



Department
of Energy &
Climate Change

Evaluation of the Renewable Heat Incentive (RHI)

Technical report of Qualitative research with Owner-Occupier applicants to the Domestic RHI

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Introduction

This technical report sets out the methodology for qualitative research with owner-occupier applicants to the domestic Renewable Heat Incentive (RHI)¹. The findings of this research are available from <https://www.gov.uk/government/collections/renewable-heat-incentive-evaluation>.

Evaluation of the Renewable Heat Incentive (RHI)

An independent evaluation of the RHI was commissioned by the Department of Energy and Climate Change (DECC) and undertaken by NatCen Social Research, Eunomia Research and Consulting, the Centre for Sustainable Energy and Frontier Economics (the evaluation consortium).

The evaluation comprised three key strands of activity, focusing on:

- Non-domestic RHI applicants and possible applicants;
- Renewable heat supply chain²; and
- Domestic RHI applicants and Registered Social Landlords (RSLs) on and off the RHI scheme.

This technical report focuses entirely on the domestic RHI scheme. The aim of this strand of the research was to better understand applicants' motivations for, and experiences of, installing a renewable heat technology and applying to the RHI scheme.

The outputs from the evaluation will help DECC to understand and assess how the domestic RHI is delivering relative to its objectives and to support development of the scheme. This evaluation will also help ensure that DECC is conforming to principles of accountability, transparency and openness to scrutiny in policy-making.

To achieve these objectives a series of research projects focused on the domestic RHI were designed and delivered by the evaluation consortium. These were:

- A census of owner-occupier RHI accredited applicants;
- Qualitative research with owner-occupier RHI accredited applicants; and
- Qualitative research with Social Housing Provider (SHP) RHI applicants and possible applicants.

This technical report focuses specifically on the methodology of qualitative research with owner-occupier RHI accredited applicants.

¹ The Renewable Heat Incentive (RHI) is a UK government scheme that aims to encourage take up of renewable heat technologies amongst domestic and non-domestic customers through financial incentives

² The renewable heat supply chain includes manufacturers, sellers and installers of renewable heating technologies and suppliers of biomass fuel

Qualitative research with owner-occupier RHI accredited applicants

Aims of the research project

The evaluation of the RHI included qualitative research with owner-occupier RHI accredited applicants. This research aimed to explore the customer journey of applicants to the domestic RHI. It examined decision making related to the take-up of renewable heating technologies, applying to the RHI, being on the scheme and using renewable heating technologies. Key interview topics included:

- Motivators, facilitators and barriers to installing renewable heating technologies and applying for the RHI;
- The decision making process related to installing renewable heating technologies and applying for the RHI;
- Experiences of applying for the RHI including what worked well and less well about the process;
- Experiences of using renewable heating technology and the influence of renewable heating technologies on energy behaviour and consumption; and
- Mapping the range of customer journeys for different types of participants and identifying the conditions in which specific technologies were most appropriate.

A qualitative approach was adopted to address the research objectives; 46 in-depth interviews were carried out to fully explore customer journeys in relation to decision making and experiences of renewable heating technologies and the RHI.

Research methodology

This section describes the methodology employed for this research project. It outlines the scope of the research as well as the approach to sampling, recruitment, data collection, data analysis and reporting.

Research scope

This research project consisted of three concurrent strands of activity; these are outlined below along with the specific focus of each strand.

Strand 1: Applicants with 'large' homes

- Defined as those with floor space over 200 square metres.
- This strand focused on participants' choice of technology and the influence of the RHI on their choice of renewable heating technology. It also explored the influence of the RHI tariff on choices of heating technology.

Strand 2: Applicants who used personal finance to install renewable heating technologies

- Defined as any borrowing to pay for a renewable heating technology. In other words, where income and savings were not used to finance a renewable heating technology. Sources of lending included personal loans, third party payments (for example, from installers) and other types of loan including loans from government.
- This strand focused on why finance was used, factors influencing the selection of particular forms of finance and barriers and enablers to financing renewable heating technologies.

Strand 3: Applicants with small-medium heat energy systems

- Defined as energy systems that generate around 12-16 kW of heat output.
- This strand focused on understanding participants' decision making including their reasons for selecting a particular heating system. This customer group was anticipated to be a key area for Air Source Heat Pump (ASHP) deployment in the future.

Sampling

Sample strategy

Participants were purposively selected to achieve range and diversity with respect to carefully chosen sample criteria (Ritchie, Lewis, Elam, Tennant and Rahim, 2014). The sample was not intended to be statistically representative of the wider research population as qualitative research does not aim to measure prevalence, but to map the range of perspectives and explain the varying influences of different factors on views and experiences. As such, qualitative studies do not have to include large numbers of people (by quantitative standards) for findings to be robust.

A sample of participants was drawn from a census of owner-occupier RHI applicants undertaken as part of this evaluation [June 2014- December 2014]. For ethical reasons, only those who had agreed to be re-contacted for future studies when completing the census were invited to participate in this project. Of the eligible responses to the census, 315 people were willing to be contacted for further research.

Participants were purposively selected from the census sample because they had specific characteristics which would enable detailed exploration of decision making around renewable heating technologies and experiences of applying for the RHI and using renewable heating technologies. Specifically, applicants were selected to ensure the qualitative sample was diverse with respect to the primary sample criteria listed in Table 1. Quotas specifying the precise number of participants that were needed for each criterion were set to ensure a balanced and diverse sample. Additionally, a number of secondary criteria were monitored by the research team to ensure some diversity in their coverage across the sample.

Table 1: Sample criteria

Primary criteria	Secondary criteria
<ul style="list-style-type: none"> • Application type. Only 'new' domestic RHI customers were approached (not 'legacy' customers). That is, customers that installed renewable heating technologies after 8th April 2014 and so in response to the RHI programme. • Size of property. This was measured by floor space. This was particularly relevant to strand 1. • Financial capability. Interviews were conducted with people that used personal finance (e.g. loans and third party agreements) to pay for renewable heating technologies. • Energy output of systems. This was measured by kW of heat output. This was relevant only for strand 3. • Technology type. The importance of this criterion varied according to the strand of activity. In strands 2 and 3, it was important to talk to people with different renewable heating technologies, including some who had space heating technologies in addition to solar thermal. 	<ul style="list-style-type: none"> • Geographical coverage. Ensuring a good geographical coverage within each strand in relation to the following areas: North of England, South of England, Wales and Scotland. • On/off-grid. Ensuring there were some individuals that were on-grid (not applicable for homes with large biomass boilers). • Self builds. Not relevant for large home strand or the finance strand. • Number of occupants in household. Ensuring single occupant households as well as those with four or more occupants were present in the sample. • Age of household reference person. Ensuring representation from those under 40 and those 65 years and over.

Achieved sample

Forty-six in-depth interviews were completed with owner-occupier applicants to the domestic RHI. The tables below show the characteristics of the achieved sample in relation to both primary and secondary criteria. All sample targets were met. The achieved sample had a good level of diversity and gives confidence the findings were reflective of the range of views and experiences of owner-occupier RHI applicants.

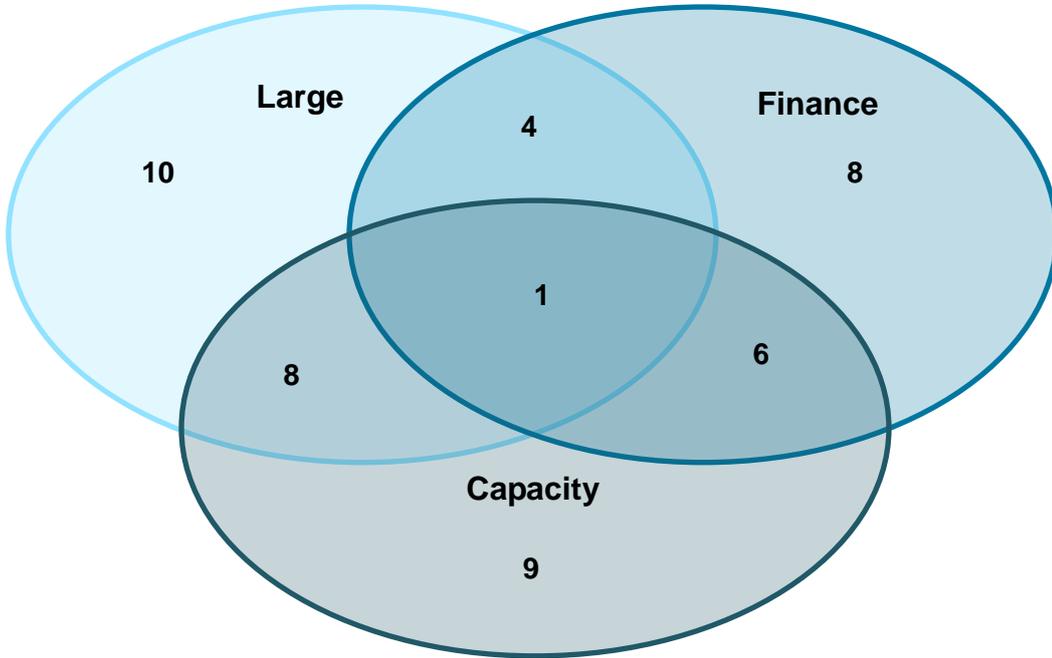
Primary criteria

Table 2: Number of achieved interviews within each strand of research

Research strand	Sample target	Number of achieved interviews
Large homes	10	10
Personal finance	16	16
Small-medium heat energy systems	20	20

It is important to acknowledge the three research strands were not mutually exclusive. The diagram below shows the overlap between participant groups.

Diagram 1: Overlap between participant groups



The participants who took part in each of the three strands of the research were diverse with respect to the type of technology they had installed.

Table 3: Number of interviews by technology type

Technology	Sample target	Number of achieved interviews
Air Source Heat Pump (ASHP)	6	13
Biomass	10	16
Ground Source Heat Pump (GSHP)	2	10
SolarPlus ³	2	7

Strand-specific criteria

Each of the three strands had additional sub-criteria that needed to be fulfilled according to our research design. The following tables set these out with the achieved number of interviews.

Table 4: Number of interviews by size of large home

Floor area	Minimum sample target	Number of achieved interviews
200-300 m2	4	5
300+ m2	4	5

³ “SolarPlus” is defined as participants who have installed solar thermal plus another space heating technology.

Table 5: Number of interviews by type of personal finance

Type of personal finance	Minimum target sample	Number of achieved interviews
Personal loans	4	5
Third party agreements	4	4
Other loans	4	7

Table 6: Number of interviews with participants with small-medium heat systems by technology

Technology type	Maximum target sample	Number of achieved interviews
ASHP	n/a	8
Biomass	5	3
GSHP	n/a	6
SolarPlus	n/a	3

Recruitment

Participants were recruited by the NatCen research team. The recruitment approach was designed to ensure participant consent was informed, voluntary and ongoing. An incentive of £25 was offered to encourage people to take part, and as a thank you for taking part. Recruitment involved the three stages outlined below.

- An approach email was sent to participants who had agreed to be re-contacted. The email outlined the details for participation including the nature of the study, what participation would entail, the voluntary nature of participation, the right to withdraw at any stage, contact details of researchers, and the incentive to be paid.
- Although no formal opt-out period was given, individuals were able to opt-out a) via email in response to the approach email; b) during follow-up calls (see below) and c) during data collection encounters.
- Follow-up recruitment calls were conducted with potential participants who had not opted out. Telephone interviews were arranged for a convenient time with those who agreed to take part in the research.

Data collection

Interviews with domestic RHI applicants were carried out between January and March 2015. Interviews lasted around one hour and were conducted by telephone for convenience for participants and to ensure suitable geographical coverage within the available time and budget.

A topic guide, designed by the research team and DECC, was used in all in-depth interviews to help ensure a consistent approach across interviews and between interviewers. The guides were used flexibly to allow participants to respond to the individual nature and content of each discussion, so the topics covered and their order varied between interviews. Interviewers used open, non-leading questions and answers were fully probed. A single topic guide was used across all three strands of activity (Annex B). The guide was used flexibly to enable exploration of issues that were particularly relevant to each strand. Although piloting did not form an explicit stage for this study, preliminary experiences of fieldwork were used to refine and adjust instruments and approaches where necessary. The main topics covered in the interviews with participants are provided below:

1. Introducing NatCen and the study
2. Participant background
3. Factors influencing the take-up of renewable heating technologies
4. Factors influencing the choice of a particular technology
5. Views and experiences of financing their renewable heating technologies
6. Views and experiences of installing their renewable heating technologies
7. Knowledge and understanding of the RHI
8. Motivations, views and experiences of applying for the RHI
9. Experiences of using renewable heating technologies and heating behaviour
10. Whether and how heating behaviours have changed since installing their renewable heating technologies
11. Views and experiences of the RHI payment system
12. Overall views on the influence of the RHI on the installation of a renewable heating technology
13. Reflections on the RHI scheme

All members of the research team attended a briefing meeting to ensure interviewers had a shared understanding of the aims of the research, how to approach fieldwork, and what each section and sub-section of the topic guide was seeking to achieve.

All interviews were digitally audio-recorded with the participant's permission and transcribed verbatim for full analysis.

Data management and analysis

The qualitative data were managed using Framework – a systematic and comprehensive approach to qualitative data management and analysis.

The Framework approach ensured the study's findings were grounded in the data. The first stage of data management involved identification of emerging issues to inform the development of a thematic framework. The column headings on the matrix related to key sub-topics, and the rows to individual participants. A copy of the themes used in the thematic framework can be found in Annex C. Data from each case was then summarised in the relevant cell. This approach ensured that the analysis was comprehensive and consistent. Organising the data in this way enabled the views, circumstances and experiences of all participants to be explored within a thematic framework that was both grounded in, and driven by, their own accounts. The thematic matrices allowed for the full range of views and experiences to be compared and contrasted both across and within cases, and for patterns and themes to be identified and explored. The analysis stage involved working through the summaries, drawing out the range of experiences and views of renewable heating technologies and the RHI, identifying similarities and differences and interrogating the data to explain emergent patterns and findings (Spencer, Ritchie, O'Connor, Morrell and Ormston, 2014).

Reporting

Outputs from this qualitative project show the range and diversity of views and experiences among those interviewed. As this is qualitative research, we have not reported the number of people who hold a particular view as it bears no indication of the extent to which these views are held in the wider population. Any numerical inference would be misleading or inaccurate as the sample was not designed for this purpose.

Interview quotations and case illustrations have been used in outputs from this strand of research where appropriate. Quotations have been attributed to participants using descriptive categories relevant to this research. Additional descriptive information has been included where this might help illuminate a finding and does not breach anonymity.

References

Ritchie, J., Lewis, J., Elam, G., Tennant, R., and Rahim, N. (2014) 'Designing and selecting samples' in J. Ritchie, J. Lewis, C. McNaughton Nicholls and R. Ormston (eds) *Qualitative Research Practice*, 2nd edition, London: SAGE, pp 111-142

Spencer, L., Ritchie, J., O'Connor, W., Morrell, G. and Ormston, R. (2014) 'Analysis in Practice' in J. Ritchie, J. Lewis, C. McNaughton Nicholls and R. Ormston (eds) *Qualitative Research Practice*, 2nd edition, London: SAGE, pp. 295-343.

Annex A: Recruitment email

Dear [NAME]

Thank you for completing the Renewable Heat Incentive (RHI) questionnaire. As part of ongoing work in this area, the Department for Energy and Climate Change (DECC) are interested in exploring people's experiences and views of the RHI in more depth. You have been selected from participants in the RHI questionnaire who indicated they would be interested in taking part in further research.

The research is being conducted on DECC's behalf by NatCen Social Research, an independent research organisation. A researcher from NatCen may be in touch with you by telephone to ask if you are willing to take part in a telephone interview. Here is further information about the interview:

- **It will be convenient to take part.** It will last no longer than an hour and take place at a date and time that is convenient for you.
- **Give you an opportunity to discuss your views fully.** The interview will be different from the questionnaire you completed; it will be more like a discussion and will give you a chance describe and explain your views and experiences in your own words. The sort of things we are interested in are:
 - Your experiences of installing renewable heat technology in your home
 - Your reasons for applying for RHI
 - Your experiences of living with RHI
 - We may draw on some of the information you provided in the RHI questionnaire just as background information
- **It will be confidential.** This means that NatCen will not name any individuals or tell DECC or anyone else that you have taken part. We will audio record the interview so that nothing you say is forgotten. The recording stays securely with the research team so that no-one else can listen to it.
- **Taking part is entirely voluntary.** You do not have to take part and you can change your mind at any time. Agreeing to take part or not to will not affect your RHI payments, or any dealings you have with any government department or agency. If you do not want to take part, please let NatCen know by the end of **Monday 26th January**. You can contact them by responding to this email.
- **Thank you payment.** Everyone who takes part will be given £25 as thank you for their help.

Your contribution will provide us with **valuable information** that will help DECC understand the experiences of RHI customers. We hope that you decide to take part.

Yours sincerely,
Mehul Kotecha

Annex B: Achieved Sample: secondary criteria

Table 7: Number of achieved interviews with participant's on/off gas grid

On/off gas grid	Number of achieved interviews
On	6
Off	40

Table 8: Number of achieved interviews by build type

Build type	Number of achieved interviews
Self-builders	5
Non-self-builders	41

Table 9: Number of achieved interviews by number of occupants⁴

No. of occupants	Number of achieved interviews
0	2
1	5
2	18
3	7
4	6
5+	8

Table 10: Number of achieved interviews by location

Region	Number of achieved interviews
East Anglia	6
Midlands	5
North East	9
North West	5
Orkney	2
Scotland	5
South East	4
South West	5
Wales	5

⁴ The intention was to recruit single occupant dwellings as well as households with four or more.

Table 11: Number of achieved interviews by age of household reference person

Age group	Number of achieved interviews
30-35	3
36-40	5
41-45	2
46-50	3
51-55	7
56-60	6
61-65	3
66-70	6
71-75	5
76-80	3
Unknown	3

Annex C: Topic Guide

NatCen

Social Research that works for society

Overall topic guide - RHI

The following guide lists the discussion phases, key themes, sub-themes and the prompts and probes to be used for each interview. It does not include many follow-up questions like **Why? When? How?** as it is assumed that participants' contributions will be fully explored throughout in order to understand how and why views are held. Researchers are not tied to phrasing the questions as they are presented in this topic guide – these are for guidance only.

Aims of the interview

The overall aim of the domestic RHI study is to explore new claimants' experience of the RHI programme. That is, mapping the customer journeys, decision making and overall experience of the RHI scheme and their overall energy use behaviours.

The interview will meet this objective by exploring the claimant journey in to the RHI, their experience of the application process, their decision making around the types of Renewable Heat Technology (RHT) selected and their experience of living with Renewable Heat Technology.

Accordingly, the topic guide explores the following issues:

- Participant background
- Hearing about and applying for RHI
 - How they heard about the initiative
 - Reasons for applying for the programme
 - Any facilitators and barriers to the application process
 - Overall suggested improvements
- Decision making around Renewable Heat Technology take-up
 - Reason for selecting particular technology(ies) and not others
 - How they paid for Renewable Heat Technology and reasons for this
 - Challenge around decision making
 - Facilitators and barriers to technology take up
- Living with Renewable Heat Technology
 - Exploring how well the payment system is working for them (e.g. their monthly payments)
 - Impact - How their current energy use behaviours compares to prior to Renewable Heat Technology (exploring reasons behind differences)

Interviewers please note: The guide refers to the technology installed in homes as Renewable Heat Technology. Please replace this phrase with the technology the client has (e.g. biomass boiler, air source heat pump etc...) during the interview

Key: Not all sections are relevant to all participants. The following key will be used to identify relevance

- ✓ Cover in depth
- Cover lightly (please note: what is meant by 'light touch' will be defined)
- x Do not cover

ALL = Relevant to all

There are also questions that can be rotated – i.e. not asked of all respondents – these are clearly indicated

Text in blue refers to probes and prompts for specific technologies.

Phase	Theme	Sub-theme	Probes and prompts
<p>1. Introduction <i>(Aim: to introduce the evaluation and NatCen. To ensure participant gives informed consent and has an opportunity to ask questions)</i></p>	<p>Introducing NatCen & the study</p>	<p>Thank them for taking part.</p> <p>Purpose of interview. DECC, the Government department in charge of ensuring the country has secure, clean and affordable energy supplies, is looking at customers' experiences and views on the Renewable Heat Initiative (RHI).</p> <p>Interviewer – if necessary, remind them what RHI is</p> <ul style="list-style-type: none"> • Financial incentive to encourage switch to renewable heating systems • Involved you installing renewable heating system (e.g. biomass boiler, air source heat pump, ground source heat pump, solar or a mixture of these) • Receiving quarterly payments (planned for 7 years) based on estimations of annual heat use. 	<p>Who NatCen is. NatCen is a research organisation that is completely independent of DECC.</p> <p>Why they have been selected. We are contacting you as someone who participated in the RHI Domestic Survey and said you would like to participate in future research about the Renewable Heat Incentive.</p> <p>What will we be talking about</p> <ul style="list-style-type: none"> • Your reasons for taking up the scheme and your experiences and views on it. • We may be covering similar areas to the survey they completed but we want to give them the opportunity to discuss things in more depth. <p>Reassurances</p> <ul style="list-style-type: none"> • <u>Participation voluntary.</u> We can stop interview at any time and we can move on if they don't want to answer a question. • <u>No wrong or right answers.</u> Just want to hear their experiences and views. We may ask obvious questions, but important to hear what they have to say in their own words. • <u>Participation is anonymous and confidential.</u> We will not name anyone that has taken part to DECC or to anyone else. The report will not name any individuals who participated. <p>Taking part</p> <ul style="list-style-type: none"> • <u>Duration.</u> The interview will last up to an hour. • <u>Incentives.</u> We will send £25 cash by recorded delivery. • <u>Permission to record.</u> Recording means we have an accurate record of what was said. The recording is kept securely in accordance with the Data Protection Act and only the research team have access to it. • <u>Any questions.</u> Including any concerns they have.
<p>2.</p>	<p>About them</p>	<p>Household composition</p>	<ul style="list-style-type: none"> • Their age • Who they live with and their ages • Whether they care for anyone (e.g. dependents such as children or elderly)

Phase	Theme	Sub-theme	Probes and prompts
<p>3. Background (<i>Aim: to get participant to start talking and a light introduction to discussing heating systems</i>)</p> <p><i>Interviewer instructions: Keep discussion brief 6 MIN</i></p>		<p>Overview of current heating system Interviewer: keep brief</p> <p>ALL</p>	<ul style="list-style-type: none"> • Whether they have any other energy efficiency measures installed. E.g. <ul style="list-style-type: none"> ○ E.g. loft insulation ○ Microgen (FITs) • Explore <i>briefly</i> how they currently getting on with their Renewable Heat Technology <ul style="list-style-type: none"> ○ Is it <u>better, same or worse</u> than previous system (why) ○ How <u>easy/difficult</u> it is to keep their home heated ○ Any <u>supplementary heating systems</u> they have in place and how they use them (e.g. to 'top up' heating, as a 'work-around' to make up for heating challenges)
<p>4. Installing Renewable Heat Technologies</p> <p>(<i>Aim: To explore decision making around which technologies were taken up, paying for these and experiences of installing technologies</i>)</p> <p>10-15 MINS</p>	<p>Context of installing Renewable Heat Technologies</p>	<p>Exploring contextual factors influencing the decision to install Renewable Heat Technology</p> <p>ALL</p>	<ul style="list-style-type: none"> • Explore whether they would have installed their Renewable Heat Technology without the RHI <ul style="list-style-type: none"> ○ <u>If yes</u>, why? <ul style="list-style-type: none"> ▪ What other factors influenced decision to install Renewable Heat Technology ○ If no, <u>what was it about the RHI</u> that triggered their decision to install Renewable Heat Technology? E.g. Expectation of RHI return • Why Renewable Heat Technology and not another non-renewable technology? <ul style="list-style-type: none"> ○ Financial considerations (e.g. calculation around cost of technology and anticipated savings) ○ Non-financial considerations (e.g. environment) • Explore timing of installing Renewable Heat Technology – why install Renewable Heat Technology at that particular time <ul style="list-style-type: none"> ○ Scheme related factors (e.g. depression) ○ Non-scheme related factors • Was Renewable Heat Technology a standalone installation or a part of other refurbishment/renovation work done at home? <ul style="list-style-type: none"> ○ If done as part of a wider refurbishment/ renovation, why?
	<p>Deciding which technology to</p>	<p>Explore their decision making around selecting a particular form of technology</p>	<ul style="list-style-type: none"> • Why they selected the particular technology. E.g. <ul style="list-style-type: none"> ○ Knowledge/lack of

Phase	Theme	Sub-theme	Probes and prompts
	install	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <ul style="list-style-type: none"> ✓ Large homes ✓ Small medium energy systems ○ Finance – lightly </div> <p>Light touch: For those who used <u>finance</u>, simply explore</p> <ul style="list-style-type: none"> ○ Why they selected their Renewable Heat Technology 	<p>knowledge of technology</p> <ul style="list-style-type: none"> ▪ Why they chose biomass instead of other technologies ▪ Why multiple technologies instead of a single one? <ul style="list-style-type: none"> ○ Financial considerations (e.g. fuel bill savings and/or RHI returns) ○ Did they consider other renewables/non-renewables? (talk through decision making) ○ Talking to ‘trusted persons’ ○ Prior experience of technology ○ Assumptions about efficiency <ul style="list-style-type: none"> • Anticipations about how easy/difficult it would be to set up the technology Decision making around system sizing (interviewer: system sizing is about power output of their system in relation to size of space and occupancy) <ul style="list-style-type: none"> ○ Begin by asking if they know the power output of their system ○ If they do, explore factors that influenced decision to install a system of that power output <ul style="list-style-type: none"> ▪ Customer led? Or ▪ Installer led
		<p>Evaluating their experience of selecting their technology</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> ✓ Large homes ✓ Small medium energy systems ✓ Finance </div>	<ul style="list-style-type: none"> • How confident they felt selecting the technology (including system sizing) • What guidance and support they received • Anything that could have improved the process for them <ul style="list-style-type: none"> ○ Additional guidance/support they needed • Additional information that would have been helpful (e.g. around who could install technology)
	Paying for the technology	<p>Explore how they decided to pay for their technology</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> ○ Large homes - lightly ○ Small medium energy systems - lightly ✓ Finance </div> <p>Interviewer: third party</p>	<ul style="list-style-type: none"> • How did they pay for their technology <ul style="list-style-type: none"> ○ Income and savings ○ Personal finance (e.g. loans, hire purchase, credit cards) ○ Support from family/friends ○ Third party finance agreements • The reasons behind this

Phase	Theme	Sub-theme	Probes and prompts
		<p>agreements involve external parties paying for the customers Renewable Heat Technology in return for part or all of their monthly RHI payments.</p> <p>Light touch: For those with <u>large homes and small-medium energy systems</u>, simply explore</p> <ul style="list-style-type: none"> ○ How they paid for their technology ○ Why this method of payment ○ Would they like to use other finance? 	<ul style="list-style-type: none"> ○ Affordability ○ Weighing up risks ○ Anticipations about RHI payment returns ○ If third through third party finance, why? <ul style="list-style-type: none"> ● How do they feel about their financing arrangements <ul style="list-style-type: none"> ○ Views about interest rates ○ Views about the terms of the loans (e.g. length of time, early payback fees etc...) ● Was there any finance they wanted to use but didn't? <ul style="list-style-type: none"> ○ What type of finance ○ Why they couldn't access it? ○ How they feel about this ● Barriers and facilitators to financing technology <ul style="list-style-type: none"> ○ Access to personal finance options ○ Length of time it takes to secure personal finance ● Anything that could have improved the financial decision making process – discuss both what they would like changed and how this would work <ul style="list-style-type: none"> ○ Advice about the sources of financial support/funding ○ Direct financial support that would have been helpful
	Installing the technology	<p>Overall experience of installing the technology</p> <p style="text-align: center;">ALL</p>	<ul style="list-style-type: none"> ● Description of the process (keep brief) <ul style="list-style-type: none"> ○ How they selected trades person ○ How long it took ● What worked ● What worked less well ● What could be improved <p>(Interviewer - allow them to spontaneously to respond and then use the prompts in the row below)</p> <ul style="list-style-type: none"> ● Length of time it took ● Finding trustworthy person to do it ● Whether it went to budget ● Able to apply to the RHI within 12 months of the commissioning date of the heating system (shown in the MCS)
<p>5. Hearing about and applying for RHI</p> <p><i>(Aim: to sources of information about</i></p>	Process of hearing about the RHI	<p>Explore how they heard about the RHI</p> <p style="text-align: center;">ALL</p>	<ul style="list-style-type: none"> ● Explore which came first – knowledge of RHI or Renewable Heat Technology. <ul style="list-style-type: none"> ○ Did they hear about RHI first or Renewable Heat

Phase	Theme	Sub-theme	Probes and prompts
<p>RHI, reasons for take-up and experiences of the application process. T)</p> <p><u>Interviewer instructions:</u> Emphasis on what worked well and what can be improved in promoting the RHI</p> <p>20 mins</p>		<p>Please rotate this section</p>	<p>Technology?</p> <ul style="list-style-type: none"> ○ Did hearing about one have influence on the other? <ul style="list-style-type: none"> ● Sources of information and why these trusted <ul style="list-style-type: none"> ○ DECC website ○ Word of mouth ○ Role of Renewable Heat Technology installer in promoting RHI – and the message they gave ● If more than one source, explore: <ul style="list-style-type: none"> ○ <u>Sequence</u> in which sources approached – which approached first, second, third and why (i.e. role played by each source) ○ Which sources they particularly <u>prioritised</u>.
	<p>Reasons for take-up</p>	<p>Their reasons for applying for RHI</p> <p>ALL</p>	<p>Explore what influenced them to take up RHI. E.g.</p> <ul style="list-style-type: none"> ● Knowledge of Renewable Heat Technology ● An incentive to change their system – especially if it wasn't working well ● Anticipated monthly payments ● Anticipated savings in energy they can make ● Family discussion/pressure
	<p>Understanding of RHI</p>	<p>Their understanding of the purpose of RHI</p>	<ul style="list-style-type: none"> ● What do they understand the purpose of RHI is? How influenced their decision to apply for RHI/ Renewable Heat Technology. ● Understanding of rates of return <ul style="list-style-type: none"> ○ Impact on the decision to take up RHI/ Renewable Heat Technology (e.g. did it encourage them)
	<p>Overview of application process</p>	<p>Description of the application process they went through</p> <p>ALL</p> <p>Please rotate this section</p> <p>Interviewer – Keep this light touch. the eligibility criteria is as follows:</p> <ul style="list-style-type: none"> ● Single homes ● Property should have an Energy Performance Certificate (EPC) ● They can only go for the certain types of heating systems (biomass, air source heat pumps, solar thermal panels – these only provide hot water for the home) ● Biomass and heat pump system must provide space heating or space and water 	<p>How they completed the application (keep brief)</p> <ul style="list-style-type: none"> ● A brief discussion of what they did ● Sources of advice and guidance (e.g. around EPC) ● Role of third parties in helping them complete the application process – these can be considered as stakeholders to the application process, e.g. <ul style="list-style-type: none"> ○ Installer ○ Family

Phase	Theme	Sub-theme	Probes and prompts
		<p>heating. They must use 'wet' central heating system like radiators.</p> <ul style="list-style-type: none"> The make and model of the heating system must also meet technical requirements They need to provide the following proof: Microgeneration Certification Scheme (MCS) certificate, EPC number and a Green Deal Report number. 	
<p>6. Living with RHI and Renewable Heat Technology</p> <p><i>(Aim: To explore heat energy behaviours before and after installing RHI)</i></p> <p>15 MINS</p>	<p>Heating behaviours after Renewable Heat Technology</p>	<p>Explore how they would describe their current use of heating and water</p> <p>ALL – HOT WATER USE RELATES TO MULTIPLE TECH IN PARTICULAR AS SOLAR THERMAL WILL AFFECT HOT WATER</p>	<p>Their experience of the application process</p> <ul style="list-style-type: none"> What worked well What could have been better? What could be improved Explore issues that are particular to the RHI policy (i.e. the rules governing application, such as who is eligible) and operational issues (i.e. issues around working within these rules – e.g. getting an EPC certificate) <p>If not raised spontaneously, prompt on how on the following:</p> <ul style="list-style-type: none"> Understanding of the eligibility criteria Understanding the types of technologies they can install and caveats to this (e.g. solar thermal panels only for hot water) Understanding which make and model of the heating system meets technical requirements. It must be MCS certified. How easy or difficult it was to get an EPC How well RHI the Green Deal Assessment worked <ul style="list-style-type: none"> How easy was to find a GDA assessor How easy was the assessment process How easy/difficult it was to obtain and provide proof. <p>Interviewer - allow them to spontaneously respond and then use the prompts in the row below</p> <ul style="list-style-type: none"> Space heating <ul style="list-style-type: none"> Preferences for keeping home cold/warm Occupancy and heating – e.g. did they heat all of the rooms or just the occupied one. Zoning. Control of heating Use of supplementary heating. Water heating – Solar thermal

Phase	Theme	Sub-theme	Probes and prompts
			group <ul style="list-style-type: none"> ○ Patterns of water use ○ Do they feel they get enough hot water – has solar met their needs and/or expectations
	Comparing heating behaviours to before Renewable Heat Technology	Explore whether this has changed since the introduction of Renewable Heat Technology ALL	<ul style="list-style-type: none"> • If no changes, why not? • If changes, the nature of these and the reasons behind them – including whether the RHI technology was a factor and why. E.G. <ul style="list-style-type: none"> ○ ‘Comfort behaviour’ – do they use their heat energy more or less because of RHI – why/why not? • How they feel about Renewable Heat Technology
	RHI payments	Their experience of receiving RHI payments ALL Interviewer – payments are worked out on estimation of heating system’s annual heat use. This varies with technologies: <ul style="list-style-type: none"> • Biomass and heat pumps – the heat load figure on the EPC • Solar thermal – figure calculated by MCS installer 	<ul style="list-style-type: none"> • On average, how much they receive <ul style="list-style-type: none"> ○ Whether this is what they expected – if not, how do they feel about it • Views on how their payments are worked out <ul style="list-style-type: none"> ○ Do they understand the process ○ If multiple technologies used, how easy or complicated they feel this is and do they understand the process ○ Whether they feel it is accurate ○ Generally feelings about using estimates to provide • Views on how payments are made. <ul style="list-style-type: none"> ○ Do they receive them in a timely fashion
	Overall views	Explore whether they would have adopted their Renewable Heat Technology even if they did not receive RHI Overall, their reflections on being on the RHI programme	<ul style="list-style-type: none"> • If so, why? • If not, why not? What was it about the RHI that helped them to adopt the technology
			Whether they feel it has worked out for them – is so why. If not, why not?
7. Closing interview			<ul style="list-style-type: none"> • Thank them for their time • Ask them if there is anything else they would like to add • Reassure them about confidentiality • Ask them whether they would be interested in being contacted for future studies on energy <ul style="list-style-type: none"> ○ Explain this does not to commit them in anyway, simply gives us permission to contact them in the future

Annex D: Analytical Framework

1. Background *(Please note anything about the interview situation and the participant that has bearing on the data or the findings.)*

- 1.1 Overview of any Energy Efficiency measure currently using
- 1.2 Overview of how they are getting on with Renewable Heating Technology
- 1.3 Interview situation (Anything about the interview situation or participant that affects recording and/or data)
- 1.4 Household composition (please note whether individual lives with anyone, the ages of people they live with and whether they can be considered dependents)
- 1.5 Other background information of relevance (Anything else about their background that has a bearing on their views and experiences of RHI/Renewable Heating Technologies e.g. their life stage, previous heating experiences of relevance etc...)

2. Installing Renewable Heating Technologies

- 2.1 Context of installing Renewable Heating Technologies (a) whether they would have installed Renewable Heating Technologies w/o RHI; b) Timing of installation; c) whether Renewable Heating Technology was standalone or part of refurbishment and why, d) why went for Renewable Heating Technologies over non Renewable Heating Technologies)
- 2.2 Deciding which technology to use (Reasons why selected Renewable Heating Technology - including around system sizing)
- 2.3 Experience of selecting Renewable Heating Technologies (Note: a) level of confidence; b) guidance and support they received)
- 2.4 Anything that can improve experience of selecting Renewable Heating Technology (Suggested improvements – including additional information)
- 2.5 Paying for technology (Note: a) how they paid for technology; b) reasons behind this; c) views on financing arrangements; d) barriers and facilitators to financing)
- 2.6 Anything that can improve financing technology (suggested improvements to accessing finance to pay for technology)
- 2.7 Overall experience of installing technology (What worked and what didn't and what could be improved)

3. Hearing about RHI

- 3.1 Hearing about RHI (Note: a) sources of information; b) how they used different sources of info together)

3.2 Reasons for applying (What influenced take-up of RHI)

3.3 Understanding of RHI (Note: a) purpose of RHI and b) Understanding of rates of return in particular and impact of this)

4. Applying for RHI

4.1 Overview of application process (Short summary of the process of completing application form, including what they did and sources of advice and guidance and role of third parties)

4.2 What worked about the application process (Explore issues to do with a) RHI policy- particularly the rules and b) Operational issues – i.e. working within rules)

4.3 What worked less well about the application process Explore issues to do with a) RHI policy- particularly the rules and b) Operational issues – i.e. working within rules)

4.4 What could be improved?

5. Living with RHI

5.1 Brief overview of current heating behaviours

5.2 How do their heating behaviours compare before and after Renewable Heating Technologies (Explore any changes and the reasons why/why not)

5.3 RHI payments (Note: a)How much they receive and b)views on how these are worked out – e.g. do they understand the process, received in a timely fashion etc...)

5.4 Would they have adopted Renewable Heating Technologies w/o RHI? (If not covered in 2.1)

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