Department for
Business, Energy
& Industrial Strategy

RESEARCH INTO THE BEHAVIOURS AND ATTITUDES OF THE FUEL POOR IN ENGLAND

Technical report

November 2017

Research into the behaviours and attitudes of the fuel poor in England

Technical Report

This research was carried by the GfK UK Ltd, CE in accordance with the requirements of ISO 9001 and ISO 20252.

Any enquiries regarding this publication should be sent to us at enquiries@beis.gov.uk.

This publication is available for download at www.gov.uk/government/publications.

Contents

Phase 1: Development of a Proxy to Identify the Fuel Poor

Background

A household is considered to be in fuel poverty in England if the home has higher than typical energy costs and, were they to spend that amount on energy, they would be left with a residual income below the poverty line. Households who meet both conditions are referred to as either Low Income High Costs (LIHC) or fuel poor.

To assess whether a household is in fuel poverty requires detailed information on household income, household composition, the energy efficiency of their dwelling and their energy tariffs is needed. Such detailed information can be difficult and costly to obtain. Yet a key aspect of this research project was to be able to screen households to identify those who were fuel poor (or, to be more precise, those who were more likely to be fuel poor).

This was a critical phase as it would determine *who* was interviewed and how they were categorised and analysed post-interview and had significant implications for the costs of the project overall.

Introduction

To assess the fuel poverty status of households the department strived to develop a screening tool that, whilst being easy to use on the ground, would be able to identify with a certain degree of confidence whether a household is fuel poor.

Simplicity was at the forefront when developing the screening tool. The reason for this was that it would be used at the very first point of contact with the interviewee, in a situation where the targeted household would have not expected to be asked those questions.

Therefore we aimed to identify a short set of questions that would be both good fuel poverty predictors and easy for households to answer reliably ‘off the top of their heads’.

Given that some of the best fuel poverty predictors require a certain level of (technical) knowledge, we sought to balance *accuracy* (i.e. that the answers enabled us to identify the fuel poor with an acceptable level of precision) with *practicality* (e.g. limiting the number and complexity of questions).

Development of the tool

We developed the tool in four stages (see Figure 1.1). The first stage was to identify the list of proxy questions that could reasonably be expected to be used to determine how likely a household was to be fuel poor.

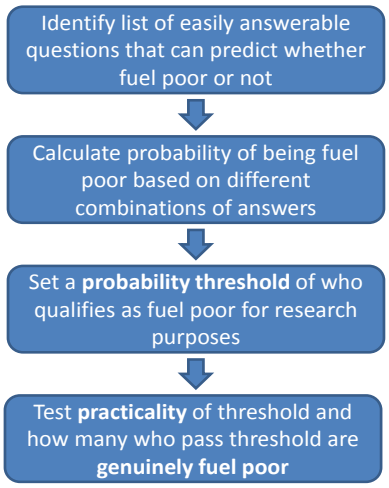
The second stage was to then use a statistical technique (Logistic Regression) to attach probabilities to each of the possible answers to the questions in the questionnaire. This would enable us to determine the probability of the household of being fuel poor, given their answers to the questions posed to them.

Stage three was to then set a probability threshold, where if a household had a probability above the threshold they would be selected for participation (Phase 2) or allocated to a particular likelihood of fuel poverty category (Phase 3) in the research project, as they were sufficiently likely to be fuel poor based on their answers to the proxy questions.

The threshold needed to balance again *accuracy* (i.e. that we have high levels of confidence that those who 'pass the test' by having a probability above the threshold are actually fuel poor) with *practicality* (i.e. setting a very high threshold would mean high accuracy of identifying the fuel poor, but may make these households hard to find, making the project expensive or unworkable).

Finally, stage four was to test different thresholds to balance these two aspects and make a judgement about the right balance between accuracy and practicality to set the final threshold.

Figure 1.1: Summary process for completing Phase 1 of the project



Identifying the proxy questions

Our starting point was the work carried out by the Department of Energy & Climate Change (DECC) in 2013 as part of *Fuel Poverty – a Framework for Future Action* to identify the best predictors of fuel poverty[1]. This piece of work was underpinned by a statistical technique called logistic regression, which helps explain the relationship between a (dependant) binary variable with other (binary or non-binary) variables. In this case, the dependant variable was the fuel poverty status of the household (i.e. 'fuel poor' versus 'not fuel poor'). In addition, the logistic regression model showed the contribution of each variable in the model to the probability of the household of being fuel poor.

DECC's model used data from the English Housing Survey (EHS) from 2010, 2011 and 2012 all combined, and identified which variables within that dataset best explained the fuel poverty status of a household. Its results were peer reviewed by a member of the ONS Methodology Advisory Service.

We took this model and removed those variables that we understood would be difficult for interviewees to reliably answer (see the Phase 1 Annex in this report for the list of variables considered and included in the Fuel Poverty Strategic Framework final model). For example, the age of the heating system was a strong predictor of fuel poverty but was removed because it was deemed to have been difficult for some households (particularly those in the private rented sector) to reliably answer it.

As we removed variables we also tested new variables that originally had not been included in the final model - usually because there were other variables that provided the same information and were stronger predictors. An example of this is the number of rooms: originally the number of rooms did not make it into the final model as floor area was a better predictor. However, once floor area was removed (as it was considered difficult to answer) number of rooms (which was considered an easier question to answer) became a strong predictor.

An exception to this rule of including new variables was income. Income was not originally included in the model, not because there were better predictors, but because it was considered a part of the dependant variable (income, or more precisely low income, is one of the determinants of fuel poverty). Whilst this fit the aim of the original model (to identify best proxies for fuel poverty), our aim was to obtain the best information possible to assess the fuel poverty status of the households. Therefore, we only resorted to proxies when we could not get actual information from the household directly.

[1] Available at: https://www.gov.uk/government/publications/fuel-poverty-a-framework-for-future-action

Finally, as part of the practical considerations, we strived to keep the questionnaire as short as possible. The decision was made that the proxy questionnaire, including introduction, should not take longer than 15 minutes to complete. This meant the questionnaire should not include more than nine or ten questions, which meant removing some questions that were relatively good predictors and easy to answer (for example, “do you have double-glazed windows?”), in favour of prioritising the most important ones. This final step required some judgment calls in balancing the most favourable trade-off between accuracy and simplicity, when the latter was not quantifiable. Those judgment calls usually favoured simplicity.

The changes to the original model and final results were also peer reviewed by a member of the ONS Methodology Advisory Service.

Our final questionnaire, shown in the Phase 3 Annex in this report, asked for information on:

a. Income after housing costs
b. Presence of children under 16/adults aged 65+
c. Dwelling age
d. Tenure
e. Dwelling type
f. Presence of a boiler
g. Electricity method of payment
h. Number of bedrooms
i. Main fuel used to heat the property

Estimating the probability of being fuel poor

One of the characteristics of logistic regression models is that they provide an estimate of the contribution of each variable in the model to the probability that the dependant binary variable is present/true (in our case, that the household is fuel poor).

As a result, having decided which variables to include in the questionnaire, the logistic regression model provided the estimated contribution of each of those variables to the likelihood of being fuel poor. This allowed us to estimate the overall probability of a household being fuel poor, based on their answers.

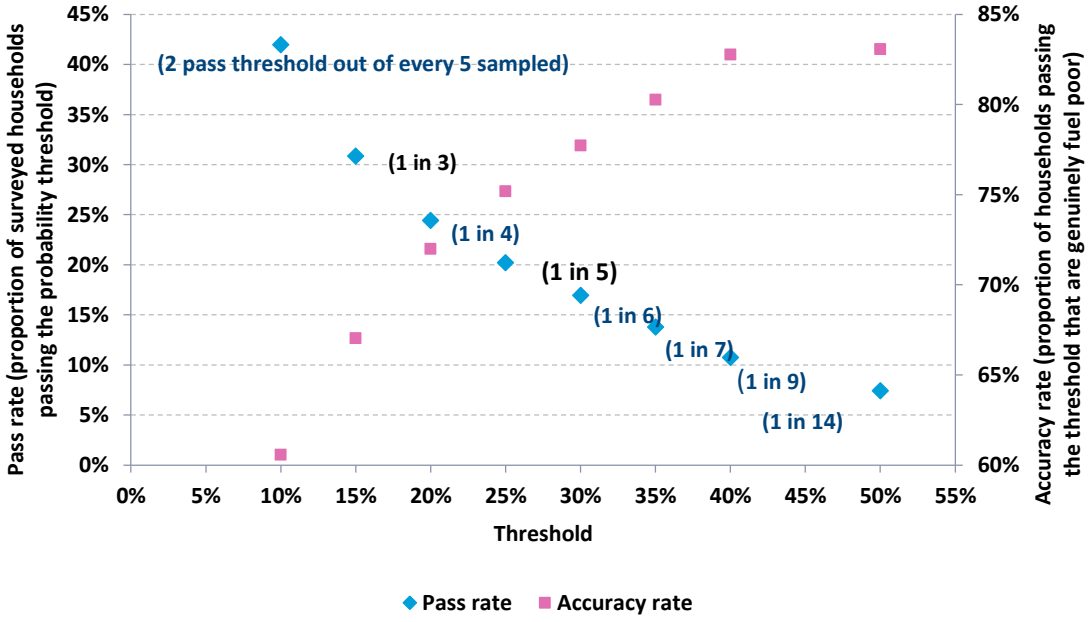
Setting a probability threshold

The model did not indicate with full certainty, however, whether a household is fuel poor or not. Therefore a judgement is required about the appropriate threshold above which a household was deemed to be sufficiently likely of being fuel poor. For example, if a threshold was set at 50%, those households with probabilities over 50% would be considered fuel poor for the purposes of our research.

All being equal, the higher the threshold, the more certain that a household (that 'passed the test' by having a probability above that threshold) was actually fuel poor in reality. At the same time, the higher the threshold, the more difficult (and expensive) it would be to find the fuel poor. This is because as the proxy becomes more accurate, it also becomes more stringent – more households would need to be interviewed to reach a certain number of fuel poor, with implications for cost and workability of the research project.

Figure 1.2 shows the relationship between the threshold, the 'pass rate' (i.e. how many households would need to be interviewed to find a household that passes our threshold) and the accuracy rate (i.e. the percentage of households who pass the threshold that would actually be fuel poor). The analysis underpinning Figure 2 assumes that the proxy questions are being asked in areas where the Fuel Poverty National Statistics show that more than 30% of households are fuel poor. This was in line with our intention to survey households in areas where a large share of households were fuel poor to maximise our chances of capturing our target population, and expectation that we would only consider areas with concentrations of 30% or above.

Figure 1.2: Trade-off between probability threshold 'pass rate' and 'accuracy' of identifying the fuel poor (assumes over 30% of areas surveyed are made up of fuel poor households)



Based on considerations of the affordability of the research project and the accuracy level in identifying fuel poor households, it was determined that we would test a threshold of 15%. This meant that households with a probability of being fuel poor less than 15% were

considered as household that was unlikely to be fuel poor at all. Those with a probability of 15% or greater were split into two groups: those with probabilities equal or greater than 15% but lower than 30% were considered with a 'medium probability' of being fuel poor; those with a probability of 30% or higher were considered as highly likely of being fuel poor.

Validation process

Validation of the proxy questionnaire focused on three areas: firstly, cognitive testing was carried out with a sample of around 25 households within the target population to understand whether interviewees could understand the questions being asked, the information that was requested in each of those questions and how easy it was for them to provide that information. Secondly, using the fuel poverty dataset outlined above (based on the English Housing Survey), we tested how good the probabilities generated from the proxy questions were at identifying the fuel poor (that is, whether those with a higher likelihood of being fuel poor tended to be those who actually were fuel poor). Thirdly, an analysis was undertaken (again using the fuel poverty dataset) on how good the proposed 15% probability threshold was at discriminating between fuel poor and non-fuel poor households.

The cognitive testing of the questionnaire showed that in the main households were able to easily understand and answer the questions posed to them. There was some room for improvement, however, particularly when asking about income after housing costs. However, this only required relatively small changes.

The second and third areas of validation were more challenging as the actual fuel poverty status of the household was required. One of the main difficulties for this was that it required an assessment of the energy efficiency of the dwelling, which would have been costly.

An option that was undertaken was to draw on the existing EPC of the dwellings. However, almost half of the households interviewed for the validation exercise lived in dwellings without EPCs. In addition, some of these EPC assessments dated a few years back and it was not clear how a good reflection of the current energy efficiency of the dwelling they were. Given these problems, we decided to focus on the accuracy rates that we estimated using the EHS-based fuel poverty dataset, which being a representative sample of English households offered a reliable picture of the accuracy of the proxy.

In terms of testing the probability threshold, it was decided to adopt the 15% thresholds to sift interviewees as was deemed to provide the best balance between accuracy (estimated through the EHS) and affordability. According to our EHS-based analysis, in areas where more than 30% of households were fuel poor (35% on average) a 15% threshold would mean we would have to run through the proxy questions to 4,500 households to identify

1,500 households that pass the threshold (i.e. 1 in 3 households 'pass' the threshold). Of those who pass the threshold in this example, we were also able to estimate that around 7 out of 10 households would be genuinely fuel poor.

Increasing the probability threshold and/or going to areas with lower concentrations of fuel poor households would require more than 4,500 households to be sampled to find the 1,500 fuel poor households. For example, if we raised the threshold to 20%, we would need to sample 6,000 households (an extra 1,500 households or approximately another 400 hours of interviews), with a gain in accuracy of 5 percentage points (from 67% to 72%). On balance, 15% was deemed to be a pragmatic balance between accuracy and affordability.

Implementation

To simplify the use of our screening tool on the ground (interviewers did not carry any specific device to estimate the resulting probability) we turned the odd ratios estimated through the logistic regression model into a simpler scoring system.

This was not a straightforward process as no established methodology existed for this. After testing a number of alternative approaches it was decided to use the marginal contribution of each individual answer, compared to the baseline probability (i.e. the lowest probability of being fuel poor), as the score for each of those answers.

We tested the robustness of this approach by comparing its accuracy and the distribution of selected households across more than fifteen categories (e.g. house type, tenure and other key fuel poverty variables) against that of the proxy model. This showed some differences that were corrected through some small changes to the scores. The most relevant change was to reduce the estimated score for income after housing costs to avoid skewing the selection heavily towards one bedroom households. The final scoring system produced almost identical results to the original proxy model.

Summary

A key aspect of this research project was to be able to screen household to identify those who were fuel poor. This would determine *who* was interviewed and had significant implications for the costs of the project overall.

The department drew on the set of variables identified as the best predictors of fuel poverty as part of the 2013 publication *Fuel Poverty: a Framework for Future Action*. From this set of variables those variables that were considered difficult to answer were removed. In some cases variables were substituted with others that conveyed similar information but that were easier to answer ‘on the doorstep’.

The decision was made early on to produce a short questionnaire on the grounds of practicality, which required the removal of some variables that were relatively good predictors and easy to answer. Cognitive testing was carried out on the questionnaire and the feedback was used to streamline and improve some of the questions.

Balancing targeting accuracy and affordability, a 15% probability threshold was set in order to determine which households would be classified as being fuel poor for the purposes of this research project.

Finally, on operational grounds the model outputs were transformed into a simpler scoring system to determine whether a household had low, medium or high probability of being fuel poor.

PHASE 2: Qualitative survey

The qualitative research involved 50 depth interviews. These were carried out in the participants' home enabling the researcher to ask the participant to show energy controls used and measures installed. Each depth interview lasted up to 2 hours.

Participants were recruited to take part in the qualitative research using a free-find recruitment method; potential participants meeting relevant criteria were selected from the general public within specific areas with high concentration of the fuel poor population.

Recruitment was carried out using the Fuel Poverty allocation algorithm developed by the department. All participants were initially recruited using a paper-based and simplified version of the allocation algorithm.

Scores were allocated to responses given to these questions to determine likelihood of being fuel poor. Participants were then telephoned to verify their responses using the full Fuel Poverty allocation algorithm. Those who were allocated as fuel poor based on the algorithm threshold were included in the qualitative research.

Quotas were applied to the sample to ensure a diverse range of fuel poor people were included across the qualitative research. This included:

- Demographics: a spread of age, family composition and ethnicity.
- Income: a mix of those who were above and below the income threshold and a spread of benefits claimed.
- Tenure: a mix of tenure type and transience.
- Property type: a spread of property age, size and type.
- Main fuel type: a spread including off-grid, those with and without a boiler and a spread of payments types including pre-payment.

The fieldwork took place in February and March 2015. Locations included: London; Manchester; Nottingham; Bradford; Sheffield; Newcastle; Bristol and Birmingham.

The recruitment screener questionnaire and discussion guide are published in the Phase 2 Annex in this report.

PHASE 3: Quantitative survey

Questionnaire development

The survey questionnaire was designed by the department and GfK. Prior to main stage fieldwork, a pilot exercise was undertaken to test the questionnaire in terms of questionnaire length and flow, and to identify any specific questions that were problematic for respondents (both in terms of their understanding of the question and their ability to answer it within the response options provided).

The pilot exercise was conducted in 5 locations - Birmingham, Bolton, Bradford, Luton and Southampton[2] - with two days of interviewing conducted in each location between 1st and 4th October 2015. Households were screened on the doorstep using a slightly reduced version of the doorstep screener that was subsequently used for the main stage of fieldwork[3] (discussed later/Table 3.1) in order to test the questionnaire amongst households with a greater likelihood of being in fuel poverty. A total of 28 pilot interviews were completed.

An interim debrief was held with interviewers via telephone on 2nd October 2015, after which some small amendments were made to the questionnaire ahead of the final day of interviewing. A final debrief was held after the second day of interviewing, on 5th October 2015.

Following the pilot exercise, GfK provided a short pilot feedback report to departmental researchers, which summarised the pilot exercise and made recommendations for amendments to the questionnaire. Final questionnaire changes were agreed by the department ahead of the main stage fieldwork.

The average main stage interview length was 27 minutes. The survey questionnaire is published in the Phase 3 Annex later in this report.

[2] Similar to the main stage fieldwork, pilot fieldwork was conducted in areas where the fuel poverty penetration was at least 30%

[3] The doorstep screener used for the pilot fieldwork used questions 2-5 from the main stage 'Original screener' shown in Table 3.1, with households required to score 12 or more points to be eligible for interview

Sample design

As only 10.6% of households in England are defined as being fuel poor[4], and no sampling frame of them exists, the survey design had to be guided by expediency, and particularly the need to achieve sufficient interviews within the available budget. It was therefore decided that the survey would only be conducted in areas of higher than average concentration of the fuel poor. Lower Level Super Output Areas (LSOAs) were chosen as the sampling units.

After some discussion about the costs of different options, it was decided that the survey would only be conducted in areas where the fuel poverty penetration – derived from the DECC tables[5] – was at least 30%.

Because of the distribution of the fuel poor population these areas contain only around 5% of all the fuel poor in England, and this needs to be borne in mind when looking at the results. One particular consideration is that almost all the sampling points chosen were inner city areas, mostly of older housing.

The identified LSOAs also had strong regional biases, with a very disproportionate number of them in the West Midlands, and very few in London or the South East. It was therefore decided that in order to give greater geographical coverage LSOAs would not be sampled at random across all regions, but that the West Midlands would be under-sampled and London and the South East over sampled. Within each region LSOAs were listed in decreasing % fuel poor, and the required number of points selected with a probability proportional to the number of fuel poor households in each one.

Within each sampled LSOA the initial target was to interview 9 fuel poor households and 3 that were not, to form a control group, but in practice it is not possible to identify those who are or aren't fuel poor based on a short doorstep screener. Therefore, selection for interview was determined by means of a screener based on a reduced version of the allocation algorithm and fuel poverty probability was determined using the full algorithm during the main interview. This is discussed in more detail in the section on fieldwork below. Rather than allocate households to "fuel poor" or "not fuel poor" the algorithm allocates households to high, medium or low probability of being fuel poor. It was agreed that for the purposes of sampling, those deemed to be high or medium likelihood would

[4] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/533241/Annual_Fuel_Poverty_Statistics_Report_2016.pdf

[5] https://www.gov.uk/government/statistics/2013-sub-regional-fuel-poverty-data-low-income-high-costs-indicator

screen in as fuel poor, and the low likelihood would go into the control group. Again as discussed below, slight amendments were made to this approach during fieldwork.

Fieldwork

All interviewing was conducted face-to-face in-home by GfK's interviewer fieldforce, using Computer Assisted Personal Interviewing (CAPI), which means that interviewers carry the survey on a laptop into which they enter the respondent's answers. Complex routing can be employed, with questions skipped or tailored depending on the respondent's previous answers. At certain questions, interviewers used showcards to present response categories to respondents from which they could select their answers.

Fieldwork took place in two tranches, the first running from 28th October to 9th December 2015 during which 2,020 interviews were completed. Following this, the department commissioned an extension to fieldwork to boost the number of higher likelihood households (those deemed to be high or medium likelihood) in the sample and a second tranche of interviewing was conducted between 5th and 17th January 2016, delivering a further 511 interviews. In total, 2,531 interviews were completed across the two tranches.

Interviewers were given a list of all addresses in each sampling point (LSOA) that they could make a call at. Within each sampling point, an interviewer was required to achieve 12 interviews in total with the householder or their partner (aged 16+). Whilst no demographic quotas were set in relation to the respondent, households were instead screened on the doorstep to identify households that were more likely to be allocated to the high or medium likelihood of fuel poverty categories when the full allocation algorithm was applied during the interview. Because it was impractical to ask the full range of questions on the doorstep that were necessary to determine a household's likelihood of fuel poverty (plus asking questions about income on the doorstep are counterproductive to gaining a respondent's cooperation), the screener used a cut-down set of criteria. These included property type, age and size, how fuel bills were paid and how the property was heated, with households receiving a score for each depending on their response. A score of 16 or more points was required to pass the screener. During the first tranche of fieldwork, of their 12 interviews, interviewers were required to complete nine with households that passed the screener (i.e. scored 16 or more points) and three with households that didn't. For the second tranche of fieldwork, the ratio was adjusted to 10:2 with the aim of increasing the final proportion of higher likelihood households in the achieved sample.

The screener was amended slightly during the first tranche of fieldwork given that the original screener was not felt to be delivering a high enough proportion of high and

medium likelihood households. See Table 3.1 for the scores allocated for the original and amended screeners.

Table 3.1: Doorstep screening scores

	SCORE	
	Original screener	Amended screener
Q1. Is this property…		
…a detached house	6	6
…a semi-detached house	6	6
…a terraced house	4	4
…anything else	0	0
Q2. Was this home built before 1965 or after?		
Before	5	5
After	0	0
Q3. How many bedrooms does your home have?		
One	0	0
Two	2	2
Three	7	5
Four	10	7
Five or more	15	9
Q4. How do you pay for your electricity?		
Prepayment meter	3	5
Pay regular bills to reflect amount used	2	3
Other	0	0
Q5. What fuel do you use for your main heating		
Gas	0	0
Electricity	6	6
Other	3	3

Table 3.2 below shows the final likelihood of fuel poverty allocation by whether or not a household passed the doorstep screener.

Table 3.2: Final likelihood of fuel poverty allocation by whether households passed the doorstep screener

TABLE SHOWS UNWEIGHTED DATA

Likelihood of fuel poverty category	Whether passed doorstep screener	
	Yes (1,961)	No (570)
	%	%
High	52	29
Medium	21	19
Low	28	52

Data processing and analysis

Allocation of households to likelihood of fuel poverty categories

Households were allocated to one of the three 'likelihood of fuel poverty' categories based on their survey responses. The background and development of the allocation model is discussed in detail in Chapter 1 of this report.

Table 3.3 below shows the variables and calculations used to derive the final allocation of each household to either the high, medium or low likelihood category. Each household was given a starting score of -6.81747 with the scores shown in the table added to this as appropriate.

- If the result was less than or equal to -1.735 households were classified as low likelihood
- If the result was greater than -1.735 and less than -0.85 households were classified as medium likelihood
- If the result was greater than -0.85 households were classified as high likelihood

Table 3.3: Likelihood of fuel poverty allocation model

Algorithm variable	Definition (question number and code)	Score
Children under 16 in household	Derived from responses at A3 and H2a	+ 0.4032
No children in household AND someone 65+		-0.41969
Owner-occupier	A7 code 1-2	+0.1726
Private renter	A8 code 3-8[6]	+0.90465
Terraced	A9 code 4-5	+1.07309
Semi-detached	A9 code 3	+1.30021
Detached	A9 code 1-2	+1.34935
Income after housing costs <£900 per month	D5/D6 code 2	+2.24009
Electricity pre-payment	D1 code 3	+0.96166
Standard credit	D1 code 2	+0.67549
2 bedrooms	A11 code 3	+0.665
3 bedrooms	A11 code 4	+1.42412
4 bedrooms	A11 code 5	+1.78497
5+ bedrooms	A11 code 6	+1.98401
Main fuel electricity	A5 code 6,8,11	+1.28636
Main fuel other but not gas	A5 code 2-5,9-10,12-14	+0.82311
No boiler	A5/6 NOT code 1-5	+0.35043

[6] Code 8 (Private rented - nfs) was added at the coding stage and therefore does not appear on the questionnaire

Imputations

Inevitably some respondents were unable or unwilling to answer some of the questions that were used by the Fuel Poverty allocation algorithm. This is the case in all surveys, and it is perfectly normal for survey datasets to contain missing data in the form of "don't know" or "refused" responses. But in this case, not giving an answer to these questions meant that the respondent missed out on the chance to be given some of the "points" that lead to the definition of high, medium, and low likelihood of being fuel poor.

Two questions where there were a relatively high level of "don't know" or "refused" responses were those that asked about income after tax and mortgage/rent costs (12% of all households in the survey gave a 'don't know' response and 5% refused) and age of property (10% gave a 'don't know' response). There was a real risk, in particular, that someone who didn't know what their income after tax and mortgage/rent costs - given this variable awarded the single highest score if a household answered 'less than £900' - could be placed in a lower likelihood category than they would have been had they been able to answer.

It was therefore decided that for the questions relating to level of income after tax and mortgage/rent costs and age of property, those who did not give an answer would be given the average score for that question for all other respondents in the same area. Whilst there would undoubtedly be a small amount of misallocation as a result, it was felt that this would, overall, lead to a more accurate allocation of respondents to the appropriate likelihood category.

Final allocations

The final allocations to each category are shown in Table 3.4 below.

Table 3.4: Allocation of households to fuel poverty categories

		Unweighted		Weighted	
Likelihood of fuel poverty allocation	**Likelihood of fuel poverty category**	**n**	**%**	**n**	**%**
Higher likelihood of fuel poverty	**High**	1,178	47	1,172	46
	Medium	511	20	514	20
	TOTAL	1,689	67	1,685	67
Low likelihood of fuel poverty	**Low**	842	33	846	33

Data tables

Data were weighted to the regional profile of fuel poor households in England[7].

Two sets of data tables were produced: one including all higher likelihood households and one including all low likelihood households. Crossbreaks were agreed with the department and were added to data tables to allow for sub-group analysis by a number of variables including those related to:

Fuel poverty - including the likelihood of fuel poverty, whether the household is warm enough, how well the household is keeping up with bills

Heating and property characteristics - including the main form of heating, how the household pays for fuel, property type, age of property, number of bedrooms

Household characteristics - including tenure, household composition, household working status and household income

Coding

The questionnaire contained a number of questions which included 'other' answers which required coding. In order to get the most out of these open responses, code frames were developed by executives working on the project with reference to the objectives of the question. GfK's team of coders were fully briefed by project executives about the objectives of each individual question in advance of starting work.

Confidence intervals

Surveys are conducted because it is much more practical and cost effective than interviewing an entire population. However, we need to know how close our survey estimates are to the 'true' figures if we had interviewed the entire population. Confidence intervals are a statistical device which allows us, using our survey results, to estimate the variation that might be anticipated because a sample rather than an entire population was interviewed. This is essentially a range where the true (overall population) value is likely to sit. In general, the larger the sample, the more sure we can be of the accuracy of our survey estimates, though subject to diminishing returns at larger sample sizes. In other words, if we were to conduct the same survey again we would be more likely to get a similar result if we had a large sample than a smaller sample.

The table below indicates the confidence intervals associated with the likelihood of fuel poverty categories (calculated based on the effective sample size[8]). When calculating

[7] https://www.gov.uk/government/statistics/fuel-poverty-detailed-tables-2013

confidence intervals, we typically use a 95% confidence interval. This means that we can be 95% sure that the survey estimate reflects the true figure for the entire population.

Table 3.2: Confidence intervals

		Survey response		
	Sample size	10% / 90%	30% / 70%	50% / 50%
Higher likelihood households (Households with a higher likelihood of being in fuel poverty)	1,689	1.5	2.2	2.4
High likelihood households	1,178	1.7	2.6	2.9
Medium likelihood households	578	2.4	3.7	4.1
Low likelihood households (Households with a low likelihood of being in fuel poverty)	842	2.0	3.1	3.4

The table shows that for higher likelihood households, the confidence interval for a 50% response would be up to ± 2.4%. This means that if the survey found that 50% of respondents held a certain view, we could be 95% sure that the true proportion of people in the (overall) population who hold that view would be between 47.6% and 52.4%.

[8] The effective sample size describes the effect of the weighting on the accuracy of survey estimates. It is dependent upon the size of weights applied to respondents: the more the weights deviate from 1, the smaller the effective sample size.

Annexes: Phase 1

Table A1: Variables Considered for the 2013 Fuel Poverty Strategic Framework Logistic Regression Modelling

Variables	Reference Category	Low Income High Costs	Severe fuel poverty
Family Composition	Couple, no dependent child(ren)		
Household size	Number of persons in the household >=5		
Age band of youngest person in household	Aged between 16 to 59		
Individual(s) disabled or with chronic illness	No disabled household members or unknown		
Employment status of household reference person	HRP - Full/Part-time employment		
Employment status (primary) of partner	Partner - Full/Part-time employment		
National Statistics Socio-Economic Classification	Higher managerial and professional occupations		
Household on means tested benefits/tax credits	No		
Attendance allowance or DLA mobility/care component	No or No Answer		
Method of payment - electricity	Direct debit		
Method of payment - gas	Direct debit		
Government office region	South East		
Rurality - morphology (COA)	Urban		
Whether dwelling is on the gas network	On gas network		
Dwelling type	Flat		
Dwelling age	Post1964		
Total no of bedrooms	One bedroom		
Useable floor area	Less than 50 sqm		
Tenure	Local Authority/RSL		
Under occupancy	Not under occupying		
Energy efficiency rating band (SAP 2005)	A, B or C		
Loft insulation thickness	150mm or more		
Type of wall and insulation	Cavity with insulation		
Age of heating system	Less than 3 years		
Main heating fuel	Gas		
Main heating system	Central heating		
Water heating system	With central heating		
Type of boiler	All condensing boiler		

Included in the final model

List of proposed question topics (not precise wording)

1. Once you have paid your rent/mortgage (if you have one), do you have more or less than £10,000 per year (£800 per month) left over?
2. Is the youngest person in your household under the age of 5?
3. What is the main heating fuel you use in your property (electricity, gas or other)?
4. How do you pay your electricity bill (DD, PP or SC)?
5. What type of dwelling does the household live in (flat, terrace, semi-detached or detached/bungalow)
6. Was the dwelling likely built before the 1960s?
7. How many bedrooms does the dwelling have?
8. Do the household own their home, or rent (PRS/Social Landlord)?
9. Do you have a boiler?

Annexes: Phase 2

Recruitment screener

Fuel Poverty Research Recruitment Screener – FINAL

Good Morning/Afternoon/Evening, my name is _____ and I'm calling from an independent market research organisation GfK and we are conducting some research on behalf of the Department of Energy and Climate Change (DECC).

We are carrying out some research about how different households in England use electricity and gas and we are looking for people to take part in an individual interview in their home over the next few weeks. The interview will last for two hours, and will take place at a time that is convenient to you. Everyone participating in the research interviews will receive a cash thank you for your time and help. I was hoping that you would be happy to be part of theses research interviews?

IF RESPONDENT IS HAPPY TO PARTICIPATE ASK THE FOLLOWING.

To ensure that we include a wide cross section of people to be represented in this research, we would like to ask you a few questions now; please be assured that GfK abides by the MRS code of conduct which means that your identity and all your answers will be kept strictly confidential. Would you be happy to answer a few questions now?

IF RESPONDENT AGREES ASK THE FOLLOWING

Q1. Firstly, may I just check, are you the person solely or jointly responsible for managing the electricity and/or gas bills in your household?

1. Yes, solely responsible
2. Yes, jointly responsible
3. No, someone else is responsible

ALL respondents should be solely or jointly responsible for managing their household electricity and/or gas bills.

Question	Answer	Points	Resp. Score
Q1. How do you pay for your electricity?	Pre-payment meter	15	
	Standard credit	10	
	Direct debit	0	
Q2. How many bedrooms do you have in your home?	1	0	
	2	10	
	3	35	
	4	55	
	5 or more	70	
Q3. Do you…	Own this property (either outright or with a mortgage)	0	
	Rent from a private landlord (either an individual or a company)	15	
	Rent from the council or a housing association	0	
	Other	Ask office	
Q4. Which fuel is used for your main heating system?	Gas	0	
	Electricity	30	
	Other	15	
Q5. When was this property built?	Before 1964	25	
	After 1964	0	
(If you are not sure, please give your best guess)	Don't know.		
	Continue with questions. Then see *Table 1 below to score Q5		
Q6. After paying the rent or mortgage,	More than £900	0	

how much does your household usually have left each month?	Less than £900	70
	Don't know.	
(If you are not sure, please give your best guess)	Skip to Q15. If respondents claims any of these benefits, score as 'less than **£**900. If not score as 'more than **£**900'.	
Q7. Is your home…	A house or bungalow that is detached	30
	A house or bungalow that is semi-detached (one of a pair of attached properties)	30
	A house of bungalow that is terraced (part of a set of three or more attached properties)	20
	A self-contained flat, maisonette or apartment	0
	A room or rooms (e.g. bedsit or flatlet)	0
	Other	Ask office
Q8. Do you have a boiler?	Yes	0
	No	5
Q9. Please indicate if there is anyone living in the home in the following age bands	under 16	5
	between 16 and 59	0
	60 or over	-5
(select all that apply)		
		TOTAL SCORE

ALL participants must score 120 or more.

***TABLE 1: USE THIS ONLY IF RESPONDENT ANSWERED 'DON'T' KNOW' TO Q5.**

If don't know age of property, please see answers to Q3 and Q7. Use these answers to find out whether the property is likely to be pre-1964 or post 1964. Use this answer to allocate a score at Q5 (before 1964=25; after 1964=0)

		Dwelling type – SEE Q7			
		Detached	Semi - Detached	Terrace	Flat
Tenure- SEE Q3	Private Rent	post-1964	pre-1964	pre-1964	pre-1964
	Social Rent	post-1964	pre-1964	pre-1964	post-1964
	Owner Occupier	post-1964	pre-1964	pre-1964	post-1964

ON GRID VS OFF-GRID

Q10. And thinking about heating your home on a day to day basis, which of the following do you use?

1. Wood burning stove
2. Coal fire
3. Electric heaters
4. Gas heaters (not central heating)
5. Oil filled heaters
6. Storage heaters
7. Electric central heating
8. Gas Central heating
9. Other (write in and check with project manager if suitable to recruit)

RECRUIT: 20 x Gas central heating; 10 x don't use gas central heating

LEVEL OF ENGAGEMENT IN ENERGY-SAVING

Q11a. How much thought, if any, would you say you give to saving energy in your home?

1. A lot	Very Engaged
2. A fair amount	Fairly engaged
3. Not very much	Slightly engaged
4. None at all	Disengaged

Q11b How often, if at all, do you personally do any of the following?

a) *Switch off lights when you are not in a room*
b) *Boil the kettle with only the amount of water that you want to use and no more*
c) *Wash clothes at 30 degrees or lower*
d) *Try to keep rooms that you are not using at a cooler temperature than those you are using*
e) *Switch off the heating when you go out for a few hours*

	Always	Very often	Quite often	Occasionally	Never
a)					
b)					
c)					
d)					
e)					

Very engaged – answer always or very often or quite often to **4 or more statements**
Fairly engaged – answer always or very often or quite often to **3 statements**
Slightly engaged – answer always or very often or quite often to **1 or 2 statements**
Disengaged – answer always or very often or quite often to **0 statements**

RECRUIT:
8 x engaged (very or fairly engaged at BOTH Q11a and 11b)

10 x fairly engaged (fairly engaged at BOTH Q11a and 11b)
12 x slightly engaged (slightly engaged at BOTH Q11a and 11b)
12 x disengaged (not engaged at BOTH Q11a and 11b)

INFORMATION SOURCES

Q12. If you wanted to find some information about saving energy in your home, where would you be most likely to look for this (choose one)?

1. Talk to a friend or family member
2. Internet (Google search or similar)
3. Leaflets in your local post office, health centre, GP surgery
4. Leaflets in your supermarket
5. Your local council / One stop shop / housing office

RECRUIT: a spread of preferred information sources including non-internet sources

TRANSIENCE

Q13a. And for how long have you been living in your home?

_____years _____months

Q13b. And for how long do you intend to live at this property?

_____years _____months

RECRUIT: 10 x transient (those who have moved into their property within the last 12 months AND intend to move within the next 12 months)

HOUSEHOLD COMPOSITION

And finally I would just like to ask you a few questions about yourself and your household.

Q14a. May I please ask, how many adults are there living in your household aged 17 and over?

ADULT 1	AGE:___
ADULT 2	AGE:___
ADULT 3	AGE:___
ADULT 4	AGE:___
ADULT 5	AGE:___

Q14b. How many children are there living in your household aged 16 and under?

CHILD 1	AGE:___
CHILD 2	AGE:___
CHILD 3	AGE:___
CHILD 4	AGE:___
CHILD 5	AGE:___

RECRUIT: 20 x youngest person in household is below 16 years

RECRUIT: 15 x youngest person in household is 60+

Q14c. And which of the following best describes your household composition?

1. Couple without children
2. Couple with children
3. Single person household
4. Lone parent with child(ren) aged 16 or under

5. Lone parent with child(ren) aged 17 or over
6. Flat or house-share NB This is a joint tenancy or where a group come together to rent, and take responsibility to find another tenant if one person was to move out*
7. Other (check with office)

*Where the group does NOT take responsibility to fill any vacancies but this responsibility falls to the landlord, the group is not treated as a household. In this case, re-code as single person / couple etc. as appropriate.

RECRUIT: 10 x couple w/o children (code 1); 10 x couple with children (code 2); 10 x single person household (code 3); 5 x multi-person household. NB Multi-person HHs include lone parents with children aged 17 or over (code 5), OR flatshares as defined (code 6), are BOTH categorised as Multi-person HHs.

Q15. Are you/you and your partner receiving any of the following benefits?

1. Income Support
2. Income-based Jobseeker's Allowance
3. Income-related Employment and Support Allowance
4. Pension Credit
5. Working tax credit
6. Child Tax Credit
7. Universal Credit
8. Housing Benefit
9. Council Tax benefit / Council tax support

RECRUIT: 20 x claiming at least one of the above means tested benefits;

4 x not claiming benefits they may be entitled to. Please cross-check with income question (Q6). If income is below 900, and not claiming any of the above benefits, they may be failing to claim benefits they are entitled to. NB, the most commonly under-claimed benefits are Pension Credit (over 65s on low incomes) and Council Tax benefit (those on low incomes paying full council tax)

At least 20 x not claiming benefits

Q16. And which of the following best describes your ethnicity? Are you….

1. **White**
   British
   Welsh
   Scottish
   Irish
   Any other white background
2. **Asian or Asian British**
   Indian
   Pakistani

Bangladeshi
Any other Asian Background

3. **Black or Black British**
   Caribbean
   African
   Any other black background
4. **Mixed**
   White and black Caribbean
   White and black African
   White and Asian
   Any other mixed background
5. **Chinese or Any other Asian background**
   Chinese
   Other Asian background
6. **Any other ethnic group**

Discussion guide

The overall aims are to:

- Explore the attitudes, perceptions and behaviours of the Fuel Poor in relation to household energy use:
  - Perceptions of the impact of fuel poverty
  - Coping strategies: day to day, context of unexpected
- Explore views on energy saving and energy efficiency. In particular:
  - Perceptions and behaviours
  - Motivations and barriers
- Identify information needs and preferred sources and channels for information on energy use and energy saving
  - Contact points
  - Preferences: local/national, proactive/reactive, trusted messengers
- Explore incentive to take up energy efficiency measures
  - Willingness/ability to pay
  - Differences between measures

Notes: *This guide is intended to guide the discussion however; the exact flow and question wording will be tailored by the moderator to best fit the respondent. Resultantly, not all questions may be asked, or they may not be asked in the order below, or using the precise wording below.* **NOTE TO MODERATOR:** use creative exercises with discretion, note possibility of low literacy / preference for open questioning and adjust approach as necessary.

1. Introduction 20 mins

- Thank you for agreeing to take part in this research.
- Introduce self and GfK.
- Explain purpose of the research: **We are carrying out research on behalf of the Department for Energy and Climate Change. They are interested to know more about you, your home, and your opinions on some issues to do with the way households use energy. Please note, we are not expecting you to have any special knowledge on this subject, we are just interested in your views and opinions.**

- Explain the importance of being able to say what you think, there are no right or wrong answers and please be honest.
- Clarify who will be talking part in the interview – whether just the individual recruited, or whether other members of the household may contribute.
- Explain audio recording.
- Reassure participant that the discussion is confidential, and that it complies with the Market Research Society Code of Conduct.
- Explain the discussion will last two hours, and that part of this could involve having a look around different rooms in the home.
- Any questions?
- **Before we begin the discussion, I'd like to ask you to take a few minutes to fill out this questionnaire (proxy questions)**

PLEASE TICK (✓) THE APPROPRIATE ANSWER.

Q1. Is your Home:			
A house or a bungalow	**A self-contained maisonette or apartment**	**A room or rooms** (e.g. bedsit or flatlet)	**Other** (please write in)

Q2. If it is a house or bungalow, is it:		
Detached	**Semi – Detached** (one of a pair of attached properties)	**Terraced** (part of a set of three or more attached properties)

Q3. When was this property built?

(if you are not sure, please give your best guess)	
Before 1964	**After 1964**

Q4. How many bedrooms do you have in your home?				
1	**2**	**3**	**4**	**5 or more**

Q5. Do you:		
Own this property (either outright or with a mortgage)	**Rent from a private landlord** (either an individual or a company)	**Rent from a council or a housing association**

Q6. How do you pay for you electricity?		
Pre-payment meter	**Standard Credit**	**Direct debit**

Q7. Which fuel is used for your main heating system?		
Electricity	**Gas**	**Other** (please write in)

Q8. Please indicate if there is anyone living in the home in the following age bands (Tick all that apply):		
Under 16	**Between 16 and 59**	**60 or over**

Q9. After paying the rent or mortgage, how much does your household usually have left each month? (If you are not sure, please give your best guess)	
More than £800	**Less than £800**

Q10. Do you have a boiler?	
Yes	**No**

- General:
  - Can you tell me a bit about how you found completing these questions?
  - Which, if any, were more difficult to answer?
- **Moderator note: please note whether respondents are incorrectly excluding bills in income calculation**
- For each question (focusing on income and age of property questions):

        - How easy or difficult was this to answer?
        - How sure did you feel about the answer you gave?
        - Would further information have helped? What information?
    - General:
        - Do you think you would you have answered differently if you'd been answering this….? How? :
            - With an interviewer providing guidance
            - On the internet
            - Somewhere outside your home e.g. on the street (i.e. unable to check responses)

Moderator to note: reflect respondent language throughout, in relation to key terms used for e.g. measures, energy, energy efficiency, energy saving, fuel etc. Please note appliances in use during the interview, temperature in the home and any other relevant observations.

2. Context: household, community network & energy use 40 mins

I'd like to start off by getting to know a bit more about your life, so finding out a bit about you, your family and friends, the local area and your property.

Participant / household introduction

- Name, age
- Working / not working / in education?
    - If working: tell me a bit about your work? How long have you been working there?
    - If not working: what do you tend to do with your time?
- Who lives with you?
- [If appropriate] Please tell me a bit about the other adult/s living in the house
    - Name, age
    - Working / not working / studying?
- [If appropriate] Please tell me a little bit about your child/ren
    - Name, age
    - Nursery / school / college / University / working?
- Who would you say you see most regularly / spend time with most often? These can be people or places.

-

- Can you think of a time recently where you have done one of the following **moderator, spend time with the respondent identifying a suitable example**:
    - Discovered a government scheme that could benefit you: free loft insulation, free childcare for under 3s, council tax rebates.
    - Property-related: made a home improvement
    - Financial product: done something about PPI / made a will / bought an insurance product or another financial product
    - General info: discovered a way to save money in the home

Tell me a bit more about this:

- How did you first hear about it?
- What was it that interested you?
- What happened after that?
- Explore:
    - Who did you talk to? Prompt with sources already mentioned i.e.
    - Where did you go for more information?
    - How do you tend to find out more about these things?
    - Preferred channels: internet / phone / f-f?
    - Trusted / less trusted sources?
    - How do you get reassurance about a new place/product service?
        - Conversations with others
        - Reviews
        - Brands
        - Other

<u>About the property</u>

Moderator note: please try to focus on improvements relating to energy, don't spend too much time on non-energy related improvements

- How long have you lived here? For how long into the future do you expect to live here?
- Do you own or rent this property?
    - For renters ask:
        - Do you pay your rent to/deal with the owner of the property directly or deal with a letting agent or a housing association?

        - How often do you contact the owner / letting agency / housing association?
        - What do you contact them about?
- What work has been done to the property since you moved in? ALL SPONTANEOUS THEN
    - Why was this work carried out?
    - Explore process of getting the work done (e.g. who instigated it, who did you need to contact, how was a supplier selected, how was access arranged, who paid)? What general arrangements do you have in place if you need to have work done at the property (e.g. if something breaks)?

If no work has been carried out:

- What do you think is the reason for this?
- Are you interested in making improvements / upgrades to your home? Why/not?
    - To what extent does the length of time you plan to stay in this property impact on this? ?
- Have you considered carrying out work in the past? Why did this not take place? Explore.
- If you could do one piece of work now, what would it be?
    - How would you go about this?
    - How would you go about choosing someone to do the work?
    - What steps would you need to go through?
    - What would be your main worries about having this work done?
    - Why have you not done this so far?
    -

<u>Household bills</u>

I'd like to ask you now about all of the things that you need to pay for day to day. This can include regular bills, and all expenses **Moderator: make a list on paper**

- Does this include all of your bills and expenses? What's missing?
- Which are the ones that concern you the most? Why?
- Which 3 would you always prioritise? Why?
- Why is energy / gas / electricity prioritised / not prioritised. Explore.
- We know that a lot of people find it hard to deal with unexpected expenses. If you found you had a bill of £100 that you hadn't expected, how would you manage? Explore:
    - Cutting back? Where?

  - Borrowing from friends and relatives?
  - Loans
  - What about savings?

Household energy use

- Thinking specifically now about your energy bills…
  - How do you pay for this?
    - Direct debit / standing order / meter / pre-payment
    - Weekly / monthly / quarterly
  - Why do you pay for it this way?
- What are the things that influence your energy bills / make them go up or down?
- To what extent do you think about how your household uses gas / electricity / energy?
- Do you often think about how your household uses gas / electricity / energy? Why?
- Have you tried reducing / changing the way you use heating / energy/gas/electricity?
- How much control would you say that you have over the amount of electricity/gas your household uses? Why do you say this?
- Is it something that concerns you? Why do you say this?
  - Is it something that you think about a great deal?
  - Has this changed over recent months / years? Why?
- If you needed to cut back on the amount of energy your household uses, how would you do this?
  - Has this happened to you? What happened? What did you do? How did you do about this?
  - Which rooms would be affected? How?
  - Which appliances would be affected? How?
  - Are there particular times / days that you'd do this? Why?

Heating your home

- What type of heating is used?
  - If not using gas or electricity: what's the reason for this? Have you considered switching fuel type? Why / not?
- How do you use your heating?
  - Different heat sources used at different times?
  - When did you last change the heating controls? Why?

  - What happens if you can't use your heating for any reason?
- Do you tend to feel warm enough in your home?
  - What does 'warm enough' mean to you? How can you tell if it's 'warm enough'? Specific temperature? What temperature is your heating set at?
  - Are there some times when you are warm enough, and other times when you are not warm enough?
    - What affects this? e.g. time of day.
    - How do you cope when you're not warm enough?
- Do you tend to try to control or restrict how much heating you use?
  - If not, why not?
  - How do you do this?
  - When did you first start to do this?
  - What made you decide to do this?
    - Reduce energy consumption
    - Reduce bills

We know from other research that some people are finding it hard to heat their homes…

- Is this something that has happened to you? Tell me a bit more about it. **Ask as appropriate:**
  - When does this tend to happen? Regular vs occasional. What triggers this? What leads up to this happening?
  - What do you do when this happens?

<u>Impact of fuel poverty</u>

- **Moderator note:** please ensure discussion is broader than just heat, reflecting all issues important to respondent
- How important is it to heat your home?
  - Luxury or necessity?
- Can you think of a time when you have decided not to use the heating or another appliance because it would cost too much?
  - Talk me through what happened at this time.
  - How did you make a decision?
- If you are not warm enough how does it affect:
  - You yourself
  - Other people in your household
  - How everyone feels day to day

    - Things that you can or can't do
    - How does it affect the way you feel day to day?
    - Your health / health of others in the HH?
    - Education
    - Work
- How would it change your life if your home was warmer?
- Is this something you feel that you have control over?
    - What would give you more control of this?
- Is this something that you think …
    - Not many people experience?
    - A lot of people experience?
- Who would you typically discuss this with? **Refer to post-its.**
- Where else would you get information about this type of thing? **Refer to showcards information sources 1 – 11.**
- What other steps do you think people can take to save money on bills for heating?

SPONTANEOUS, then probe for awareness of:

    - Bill support
    - Switching to another supplier
    - Changing to another fuel e.g. gas, to save money
    - Renewable energy
    - Energy saving behaviours
    - Making changes to your home to make it more energy efficient
- To what extent have you taken any steps to save money on your energy bill? Why / not?
- Have you heard about changes you can make to your home to help save money on your bills or make your home warmer? **Allow spontaneous then prompt:** for example, insulation, new boiler?
        - Which have you heard about?
        - How can these help?
        - What are the pros and cons of these?

Exercise A: coping mechanisms

I'd now like you to consider these situations and **(use visual prompts)**

Scenario A1: Your boiler breaks down unexpectedly. You find yourself without central heating or hot water until it can be repaired or replaced.

- Is this something that has happened to you? What did you do when this happened?
- What would you do if you found yourself in this situation?
    - What would be the first thing you would do?
    - Next steps? **Allow spontaneous then:**
        - Who talk to / contact
        - Short-term coping
        - Routes to arranging for repair / replacement
        - Identifying supplier / paying for repair
        - Tenants: expectations from landlord
    - If this is not something that has happened to you, have you thought about the risk of this before now? Did you do anything as a result?
    - Where can you go for help in this situation? **Prompt:**
        - Energy provider
        - Council
        - Government
        - Other
    - Are you aware of any government initiatives that can help you in this situation?

Scenario A2: Your usual gas / electricity bill comes in but it is quite a bit higher than you expected.

- Is this something that has happened to you? What did you do when this happened?
- What would you do if you found yourself in this situation?
    - What would be the first thing you would do?
    - Next steps? **Allow spontaneous then:**
        - Who talk to / contact
        - Short-term coping
        - Dealing with current bill
        - Preparation for next bill
    - If this is not something that has happened to you, have you thought about the risk of this before now? Did you do anything as a result?
    - Where can you go for help in this situation?
        - Energy provider

        - Council
        - Government
        - Other
    - Are you aware of any government initiatives that can help you in this situation?

Suggest short break if required

3. Energy saving & energy efficiency 25 mins

- **Moderator note:** below section is to explore awareness of energy saving / efficiency, avoid repetition of things discussed in previous section, and ensure you move on to key sections leaving plenty of time.

Unprompted awareness / interest

- What comes to mind when I mention:
    - Saving energy?
    - Keeping energy bills down or reducing your energy bills?
    - Making your home warmer?
- What do you understand by each of these?
- What are the benefits of these?
- How interested would you say you are in each of these things? Why / not?
- Which of these things would you say is most important to you? Why?
    - Which aspects of this interest you the most? Why?
    - Which aspects interest you the least? Why?
    - Do you think you are more or less interested in these things than other people?
    - Which people are more interested than you? Why?
    - What would make you more interested in these things? Why do you say this?

Prompted awareness / interest

Exercise C: Now I'd like you to look at this list of ways to save energy in the home:

Exercise C – Ways to save energy in home

- Turning your thermostat down to save energy
- Boiling the kettle with only the amount of water you are going to use
- Not leaving your TV or PC on standby for long periods of time
- Not leaving a mobile phone charger (or other charger) switched on at the socket when not in use
- Washing clothes at 30 degrees or lower
- Not tumble drying clothes
- Keeping rooms at different temperatures depending on how much they are used
- Taking showers rather than baths
- Closing curtains/blinds after dark to keep the heat in
- Installing a Smart Meter
- Installing a Home Energy Monitor
- Installing any energy efficient home appliance (e.g. fridge, washing machine)
- Installing double glazing
- Installing loft or wall insulation or both

Moderator: For each item on the list, please can you tell me:

- Where have you heard about this?
- Is this something you currently do / would consider doing yourself? Why / not?

After showing the whole list:

- What are the benefits of doing these things?
- Which of these do you think could be the most beneficial to you?
- Were any of these new to you?
- Which of these might you consider in the future? Why?
    - What is it about them that most appeals to you?
- What might prevent you from doing any of these things?
- How interested would you say you are in each of these things? Why / not?
- Which of these things would you say is most important to you? Why?
- Which of these might:
    - Help you to feel more in control of your energy use?
    - Help you to save money?
    - Help you to keep your home warmer?

Exercise D: I'd now like to show you some more information about some of changes you can make to your home.

Show prompt material, show each slide separately and explore responses to each

Moderator note: this is a key section of the discussion

Exercise D1

There are a range of improvements you can make to your home to help reduce your bills, insulate your home, retain warmth, or generate your own energy

Have you heard about this before?

- What came to mind when I mentioned this?
- What are the types of improvements that you can make?
- How interested are you in this? Why / not?
    - What would encourage you to be more interested in this?
- What would be the benefits of this?
- What are the drawbacks?

Exercise D2

These include:

- Insulation – loft, solid wall, cavity wall
- Renewable energy – solar, biomass
- Replacing your boiler
- Draught proofing – double glazing, doors

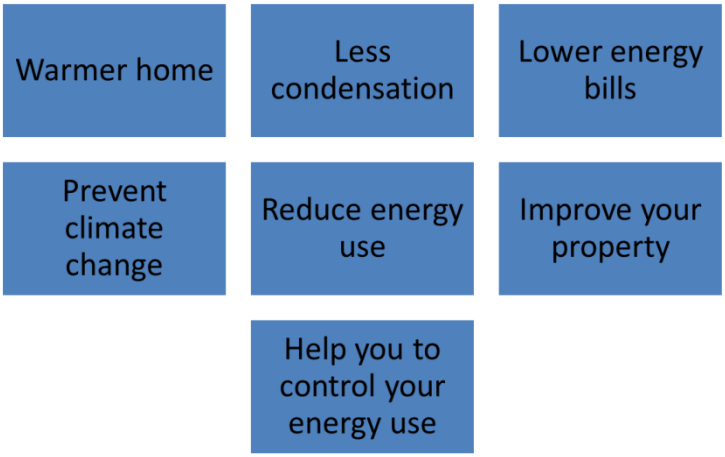
Ask for each:

- Have you heard about these before? What have you heard? **Explore:**
    - Awareness / interest / sources / trust
- What do you think about this?
- What would be the benefits of this?
- What are the potential advantages / drawbacks?

- Have you considered these before? Why / not?
- If you were to have this installed, what difference would it make to you? Why?
- What more would you want to know about this?
- How interested are you in this? Why / not?
    - What would encourage you to be more interested in this?

EXERCISE D3

Some of the advantages of having these things installed are:



- Did you know about these advantages? How did you know about this? Explore.
- Do you agree with these advantages? Any you disagree with? Why?
- How interested are you in these advantages?
- Which of these are of most important to you?
- Which are least interesting? Why?
- Does this make you more or less interested in energy saving improvement or less? Why?
- What more would you want to know?
- What would make you more interested?

EXERCISE D4

Some of the disadvantages of having these things installed are:

- Did you know about these disadvantages? How did you know about this? Explore.
- Do you agree with these disadvantages? Any you disagree with? Why?
- Does this make you more or less interested in energy saving improvement or less? Why?
- What more would you want to know?
- What would make you more interested?

Of all the improvements that I mentioned to you at Exercise D2, which was of most interest to you?

Moderator ask respondent to select a measure then show full showcard with details. Explore responses.

Prompt as appropriate

Average cost of each measure:

SWI internal - £4,000-£8,000

SWI external - £8,000-£14,000

Cavity Wall - £500 - £1,250

Condensing boiler - £1,800-£2,500

Loft insulation - £300-£500

Solar panels for electricity generation and/or water heating: £4,000 - £6,000

Air source heat pump £7,000 - £14,000, depending on size of home

Ground source heat pump: £8,500 - £42,000 depending on size of home

Biomass boilers: £11,000 - £43,000 depending on size of home

Note reasons for preference. Ask **for each**:

- How likely is it that you would look into having this done? Why?

- How would you go about this? Would this be easy of difficult? Why?
    - What about finding someone to do this?
    - What about the cost of getting this done?
    - What about getting this installed?
    - What about hassle factor? For example, you would need to arrange for an installer to come to your house, agree a price with them, and you might need to re-decorate or do some additional work such as plumbing. You might also need to arrange finance to pay to have the work done.
    - Do you know of anyone who has had this done in the past? Explore.
    - Do you know of any initiatives to help people to make these changes, for example those offered by your energy supplier or another company, your local council or the Government? What do you think of these?

Exercise E: measures barometer exercise, part 1

- How would you rate this on a scale of 1-10 where 1 is extremely unlikely and 10 is extremely likely? Explore reasons for rating.
- What would increase your likelihood rating to do something like this?
    - What could the Government do to improve your likelihood? How would this work? Explore.

Exercise E, part 2

- How, if at all, would the following affect your rating? Why? **Moderator to note rating change for each**
    - If you had contact details for a reliable supplier
    - If you knew that the installation would involve minimal hassle
    - If someone knocked on your door and offered to cover the costs of the installation

- If your landlord was supportive
- If your friend / next door neighbour had this done
- If you had to contact Building Control in the Council to get permission for this
- If you had to do some work to prepare for this e.g. clear the loft, clear some rooms
- If you received a grant/contribution for the majority/half/some of the work
- If you received financial support that would cover the upfront cost of having this installed, although you would then pay this back gradually over time.
  - **Probe:** if this appeals, longer term payback of smaller amounts, or shorter term payback or larger amounts preferred?
- If you could receive a Government grant that would cover part of the cost of having this installed, and this would not need to be paid back.
- If the Government introduced an initiative to support people to do this? Probe: how would this work?
- What else?

- What difference, if any, would it make if the financial support came from the Government or from your local Council? What about a private company such as an energy provider?
- Assuming that (preferred support) was in place, how likely would you now be to do this?
- And in this circumstance, to what extent would you be willing to pay for part of the installation?

- What kinds of people do the types of things we have been discussing? Are they similar / different to you? How?
- Would you be interested to learn more about the effects of making these changes?

4. Information sources **10 mins**

Thinking about our conversation so far and particularly the list we've just looked at…

- If you wanted to find out more about any of the things we have discussed, what would you do?
  - Where would you go for information?
  - Who would you speak to for information?

- Can you think of any conversations you have had where these things have been mentioned? Where / when / with whom?

- Informal
- Official e.g. housing association

Moderator note: ensure proactive / passive information sources included

Moderator: We talked earlier about who you tend to talk to if you want to find out information about things, or where you tend to receive information & advice. If there was an initiative available to people to support them to make energy saving improvements, what would be the best way to let you know about it? Where would you be most likely to hear about it? **SHOW VISUAL PROMPTS 1-11**

- Supermarkets / local shops
- Martin Lewis / Money Saving Expert
- Internet (which sites)
- Family / friends
- Information on energy bills
- TV adverts
- Media - TV, newspapers, magazines, websites (which ones?)
- Government
- Citizens Advice Bureau
- Housing Association / Children's Centre
- GP Surgery or other health worker
- Other – who / what?

- For you personally, how would prefer to receive information about household improvements to make your home more energy efficient? **SHOW CHANNEL LIST INCLUDING VISUAL PROMPTS**
  - A conversation (with whom)?
  - TV adverts
  - Local newspaper
  - Text messages
  - Emails
  - Leaflets through the door
  - A visit from someone (who)?
  - Internet (which sites)
  - Posters (where?)
  - Other?

- To what extent are the information sources we have looked at local vs national?
    - What difference does this make to you?

I'd now like to look at all of the different sources we have discussed (refer to visual prompts and other sources mentioned)

Continuing to think about energy saving, I'd like to now think about which of these you'd:

- **TRUST** the most
- Have the most **KNOWLEDGE** about energy saving
- Would be most **CONVENIENT** for you

What about if there were to be a meeting in your local area to discuss these things? Would you attend? Why / not? What would encourage you to attend?

5. Initiatives 15 mins

Now I'd like to ask you a few questions about government initiatives to help people install energy saving improvements (and reduce bills and/or have a warmer home).

- Have you heard about any initiatives to help people install energy saving improvements?
    - What have you heard?
    - What can you tell me about it?
    - Where have you heard about it?

Explore all then prompt:

- Has the local authority introduced any initiatives? What were these?
- Have you heard about the Green Deal?
- Have you heard about Warm Home Discount?
- What about Solar Feed-in Tarriffs
- Renewable Heat Incentive?
- Have you heard about ECO, or Energy Company Obligation?
- Affordable Warmth?
    - For each of these mentioned probe:

        - What have you heard?
        - How did you hear about it?
        - When did you hear about it?
        - What can you tell me about it?
        - Where have you heard about it?
        - What do you think about it?
        - What do you think it is for?
        - Who do you think it is aimed at?
            - As far as you know, what is covered e.g.
                - Solid wall insulation
                - Cavity wall insulation
                - Loft insulation
                - New boiler
                - What else do you know about?
    - What did you do once you became aware of this/these?
        - Nothing
        - Explored further about eligibility
        - Explored further about the cost of installation
        - Explored further about money saved on bills
        - Waited/expected to be contacted by sales people/energy supplier/landlord
- Thinking of all that we have discussed, what do you think the Government could do to support people like you?
- Prompt with **EXERCISES B and C** what are the things the government could support you with to help you to do more to save energy / be warmer / be more energy efficient
    - Which of these would make you more likely to make you consider one of these changes?

Exercise C: barometer exercise, part 3

Choose overall preferred measure

I'd now like to find out how the following would affect your likelihood to go ahead. How, if at all, would your rating (where 1 is extremely unlikely, and 10 is extremely likely) change your rating:

- If this would mean an annual saving of £100 on your energy bill over the next ten years?

- If you were to need to pay £100 towards this **Explore effect of changing level?** What about if you were to pay £200?

6. Wrap and close 5 mins

- What would be the best way for the Government to encourage you to take up one of the household changes we have discussed?
- What would be the best way for them to inform you about this?
- Finally is there anything else you'd like to say about any of the things we have discussed so far?
- Do you have any questions for me?

Thank and close

BRIEFING ON VOX POPS:

I was particularly interested in what you said about X, would you mind if I ask you about this once again to capture your response on camera? ENSURE CONSENT FORM IS COMPLETED.

SIGNPOSTING

Prompt as appropriate:

- Benefits advice
- Energy saving advice
- Bill support advice

Annexes: Phase 3

Survey questionnaire

SECTION A: HOME AND HOUSEHOLD

To begin with, I want to ask some questions about how energy is used in your home

A1 How long have you lived in this home?

PROMPT IF NECESSARY

1. Up to 12 months
2. Longer than 12 months but less than 2 years
3. Over 2 but less than 5 years
4. Between 5 and 10 years
5. Over 10 years

A2 And for how much longer do you expect to stay in this home?

PROMPT IF NECESSARY

1. Up to 12 months
2. Longer than 12 months but less than 2 years
3. Over 2 but less than 5 years
4. Between 5 and 10 years
5. Over 10 years
6. Don’t know/it depends

A3 **SHOWCARD A1** Do you live with any of these?

NOTE: Students/other people are not counted as household members if they are away from the household for more than 6 months of the year.

1. Spouse or partner
2. Children under 5
3. Children aged 5-16
4. Children aged 16+
5. Parent(s)
6. Any other relative
7. Any non-relatives

8. Live alone

A4 In your home do you have …

READ OUT. SINGLE CODE ONLY

1. Mains gas only
2. Mains electricity only
3. Mains gas and electricity
4. Or neither of these
5. Don't Know

A5 **SHOWCARD A2** What is the **main** way you heat this property during the winter?

IF RESPONDENT SAYS THEY HAVE MORE THAN ONE THEN PROBE FOR MAIN SYSTEM USED. SINGLE CODE ONLY

A6 **SHOWCARD A2 AGAIN** And do you regularly use any additional form of heating during the winter?

CODE ALL THAT APPLY

Central heating
1. Gas
2. Oil
3. Solid fuel – coal
4. Solid fuel – wood or biomass
5. Other central heating (e.g. LPG, heat pump)

Fixed room heaters
6. Electric storage heaters
7. Gas
8. Fixed Electric fires/heaters (not storage, e.g. electric convection heater)
9. Solid fuel (open fire/enclosed stove) – coal
10. Solid fuel (open fire/enclosed stove) – wood

Portable heaters
11. Electric
12. Other

Other
13. Communal or district heating
14. Other (specify)

15. No - no other forms of heating used (SHOW FOR A6 ONLY)
16. Don't know

A7 Do you {TEXTFILL IF A3=1-7: or your household} own or rent this accommodation?

PROMPT TO PRECODES

1. Own it outright
2. Buying it with the help of a mortgage or loan
3. Part own and part rent (shared ownership)
4. Rent it (includes all those who are on Housing Benefit or Local Housing Allowance)
5. Live here rent-free (including rent-free in employer's / relative's / friend's property)
6. Other (specify)

IF CODES 3 OR 4 AT A7 ASK A8 ELSE GO TO A9

A8 **SHOWCARD A3** Who is your landlord? INTERVIEWER: CODE FIRST THAT APPLIES

Organisations

1. The local authority / council
2. A housing association, Registered Social Landlord, charitable trust
3. Employer (organisation) of a household member
4. Another organisation (eg property company)

Individuals

5. Relative/acquaintance of any current household member from before this tenancy started
6. Employer (individual) of a household member
7. Another individual private landlord?

A9 INTERVIEWER CODE – PROPERTY IS:

INTERVIEWER: PLEASE CHECK WITH RESPONDENT IF UNSURE

1. Detached house
2. Detached bungalow
3. Semi-detached house
4. End terrace house
5. Mid terrace house
6. Purpose built flat/maisonette
7. Converted flat/maisonette
8. Other

A10 Do you know roughly when this property was built?

PROBE FOR BEST GUESS

1. Before 1914
2. 1914-1944
3. 1945-1964
4. 1965-1990
5. 1991 or later
6. No idea

A11 How many bedrooms do you have in your home? Please include any bedrooms that are used as something else, such as a study or play room.

1. None – studio/bedsit
2. 1
3. 2
4. 3
5. 4
6. 5 or more

SECTION B: ATTITUDES TO ENERGY AND HEATING

I now want to ask you some questions about your attitudes to energy and heating

B1a **SHOWCARD B1** Over the course of a year, which of these do you think uses the most energy in your home?

INTERVIEWER: IF RESPONDENT SAYS THEY ARE NOT SURE THEN ASK THEM TO GIVE THEIR BEST GUESS.

B1b: And which do you think uses the second most energy?

B1c: And the third?

1. Large appliances (e.g. fridge, washing machine)
2. Small appliances (e.g. toasters, hair dryers, vacuum cleaners)
3. Technological appliances (TV, laptop, phone - including charging these)
4. Cooking
5. Keeping the house warm with central or other heating
6. Hot water I use (e.g. for showering, washing up)
7. Other (NOT ON SHOWCARD)
8. Don’t know

B2 **SHOWCARD B2** How much do you agree or disagree with the following statements? Please answer from this card

1. Strongly agree
2. Agree
3. Neither agree nor disagree
4. Disagree
5. Strongly disagree
6. Don't know

RANDOMISE ORDER BUT ENSURE THAT STATEMENTS G AND H ARE NEVER SHOWN AFTER ONE ANOTHER

a) I could afford to make my home warmer if I wanted to
b) I am very conscious about the cost of the energy I am using
c) During the winter, I am usually able to keep my home at a comfortable temperature
d) I am aware of improvements that need to be done to make my home more energy efficient
e) I'd like to make improvements to improve the energy efficiency of my home, but I can't afford to make them
f) I would only make energy efficiency improvements to my home if I got a grant to cover all the cost.
g) I don't spend much time thinking about my energy use
h) I prefer not to think about how much energy I'm using

SECTION C: COMFORT, HABITS AND ROUTINE BEHAVIOUR

C1 When you are at home on a typical day in winter, are you {TEXTFILL IF A3=1-7: and everyone in your household} warm enough?

PROMPT IF NECESSARY

1. Yes – always
2. Yes – sometimes
3. No – rarely
4. No – never
5. {ONLY SHOW IF A3=1-7} SPONTANEOUS: It varies between household members

IF CODES 2, 3, 4 OR 5 AT C1 ASK C2 ELSE GO TO C3

C2 You said that your home is not always warm enough. Would you say this is usually because there is no heating on, or because the home is cold even when there is heating on?

1. No heating on
2. Cold even with heating on
3. Other
4. Don't know

C3 **SHOWCARD C1** Which of these do you do when the house is not warm enough? What else? CODE ALL THAT APPLY

1. Turn up the thermostat
2. Put on additional layers of clothing
3. Use additional heating sources
4. Adjust the thermostatic radiator valves to increase the temperature
5. Wait for the heating system to provide a comfortable level
6. Turn the heating to be on all the time
7. Use a timer to extend the time the heating is on
8. Other (please specify)

IF HAS CENTRAL HEATING AT EITHER A5 OR A6 (ANY OF CODES 1-5 AT A5 OR A6) ASK C4 ELSE GO TO C8

C4 In the months when you use your central heating, is it on all the time? By "all the time", I mean all day and all night, even at times when there is no-one at home.

INTERVIEWER: If asked, this means that the home is heated the whole time, not that the central heating system is on the whole time with the timer set to heat the home as needed. CODE ONE ONLY

1. Yes – it's on all the time
2. No – it's not on all the time

C5 **SHOWCARD C2** What types of controls do you have for your central heating?

CODE ALL THAT APPLY. INTERVIEWER: IF RESPONDENT SAYS THAT THEY HAVE ONE OF THE CONTROLS BUT THAT IT IS BROKEN, THEN DO NOT CODE IT

1. **A central timer** - A central timer enables you to set the heating and hot water to switch on and off at desired times during the day.
2. **A central programmer** - A programmer goes further and allows you to set different times on different days throughout the week.
3. **A room thermostat** – A thermostat senses the room temperature, and switches heating on or off to reach temperature that you set it at.

4. **Thermostatic Radiator Valves (TRVs)** – these are attached to the side of your radiators and allow you to change the temperature of individual radiators.
5. **A 'Smart' heating control** that allows you to control heating remotely e.g. from a smart phone or website.
6. **A 'Smarter' heating control** that can detect if anyone is in the house and automatically switch heating on or off accordingly.
7. None of these (NOT ON SHOWCARD)
8. Don't know

IF ON ALL THE TIME AT C4 (CODE 1 AT C4) OR DON'T KNOW OR NONE OF THESE AT C5 (CODE 7 OR 8 AT C5) GO TO C8 ELSE ASK C6

C6 When you are heating your home every day, does your household usually use these controls to make the central heating come on and off?

1. Yes
2. No

IF NO (CODE 2) AT C6, ASK C7 ELSE GO TO C8

C7 When you are heating your home every day, how does your household switch your central heating on and off?

READ OUT AND CODE ALL THAT APPLY

1. Switch on and off manually when it is needed using a switch or at the control panel
2. Switch on and off by turning the thermostat up and down
3. Turn radiator valves to control temperature in different rooms.
4. Leave on a pre-programmed schedule and do not switch on or off daily.
5. Other

ASK ALL

C8 Other than at weekends, is there **usually** anyone at home during the daytime?

IF YES ASK Why is that?

CODE ALL THAT APPLY

1. Yes – retired
2. Yes – children too young for school
3. Yes – parent at home while children at school
4. Yes – unemployed
5. Yes – other not working
6. Yes – shift worker
7. Yes – other reason
8. No

C9 How much attention do you pay to the amount of heat you use in your home?

READ OUT

1. A lot
2. A fair amount
3. Not very much
4. None at all

IF A LOT/A FAIR AMOUNT (CODE 1-2) AT C9 ASK C10 ELSE GO TO C11

C10 You said that you pay [a lot/ a fair amount) of attention to the amount of heat you use in your home. What is the main reason for this?

1. To monitor the amount of money I/my household spend on heat
2. To monitor the environmental impact of the heat I/my household use
3. To ensure me/my household are comfortable
4. To control the amount of heat you use
5. Other (specify)

IF NOT VERY MUCH/NONE AT ALL (CODE 3-4) AT C9 ASK C11 ELSE GO TO C12

C11 You said that you pay [not very much/no) attention to the amount of heat you use in your home. What is the main reason for this?

1. I use whatever I/my household need to be comfortable
2. I don't feel I can control the amount of heat used
3. I'm just not interested in the amount of heat used
4. I set controls at a level I'm comfortable with and then don't need to adjust them
5. Someone else in household (e.g. spouse/partner/other household member) controls the amount of heat used
6. Other (specify)

C12 Do you {TEXTFILL IF A3=1-7: or does anyone else in your household} have any physical or mental health conditions, injuries or illnesses that affect how warm or cool you like to keep the home or how much hot water you need?

PROBE AS NECESSARY AND CODE ALL THAT APPLY

1. Yes – don't like to have the home too warm because of the condition, injury or illness
2. Yes –don't like to have the home too cool because of the condition, injury or illness
3. Yes – need extra hot water or hot water more of the time because of the condition, injury or illness
4. No

C13 I'm going to read out a number of special circumstances, and for each one I'd like you to tell me if you would change your heating habits in any way. Would you make any change… READ OUT EACH IN TURN

- When the weather is particularly cold?
- If you have a visitor or guest?
- If someone at home is unwell?
- If the home is unoccupied for more than a day?
- If money is particularly tight?

1. Yes – would change behaviour
2. No – no change in behaviour
3. Not applicable

C14 Are you aware of any problems with your current heating system?

1. Yes
2. No
3. Don't know

IF YES (CODE 1) AT C14 ASK C15 ELSE GOTO C17

C15 What problems are they?

CODE ALL THAT APPLY

1. Not working / not coming on at all
2. Controls/thermostat not working
3. Controls/thermostat too complex to set/use/understand
4. Not coming on when it should
5. Not getting hot enough
6. Noisy
7. Other (specify)
8. Don't know

C16 **SHOWCARD C3** And how likely do you think it is that they will be fixed in the next 12 months?

1. Very likely
2. Fairly likely
3. Not very likely
4. Not at all likely
5. (Don't know)

ASK ALL

C17 Are you aware of any problems with your current hot water system?

1. Yes
2. No
3. Don't know

IF YES (CODE 1) AT C17 ASK C18 ELSE GOTO D1

C18 What problems are they?

CODE ALL THAT APPLY

1. Not working / not coming on at all
2. Controls/thermostat not working
3. Controls/thermostat too complex to set/use/understand
4. Not coming on when it should
5. Not getting hot enough
6. Noisy
7. Other (specify)
8. Don't know

C19 **SHOWCARD C3** And how likely do you think it is that they will be fixed in the next 12 months?

1. Very likely
2. Fairly likely
3. Not very likely
4. Not at all likely
5. (Don't know)

SECTION D: PAYING FOR ENERGY

D1 **SHOWCARD D1** How do you pay for your electricity?

INTERVIEWER NOTE IF FLATSHARERS SAY THEY ALL SHARE THE BILL ASK HOW THE ENERGY SUPPLIER GETS PAID

1. Direct Debit or standing order
2. Monthly/quarterly bill
3. Pre-payment (key card or token meter)
4. Included in rent

5. Frequent cash payment method (more frequently than monthly)
6. Fuel direct/direct from benefits
7. Fixed annual bill (however much gas/electricity is used) (e.g. Stay Warm)
8. Another method (please specify)
9. I do not pay for electricity
10. (Don't know)

IF HAS MAINS GAS (CODE 1 OR 3) AT A4 ASK D2 ELSE GO TO D4

D2 **SHOWCARD D1** How do you pay for your mains gas?

INTERVIEWER NOTE IF FLATSHARERS SAY THEY ALL SHARE THE BILL ASK HOW THE ENERGY SUPPLIER GETS PAID

1. Direct Debit or standing order
2. Monthly/quarterly bill
3. Pre-payment (key card or token meter)
4. Included in rent
5. Frequent cash payment method (more frequently than monthly)
6. Fuel direct/direct from benefits
7. Fixed annual bill (however much gas/electricity is used) (e.g. Stay Warm)
8. Another method (please specify)
9. I do not pay for gas
10. (Don't know)

IF ONLY CODES 4 AND 9 GIVEN AT D1/D2, GO TO D4

D3 Do you get your gas from the same company that provides your electricity?

1. Yes
2. No
3. Don't know

D4 **SHOWCARD D2** I'd like to move on now from energy costs to other costs. How much do you/does your household pay per month in rent or mortgage costs?

1. Nothing – rent free/mortgage paid off
2. Up to £199
3. £200-£299
4. £300-£399
5. £400-£499
6. £500-£599
7. £600-£699
8. £700 or more
9. Don't know
10. Refused

IF DK OR REFUSED (CODE 9 OR 10) AT D4 GO TO D6 ELSE ASK D5

D5 Thinking now of your total monthly household income from all sources, **after** tax, would you say it is {CAPI ADD £900 TO ANSWER AT D4} or more, or is it less than that?

1. Yes - more
2. No – less
3. Don't know
4. Refused

IF DK OR REFUSED (CODE 9 OR 10) AT D4 ASK D6 ELSE GO TO F1

D6 It is important for our study that we get some idea of people's housing costs relative to their total income. I'd like you to think of what your rent or mortgage costs are per month, and what your total household income **after** tax is per month. Would you say your total household income after tax is at least £900 a month more than your rent or mortgage, or is it less than £900 more than your rent or mortgage costs?

1. At least £900 more
2. Less than that
3. Don't know
4. Refused

SECTION E: ENERGY-SAVING MEASURES

The next few questions are about things people can do to reduce the cost of heating their home or having hot water

E1 **SHOW CARD E1** I am now going to read out some things that people might do to make their home more energy efficient. For each one tell me what answer from this card applies to this property at the moment.

When answering please think about whether or not this has been done to your property, even if the decision was not made by you personally.

Remember that I am not going to try to sell you anything. We are just interested in knowing what you have in your home.

- External wall insulation - depending on the type of walls your property has this includes either solid wall insulation (where an insulation layer protected with a weatherproof finish is attached to the outside of your home) or cavity wall insulation (where small holes are drilled in the outside walls of your home and the cavities in the walls are filled with insulating material)
- Loft insulation/ top up.

- An energy efficient boiler – replacing an existing boiler with a more energy efficient one.
- Solar panels
- IF NO CENTRAL HEATING AT D5/D6 (NONE OF CODES 1-5 AT D5/D6): having a central heating system for the first time (ONLY ALLOW RESPONSES 2-9)
- Heat pump: an efficient renewable central heating system

1. Already done/ have this
2. In the process of doing this
3. Thinking about doing this
4. Would like to do this but not at this stage
5. Don't want to/probably won't do this
6. Haven't thought about doing this
7. Haven't heard of this
8. SPONTANEOUS ONLY: Not my decision to make because I'm renting the property
9. (NOT ON SHOWCARD) Not applicable

IF HOUSEHOLD HAS CENTRAL HEATING ALREADY (CODE 1-5 AT A5/A6)

E1b You mentioned earlier that your property has central heating. Did your property already have this or did you {IF CODE 3-4 AT A7: or your landlord} have this installed since you've lived here?

1. Property already had this
2. Respondent had this installed since they've lived at property
3. [IF CODE 3-4 AT A7] Landlord had this installed since respondent has lived at property
4. Not applicable

FOR EACH ITEM CODED 5 ASK E2. IF NONE CODED 5 GO TO E3

E2 You said that you don't want to or probably won't install [MEASURE]? Why do you say that?

COST/SAVINGS/FINANCE

1. Cost of improvements is too high
2. Would not save enough money to make it worthwhile
3. No guarantee that it would save me money
4. Cannot access finance for it (e.g. loan/mortgage extension)

PRACTICAL ISSUES

5. Had difficulties finding someone to provide quotes/carry out the work
6. Looked into installation, but was put off by complexity
7. Hassle/disruption of making improvements
8. May change character/appearance of my home
9. Structural considerations (e.g. period features in home, potential damage to property, unsuitable for property)
10. Could not get other consent (e.g. planning, live in conservation area, listed building)

INFORMATION

11. Energy saving improvement recommended to me but confused/don't know what to do next
12. Need more time/information to make a decision (e.g. find out about what the installation entails, how much I will save)

OTHER

13. Illness/disability in the household
14. Won't stay here long enough
15. Other [PLEASE WRITE IN]

16. No reason
17. Don't know

E3 If it were possible to get loans that you paid back later, would this make it more likely that you would do this/any of these, or would that make no difference?

1. More likely
2. Make no difference
3. Don't know

IF INSTALLED ANY MEASURE OR IN THE PROCESS OF INSTALLING (ANY CODE 1 OR 2 AT E1)

E4 It is possible to get help with part or all of the cost of making these kinds of improvements. People can get help from organisations or schemes such as Warm Front, your Local Authority (or Housing Association), a charity or an energy supplier (e.g. Powergen or British Gas). Have you received any grant or other financial help of this kind that paid for some or all of this heating or insulation work in the last 12 months?

1. Yes
2. No
3. Don't know

E5 **SHOW CARD E2** Suppose there was something you could do to your home that would cost you £500, and which would save you £50 every year in energy bills (so it would pay for itself over 10 years). How likely would you be to go ahead and do that?

1. Very likely
2. Fairly likely
3. Not very likely
4. Not at all likely
5. (Don't know)

IF UNLIKELY (CODE 3 OR 4) AT E5 ASK E6

E6 **SHOW CARD E2 AGAIN** And suppose there was something that you could do to your home that would cost £5000, and which would save you £500 every year in energy bills (so it would pay for itself over 10 years). How likely would you be to do this if you got a grant that would cover half the cost?

1. Very likely
2. Fairly likely
3. Not very likely
4. Not at all likely
5. (Don't know)

SECTION F: TENANTS ONLY

IF RENTER (CODES 3-5) AT A7 ASK F1 ELSE GO TO G1

I would now like to ask some questions about your landlord and things they might have done to help reduce your energy bills, or things you wanted them to do but they didn't

F1 Since you moved in, has your landlord made any improvements to your heating, or any improvements to your home that might help reduce your energy bills?

1. Yes
2. No

IF YES (CODE 1) AT F1 ASK F2 ELSE GO TO F3

F2 What have they done?

CODE ALL THAT APPLY

1. Repaired existing faults
2. New boiler
3. New radiators
4. New/more heaters/fires
5. Insulated loft
6. Insulated walls
7. Double glazing
8. Provided heating controls (timer, thermostat…)
9. Provided energy advice
10. Other (specify)

F3 And have you ever asked the landlord to make any improvements to your heating, or any improvements to your home that might help reduce your energy bills, but they said they wouldn't do them?

1. Yes
2. No

IF YES (CODE 1) AT F3 ASK F4 ELSE GO TO F6

F4 What did you ask them to do that they didn't do? CODE ALL THAT APPLY

1. Repaired existing faults
2. New boiler
3. New radiators
4. New/more heaters/fires
5. Insulated loft
6. Insulated walls
7. Double glazing
8. Provide heating controls (timer, thermostat…)
9. Provide energy advice
10. Other (specify)

F5 Did they say why they wouldn't do them?

CODE ALL THAT APPLY

1. Didn't say (SINGLE CODE ONLY)
2. Too expensive
3. Would take too long to pay for itself
4. Too much hassle
5. Got other priorities
6. Expecting to sell property soon
7. Other (specify)

F6 **SHOW CARD F1** If you thought there were things that could be done by the landlord that might reduce your energy bills, how confident would you feel about asking them to do them?

1. Very confident
2. Fairly confident
3. Not very confident
4. Not at all confident
5. (Don't know)

SECTION G: BUDGETING AND COPING IN A CRISIS

G1 **SHOWCARD G1** Which one of the statements on this card best describes how well you are keeping up with your bills and credit commitments?

1. Keeping up with all bills and commitments without any difficulties
2. Keeping up, but it is a struggle from time to time
3. Keeping up, but it is a constant struggle
4. Falling behind with some bills or credit commitments
5. Having real financial problems and have fallen behind with many bills or commitments
6. Don't have any bills or credit commitments

G2 Have you ever been in arrears with your energy supplier?

1. Yes
2. No
3. Refused

G3 Have you ever discussed with your supplier ways that might make it easier for you to pay your energy bills?

1. Yes
2. No
3. Refused

G4 Have you ever received an unexpectedly high fuel bill?

1. Yes
2. No
3. Refused

IF YES (CODE 1) AT G4 ASK G5 ELSE GO TO G6

G5 If yes, how did you cope? PROBE IF NECESSARY: how did you pay it, how did you arrange a repayment schedule, did you challenge the bill?

CODE ALL THAT APPLY

Was able to pay this back in one go

1. Was able to pay this back in one payment just from household income
2. Was able to pay this back in one payment but had to use savings
3. Was able to pay this back in one payment by cutting back on other things

Borrowed money/took out loan

4. Borrowed money on credit card
5. Took out a loan from a bank/building society/credit union
6. Took out a short-term credit/payday loan (e.g. Wonga, QuickQuid, Express Finance, Payday UK)
7. Borrowed money from friends/family
8. Applied for and received a grant/emergency loan/crisis loan (e.g. from local authority, charity

Made arrangements with energy company

9. Arranged to pay it in instalments e.g. monthly payments (including setting up a standing order/direct debit to pay back)
10. Had prepayment meter installed / switched to prepay meter (also known as 'pay as you go' meter, key card, token meter)

Challenged the bill

11. Challenged the bill - successfully (e.g. bill was incorrect, meter reading was incorrect, meter wasn't working properly)
12. Challenged the bill - unsuccessfully

Other

13. Only just received bill - not yet spoken to energy company or arranged how this will be paid
14. Other (specify)
15. Don't know/can't remember

G6 **SHOWCARD G2** Please say how much you agree or disagree with the following statements…

RANDOMISE STATEMENTS

a) Keeping up with energy bills is difficult at the moment.
b) It's difficult to predict how much I will spend on energy each month.
c) I worry about the cost of energy over the next few years.
d) It's difficult to predict how much energy I will use each month

1. Strongly agree
2. Agree
3. Neither agree nor disagree
4. Disagree
5. Strongly disagree
6. (Not applicable)

I'd now like to ask some questions about where people get information and advice from about energy costs and things you can do to reduce them

G7 How much would you say you know about how you can switch from one energy supplier to another? Would you say you know…

READ OUT

1. A great deal
2. A fair amount
3. A little
4. Or nothing at all
5. (Don't know)

G8 Have you ever **actively** switched energy supplier, apart from when you may have been automatically moved to another energy supplier when moving house?

1. Yes
2. No
3. Don't know

G9 Have you ever wanted to ask someone for advice about your energy bills, or how to reduce them?

1. Yes
2. No
3. Don't know

IF YES (CODE 1) AT G9 ASK G10 ELSE GO TO G14

G10 Did you manage to find someone who could give you advice?

1. Yes
2. No

IF YES (CODE 1) AT G10 ASK G11 ELSE GO TO G18

G11 **SHOWCARD G3** How easy or difficult was it to find someone who could give you advice?

1. Very easy
2. Fairly easy
3. Not very easy
4. Not at all easy
5. (Don't know)

G12 Who did you get advice from?

CODE ALL THAT APPLY

1. Energy Supplier
2. Citizens Advice
3. Price comparison website (eg Go Compare, Compare the Market)
4. Online advice site (eg moneysaving expert)
5. Other (specify)
6. Don't know

G13 **SHOWCARD G4** And how useful was the advice you got?

1. Very useful
2. Fairly useful
3. Not very useful
4. Not at all useful
5. (Don't know)

IF NO (CODE 2) AT G10 ASK G14 ELSE GO TO G18

G14 Did you try to get advice from anywhere?

1. Yes
2. No

IF YES ASK G15 ELSE GO TO G17

G15 Who did you try to get advice from?

CODE ALL THAT APPLY

1. Energy Supplier
2. Citizens Advice
3. Price comparison website (eg Go Compare, Compare the Market)
4. Online advice site (eg moneysaving expert)
5. Other
6. Don't know

G16 Why were you not able to get advice?

WRITE IN

IF NO (CODE 2) AT G14 ASK G17 ELSE GO TO G18

G17 Why did you not try to get advice?

WRITE IN

ASK ALL

G18 **SHOWCARD G5** Which of these types of support / advice would you find most useful?

1. Advice on how to budget more effectively,
2. advice on how to lower energy bills,
3. advice on how to make home more energy efficient,
4. Advice on what schemes and support you may be eligible for
5. (None of these)
6. (Don't know)

G19 If you needed advice about reducing your energy bills, would you prefer to get advice on the internet, over the phone, going to meet someone face to face, or someone coming to your home

1. Internet
2. Phone
3. Meet face to face
4. Own home
5. Other
6. Don't know

G20 **SHOWCARD G6** How much would you trust each of the following to give you good advice about reducing your energy bills?

- Your energy supplier

- [IF TENANT} Your landlord
- Your friends or family
- Your local council
- Central Government
- Organisations like Citizen's Advice Bureau
- A Charity

1. A great deal
2. A fair amount
3. A little
4. Not at all
5. Don't know

SECTION H: ANALYSIS VARIABLES

Finally, I would like to ask some questions to help us analyse the result. I would like to remind you that everything you say will remain confidential.

ASK IF CODE 1-7 AT A3

H1 How many people (including children) live in this household, including yourself?

NOTE: Students/other people are not counted as household members if they are away from the household for more than 6 months of the year.

ENTER NUMBER

ASK ALL

H2 [**IF CODE 1-7 AT A3:** We need to ask some questions about each of the people who live in the household, starting with yourself.

DISPLAY IN GRID FORM

H2a What is your age? [IF CODE 1-7 AT A3: And what are the ages of each of the other household members?]

ENTER ACTUAL AGE

1. Don't know/Prefer not to say

H2b Record gender for each person in the household

1. Male
2. Female
3. Other

ASK FOR EACH PERSON AGED 16+

H2c **SHOWCARD H1** Which of the categories on this card best describes what he/she is currently doing?

1. Working full time
2. Working part time
3. Working on a zero hours contract
4. Self employed
5. Unemployed and looking for work
6. Retired from paid work altogether
7. Unable to work because of ill health or disability
8. A full time student
9. Looking after the home or family
10. Something else
11. Don't know/prefer not to say

H2d And what is his/her relationship to you?

1. Spouse/civil partner/partner
2. Parent (including in-law or step parent)
3. Grandparent (including in-law or step)
4. Son/daughter (including in-law, adopted, step or foster)
5. Brother/sister (including in-law, adopted, step or foster)
6. Other relative
7. Friend
8. Personal assistant/paid carer
9. Other non-relative
10. Don't know/ Prefer not to say

IF ANYONE IN HOUSEHOLD IN PAID EMPLOYMENT AT H1 (CODES 1-4) ASK H4 ELSE GO TO H6

H4 **SHOWCARD H2** How much is the total household income before tax from paid work of your household?

	Per Week	**Per Month**	**Per Year**
A	Up to £86	Up to £374	Under £4,500
B	£87 - £124	£375 - £541	£4,500 - £6,499
C	£125 - £143	£542 - £624	£6,500 - £7,499
D	£144 - £182	£625 - £791	£7,500 - £9,499
E	£183 - £220	£792 - £957	£9,500 - £11,499
F	£221 - £259	£958 - £1,124	£11,500 - £13,499
G	£260 - £297	£1,125 - £1,291	£13,500 - £15,499
H	£298 - £336	£1,292 - £1,457	£15,500 - £17,499
I	£337 - £384	£1,458 - £1,666	£17,500 - £19,999
J	£385 - £480	£1,667 - £2,082	£20,000 - £24,999
K	£481 - £576	£2,083 - £2,499	£25,000 - £29,999
L	£577 - £672	£2,500 - £2,916	£30,000 - £34,999
M	£673 - £768	£2,917 - £3,332	£35,000 - £39,999
N	£769 - £961	£3,333 - £4,166	£40,000 - £49,999
O	£962 - £1,441	£4,167 - £6,249	£50,000 - £74,999
P	£1,442 - £1,922	£6,250 - £8,332	£75,000 - £99,999
Q	£1,923+	£8,333+	£100,000+

1. Don’t know
2. Refused

H5 **SHOWCARD H3** And how much is your total household income from other sources, such as pensions, tax credits, benefits or anything else?

	Per Week	**Per Month**	**Per Year**
A	Up to £9	Up to £41	Under £500
B	£10 - £28	£42 - £124	£500 - £1,499
C	£29 - £57	£125 - £249	£1,500 - £2,999
D	£58 - £86	£250 - 374	£3,000 - £4,499
E	£87 - £124	£375 - £541	£4,500 - £6,499
F	£125 - £143	£542 - £624	£6,500 - £7,499
G	£144 - £182	£625 - £791	£7,500 - £9,499
H	£183 - £220	£792 - £957	£9,500 - £11,499
I	£221 - £259	£958 - £1,124	£11,500 - £13,499
J	£260 - £297	£1,125 - £1,291	£13,500 - £15,499
K	£298 - £336	£1,292 - £1,457	£15,500 - £17,499
L	£337 - £384	£1,458 - £1,666	£17,500 - £19,999
M	£385 - £480	£1,667 - £2,082	£20,000 - £24,999
N	£481 - £576	£2,083 - £2,499	£25,000 - £29,999
O	£577 - £672	£2,500 - £2,916	£30,000 - £34,999
P	£673+	£2,917+	£35,000+

1. Don’t know
2. Refused

IF NO-ONE IN HOUSEHOLD WORKING (NONE OF CODES 1-4) AT H4

H6 **SHOWCARD H2** How much is your total household income before tax from all sources, such as pensions, tax credits, benefits or anything else?

	Per Week	**Per Month**	**Per Year**
A	Up to £86	Up to £374	Under £4,500
B	£87 - £124	£375 - £541	£4,500 - £6,499
C	£125 - £143	£542 - £624	£6,500 - £7,499
D	£144 - £182	£625 - £791	£7,500 - £9,499
E	£183 - £220	£792 - £957	£9,500 - £11,499
F	£221 - £259	£958 - £1,124	£11,500 - £13,499
G	£260 - £297	£1,125 - £1,291	£13,500 - £15,499
H	£298 - £336	£1,292 - £1,457	£15,500 - £17,499
I	£337 - £384	£1,458 - £1,666	£17,500 - £19,999
J	£385 - £480	£1,667 - £2,082	£20,000 - £24,999
K	£481 - £576	£2,083 - £2,499	£25,000 - £29,999
L	£577 - £672	£2,500 - £2,916	£30,000 - £34,999
M	£673 - £768	£2,917 - £3,332	£35,000 - £39,999
N	£769 - £961	£3,333 - £4,166	£40,000 - £49,999
O	£962 - £1,441	£4,167 - £6,249	£50,000 - £74,999
P	£1,442 - £1,922	£6,250 - £8,332	£75,000 - £99,999
Q	£1,923+	£8,333+	£100,000+

1. Don’t know
2. Refused

H7 **SHOWCARD H4** Is anyone in your household, including yourself, currently receiving any of these benefits?

CODE ALL THAT APPLY

1. Universal Credit
2. Job seekers allowance
3. Income support
4. Employment support allowance
5. Working tax credit
6. Child tax credit
7. Pension credit
8. Housing benefit
9. Council Tax benefit
10. Disability Living Allowance/ other disability-related benefits
11. Other state benefits
12. None of these
13. Don’t know
14. Prefer not to answer

ASK ALL WITH MAINS GAS (CODES 1 OR 3) AT A4 AND THE SAME GAS/ELECTRICITY SUPPLER (CODE 1 AT D3). OTHERS GO TO H10

H8 Do you pay for your gas and electricity in a single bill, or do you pay separately for each?

1. Pay for together
2. Pay for separately
3. Don't know

IF TOGETHER (CODE 1) AT H8 ASK H9 ELSE GO TO H10

H9 And how much do you pay for your electricity and gas? You can give your answer as either a weekly, monthly or annual amount.

INTERVIEWER: IF RESPONDENT SAYS THAT THE AMOUNT INCLUDES REPAYMENTS/ARREARS THEN PLEASE INCLUDE THIS

ENTER IN GBP - RECORD WHETHER WEEKLY, MONTHLY, YEARLY

1. Don't know
2. Refused

IF SEPARATELY (CODE 2) AT H8 ASK H10 ELSE GO TO H12

H10 How much do you pay for your electricity? You can give your answer as either a weekly, monthly or annual amount.

INTERVIEWER: IF RESPONDENT SAYS THAT THE AMOUNT INCLUDES REPAYMENTS/ARREARS THEN PLEASE INCLUDE THIS

ENTER IN GBP - RECORD WHETHER WEEKLY, MONTHLY, YEARLY

1. Don't know
2. Refused

IF SEPARATELY (CODE 2) AT H8 AND HAS MAINS GAS (CODE 1 OR 3) AT A4 ASK H11 ELSE GO TO H12

H11 How much do you pay for your gas? You can give your answer as either a weekly, monthly or annual amount.

INTERVIEWER: IF RESPONDENT SAYS THAT THE AMOUNT INCLUDES REPAYMENTS/ARREARS THEN PLEASE INCLUDE THIS

ENTER IN GBP - RECORD WHETHER WEEKLY, MONTHLY, YEARLY

1. Don’t know
2. Refused

H12 Would it be acceptable for the Department for Energy and Climate Change to add other information on energy use and efficiency at this address to your survey responses to help with their research? This matched information will be used for energy research and statistical purposes only.

1. Yes
2. No

H13 This survey is funded by the Department for Energy and Climate Change (DECC). If this department (or their contractors) needed help with any future research, would it be alright if they contacted you again? Any further research would be conducted by GfK or another research organisation contracted to Government under confidentiality rules consistent with the Code of practice for Official Statistics. Data passed to that organisation would only be used for research purposes

1. Yes
2. No
3. Yes, with conditions (Please specify)

Department for Business, Energy & Industrial Strategy
1 Victoria Street, London, SW1H 0ET
www.gov.uk/beis