

‘The Fuel Bill Drop Shop’: an investigation into community action on fuel poverty

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“Advice has to be impartial, with the customers best interest in mind. You have to understand how the customer uses energy.” BHESCO

“If you get to someone’s energy bill you are opening up their house.” Community Matters

“Energy advice is a bit of a process, you need to be able to do some hand holding over time and even going to do a home visit after the energy café session.” West Cornwall Community Renewables

“We give people advice about what they are really struggling with.” North Yorkshire

“To get to the heart of the problem, you’ve got to be dealing with debt issues, mental health, family violence and the whole way social care is being dismantled. To be a properly deal with that, the advisor is going to have to have quite a broad-based knowledge. We haven’t been able to equip volunteers to advice about these broader issues.” Wadebridge

“The Energy Shop has raised the level of debate...we have been included in local consultation. We now have good links to local politicians. There is a lot of excitement around the energy shop.” Worthing

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Executive summary

Fuel poverty is a persistent problem in the UK, which has wide reaching implications on people's wellbeing and health, as well as on the questions of equity and justice within the energy system. Despite various government programmes addressing fuel poverty, the problem has not gone away, and in the light of this, new actors such as civil society organisations have emerged to address the issue. This research analyses the action that community groups have taken towards fuel poverty via initiatives such as 'energy shops' or 'energy cafés' - typically staffed by volunteers who provide advice about energy issues to the public.

This report is based on research with community groups who have run an energy shop, and people who have received energy advice either by attending an energy shop or by a home visit. The research findings show that community groups have varying aims for running energy shops, with a key objective of always helping those in need. Energy shops have been located in varying places, including town centre shops, cafés, a city farm, community centres and village greens, with a range of publicity and marketing tools used to attract clients. The choice of location usually depends on the level of funding and resources, with most groups having to opt for rent-free locations. Energy shops are usually funded by grant money and staffed by volunteers, which can be a risk to the shops longevity. Advice provided by the shops has addressed energy market engagement, with a key aim of demystifying energy bills, but also energy efficiency, behaviour change and renewable energy. It is difficult to estimate what proportion of energy shop clients have been fuel-poor, as community groups have limited resources to undertake consistent data collection. Furthermore, identifying those in need of advice can be very difficult. The reach of energy shops varies, with for example one pop-up shop reaching 200 clients in one week, whilst another had only six clients during three drop-in sessions.

Compared to a home visit service (a relatively well-established intervention into fuel poverty) the energy shop initiative examined in this research delivered advice about switching tariff or provider to a greater proportion of clients. In contrast a home visit service is better able to deliver outcomes in terms of increasing the thermal efficiency of properties through energy efficiency advice and installation of light measures. Self-rated learning about some topics (particularly those related to reducing costs) was greater amongst energy café clients compared to home visit clients. The home visit service that operates on the basis of inter-agency referrals is better able to target fuel poor than an energy café that does not benefit from inter-agency working. Despite the lack of referral networks into the energy café, 35% of clients were fuel poor and 35% at-risk of fuel poverty. Although multiple steps are taken to decrease costs and increase thermal comfort, it is only in a very small number of cases (here 14%) that these add up to a discernible and discrete step out of fuel poverty. In terms of perceived differences in affordability and thermal comfort the impact of both the energy café and home visit was equivalent and small.

This leads to several conclusions. Energy shops cater for the needs of those who are fuel poor alongside those who are at risk of fuel poverty, as well as those who are not fuel poor. But cooperation by community organisations, health service and local authorities could enable groups to better target energy shop interventions at the fuel poor. An efficient use of funds for fuel poverty alleviation could involve energy shops acting as a triage service that matches the client to the intervention that best meets their needs in the lowest cost way. The report concludes that energy shops could contribute an inter-agency fuel poverty alleviation strategy. However, in order to realise their potential, funders and policy makers should create opportunities for funding and capacity building to support community energy groups. Inter-agency working and cooperation between community groups, local authorities and health authorities is key to the success of energy shop initiatives.

1 Introduction

Fuel poverty¹ is a persistent problem in the UK, having wide reaching implications on people's every day wellbeing, as well as on equity and justice of the energy system (Walker and Day, 2012). Many households living in fuel poverty often face a number of complex issues of which fuel poverty is just one (Middlemiss and Gillard, 2015). Fuel poverty is usually attributed to three factors: 1) quality of housing stock, 2) cost of energy bills and 3) household income, all of which are influenced by complex societal, economic and political factors (Boardman, 2010). Fuel poverty tends to affect certain groups more, such as older people, those on low incomes and larger households (Lorenc et al., 2013), and it has been estimated that in 2013, approximately 2.35 million households lived in fuel poverty in England (DECC, 2015a). However, it is not always easy to identify those in fuel poverty, especially as fuel poverty can be a sliding scale problem, changing when household's circumstances change or affecting people the most when they have a crisis situation, e.g. a loss of employment or a spouse (Boardman, 2010).

Numerous programmes have addressed fuel poverty over the years, including both government-funded programmes, such as the Warm Front which run from 2000-2013 (for review, see Sovacool, 2015) and energy supplier obligations such as Energy Companies Obligation (ECO), which have targeted energy efficiency measures to vulnerable customers (e.g. older households, families with children and householders who are disabled or have a long-term illness). In 2013, the Warm Front became part of ECO, meaning a move from a government-funded fuel poverty programme to energy company funded programmes (Sovacool, 2015). Other subsidies include the Warm Homes Discount, an annual payment of £140 towards energy bills (DECC, 2015b) and the Winter Fuel Payment aimed at pensioners (DECC, 2016b). Despite the previously mentioned action, fuel poverty has not gone away. As a result, new actors have emerged to address fuel poverty, including for example health authorities, who can see a benefit as lifting people out of fuel poverty often also improves the health of those who have issues such as respiratory diseases (Middlemiss and Gillard, 2015). Furthermore, civil society actors such as community groups have addressed fuel poverty (e.g. Lorenc et al., 2013) and this research is in particular focused on 'energy shops' run by community groups.

1.1 The 'energy shop/café' model

A number of community energy groups have hosted an 'energy shop' or an 'energy café'. This is typically an advice desk staffed by volunteers who provide advice about energy issues such as energy market engagement, energy efficiency measures and behaviour change. Typically the advice desk is located in a high street shop and operates as a 'pop-up shop' for a limited amount of time. Community energy groups for example in Alton, Brighton, Horsham, Newhaven, Surrey and Tunbridge Wells have hosted energy shops, while there are semi-permanent energy shops in Worthing, Wadebridge and Sheffield. A number of community energy groups have built on the energy shop concept by situating the energy advice desk in a café environment. There have been energy cafés in Penzance, Galashiels, Crowborough and London. In this research we use both the 'energy shop' and 'energy café' terms but mean a similar service.

This research compares an energy café intervention with a 'home visit'; home visits constitute a relatively standard and well-established intervention into fuel poverty. Those referred to a 'home visit' service will receive a visit from a domestic energy efficiency advisor who provides energy market engagement and behaviour advice alongside the installation of light measures and advice about major measures.

¹ See further details in section 3.2.7 on how fuel poverty is understood within this research using both the 10% definition and the LICH definition.

² 10% definition - Up until 2013, fuel poverty in England was defined as the need to use more than 10% of

1.2 Aims and objectives of research

This research is particularly interested in the energy shop model as a way for community energy groups to help those living in fuel poverty. The key objectives and aims of the research were:

1. To document key features of energy shop initiatives in the UK in terms of the service that they provide, how they are resourced and funded, the variables that affect their ability to target the fuel poor and their perceived impact.
2. To establish whether energy shops provide an effective form of intervention to alleviate fuel poverty compared to home visits.

The aims of the research were answered through the following key research question:

Does advice through energy shops work, with whom and under what circumstances?

Community energy groups often have limited resources, relying on volunteer time and external grant funding (see for example Seyfang et al., 2014). This can affect their ability to conduct extensive evaluations of individual energy shop projects, particularly if they were formed as part of a broader externally evaluated national programme such as The Big Energy Saving Network (see DECC, 2016a). The findings of this research provide information about the energy shop model, specifically its effectiveness as a way of tackling fuel poverty, the variables that contribute to energy shops' effectiveness and the cost effectiveness of the model. In short, the research is expected to provide community groups with information that contributes to a decision about whether to use the energy shop model. It also provides potential funders with information that can contribute to future funding decisions, while also informing policy makers on the energy shop model.

The report is structured as follows: Section 2 outlines research design and methodology, explaining the qualitative and quantitative research methods used in the research. Section 3 examines key findings from interviews with community energy groups who have hosted energy shops, as well as survey data with clients of energy shops and home visits. Section 4 concludes with recommendations for potential funders, policy makers and those who are interested in conducting further research in this area.

2 Research design and methods

The research design is based on a case study research and mixed methods of qualitative and quantitative data analysis. Case study approach was chosen as it allows the examination of real life experiments (Yin, 2009). To support the case studies, the research included a literature review of relevant academic journals and policy documents, semi-structured interviews to gather primary data, surveys, case notes and meta-analysis of collected data. The research is based on the following empirical data sets: 1) qualitative data collected via semi-structured interviews with six community groups that have ran an energy shop (see Appendix A for details on groups and questions), 2) quantitative data collected via advisors' case notes and surveys from clients of an energy café service and a home visit service (see Appendix B).

2.1 Semi-structured interviews with community groups

The research interviewed six community groups who have hosted energy shops. Based on the key research aims and research question, groups were asked information about their service, resources, funding, skills, potential impact, networking, learning and best practice. In order to allow for flexibility within the data collection, but within some predefined boundaries to take into consideration key aims of the research, the research used semi-structured interviews to collect information (Hakim, 2000). All interviews were digitally recorded and noted. The interview data were analysed using a method of coding and coded by two researchers using a thematic approach (See Appendix A for topics covered within interviews).

2.2 Surveys from clients of an energy café service and a home visit service

This research compares the outcomes for clients of an energy shop/café initiative with that of a home visit service. Specifically it compares the outcomes of the following projects.

- South East London Community Energy (SELCE) 'People Power Cafés', funded by The Ebico Trust, provide personalised, one-to-one advice sessions for those at risk of fuel poverty in a relaxed, stigma-free setting of a café environment accompanied by lunch or a tasty snack. The cafés are staffed by a paid, qualified and experienced energy advisor (who holds Level 3 City and Guilds certificate in Energy Awareness) and volunteers trained in-house and mentored by the qualified advisor. Bi-weekly People Power Cafés have been held over the course of six months in 2015 - 2016 in four locations across Greenwich and Lewisham. Each location is characterised by a high incidence of fuel poverty, income deprivation and thermally-inefficient housing stock.
- The 'Warmer Homes Healthy People Programme' is run by Lewisham Council and delivered by Groundwork London. Fuel poor residents of Lewisham are referred to the 'Warmer Homes Healthy People Programme' by a variety of statutory and community sector organisations; once referred, clients receive a home visit from a 'Green Doctor'.

Both of these services serve a similar geographical area, and provide advice tailored to the needs of clients, which typically includes advice about energy market engagement, energy efficiency and behaviour change. Clients are referred onto other services such as the handyman service or the Citizens Advice Bureau. The Green Doctor installs light measures on behalf of the client whereas energy café clients are given light measures, as appropriate to install. Green Doctor clients are referred into the service whereas the energy café service is available to all.

The following quantitative data were collected and analysed during the research:

- 14 energy café clients were compared with 14 home visit clients selected randomly from those who accessed the service prior to January 2015.
- Following the advice session, clients were asked to complete a self-completion questionnaire reflecting on their experience and their learning.
- Case notes made by the energy advisor or the Green Doctor during the advice session provided information about the advice and measures installed or given.
- Approximately 6-12 weeks following the initial energy café session or home visit, a sample of clients were interviewed by phone. Those who live below the poverty line often struggle to keep contact details constant: they often rely on mobile phones and struggle to find funds to top up their mobile phones. The sample is composed of those who provided contact details at the time of the home visit or advice session that were still valid six weeks later. This is an unavoidable sampling bias.
- The interview questions assessed the medium term impact of the service and the extent to which the advice or home visit had resulted in a change that reduces vulnerability to fuel poverty. Interviews covered a number of topics, these were: market engagement (including advice about switching tariff or supplier, fuel debt and the Warm Home Discount), energy efficiency, mould and damp, behaviour change, priority service registration, light measures. Respondents were asked to report on what, if anything had changed in respect to these topics.
- Two research team members independently rated the changes and assigned values of either 'no change', 'positive change' or 'attitudinal change'. A positive change constitutes an action that could contribute to an alleviation of fuel poverty such as having switched to a supplier that provides lower cost energy or a change in behaviour that will result in reduced unnecessary energy use. An attitudinal change falls short of a positive change but

constitutes a step towards it such as intention to switch suppliers once Warm Home Discount has been applied with the current supplier or having requested a Trust Fund application form (for fuel debt cancellation) but not having filled it out. These ratings were transformed into numerical values in order to enable statistical analysis (no change = 0, attitudinal change = 1, positive change = 2). On average there was 98.5% agreement between the first and second rater.

- For each topic respondents were also asked how much they felt they had learnt about the topic. Energy café respondents were asked whether they had learnt nothing, a little or a lot about each topic immediately following their appointment whilst home visit respondents were posed this question in an interview that took place following their visit. These ratings were transformed into numerical values in order to enable statistical analysis (nothing = 0, a little = 1, a lot = 2).
- All respondents were asked three questions in order to assess the impact of the energy café or home visit service. These were: (a) are your fuel bills more than you can afford to pay?; (b) Do you economise on using energy or other essentials in order to be able to pay your bills and (c) Are you finding that you are cold in your home. These questions were asked twice. For energy café respondents the first instance of this question occurred during their advice session and the second instance occurred during the interview (6-12 weeks following their advice session). Home visit respondents were asked these questions twice during the interview: once reflecting on the present time and once reflecting on a time prior to their home visit or last winter. The answers to this question were transformed into a numerical measure (No = 0, Sometimes = 1, Yes = 2, In debt = 3). This provides a comparable measure of both the depth of fuel poverty and the impact of the service of levels of fuel poverty.
- In order to analyse the difference between energy café and home visit respondents in terms of the levels 'change' (as described above) and the 'learning' (as described above) a series of Mann Whitney U tests were conducted (this is a statistical test used to compare differences between two independent groups when the dependent variable constitutes ordinal standard data). A t-test was used to assess the difference between the number of light measures installed for energy café as opposed to home visit respondents (this is statistical test used to compare two independent groups where the dependent variable constitutes interval or ratio standard data).

3 Research findings

3.1 Qualitative findings: Community groups hosting energy shops

The following key themes emerged from the analysis of interviews with six community groups, who have hosted energy shops: BHESCO (Brighton & Hove Energy Services Co-operative), Community Matters, North Yorkshire Energy Centre, Wadebridge Renewable Energy Network, West Cornwall Community Renewables and Worthing Energy Shop. While these findings are based on the interview data, interviewees have not been directly quoted to ensure anonymity.

3.1.1 Aims of the groups

Aims of the community groups interviewed varied. Low carbon transition featured as an aim for all six groups, while other additional aims included local economic development for one group, and provision of an energy shop as public service for two groups. One group had started with exclusively environmental aims but the service overtime had taken on fuel poverty and health focus. None of the energy shops exclusively exists to serve the needs of the fuel poor. Most exist to serve the energy advice needs of their communities of which the fuel poor are part. One

group mentioned that community groups are filling a gap which energy suppliers used to provide, i.e. by having high street shops.

3.1.2 Location

The locations for the energy shops were varied including three in town centre shops, one in a café, one in a city farm, and one group held several energy shops in various locations including high streets, community centres and village greens. The choice of location has generally been pragmatic: all six groups make use of a venue where there is little or no rent to be paid. Most have provided a daytime service and only one an evening service. One group noted a difference between rural and urban locations, with their pop-up energy cafés working better in rural areas, while high street energy shops worked better in urban areas. Three of the energy shops were located close to areas that have a high incidence of fuel poverty.

3.1.3 Journey into the service and reach of initiatives

All six groups have been active in the use of publicity and marketing for their energy shops, using tools such as general marketing, leafleting, social media, newspaper coverage, film events and events with local councillors, MPs and in one group's case the Energy Minister. The clients for pop-up shops access the service by three routes (a) publicity, (b) passing by/dropping-in, and/or (c) word of mouth. For the three more established semi-permanent shops, all have some form of referral system into the advice service from other organisations such as Citizens Advice, local food banks and poverty charities. One group actively draws people into the centre by providing other community engagement activities such as a craft group.

The reach of energy shops has been varied. For example one pop-up shop worked with 200 clients in one week, whilst another held three drop-in advice sessions of which only six people attended. The three semi-permanent shops cater for approximately 100 people per month. According to respondents, a town centre location, with advice sessions held during the day, is most effective in drawing clients into the shop. This is particularly the case if advisors are out on the street (as well as in the shop) actively engaging with and drawing people into a comfortable location equipped with refreshments. However, even the best-publicised energy shops are vulnerable to external pressures, such as bad weather, which can influence the shops' reach.

3.1.4 Resources, funding and sustainability of projects

Most groups are dependent on volunteer effort and this also impacts on the skills and availability of resources. All six groups have benefitted from in-kind contributions from a core group of volunteers and often there is one person who drives the project and contributes significant volunteer time. In terms of skills of the advisors, in three of the groups advisors have not had training or formal qualifications in energy efficiency advice. One group had a key person who was a very experienced energy efficiency advisor, while in another group all advisors and volunteers have a City and Guilds Level 3 Certificate in Energy Awareness as part of their role. One group had invited both energy suppliers and/or the local authority's energy efficiency officers to attend the energy shops they ran, utilising their skills.

The cost of running an energy shop varied, with one group estimating a cost of around £1,060 per pop-up shop, and another estimating between £2,000-£4,000 per shop depending on marketing costs. All six groups have benefitted from grant funds from a variety of sources, including local authorities, local community grants and energy suppliers. The Department of Energy and Climate Change's (DECC) Big Energy Saving Network (DECC, 2016a) features prominently (n=4). Only one group has accessed funds from their local authority for public health focused work (and this is the result of many years of lobbying for fuel poverty to form part of the public health agenda). One group has had additional funding from referral fees from a renewable energy supplier, while one energy shop is funded almost entirely from funders' fees from energy

efficiency measures or solar PV installations. All groups have had to be innovative and persistent in their efforts to seek funding, utilising every opportunity. For example, the income from activities related to renewable generation is likely to have a negative impact following the reduction of renewable energy subsidies, while grant funding is often variable and dependant on groups' fundraising abilities. Changes in funding priorities could therefore make energy shops unsustainable. The involvement of a local authority as part of public health agenda could contribute to the sustainability of the groups.

3.1.5 Range of advice offered

All six groups provide advice about energy market engagement and most also provide advice about energy efficiency, behaviour change and renewable energy. Getting clients to understand their energy bills and energy usage is a key part of the advice, as well as providing calculations for switching suppliers. One group estimated that they had saved 200 clients that visited the shop during its opening week approximately a total of £5,000. Five groups have used energy or water saving kits to give away, though ideally advice would be tailored to the individual client's needs in mind. However, this is not always possible, especially in a drop-in advice situation or if clients cannot provide their energy bills. One group especially pointed out that advice needs to be impartial, with the clients' best interest in mind. For four of the groups, energy advice forms part of a broader range of services. One group provides home visits, talks, stalls at community events, and training of front-line workers. Another has a DIY draft-busting initiative in which people learn how to install light measures themselves. Another leases renewable energy measures such as solar PV and solar thermal to householders.

3.1.6 Ability of groups to target advice at the fuel poor

All respondents were asked to estimate what proportion of their clients are fuel-poor. This proved to be a difficult question to answer because none of the groups have conducted consistent data collection. Of the three respondents that felt able to reflect on this one estimated that approximately 20% of clients were in dire fuel poverty whilst a further 15% of clients were fuel poor. Two other respondents estimated that 15% of clients were in dire fuel poverty. Identifying those who are in fuel poverty can be very difficult, especially in small communities where people know each other well and hence those in fuel poverty might not want to identify themselves as needing help. Furthermore, there is also a difference between those who are vulnerable and those who are in fuel poverty, and while the two are often linked, this is not always the case. The following variables affect the ability of the groups to effectively target an energy shop.

- *Being close to the fuel poor:* Proximity of the shop to areas of fuel poverty is a key aspect as people in fuel poverty are often hard to reach.
- *Multiple routes into the service:* One interviewee felt that advice is most effective when there are multiple routes into the service including self-referral from stalls or talks, referral from other agencies, community groups and front line workers, and serendipity.
- *Being part of a wider offer:* One respondent felt that the ability to offer a home visit when advice does not fit the bill was essential in order to be able to cater for a wide range of needs.
- *Available at times of crisis:* Excellent energy advice is about behaviour change: people are most likely to change their behaviour when they are experiencing a crisis.
- *A stigma free service:* One respondent felt that an energy shop in a small town is too visible to the public and the people are reluctant to seek advice for fear of the stigma attached to fuel poverty, while another respondent said that it was important to provide a safe place for people to come to.

- *Being part of the community most effected by fuel poverty*: One respondent described a situation whereby most of the people who had set up the group were seen as 'middle-class incomers' and this could have been a barrier to those clients who did not see themselves as middle class or as incomers.

3.2 Quantitative findings: Energy café clients and home visit clients

The following key themes emerged from the analysis of data with the 14 'People Power Cafés' clients and the 14 'Warmer Homes Healthy People Programme' home visit clients.

3.2.1 An Analysis of Case Notes

Both energy café and home visit advisors made case notes during the advice session/visit. Home visit service has worked with 400 clients and the energy café with 195 clients to date. An analysis of these revealed that 73% of energy café clients and 26% of home visit clients received advice about reducing costs by switching tariff or supplier. Similarly, 46% of energy café clients and 22% of home visit clients received advice about fuel debt. Savings identified from switching tariff and supplier amount to £34,140 for energy café clients as opposed to £16,634 for home visit clients. The savings identified by energy café advisors exceed the cost of the programme to date by threefold. In contrast, 96% of home visit clients and just 16.9% of energy café clients were given or had light measures installed. An average four light measures were installed on behalf of home visit clients, this contrasts with an average of just 0.26 light measures given to energy café clients for self-installation. Advice about changing behaviour to reduce unnecessary energy use was given to almost all home visit clients (97%) and just under half of the energy café clients (47%). This suggests that there is a far greater emphasis on market engagement in the context of an energy café that is balanced by a greater emphasis on the installation of light measures and behaviour change advice in the context of a home visit (See Appendix B Table 1).

3.2.2 Market Engagement

Of the energy café respondents, 13 received advice about switching tariff or supplier, five about fuel debt and eight about the Warm Home Discount. Of the home visit respondents, 11 received advice about switching tariff of supplier, four about fuel debt and seven about the Warm Home Discount. This reflects that a greater focus on market engagement work at energy cafés as opposed to home visits were observed as part of the analysis of case notes from all clients. 57% of energy café and 28% of home visit respondents experienced a 'positive' or 'attitudinal' change with respect to switching tariff or supplier (see Appendix B Table 2). This suggests that clients are more likely to switch tariff in order to reduce energy costs if they have attended the energy café as opposed to had a home visit. Indeed, case notes made during the visit or advice session suggest that there is a greater focus on switching supplier and switching clients from pre-payment tariffs at the energy café as opposed to home visits. However, a Mann Whitney U test revealed that this trend does not reflect a significant effect of type of intervention (café vs. home visit) on outcomes relating to market engagement. There is, however, a clear learning effect: the energy café resulted in greater self-rated learning about energy market engagement than the home visits (See Appendix B Table 2). A Mann Whitney U test confirmed that this effect is statistically significant ($df = 26, p = .034$)

3.2.3 Energy Efficiency, Mould and Drafts

Six energy café respondents and seven home visit respondents received advice about energy efficiency, mould and drafts. Two clients were referred for ECO measures, two had help from the handyman service in reducing drafts, one had purchased new windows and, in the case of two clients the advisor had advocated with the landlord for work to increase the energy efficiency of properties. Again there is a clear trend: a home visit resulted in a greater number of positive

outcomes (28.6% of energy efficiency outcomes for home visit respondents were positive compared to 0% of the energy efficiency outcomes for energy café respondents). However a Mann Whitney U test revealed that there is no significant effect of type of intervention (home visit vs. café) on energy efficiency outcomes. Curiously, given the relatively low number of outcomes for energy café respondents with regard to energy efficiency, 55% of the energy café clients who received energy efficiency guidance claimed to have learnt 'a lot' about energy efficiency; a similar learning effect to that observed amongst home visit respondents.

3.2.4 Behaviour Change

11 energy café respondents and all 14 home visit respondents were given advice designed to enable them to modify their behaviour in order to reduce unnecessary energy use. There is a slight trend for the proportion of positive outcomes to be greater for those respondents who had a home visit as opposed to an energy café appointment (see Appendix B, Table 2). A Mann Whitney U test revealed that there was no significant effect of type of intervention (café vs. home visit) on behaviour change outcomes. Case notes recorded the advice given to clients. There was a curious lack of correspondence between the advice given and that which is acted upon: although many respondents reported changing their behaviour, they rarely reported changing it in the way that case notes suggested they were advised. This may be due to a combination of inaccurate case notes and prestige bias.

3.2.5 Priority Service Registration

Although Priority Service Registration enables provision of additional services to those who are vulnerable, it is not in itself a measure that alleviates fuel poverty. It is nonetheless useful as part of a package of measures for those who are at risk of fuel poverty due to age, illness or disability. As part of their visit, six energy café clients and two home visit clients discussed registration for priority services. Only two of the energy café respondents could confirm that an application for priority service registration was made. Given the small sample sizes and minimal outcomes, no inferences on priority service registration can be made.

3.2.6 Installation of Light Measures

Nine of the energy café respondents received a 'light measure' (a light bulb, a flow control tap fitting, a flow control shower head or a door brush draft excluder) that was subsequently installed by the client. Twelve home visit clients had light measures installed and were using them. If the measure was given but the client did not report installing it/making use of it, this was not counted as a measure that was installed. Home visit clients benefited from an average of 2.92 (SD = .193) measures whilst café respondents benefited from an average of 1.11 (SD = .333) measures. There is a significant difference between the number of measures from which energy café and home visit clients benefited ($t = 7.407$, $df = 19$, $p = .000$). This leads to the somewhat unsurprising conclusion that home visit clients benefited more from the installation of light measures than energy café clients did.

3.2.7 The depth of fuel poverty and the impact of the service on fuel poverty

Fuel poverty exists on a continuum that can be defined by dimensions of cost of fuel relative to income and the thermal efficiency of the home. The research adopted the following definition of fuel poverty: those clients who state that their bills are always 'more than they can pay' or/and they always have to 'economise on fuel or other essentials in order to be able to pay their bills' are defined as fuel poor in the spirit of the 10% indicator². Those who, in addition, state that they

² 10% definition - Up until 2013, fuel poverty in England was defined as the need to use more than 10% of a household's income to keep a home adequately warm.

are 'always cold in their homes' are fuel poor in the spirit of the Low Income High Costs (LIHC)³ definition. This reveals that 35% of energy café clients and 50% of home visit clients were fuel poor in the spirit of the 10% definition whilst 14% of energy café clients and 21% of home visit clients were fuel poor in the spirit of the LIHC definition. Those who sometimes find it difficult to pay their bills or sometimes feel cold in their home were defined as being at risk of fuel poverty: 35% of energy café and 7% of energy café respondents could be defined as at risk of fuel poverty. A composite measure of fuel poverty was calculated by summing the numerical values for the three dimensions of fuel poverty measured: inability to pay, need to economise and coldness in the home. A Mann Whitney U test revealed that home visit clients were significantly more fuel poor than energy café clients (df = 26, p = .034)

3.2.8 The impact of the energy café and home visit service

A measure of 'the impact' was calculated in terms of changes in affordability and thermal comfort by comparing measures of the variables taken at Time 1 from Time 2 (before and after the home visit or energy café appointment respectively). This revealed that, on average, there was very little difference between Time 1 and Time 2: the average 'change' was very small: on all dimensions it was less than 0.5 of a point change on a 3 or a 4 point scale. This does not mean that, in certain instances, interventions did not result in action to alleviate fuel poverty amongst those who are fuel poor. Of those who were defined as fuel poor according to the 10% indicator, two home visit clients and two energy café clients moved from a place of being in debt or unable to afford their bills to being in better able to pay their bills. Of those who were defined as being fuel poor in the spirit of the LIHC indicator, only one home visit client moved from being cold in his home to not being cold in his home. Two of those defined here as being 'at risk' of fuel poverty and three of those defined as not being fuel poor derived benefits in terms of increased affordability of energy and thermal comfort. Those who were both fuel poor and experienced a discernible change in affordability and thermal comfort constituted just 14% of all clients.

This does not in any way suggest that this service makes no impact in the remaining 86% of clients. For example, 53% stated that their homes felt warmer as a result of the home visit. Comments made as part of the interviews clearly demonstrate that clients of both the home visit service and the energy café appreciate the service and feel that it has made a difference to them. Indeed, the average rating for the quality of the home visit and the energy café service on a 10-point scale was 9.1 and 9.5 respectively. The following quotes are illustrative:

"There should be more organisations like that in place. Before I was feeling cold but didn't know why the flat was so cold" (home visit client)

"Patrick sent an email to the landlords to fix the windows and they did it in four days." (home visit client)

"The handyman turned up to fix the door drafts. It helps a lot. I was really pleased that people take the time to visit and help people like us to be shown how to save and compare prices. People need that extra push." (home visit client)

"It was very useful. I've never switched before; it helped a lot with saving money." (energy café client)

"I have recommended it to everyone I have discussed it with. Making savings is great." (energy café client)

³ Low Income High Costs definition - A household is fuel poor if their fuel costs are above average of the national median level, and if they were to spend that amount, they would be left with a residual income below the official poverty line.

Critically, there is no difference between the energy café and the home visit in terms of their impact: neither descriptive statistics nor application of inferential statistics reveals any effect of type of intervention (energy café vs. home visit) on the magnitude of changes in affordability or thermal comfort. This research suggests that the impact of the energy café service and the home visit service are of a similar magnitude (or lack of magnitude).

The research findings suggest that the impact of the home visit and the energy café service on levels of fuel poverty is relatively small: this conclusion must be tempered with an understanding of the methodological limitations of the research. Firstly the measure of 'change' used was a rather blunt one. It was designed to measure whether a condition of fuel poverty exists before and after the home visit or energy café intervention. However, the journey out of fuel poverty is made of a multitude of incremental steps. The measure used was insufficiently sensitive to detect this kind of incremental progress to which case notes attest. Furthermore, the sample size was very small – maybe too small to detect trends. Moreover, some of the respondents had not received a fuel bill in the six-week hiatus between the appointment and semi-structured interview so were unable to make an effective comparison of potential savings. The research compared groups that were not demographically similar; a home visit sample was older and made up of more women, and they came to the service presenting a variety of issues. This made the samples difficult to compare.

4 Conclusions and recommendations

This research aimed to document key features of energy shop initiatives run by community groups in the UK, and examine whether energy shops provide an effective form of intervention for fuel poverty compared to home visits. Six community groups who have hosted energy shops were interviewed, while 14 clients of energy shops and 14 clients of home visits were surveyed for their experience.

The research shows that energy shops have been held at a number of locations and settings across the UK, having a range of motivations, e.g. the desire to work towards a sustainable energy transition, with a key aim of helping those in need. Energy shops usually rely on external funding and volunteer effort, and many operate for only a limited period of time in a 'pop up shop' format. The six shops interviewed for this research were vastly under-resourced. Those that are more permanent in particular try to utilise every potential funding opportunity to keep going. A small number of energy shops have qualified energy advisors, while most rely on people's pre-existing skills, as well as the ability to learn about fuel poverty engagement 'on the job'. All energy shops have used publicity and marketing tools such as social media in order to attract clients, but also 'word of mouth' and being physically visible in the community have helped to bring people to the shops, some reaching up to 200 clients a week. While energy shops can provide a safe space for fuel poverty engagement and community energy groups especially can be well placed to approach those who are fuel poor, identifying those who need help remains a challenge. Energy shops can improve energy literacy by helping to demystify fuel bills and providing opportunities for example for switching to a cheaper energy supplier. They have collectively saved energy consumers sums that are vastly in excess of the cost of delivering the service.

The comparison between the energy café clients and home visit clients showed the following key results: When compared with a home visit service (a relatively well-established intervention into fuel poverty) the energy shop (café) initiative examined in more detail in this research was able to deliver effective market engagement outcomes through enabling switching of tariff or provider. A home visit service was more effective in delivering outcomes relating to energy efficiency and installation of light measures. The energy shop initiative provided greater or equivalent learning

outcomes, presumably because the benefits of the service depend on the active engagement of the client. A home visit service that operates on the basis of inter-agency referrals was better able to target the fuel poor than an energy café that does not benefit from inter-agency working. Despite the lack of referral networks into the energy café, still 35% of clients were fuel poor and 35% 'at-risk' of fuel poverty. Both case notes and semi-structured interviews testified the steps taken on behalf of clients by energy café and home visit advisors that could lead to an increase in affordability and thermal comfort. But only in a very small number of cases (14%) these steps added up to a discernible and discrete step out of fuel poverty. In terms of perceived differences in affordability and thermal comfort, the impact of both the energy café and home visit was equivalent and small.

This leads to the following conclusions:

- **Specific skills are needed to address fuel poverty:** Community groups hosting energy shops require a mix of practical and tacit skills – for example the ability to seek funding, provide a service even in uncertain circumstances, be proactive in attracting clients, and provide a safe environment for those who may feel stigmatised.
- **The energy shop meets a need:** An energy shop or café serves a need for energy advice that, as one respondent pointed out, used to be served by high street energy supplier outlets. The energy shops are not designed to be an exclusive intervention for those in fuel poverty, nor are they one. They cater for the needs of those who are fuel poor alongside those who are at risk of fuel poverty, as well as those who are not fuel poor.
- **Cooperation and inter-agency working is key:** Inter-agency referral, being available at times of crisis and the involvement of the community most affected by fuel poverty were all cited as tactics that would enable an energy shop to cater more exclusively to the needs of the fuel poor. Cooperation by community organisations, health service and local authorities are key to design services that are targeted to the fuel poor in each community's specific context.
- **One size does not fit all:** Energy shop or advice service is better able to respond to the needs relating to energy market engagement. In contrast, advice about energy efficiency and installation of light measures is best provided by a home visit.
- **A more effective use of resources:** An energy shop/café programme costs much less than a home visit service simply because an advisor does not need to spend time booking appointments and travelling. Funding and resources allocated to fuel poverty alleviation programmes is typically very restricted, and the best use of resources entails matching of clients to the type of intervention (an energy shop or home visit or indeed a DIY draft busting workshop) that best meets their needs in the lowest cost way.
- **Energy shops could act as a triage service:** An energy shop could serve as an energy triage service whereby the needs of the client are assessed and they are then referred to other forms of intervention depending on needs.

Furthermore, the research makes the following recommendations for funders, policy makers and researchers:

Recommendations for funders and policy makers:

- Inter-agency working between community groups, local authorities and health authorities should be encouraged, to seize the opportunities that energy shops can provide in reaching those in fuel poverty and acting as a potential triage service

- There is a need for greater opportunities for funding and physical resources, such as suitable public locations, to enable community groups to run energy shops in localities characterised by high incidences of fuel poverty
- There is a greater need for capacity building to support for community groups, especially in skills and knowledge creation, so that they are able to run effective energy shop interventions tailored to the needs of their specific communities
- In terms of discernible and discrete step out of fuel poverty, the impact of both the energy café and home visit was equivalent and small. This suggests that, although interventions such as an energy shop or a home visit service contribute to an alleviation of fuel poverty, they would not, in isolation, constitute an intervention that could eradicate fuel poverty. They treat the symptoms of fuel poverty but not the systemic causes of it.

Recommendations for further research:

- Many energy shops run on volunteer effort and limited grant funding, and further research could be conducted in how these initiatives could work more effectively with public sector organisations such as local authorities and the health service
- Identifying the fuel poor is still challenging, and further research could be conducted together with community groups running energy shops to gather substantial data on their client base
- The energy shop model requires further, longitudinal, research with a larger sample size to establish the impacts of energy shop initiatives for the long term.

References

- Boardman, B., 2010. Fixing Fuel Poverty, Challenges and Solutions. Earthscan, London.
- DECC, 2015a. Annual Fuel Poverty Statistics Report, 2015. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/468011/Fuel_Poverty_Report_2015.pdf. Department of Energy & Climate Change. [Accessed 15.02.2016].
- DECC, 2015b. Cutting the cost of keeping warm - A fuel poverty strategy for England, March 2015. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/408644/cutting_the_cost_of_keeping_warm.pdf. Department of Energy & Climate Change. [Accessed 15.02.2016].
- DECC, 2016a. Big Energy Saving Network 2015/16. First published: 25 September 2013, updated: 15 June 2015. Department of Energy & Climate Change. <https://www.gov.uk/government/publications/big-energy-saving-network-grant-offer-fund>. [Accessed 02.04.2016].
- DECC, 2016b. Winter Fuel Payment. Department of Energy & Climate Change. <https://www.gov.uk/winter-fuel-payment/overview> [Accessed 04.04.2016].
- Hakim, C., 2000. Research Design. Successful designs for social and economic research. Second edition. Routledge, London.
- Lorenc, A., Pedro, L., Badesha, B., Dize, C., Fernow, I., Dias, L., 2013. Tackling fuel poverty through facilitating energy tariff switching: a participatory action research study in vulnerable groups. *Public Health* 127, 894-901.
- 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 & Social Science* 6, 146-154.
- Seyfang, G., Hielscher, S., Hargreaves, T., Martiskainen, M., Smith, A., 2014. A grassroots sustainable energy niche? Reflections on community energy in the UK. *Journal of Environmental Innovation and Societal Transitions* 13, 21-44.
- Sovacool, B.K., 2015. Fuel poverty, affordability, and energy justice in England: Policy insights from the Warm Front Program. *Energy* 93, 361-371.
- Walker, G., Day, R., 2012. Fuel poverty as injustice: integrating distribution, recognition and procedure in the struggle for affordable warmth. *Energy Policy* 49, 69-75.
- Yin, K.R., 2009. Case Study Research, Design and Methods, Fourth Edition. SAGE Publications, Thousand Oaks.

Appendix A – Qualitative data

The following Six community energy groups who have run and energy shop were interviewed for this research:

- BHESCO (Brighton & Hove Energy Services Co-operative)
- Community Matters
- North Yorkshire Energy Centre
- Wadebridge Renewable Energy Network
- West Cornwall Community Renewables
- Worthing Energy Shop

Key themes and interview questions

Key theme	Interview questions around the theme (not exclusive list)
The Service	<ul style="list-style-type: none"> • The aims of the group and the project • When and for how long did the energy project/café project continue • What was the venue • In what ways did clients find out about the service • What type of advice was given, impacts in terms of market engagement, income maximisation, behavioural change, energy efficiency (raising awareness vs. action) etc.?
Resources, funding and skills	<ul style="list-style-type: none"> • Did the community energy group have previous experience about running an energy shop? • What resources did the energy shop require? E.g. materials, money, volunteer time etc.? • What skills did the energy shop advisors have? • How was the energy shop/café funded
Impact	<ul style="list-style-type: none"> • The number of people that accessed the service? • The proportion of those that were at risk of fuel poverty? • To what kind of needs did the service best respond? • How did the shop assess the vulnerability of clients / risk of fuel poverty? • Did clients take action during the energy shop session, e.g. switched supplier, got on priority service register, applied for debt relief, recover debt etc.? • Did people come back for a follow-up session? • Did the community energy group do an evaluation of possible impact?
Networking and social learning	<ul style="list-style-type: none"> • Did the project network with other community energy projects, experts, intermediary organisations? • Was there evidence of experience being shared with other groups who have run an energy shop? • Evidence of learning and what type, 1st order or 2nd order learning? • Learning related to running an energy shop • Learning from other actors?
Best Practice	<ul style="list-style-type: none"> • Lessons learned? • To what extent is the project sustainable?

Appendix B – Descriptive Statistics

Table 1: The percentage of energy café and home visit clients who received advice about energy related topics based on an analysis of case notes

	Energy Café %	Home visit %
Tariff or supplier switch	72.8	25.5
Fuel Debt advice	45.6	22.3
Warm Home Discount	31.3	56.8
Priority Service Registration	28.0	13.5
Energy efficiency (major measures)	44.0	29.3
Light measures	16.9	96.0
Behaviour change	47.0	97.5

Table 2: The number and percentage of energy café and home visit respondents who experienced a change that could contribute to an alleviation of fuel poverty

	Café	Home Visit	Café	Home Visit	Café	Home Visit
	No Change		Attitudinal Change		Positive Change	
Switching tariff or supplier	6 (42.9%)	10 (71.4%)	2 (14.3%)	1 (7.1%)	6 (42.9%)	3 (21.4%)
Fuel Debt advice	13 (92.9%)	13 (92.9%)	1 (7.1%)	0 (0%)	0 (0%)	1 (7.1%)
Warm Home Discount	9 (64.3%)	12 (85.7%)	3 (21.4%)	0 (0%)	2 (14.3%)	2 (14.3%)
Energy Efficiency	11 (78.6%)	8 (57.1%)	3 (21.4%)	2 (14.3%)	0 (0%)	4 (28.6%)
Behaviour change	6 (42.9%)	4 (28.6%)	0 (0%)	0 (0%)	8 (57.1%)	10 (71.4%)
Priority Service Register	12 (85.7%)	14 (100%)	0 (0%)	0 (0%)	2 (14.3%)	0 (0%)
Light Measures	5 (35.7%)	2 (14.3%)	0 (0%)	0 (0%)	9 (64.3%)	12 (85.7%)

Table 3: The number and percentage of energy café and home visit respondents who learned a 'nothing', 'a little' or 'a lot' about particular energy related topics

	Café	Home Visit	Café	Home Visit	Café	Home Visit
	Nothing		A little		A lot	
Switching tariff or supplier	0 (0%)	1 (11.1%)	2 (16.7%)	5 (55.6%)	10 (83.3%)	3 (33.3%)
Energy Efficiency	0 (0%)	1 (14.3%)	4 (44.4%)	2 (28.6%)	5 (55.6%)	4 (57.1%)
Behaviour change	0 (0%)	3 (23.1%)	4 (36.4%)	4 (30.7%)	7 (63.6%)	6 (46.2%)

Appendix C – Related outputs and engagement

The project has a specific web page on the Centre on Innovation and Energy Demand website <http://www.cied.ac.uk/engagement/fuelpovertyenergydemand/fuelbilldropshop>, which highlights the key objectives for the research, research question, methods and related outputs. In addition to the actual research conducted by CLF, there have been other activities by the researchers, which have been closely linked to the topic. These have included blog posts via the Sussex Energy Group blog and The Conversation, as well as a public debate organised as part of the Engineering and Social Research Council (ESRC) Festival of Social Science (and funded by ESRC). The event, titled “Tackling fuel poverty, whose responsibility is it?”, was a public debate held on 10th November 2015 in Brighton. Panellists represented a variety of stakeholders and included the following: Martin Aylward, Head of Customer Development, EDF Energy; Jane Eyles, Head of Housing Services, BHT Housing Services; Tony Glover, Director of Policy, Energy Networks Association; Tracey Hill, Labour and Co-operative Councillor for Hollingdean and Stanmer ward, Deputy Chair of Housing & New Homes Committee; Ed Matthew, Associate Director, Energy Bill Revolution; and Dr Giovanna Speciale, Director, South East London Community Energy. The event was introduced by CIED researcher Dr Mari Martiskainen and chaired by broadcast journalist Rob Broomby. The event started with a short film “Take 7” produced by SPRU Research Fellow Nicolette Fox.

Related blog posts

Martiskainen, M. (2015a). As thousands die, the UK must face up to its responsibilities on fuel poverty. The Conversation. 15.10.15. <https://theconversation.com/as-thousands-die-the-uk-must-face-up-to-its-responsibilities-on-fuel-poverty-47952> [Accessed 04.04.2016].

Martiskainen, M. (2015b). Energy debates must not forget those less able to speak for themselves. Blog post for Sussex Energy Group. 12.06.2015. <http://blogs.sussex.ac.uk/sussexenergygroup/2015/06/12/energy-debates-must-not-forget-those-less-able-to-speak-for-themselves-reflections-from-the-12th-eceee-summer-study/> [Accessed 04.04.2016].

Martiskainen, M. (2015c). New research project to investigate how communities can tackle fuel poverty – the silent killer. Sussex Energy Group Blog. 28.07.2015. <http://blogs.sussex.ac.uk/sussexenergygroup/2015/07/28/new-research-project-to-investigate-how-communities-can-tackle-fuel-poverty-the-silent-killer/> [Accessed 04.04.2016].

Martiskainen, M., & Schepers, S. (2015). 'Tackling Fuel Poverty - whose responsibility is it?'. Sussex Energy Group Blog. 23.11.2015. <http://blogs.sussex.ac.uk/sussexenergygroup/2015/11/23/1103/> [Accessed 04.04.2016].