburgh and Livingston each can have distinct approaches to budgeting, money management and shopping. Within each community there is a different distribution of ages and generational profiles so, it would be difficult to express one voice to represent the views and experiences of all of these in a short interview situation.

However, one of the common issues in supporting these communities is the linguistic and cultural barriers which ELREC is trying to tackle with having 'Community Link Officers' who are trained as energy advisors and who are then able to interpret for the communities they work within. This ensures that we can really get into the depths of the advice for the client.

There are huge social benefits of employing those living within the community, the advice they deliver has so much more potency. Many studies have demonstrated these benefits, where a person shares and relates closely to the culture, the advisor is more receptive and responsive to the concerns of that community. Therefore, when handling enquiries about switching suppliers and/or tariffs, or providing general energy advice, it was of great benefit that the person providing the support was of the community but also that the advice that they were providing was experiential and that it was important that the client understood this. This is a two-way relationship, as advisors grow in confidence with each successful outcome, their confidence adds to that community's trust in their ability to help.

From the point of view of the advisors understanding the energy market, the range of tariffs and in particular understanding how the cost of an energy bill is made up e.g. the purpose of the standing charge. It was hugely critical for the advisors to have the knowledge they gained from their energy awareness training.

It is important to note however, it is only when working with a broad range of people and experiencing the range of issues they have with the energy market that the advisor truly becomes expert. *[from advisor working in the Polish community]*

There is a great culture of budgeting, saving money within the Chinese community which in Edinburgh has a large elderly population. However, one of the biggest challenges in this community is promoting the messages about switching supplier or moving to a

better/cheaper tariff. Many appear to remain with their existing supply arrangement, even when presented with cheaper options. *[from advisor working in the Chinese community]*

This issue of reluctance to switch supply is experienced across the range of communities in which ELREC operates and, it may be more related to a person's age than it is to that individual's cultural background. However, it is worth noting that in terms of fluency in English, it is in the Chinese community that this is lower than in other communities across Edinburgh and the Lothians and this may be a factor in the low switching rate phenomena. Thus, in terms of engaging with the online switching platforms, the issues of language proficiency, age and internet experience may be hampering the rate of switching within this community and that generation. Younger generations in the same communities don't appear to have the same low engagement with switching. However, there can be some friction within families where a culture of respect for elderly generation is strong. Younger members of the family may not be in a position to act as agents for change and this is perhaps another strength of the independent advisor.

In addition, the apparent reluctance may also be linked to the idea of being locked into a 2-year deal, for which the individual may have to negotiate towards the end of that process in order to maintain the same tariff benefit. Without the understanding and confidence, people are reluctant to initiate this process of switching and so fall back on the status quo.

Off-peak Electricity Tariffs

For ELREC, the primary aims are to tackle fuel poverty and improve energy efficiency. Sometime these go hand in hand, sometimes not. There are cases where we are able to switch someone to a cheaper supply which then provides that household with more money to spend on energy, this is perhaps contrary to the aim of reducing energy use. However, the outcome of reducing the inequality gap and helping people out of poverty is on the whole a more beneficial outcome.

We have had experience of off-peak tariffs, in particular the tariffs where the meter type makes it difficult for customers to switch supply [ScottishPower ComfortPlus Control]. Customers are often told they have to arrange a meter switch before they would be able to switch energy supplier. ELREC has had some experience of arranging this on behalf of households and it is a very complex and time-consuming activity, often appointments etc. are missed which very much affects the time to complete.

Our advisors are able to do this however, they recognise that within the communities they work within there is no chance that individuals would be able to repeat the same process for themselves. The level of negotiation and arranging required to just getting to the point where a customer could look for other supplier is just too difficult where English is not the first language. In dealing with suppliers, it mostly about knowing who to speak to in order to take forward a particular issue. There is a broad range of competencies within the call centres operated by energy suppliers, there is not an equal level of understanding of systems across all staff and in some cases, the caller is expected to know how to navigate these systems and prompt the call handler if the conversation is not moving in the correct direction.

For many of the minority communities for whom English is not their first language, whilst they may be conversationally fluent in English there is recognition and testimonials to support the view that the staff within call centres are less engaged with the issue and less willing to spend the time with customers when they recognise an accented English voice on the phone. This often results in a poor experience for the caller, a truncated call without really addressing the issue to any satisfaction. ELREC has had no experience of a supplier willing or able to provide a dedicated language line for resolution of customer enquiries. This

experience can be very varied and depends a lot on the supplier in question, some are very good, others are well known to the advisors as being very difficult to deal with.

Pre-payment Meters

There is some experience of customers in minority communities where there was a reluctance to switch away from a PPM. This would mean needing to have a closer relationship with the supplier, providing meter readings on occasion, dealing with the bills in written format. There is a distinct and evident fear in some communities of having to deal with energy suppliers.

There can be some issues with getting clients through a credit check to move away from a PPM payment method, some suppliers insist on this however there are some suppliers that don't require a credit check for this process. Moving supplier like this to obtain a credit meter is really only encourage when the PPM method is just not suited to the client's lifestyle.

Operation of Electric Space and Water Heating

A client in the Spanish community was reliant on using a plug in electric heater; there wasn't much that we could do for this person other than to question if this truly constituted a tolerable standard for housing in the private rented sector. All that could be done was to ensure that the person understood the relationship between temperature demand, time of operation and the cost of the energy required to achieve this. Coming from a much warmer country, this was a very major issue for that person. *[from advisor working in the Spanish community]*

It is helpful in educating people about the cost of energy use by using energy monitors [clipped to the tails of the electricity meter and connected to an IHD] where people don't have a smart meter. In this way people can see the cost of energy immediately, rather than seeing this in the bill afterwards. It is often the use of the shower which provides the biggest shock. The use of the energy monitor has been employed both as a tool to monitor, but also as a diagnosis tool. In one case a client was experiencing high energy bills, using the monitor the advisor was able to determine that the immersion heater was the only appliance still drawing energy when it appeared that everything in the home was switched off. The occupant had not been advised by the landlord that the water heater was an on-demand service and that it didn't need to be left on 24/7. Whilst the occupant always had hot water, they were paying a high price for the amenity.

For storage heating, there is a need to explain the concept of storing heat a one part of the day (night-time) and then having that heat available during the daytime or on-peak part of the day. The problem really comes when particular tariffs operate in different ways with the occupant's storage heating i.e. that is doesn't follow the idea of storage only at night. In some cases, systems can be boosted during the daytime. If people are not aware of this they may overheat their homes with supplementary on-peak heating. When people are living in the same place for a long time, they do eventually come to a level of understanding about the storage heating which fits both the heat demand and the cost, this technical awareness is particularly an issue with younger first-time householders. In any case, the only useful way to communicate this type of advice is face-to-face and in the home where these operational issues can be clearly demonstrated. Being present in the home offers the opportunity to provide support for issues that go beyond just ensuring people can work the system effectively.

Awareness of the relative costs of energy is quite low in the communities ELREC works with, there is often a need to explain the differences between the costs associated with operating as gas central heating system for an hour and using a plug-in electric heater for the same time. There can also be a fear of fuels like gas which is perhaps culturally not an energy source which is frequently used and which is perceived as dangerous.

In some cases, the awareness of how a system works and its costs are very low due to the fact that the person living in the property has just never had to use a space heating system, so culturally there just isn't the same understanding from growing up and learning from parents. Associated with this are issues with dampness inside the home with low ventilation rates because the occupants are trying to avoid cold draughts and often drying clothes indoors.

A case arose recently with a polish family with two young children on a low income. The children were experiencing poor health issues, with respiratory problems and asthma in the 9 year old. Dampness was present in the home and there was no heating for over a month over the cold winter period as the boiler had broken down. Family had been awarded through Warmer Homes Scotland a new heating system. However the property was in the private rented sector and required the landlord to agree the contributing to the costs of associated works before the system could be installed. The landlord took a very long time to get back in touch and ultimately the offer expired. The landlord agreed to replace the boiler themselves. Whilst this is not specifically about electric heating, there is an issue with the lines of communication between tenants and their landlords, in particular where both parties are reliant on an agency for that communication. It can be the case that the agency has a range of priorities and the sense of urgency is not clearly understood.

PS one of the issues for this communication was that there was a perception that the scheme in question (WHS) was possibly a scam, a factor in why ultimately the landlord elected to replace the boiler themselves.

There is perhaps another point to learn from this experience which is that despite making it clear that the dampness was linked to the lack of heating and that this was having an adverse effect on the occupants; this didn't not appear to elicit the level of urgency with the agency managing the property on behalf of the landlord.

Consumer Rights and the GB Energy Market

There is a level of understanding for native UK citizens that there is a complaints system and that they as consumers are entitled to access that assistance where they are in dispute with their energy supplier. They may not fully understand its limitations, or its reach, but the fact is that most people in the UK are aware of the right to complain.

For those new to the GB energy market, and/or new to the country as a whole, there is recognition that entitlement to complain is perhaps not as strongly exercised and this is a clear issue of inequality not reserved just for the electricity market, though it clearly overshadows many of the conversation between the market and ethnic minorities.

*Project Coordinator
Edinburgh & Lothians Regional Equality Council (ELREC)
19 January 2018*

Appendix F: Organisations and initiatives in Scotland providing support and advice services for electric heating

The following organisations either participated in the workshop sessions, were identified as part of the literature review or were otherwise referred to in discussions with the research team. This is not an exhaustive list, and some services simply provide signposting to more specialist providers.

- **Central Government initiatives**
 - Home Energy Scotland
 - Warmworks
 - Climate Challenge Fund (CCF) - <https://www.keepsotlandbeautiful.org/sustainability-climate-change/climate-challenge-fund/>
- **Local Government energy advice services**
 - Dundee City Council
 - Glasgow City Council
 - Aberdeen City Council
 - Orkney Islands Council
 - Shetland Islands Council
- **Housing Association-led initiatives**
 - Pentland HA (Pentland Energy Advice)
 - Linstone HA
 - Glasgow HA
 - Berwickshire HA
 - Dunedin Canmore
 - Lochalsh & Skye HA
 - Hillcrest HA
 - Queens Cross
- **Community Enterprise / Social Enterprise Companies**
 - Citrus Energy (Cunningham HA)
 - Changeworks
 - Edinburgh and Lothians Regional Equality Council
 - Local Energy Action Plan (LEAP)
 - Greener Kirkcaldy
 - Tighean Innse Gall
 - KoSDT - East Sutherland Energy Advice Service
 - Fyne Homes – Fyne HEAT
 - South Seeds
 - G-Heat
 - I-Heat
- **Other third-sector services**
 - Citizens Advice Bureaux Energy Adviser Services
 - Extra Help Unit

- Macmillan Cancer Support - provides up-to-date information on cancer for patients, relatives and carers, including financial support, and help to apply for benefits, as well as debt and money advice.
- Age Scotland/Silver Line Scotland - Helps older people and those who care for/work with older people to find an answer to questions about community care, tax, pensions/benefits, heating etc.
- **Energy Suppliers and energy trade associations**
 - Energy suppliers' customer services
 - Energy UK