RAF063/2122

Decarbonising owner-occupied homes: Research among vulnerable groups

Technical annex

Conducted by Verian for the Department for Energy Security and Net Zero prior to the general election in the United Kingdom in July 2024. As such, any references to government policies, commitments, or initiatives may reflect the stance of the previous administration and were accurate at the time of fieldwork and writing.

Verian (2024)

Views expressed in this report are from the relevant research agencies, based on data collected from research participants and other evidence, and not necessarily those of the UK government.

Contents

1 Methodology

1.1 Sample structure

82 participants took part in the research; 71 participated in 12 two-hour focus group discussions and 11 participated in 90-minute in-depth interviews. The sample was geographically spread across the UK, with a slight skew towards the North West and Greater London. Fieldwork waves took place between March and May 2024.

Focus groups were set up as audience-specific sessions, to include participants with a mix of characteristics within each vulnerable audience. Three focus groups were conducted per audience, split over three research waves. While the fieldwork in Waves 1 and 2 was online, fieldwork in Wave 3 was face-to-face.

Recruitment criteria ensured that recruited participants were the main or joint decision-maker in the household for home improvements. Additionally, in each focus group, 3-4 participants had already installed an energy performance measure and 3-4 participants had not engaged with government schemes to support installation of energy performance measures.

The table below outlines the full sample achieved for the focus group sessions:

Audience	Audience criteria	Additional criteria	Already installed measures	Not engaged with govt schemes
Fuel-poor owner-occupiers n=18	People who spend more than 10% of their household income (minus any mortgage payments) on energy bills	Mix of household compositions (e.g., single people, multi-person households) Aged 18-64 2 online sessions, 1 face-to-face session	n=12	n=10
Older owner-occupiers n=18	Those who are 65 years old or older	At least 6 people aged 75+ Mix of income brackets and household compositions (e.g.,	n=12	n=9

		single people, multi-person households) 2 online sessions, 1 face-to-face session		
Owner-occupiers with long-term health conditions n=18	People who have a physical or mental impairment that has a substantial and long-term negative effect on their ability to do normal daily activities	A range of impairments (including physical and mental health conditions) 2 online sessions, 1 face-to-face session	n=12	n=9
Other owner-occupiers (control) n=17	Those aged 18-65, who are not in fuel poverty and who do not classify themselves as having a long-term health condition	Mix of income brackets and household compositions (e.g., single people, multi-person households) 3 online sessions	n=10	n=8

In-depth interviews were conducted with participants with long-term health conditions, providing supplementary insight for those likely to experience barriers to accessing information.

The table below outlines the full sample achieved for the in-depth interviews:

Audience	**Audience criteria**	**Additional audience-specific criteria**	**Already installed measures**	**Not engaged with govt schemes**
Visually impaired owner-occupiers n=3	Moderate or severe impairment	Included one participant considered legally blind with a severe sight impairment, and two participants with moderate sight impairments	n=3	n=3

Hearing impaired owner-occupiers n=2	Moderate or severe impairment	Two participants had moderate hearing impairments Although an interview was scheduled with a British Sign Language user in Wave 3, the announcement of the general election meant this needed to be cancelled	n=2	n=0
Neurodiverse owner-occupiers n=3	Neurodiversity that affects the ability to read/focus	Included one participant who had dyslexia and two who had impaired attention	n=2	n=2
Carers n=3	Long-term carers looking after a disabled homeowner	Included people assisting disabled owner-occupiers with decisions relating to their home	n=3	n=2

1.2 Research approach

This research was qualitative in nature, involving deliberative workshop sessions in which participants were provided with information about different energy performance measures along a typical installation journey.

The research was split into three waves, adopting an iterative approach. After the first wave of fieldwork in March, Verian conducted an interim findings presentation to the Department for Energy Security and Net Zero (DESNZ) stakeholders, to present emerging findings from the research. Following the interim presentation, DESNZ and Verian engaged in a collaborative review of the research materials. This review sought to assess how well the research materials were working together and address emerging findings from the research. As a result of this review, Verian made amendments to the topic guide and stimulus materials to optimise the fieldwork process going forward. Following the second wave of fieldwork, a similar review took place, although only minor changes were made to the stimulus materials.

2 Recruitment screeners

2.1 Recruitment screener – owner-occupier groups

Participant details and declaration

Contact details

- Name
- Email address
- Phone number

Recruitment method – please indicate

- Recruiter database
- Other (please record)

Recruiter declaration

The person named above has been recruited by me in accordance with the instructions and conditions within the Market Research Society Code of Conduct, Verian's processes, and procedures and GDPR regulations.

- Signed
- Name
- Date
- Backchecked: yes/no

Participant Quotas

- 12x 2-hour focus groups –
    - 9x online
    - 3x in person – Manchester
- Wave 1 – 4x online focus groups with one from each 'characteristic of interest' w/c 18th March
- Wave 2 – remaining focus groups conducted during main fieldwork period during w/c 2nd, 6th and 13th May

No	Location	Characteristic of interest
1	2x Online, 1x F2F	Fuel-Poor Homeowners – Spending over 10% of their income, minus mortgage repayments, on energy bills, ideally EPC below C (if known)

2	2x Online, 1x F2F	Older Owner-Occupiers – mix of pension, working and other
3	2x Online, 1x F2F	Owner-occupiers with health conditions
4	3x online	Other owner-occupiers

Demographic characteristics of interest for all participant sub-groups:

- All to be the main or joint decision-maker in the household for home improvements
- Aiming to include 3 people who have already installed energy improvement measures.
- Aiming to include at least 3 people per group who have not engaged with government schemes.
- All to have permission to retrofit properties
- Aiming for a mix of gender, age, location, ethnicity, property types, SEG, life-stage and attitudes to climate change, property ownership status

Recruitment screener

Interest in taking part

Q1. Introductions

"Good morning/afternoon, my name is X and I am calling from X, an independent research organisation.

We have been asked to carry out research on behalf of the Department for Energy Security and Net Zero (DESNZ) and Verian, an independent research agency.

DESNZ would like to understand how they can best support the improvement of the energy performance of owner-occupied domestic buildings in the UK and so want to invite you to participate in an [online or f2f] focus group.

- The research is completely voluntary, and you are able to withdraw your consent at any time
- You will not incur any costs taking part in the research and will receive an incentive of [xxx] for your time
- Research is conducted in accordance with the MRS code of conduct
- Verian is completely independent from DESNZ
- Your information will be used for research purposes only
- Verian will not pass your personal details on to anyone outside of the research team – this includes the research team at Verian – and your name will not be used in the reporting for this project, if you wish to withdraw from this research at any point, please email maine.charlton@veriangroup.com

Would you be interested in taking part?

1 Yes
2 No

DO NOT RECRUIT IF ANSWER 'NO'

Q2. Zoom tech – online participants only

The research involves an online video call and so you will need to have access to:

- a current and working email account that you check regularly
- broadband internet (in other words, not dial-up) from your home
- a device that has a camera and built-in mic and can connect to the internet. Most smartphones and tablets will work.

Do you have access to all of these?

DO NOT RECRUIT FOR ONLINE RESEARCH IF ANSWER 'NO'

Q3. Zoom consent – online participants only

Participation in the online discussion will involve the following:

- Ahead of the interview date, you will receive an email with a link to join at the set date/time. This email will also contain Zoom's terms and conditions of use for your information.
- In order to test the Zoom link works and to make sure you have what's needed, a member of the research team will call you to test the link a day or two before the discussion date. You will not need to download anything to your device to join this call.
- You will also be sent a Zoom consent form by email for the first session – please can you read it and reply to the email stating that you have read and understood it.
- At the time of the interview, please click on the emailed Zoom link to join the discussion - you will be asked to enter your name (this should just be your first name and the first initial of your surname).
- The video call will be you and 5 other participants, as well as one researcher and last 2 hours. It will be an open-ended discussion, within which you can discuss and explain your views in detail.

On this basis, are you comfortable and happy to take part in this research?

DO NOT RECRUIT IF ANSWER 'NO'

If no, please record reason above

PROPERTY STATUS

Q4. Property Ownership

Do you solely or jointly own the property you are currently living in?

1 Yes – I solely own the property
2 Yes – I jointly own the property
3 No – I do not own the property I live in

DO NOT RECRUIT CODE 3

Are you a live-in landlord who rents out part of this property?

1 Yes
2 No

How do you own your property?

1 I own it outright
2 I have a mortgage on my property
3 I own a share of the property under a shared ownership scheme
4 Other (please record)

RECRUIT A MIX – IF CODE 4 PLEASE CHECK WITH VERIAN

What type of property do you live in?

1 Detached house
2 Semi-Detached house
3 Bungalow
4 Terraced house
5 Maisonette
6 Flat

RECRUIT A MIX

How old is your property?

1 New Build (<10 years)
2 11-50 years old
3 51-100 years old
4 Over 100 years old
5 I don't know

RECRUIT A MIX

What is your property's Energy Performance Certificate (EPC)?

1 A
2 B
3 C
4 D

5 E
6 F
7 G
8 I don't know

RECRUIT A MIX FOR GROUPS 2-4

RECRUIT CODES 4-7 FOR GROUP 1

Do you have permission to make changes to your property, (e.g., installing new insulation, replacing windows), for example, without requesting permission from a building owner or other outside authority?

1 Yes
2 No
3 Other (please record)

RECRUIT CODE 1 ONLY

Who is the key decision maker in your household when making decisions around home improvements to improve your property's energy efficiency?

1 I am the key decision maker
2 I am a joint decision maker
3 Somebody else is a key decision maker

RECRUIT CODES 1 AND 2 ONLY

Q5. Energy Improvement Measures

Which best describes energy improvement measures currently installed in your property? (multi-code)

Measure	Installed - by myself	Installed – by someone else (e.g., previous owners)	Not currently installed	Not sure
1 Insulation	a)	b)	c)	d)
1 Draught proofing	a)	b)	c)	d)
2 Heat pumps	a)	b)	c)	d)
3 Double glazing	a)	b)	c)	d)
4 Solar panels	a)	b)	c)	d)
5 Other (please record)	a)	b)	c)	d)

RECRUIT MIN 3X – MAX 4X PER GROUP CODES 1-6 (A)

For those who answered 1 a) or b). What insulation does your property have in place?

1 Cavity wall insulation
2 External wall insulation
3 Hot water cylinder insulation
4 Internal wall insulation
5 Loft insulation
6 Draught proofing
7 Other (please record)
8 I don't know

RECRUIT A MIX

For those who answered 1-6(a). Did you use any of the following government schemes to help fund for these improvements?

1 Home Upgrade Grant (HUG)
2 National Grid Support Grant / Connected for Warmth
3 Great British Insulation Scheme
4 Boiler Upgrade Scheme (BUS)
5 Green Homes Grant Local Authority Delivery (LAD) Scheme
6 Other (please record)
7 None of the above

RECRUIT MIN 3X PER GROUP CODE 7

What heating source does your property have?

1 Natural gas (i.e. a standard domestic boiler)
2 Combi/electric boiler
3 Heat pump
4 Heating oil
5 LPG burner (not on grid)
6 Coal
7 Other (please record)

RECRUIT A MIX OF CODES 1-2, ALLOW OTHER CODES BUT NOT REQUIRED

DEMOGRAPHIC CRITERIA

Q6. Gender

How do you describe your gender?

1 A man (including trans man)
2 A woman (including trans woman)
3 Non-binary
4 In another way
5 Prefer not to say

RECRUIT A MIX, AIMING FOR EQUAL MIX OF MEN AND WOMEN ACROSS THE SAMPLE AS A WHOLE

Q7. Ethnicity

Which of these is most appropriate in describing your ethnicity? Read out:

White

1 English/Welsh/Scottish/Northern Irish/British
2 Irish
3 Gypsy or Irish Traveller
4 Any other White background, please describe

Mixed/multiple ethnic backgrounds

5 White and Black Caribbean
6 White and Black African
7 White and Asian
8 Any other Mixed/Multiple ethnic background, please describe

Asian/Asian British

9 Indian
10 Pakistani
11 Bangladeshi
12 Chinese
13 Any other Asian background – please describe

Black/African/Caribbean/Black British

14 African
15 Caribbean
16 Any other Black/African/Caribbean background, please describe

Other ethnic group

17 Arab
18 Any other ethnic group, please describe

RECRUIT A MIX, AIMING FOR MINIMUM 15X CODING 5-18 ACROSS THE SAMPLE AS A WHOLE

Q8. Age

What age were you on your last birthday?

RECRUIT A MIX OF AGES 18-65 ACROSS GROUPS 1, 3 AND 4

RECRUIT ONLY AGES 66+ FOR GROUP 2, AIMING FOR AT LEAST 6X PARTICIPANTS AGED 75+

Q9. Lifestage

What is your household composition?

1 Living alone
2 Living with partner
3 Living with older relatives (75+ years old)
4 Living with a young family (child(ren) under 10)
5 Living with older family (child(ren) aged 11-18)
6 Living with adult children (19y/o+)
7 Living with other family members
8 Living with friends
9 Other (please record)

RECRUIT A MIX

Q10. Location

What area of the country do you live in?

1 Greater London
2 South East
3 South West
4 West Midlands
5 North West
6 North East
7 Yorkshire and the Humber
8 East Midlands
9 East of England
10 Scotland
11 Wales
12 Northern Ireland

RECRUIT A MIX

Q11. Region

What type of neighbourhood do you live in?

1 Urban
2 Suburban
3 Rural

RECRUIT A MIX

Q12. SEG

Please can you tell me about your job, and the job of the person in your household who is the chief income earner? If you live with a partner and your incomes are broadly the same, please tell me about yours.

PROBE THE FOLLOWING QUESTIONS IN DETAIL AS APPROPRIATE

Are they in a single or dual income household? (please record)

What is their job title?

Who do they work for, or are they self-employed?

Approximately how many people does the organisation employ?

Do they manage any other workers? If so, how many?

What is their highest level of qualifications?

PLEASE USE YOUR JUDGEMENT TO ASSIGN THE PARTICIPANT TO AN SEG CATEGORY, USING THE TABLE BELOW FOR GUIDANCE. PLEASE REACH OUT TO THE RESEARCH TEAM IF YOU ARE IN ANY DOUBT AS TO ASSIGNING A SEG CATEGORY. AIM TO RECRUIT A MIX.

A

- Higher managerial and professional workers
- Professionals; very senior managers in business; top-level civil servants
- Retired people who worked in a grade A job
- People whose late spouse or civil partner worked in a grade A job

B

- Intermediate managerial and professional workers
- Middle-management executives in large organisations, with appropriate qualifications
- Principal officers in local government and the civil service; secondary school teachers
- Top management or owners of small businesses and educational and service establishments
- Retired people who worked in a grade B job
- Retired people whose late spouse or civil partner worked in a grade B job

C1

- Junior management, owners of small establishments and all other non-manual workers
- Jobs in this group have very varied responsibilities and educational requirements
- Retired people who worked in a grade C1 job
- Retired people whose late spouse or civil partner worked in a grade C1 job

C2

- Skilled manual workers

- Manual workers with responsibility for other people
- Retired people who worked in a grade C2 job and who now receive an occupational pension
- Retired people whose late spouse or civil partner worked in a grade C2 job and who now themselves receive a pension based on that job

D

- Semi-skilled and unskilled manual workers, apprentices and trainees of skilled workers
- Retired people who worked in a grade D job and who now receive an occupational pension
- Retired people whose late spouse or civil partner worked in a grade D job and who now themselves receive a pension based on that job

E

- Long-term recipients of state benefits
- People who have been unemployed for more than six months (otherwise classify on previous occupation) or off sick for six months or more (unless they are still being paid by their employer)
- Casual workers and people without a regular income
- Intermittent workers in receipt of income support

RECRUIT A MIX, INCLUDING A MIX OF PARTICIPANTS ON PENSION AND INCOME FOR GROUP 2 – PLEASE RECORD IF WORKING OR ON PENSION FOR GROUP 2

Q13. FUEL POVERTY

What is your monthly household take home pay after tax?

RECRUIT A MIX

(If applicable) How much is your monthly mortgage payment?

RECRUIT A MIX

How much do you typically spend on energy bills per month?

PLEASE USE THE ABOVE 3 QUESTIONS AND RECRUIT THOSE WHO SPEND OVER 10% OF THEIR PAY POST-MORTGAGE PAYMENTS ON ENERGY FOR GROUP 1

How much of your monthly income, excluding any mortgage payments, do you spend on energy bills for your home?

1 1-10%
2 11-25%
3 25-50%

4 Over 50%
5 I don’t know

RECRUIT CODES 2-4 FOR GROUP 1

Q14. Environmental Attitudes

How concerned, if at all, are you about current climate change, sometimes referred to as 'global warming'?

1 Very concerned
2 Fairly concerned
3 Not very concerned
4 Not at all concerned
5 Don't know

RECRUIT A MIX

Q15. CLIMATE CHANGE

The way we live our lives will have to change substantially to address climate change.

1 Strongly agree
2 Agree
3 Neither agree nor disagree
4 Disagree
5 Strongly disagree
6 I don't know
7 Prefer not to say

RECRUIT A MIX

HEALTH

Q16. Health Conditions

Do you consider yourself to be a disabled person or to have an impairment or long-term health condition that impacts your day to day activities and working life?

What is the nature of your impairment or long-term health condition?

Clarify if needed that the participant can give multiple answers.

Please classify using the following list – read out the conditions if this is helpful for the participant.

Mental health conditions, which could include mood disorders (e.g. depression, anxiety, bipolar disorder), psychotic disorders (e.g. schizophrenia), eating disorders or personality disorders

Physical impairment or musculoskeletal disorders (injuries or conditions that affect people’s muscles, bones or movement, e.g. Carpal Tunnel Syndrome, Tendonitis, bad backs)

Sensory impairment

Neuro-diverse conditions (e.g. Autism Spectrum Disorder or Attention Deficit Hyperactivity Disorder)

Other (please specify):

If you have a physical impairment, mental health condition, musculoskeletal disorder or health condition, does this have an effect on your energy consumption at home?

No, not particularly

Yes – I need to keep my house warm most of the time or at a constant temperature

Yes – for other reasons (please specify)

GROUP 3 – RECRUIT MIX, WITH AT LEAST 1X PARTICIPANT WITH A MENTAL HEALTH CONDIITON, 1X WITH A PHYSICAL HEALTH CONDITION AND 1X WITH A CHRONIC HEALTH CONDITION THAT REQUIRES THEM TO KEEP THEIR HOME WARM OR AT A CONSTANT TEMPERATURE

Invitation and confirmation

Q17. Invitation

We would like to invite you to take part in this research. The 2-hour focus group will be with an independent Verian researcher.

As a thank you for your participation, you will receive [confirm per group]. This incentive will be paid for completion of the research activities and will be paid to you after the interview.

The interview will take place [CONFIRM DATES AND TIMES]

With your permission, we will be recording the discussion. The discussions will be confidential and anonymous – and will only be shared with members of the research team and research steering group.

You do not need to have any prior knowledge to take part in this research. We will not be testing people’s knowledge, but simply exploring people’s understanding and awareness and asking for people’s views and opinions on their experiences.

Q18. Confirmation

Are you happy to participate in this research?

Please record: Confirmation

IF ANSWER NO, PLEASE RECORD REASON THEN THANK AND CLOSE

Q19. Interview preparation

Are there any adjustments we could make to ensure that you can access the research in a way that is right for you? This may include things like sending questions over beforehand so you can prepare or by providing a BSL interpreter, or something else.

Please record: Any support that could be provided

LET THE RESEARCH TEAM KNOW WHAT THEY WILL NEED TO DO IF THIS IS RELEVANT

Q20. Privacy policy

Read out: As part of our commitment to protecting your rights, please note that Verian's privacy policy can be accessed on our website, veriangroup.com/uk-surveys. We can also provide you with a written copy of the policy. Please note that the company has recently changed its name from Kantar Public.

Please record: I confirm that the participant has been made aware of how to access the privacy policy

Q21. Recontact

Would you be happy to be recontacted in relation to this project? You would not be obligated to take part in any future research if you were contacted.

Please record: Recontact wishes

Thank and close

2.2 Recruitment screener – owner-occupier in-depth interviews

Participant details and declaration

Contact details

- Name
- Email address
- Phone number

Recruitment method – please indicate

- Recruiter database
- Other (please record)

Recruiter declaration

The person named above has been recruited by me in accordance with the instructions and conditions within the Market Research Society Code of Conduct, Kantar's processes, and procedures and GDPR regulations.

- Signed
- Name
- Date
- Backchecked: yes/no

Participant Quotas

- 12x 90-minute In-depth interviews –
    - 9x online
    - 3x in person – Manchester-based sample
- Wave 1 – 4x online interviews with 1 participant from each sample group during w/c 18th March
- Wave 2 – remaining interviews conducted during main fieldwork period during w/c 2nd, 6th and 13th May

Characteristic of interest

1. Visually Impaired owner-occupiers – including at least 1x with severe sight impairment
2. Hearing Impaired owner-occupiers – including at least 1x BSL user
3. Neurodiverse owner-occupiers (conditions such as ADHD/ADD, Autism, Dyslexia, Dyspraxia)
4. Carers for disabled partners or family members who are owner-occupiers who are joint decision makers in energy-improvement measures within the home

Demographic characteristics of interest for all subgroups:

- All to be the main or joint decision-maker in the household for home improvements
- Aiming to include 6 people who have already installed energy improvement measures.
- Aiming to include at least 6 people who have not engaged with government schemes.
- All to have permission to retrofit properties
- Aiming for a mix of gender, age, location, ethnicity, property types, SEG, life-stage, attitudes to climate change and property ownership status

Recruitment screener

Interest in taking part

Q1. Introductions

"Good morning/afternoon, my name is X and I am calling from X, an independent research organization.

We have been asked to carry out research on behalf of the Department for Energy, Security and Net Zero (DESNZ) and Verian, an independent research agency.

DESNZ would like to understand how they can best support the improvement of the energy performance of owner-occupied domestic buildings in the UK and so want to invite you to participate in an [online or f2f] interview.

- The research is completely voluntary, and you are able to withdraw your consent at any time
- You will not incur any costs taking part in the research and will receive an incentive of [xxx] for your time
- Research is conducted in accordance with the MRS code of conduct
- Verian is completely independent from DESNZ
- Your information will be used for research purposes only
- Verian will not pass your personal details on to anyone outside of the research team – this includes the research team at Verian – and your name will not be used in the reporting for this project, if you wish to withdraw from this research at any point, please email maine.charlton@veriangroup.com

Would you be interested in taking part?

1 Yes
2 No

Please record:

DO NOT RECRUIT IF ANSWER ‘NO’

Q2. Zoom tech – online participants only

The research involves an online video call and so you will need to have access to:

- a current and working email account that you check regularly
- broadband internet (in other words, not dial-up) from your home
- a device that has a camera and built-in mic and can connect to the internet. Most smartphones and tablets will work.

Do you have access to all of these?

Please record:

DO NOT RECRUIT FOR ONLINE RESEARCH IF ANSWER ‘NO’

Q3. Zoom consent – online participants only

Participation in the online discussion will involve the following:

- Ahead of the interview date, you will receive an email with a link to join at the set date/time. This email will also contain Zoom's terms and conditions of use for your information.
- In order to test the Zoom link works and to make sure you have what's needed, a member of the research team will call you to test the link a day or two before the discussion date. You will not need to download anything to your device to join this call.
- You will also be sent a Zoom consent form by email for the first session – please can you read it and reply to the email stating that you have read and understood it.
- At the time of the interview, please click on the emailed Zoom link to join the discussion - you will be asked to enter your name (this should just be your first name and the first initial of your surname).
- The video call will be you and one researcher and last 90 minutes. It will be an open-ended discussion, within which you can discuss and explain your views in detail.

On this basis, are you comfortable and happy to take part in this research?

Please record:

DO NOT RECRUIT IF ANSWER ‘NO’

If no, please record reason above

PROPERTY STATUS

Q4. Property Ownership

Do you solely or jointly own the property you are currently living in?

1 Yes – I solely own the property
2 Yes – I jointly own the property
3 No – I do not own the property I live in

Please record:

DO NOT RECRUIT CODE 3

Are you a live-in landlord who rents out part of this property?

1 Yes
2 No

Please record:

How do you own your property?

1 I own it outright
2 I have a mortgage on my property
3 I own a share of the property under a shared ownership scheme
4 Other (please record)

Please record:

RECRUIT A MIX

1 What type of property do you live in?
2 Detached house
3 Semi-Detached house
4 Bungalow
5 Terraced house
6 Maisonette
7 Flat

Please record:

RECRUIT A MIX

How old is your property?

1 New Build (<10 years)
2 11-50 years old
3 51-100 years old
4 Over 100 years old
5 I don’t know

Please record:

RECRUIT A MIX

What is your property EPC?

1 A
2 B
3 C
4 D

5 E
6 F
7 G
8 I don't know

Please record:

RECRUIT A MIX

Do you have permission to make changes to your property, (e.g., installing new insulation, replacing windows), for example, without requesting permission from a building owner or other outside authority?

1 Yes
2 No
3 Other (please record)

Please record:

RECRUIT CODE 1 ONLY

Who is the key decision maker in your household when making decisions around home improvements to improve your property's energy efficiency?

1 I am the key decision maker
2 I am a joint decision maker
3 Somebody else is a key decision maker

Please record:

RECRUIT CODES 1 AND 2 ONLY

Which best describes energy improvement measures currently installed in your property? (multi-code)

Measure	Installed - by myself	Installed – by someone else (e.g., previous owners)	Not currently installed	Not sure
1 Insulation	a)	b)	c)	d)
2 Draught proofing	a)	b)	c)	d)
3 Heat pumps	a)	b)	c)	d)
4 Double glazing	a)	b)	c)	d)
5 Solar panels	a)	b)	c)	d)

6	Other (please record)	a)	b)	c)	d)

Please record:

RECRUIT MIN 6X CODES 1-6 (A)

For those who answered 1 a) or b). What insulation does your property have in place?

1 Cavity wall insulation
2 External wall insulation
3 Hot water cylinder insulation
4 Internal wall insulation
5 Loft insulation
6 Draught proofing
7 Other (please record)
8 I don't know

Please record:

RECRUIT A MIX

For those who answered 1-6(a). Did you use any of the following government schemes to help fund for these improvements?

1 Home Upgrade Grant (HUG)
2 National Grid Support Grant / Connected for Warmth
3 Great British Insulation Scheme
4 Boiler Upgrade Scheme (BUS)
5 Green Homes Grant Local Authority Delivery (LAD) Scheme
6 Other (please record)
7 None of the above

Please record:

RECRUIT MIN 6X CODE 7

What heating source does your property have?

1 Natural gas (i.e. a standard domestic boiler)
2 Electric heating
3 Heat pump
4 Heating oil
5 LPG burner (not on grid)
6 Coal
7 Other (please record)

Please record:

RECRUIT A MIX OF CODES 1-2, ALLOW OTHER CODES BUT NOT REQUIRED

DEMOGRAPHIC CRITERIA

Q5. Gender

How do you describe your gender?

1 A man (including trans man)
2 A woman (including trans woman)
3 Non-binary
4 In another way
5 Prefer not to say

RECRUIT A MIX, AIMING FOR EQUAL MIX OF MEN AND WOMEN ACROSS THE SAMPLE AS A WHOLE

Q6. Ethnicity

Which of these is most appropriate in describing your ethnicity? Read out:

White

1 English/Welsh/Scottish/Northern Irish/British
2 Irish
3 Gypsy or Irish Traveller
4 Any other White background, please describe

Mixed/multiple ethnic backgrounds

5 White and Black Caribbean
6 White and Black African
7 White and Asian
8 Any other Mixed/Multiple ethnic background, please describe

Asian/Asian British

9 Indian
10 Pakistani
11 Bangladeshi
12 Chinese
13 Any other Asian background – please describe

Black/African/Caribbean/Black British

14 African
15 Caribbean
16 Any other Black/African/Caribbean background, please describe

Other ethnic group

17 Arab
18 Any other ethnic group, please describe

Please record:

RECRUIT A MIX, AIMING FOR MINIMUM 6X CODING 5-18 ACROSS THE SAMPLE AS A WHOLE

Q7. Age

What age were you on your last birthday?

Please record:

RECRUIT A MIX

Q8. Lifestage

What is your household composition?

1 Living alone
2 Living with partner
3 Living with older relatives (75+ years old)
4 Living with a young family (child(ren) under 10)
5 Living with older family (child(ren) aged 11-18)
6 Living with adult children (19y/o+)
7 Living with other family members
8 Living with friends
9 Other (please record)

Please record:

RECRUIT A MIX

The remaining questions under Q8. relate only to participants for the “carer” quota.

(if answer to 1) code 2, 3, or 7) Is the person you are living with a joint owner-occupier of your home?

1 Yes
2 No
3 Don’t know

Please record:

RECRUIT CODE 1 ONLY

(if above code 1) Does the person you are living with have a physical or mental health impairment that affects their ability to leave the home, requires you to keep your home at a certain temperature, or puts them at a higher risk of cold-related illnesses?

1 Yes - Physical impairment or musculoskeletal disorders (injuries or conditions that affect people’s muscles, bones or movement, e.g. Carpal Tunnel Syndrome, Tendonitis, bad backs)
2 Yes – Mental health conditions, which could include mood disorders (e.g. depression, anxiety, bipolar disorder), psychotic disorders (e.g. schizophrenia), eating disorders or personality disorders
3 Yes – Other (please record)

4 No
5 Prefer not to say

Please record:

RECRUIT CODE 1 ONLY

(if above code 1) Do you provide support for the person you are living with to aid them in carrying out day-to-day activities?

1 Yes
2 No
3 Don't know
4 Prefer not to say

Please record:

RECRUIT CODE 1 ONLY

Q9. Location

What area of the country do you live in?

1 Greater London
2 South East
3 South West
4 West Midlands
5 North West
6 North East
7 Yorkshire and the Humber
8 East Midlands
9 East of England
10 Scotland
11 Wales
12 Northern Ireland

Please record:

RECRUIT A MIX

Q10. Region

What type of neighbourhood do you live in?

1 Urban
2 Suburban
3 Rural
4 Don't know

Please record:

RECRUIT A MIX

Q11. SEG

Please can you tell me about the job of the person in your household who is the chief income earner? If you live with a partner and your incomes are broadly the same, please tell me about yours.

PROBE THE FOLLOWING QUESTIONS IN DETAIL AS APPROPRIATE

Please record:

What is their job title?

Who do they work for, or are they self-employed?

Approximately how many people does the organisation employ?

Do they manage any other workers? If so, how many?

What is their highest level of qualifications?

PLEASE USE YOUR JUDGEMENT TO ASSIGN THE PARTICIPANT TO AN SEG CATEGORY, USING THE TABLE BELOW FOR GUIDANCE. PLEASE REACH OUT TO THE RESEARCH TEAM IF YOU ARE IN ANY DOUBT AS TO ASSIGNING A SEG CATEGORY.

A

- Higher managerial and professional workers
- Professionals; very senior managers in business; top-level civil servants
- Retired people who worked in a grade A job
- People whose late spouse or civil partner worked in a grade A job

B

- Intermediate managerial and professional workers
- Middle-management executives in large organisations, with appropriate qualifications
- Principal officers in local government and the civil service; secondary school teachers
- Top management or owners of small businesses and educational and service establishments
- Retired people who worked in a grade B job
- Retired people whose late spouse or civil partner worked in a grade B job

C1

- Junior management, owners of small establishments and all other non-manual workers
- Jobs in this group have very varied responsibilities and educational requirements
- Retired people who worked in a grade C1 job

- Retired people whose late spouse or civil partner worked in a grade C1 job

C2

- Skilled manual workers
- Manual workers with responsibility for other people
- Retired people who worked in a grade C2 job and who now receive an occupational pension
- Retired people whose late spouse or civil partner worked in a grade C2 job and who now themselves receive a pension based on that job

D

- Semi-skilled and unskilled manual workers, apprentices and trainees of skilled workers
- Retired people who worked in a grade D job and who now receive an occupational pension
- Retired people whose late spouse or civil partner worked in a grade D job and who now themselves receive a pension based on that job

E

- Long-term recipients of state benefits
- People who have been unemployed for more than six months (otherwise classify on previous occupation) or off sick for six months or more (unless they are still being paid by their employer)
- Casual workers and people without a regular income
- Intermittent workers in receipt of income support

RECRUIT A MIX

Q12. Environmental Attitudes

How concerned, if at all, are you about current climate change, sometimes referred to as 'global warming'?

1 Very concerned
2 Fairly concerned
3 Not very concerned
4 Not at all concerned
5 Don't know

Please record:

RECRUIT A MIX

Q13. CLIMATE CHANGE

The way we live our lives will have to change substantially to address climate change.

1 Strongly agree
2 Agree
3 Neither agree nor disagree
4 Disagree
5 Strongly disagree
6 I don't know
7 Prefer not to say

Please record:

RECRUIT A MIX

HEALTH

Q14. Health Conditions

(READ OUT) I am now going to ask you a question relating to your health and medical history. As a reminder, participation in this research is voluntary and you are free to withdraw at any time from now up until and during the research interview – and you can opt for your data to be removed from the study after you have been interviewed, as long as we receive notification in time for this to be feasible

Any information you share will remain completely anonymous and no details which could identify you will be used in the research report.

Do you consider yourself to be a disabled person or to have an impairment or long-term health condition that impacts your day to day activities and working life?

Please record:

What is the nature of your impairment or long-term health condition?

Clarify if needed that the participant can give multiple answers.

Please classify using the following list – read out the conditions if this is helpful for the participant.

1 Mental health conditions, which could include mood disorders (e.g. depression, anxiety, bipolar disorder), psychotic disorders (e.g. schizophrenia), eating disorders or personality disorders
2 Physical impairment or musculoskeletal disorders (injuries or conditions that affect people’s muscles, bones or movement, e.g. Carpal Tunnel Syndrome, Tendonitis, bad backs)
3 Sensory impairment such as a visual or hearing impairment that cannot be aided using corrective lenses or hearing aids
4 Neuro-diverse conditions (e.g. Autism Spectrum Disorder or Attention Deficit Hyperactivity Disorder)
5 Other (please specify):

Please record:

If you have a sensory impairment, such as a visual or hearing impairment, are you able to correct this using sensory aids (e.g. glasses/contact lenses or hearing aids)?

1 Yes – I am able to correct my visual impairment using glasses or contact lenses
2 Yes – I am able to correct my hearing impairment using hearing aids
3 No – My vision cannot be fully corrected using glasses or contact lenses
4 No – I am considered legally blind
5 No – My hearing cannot be fully corrected using hearing aids
6 No – I am a user of British Sign Language
7 Prefer not to say

RECRUIT 3X PARTICIPANTS WITH VISUAL IMPAIRMENT (CODE 3), INCLUDING AT LEAST ONE WHO HAS A SEVERE SIGHT IMPAIRMENT (CODE 4)

RECRUIT 3X PARTICIPANTS WITH A HEARING IMPAIRMENT (CODE 5), INCLUDING AT LEAST ONE WHO IS A BSL USER (CODE 6)

RECRUIT 3X PARTICIPANTS WITH A NEURODIVERSITY, INCLUDING AT LEAST 1X WITH DYSLEXIA, AND 1X WITH IMPAIRED ATTENTION

Invitation and confirmation

Q15. Invitation

We would like to invite you to take part in this research. The 90-minute interview will be with an independent Verian researcher.

As a thank you for your participation, you will receive [confirm for online vs f2f]. This incentive will be paid for completion of the research activities and will be paid to you after the interview.

The interview will take place [CONFIRM DATES AND TIMES]

With your permission, we will be recording the discussion. The discussions will be confidential and anonymous – and will only be shared with members of the research team and research steering group.

You do not need to have any prior knowledge to take part in this research. We will not be testing people's knowledge, but simply exploring people's understanding and awareness and asking for people's views and opinions on their experiences.

Q16. Confirmation

Are you happy to participate in this research?

Please record: Confirmation

IF ANSWER NO, PLEASE RECORD REASON THEN THANK AND CLOSE

Q17. Interview preparation

Are there any adjustments we could make to ensure that you can access the research in a way that is right for you? This may include things like sending questions over beforehand so you can prepare or by providing a BSL interpreter, or something else.

Please record: Any support that could be provided

LET THE RESEARCH TEAM KNOW WHAT THEY WILL NEED TO DO IF THIS IS RELEVANT

Q18. Privacy policy

Read out: As part of our commitment to protecting your rights, please note that Verian's privacy policy can be accessed on our website, veriangroup.com/uk-surveys. We can also provide you with a written copy of the policy. Please note that the company has recently changed its name from Kantar Public.

Please record: I confirm that the participant has been made aware of how to access the privacy policy

Q19. Recontact

Would you be happy to be recontacted in relation to this project? You would not be obligated to take part in any future research if you were contacted.

Please record: Recontact wishes

Thank and close

3 Research materials

The materials presented here were those that were agreed after Wave 1 and used for fieldwork at Wave 2 and Wave 3. The research was iterative in design and the aim of Wave 1 was to pilot the materials, so these were revised more after Wave 1 compared to in later Waves. Changes to the research materials have been flagged in the next sections to show the nature of the revisions and when the changes occurred.

3.1 Topic guide

DESNZ Improving the energy efficiency of owner-occupied homes in the UK
Focus Group and IDI Discussion Guide

Background

Domestic heating is responsible for 17% of the UK's carbon emissions. In England, 65.1% of occupied domestic properties are owner-occupied homes. Out of the 12.5 million occupied domestic properties in England that are below Energy Performance Certificate (EPC) Band C, just over 8.8 million are owner-occupied homes. Improving the energy performance of domestic owner-occupied buildings will enable a reduction in greenhouse gas emissions and reduce energy demand, both of which are critical to delivering on the UK Government's carbon budgets and commitment to reach net zero emissions by 2050. In addition, improvements to energy performance bring several other benefits: warmer homes, improved health and wellbeing, and reduced fuel poverty and energy bills.

To support owner-occupiers to improve the energy performance of their properties, the Department for Energy Security and Net Zero (DESNZ) is interested in understanding: (1) the impacts of behavioural barriers and drivers to undertaking retrofit to improve the energy performance of domestic buildings; and (2) how to overcome the behavioural barriers identified.

Previous internal rapid evidence assessments by DESNZ have summarised the behavioural barriers to owner-occupiers' uptake of energy efficiency and low carbon heating measures. Although behavioural barriers to retrofit have been identified, substantial evidence gaps still exist in this space. DESNZ lacks evidence on:

- vulnerable subgroups, such as older adults and those who have not previously engaged with government schemes;
- the relative impact of behavioural barriers to retrofit and how this may vary for different consumers;
- and how this relates to different specific energy improvement measures.

In this context, DESNZ has commissioned research to gather evidence on these identified gaps and to help policy teams to understand:

1 The extent to which different behavioural barriers impact on specific owner-occupier groups, for both large-scale retrofit and specific home energy improvement options.
2 The most effective solutions to overcome these barriers.

Research Aims

This research project has two overarching research objectives, which are to:

1 Understand the impacts of behavioural barriers to undertaking retrofit on subgroups of owner-occupiers, for both holistic retrofit and for some specific energy improvement measures.
2 Generate and discuss solutions to overcoming these behavioural barriers and support consumers to improve the energy performance of their homes.

These objectives are supported by three supporting research questions:

1. What do homeowners think about previously identified barriers to retrofit?
    a. How do these barriers differ across the subgroups of homeowners?
    b. How do these barriers differ when considering whole house retrofit or only specific energy improvement measures, such as an air source heat pump or insulation measures?
2. What are the impacts of these barriers to taking up energy improvement measures?
    a. At what stage in the retrofit journey do these barriers affect consumers?
    b. Which barriers have a substantial impact on homeowners?
    c. Which barriers affect the different subgroups?
    d. Which of these barriers are difficult to overcome when considering whole house retrofit?
3. Which non-regulatory government interventions to support owner-occupiers to increase their uptake of energy improvement measures are perceived to be the most effective?
    a. What policy interventions do consumers think would best help them to overcome the barriers faced when considering retrofit options?
    b. How can any identified behavioural drivers be leveraged to support targeted policy solutions?
    c. Do preferences change when considering whole house retrofit vs take-up of specific home energy improvements?

Topic guide outline

#	Section	Objective	Timings: focus groups	Timings: IDIS
1	Introduction and warm-up	• Moderator introduction • Explain research and codes of conduct • Establish rapport	5 mins (5)	5 mins (5)
2	Awareness of and attitudes towards energy efficiency measures	• Understand in-home heating experiences and needs • Explore attitudes and behaviours around energy efficiency	20 mins (25)	10 mins (15)

		• Gauge awareness, knowledge and perceptions of air source heat pumps / insulation measures		
3	Impact of barriers across the installation journey and potential solutions to overcome these	Go through three stages of installation journey (awareness, consideration, planning, installation) and at each stage explore: • Reaction to barriers and identify those which are most significant, as well as understand how they impact • How barriers could be overcome (spontaneously) • Perceptions of specific solutions (as relevant) REPEAT AS RELEVANT FOR INSULATION	1h 10 (1hr 35) ~20 mins on each stage	60 mins (1hr 15) ~15 mins on each stage
4	Summary of barriers and solutions	• Understand overall reaction to the barriers, identify the most significant, and main solutions needed to overcome them	5 mins (1h 40)	3 mins (1hr 18)
5	Understand how these barriers apply to retrofitting their home	• Understand how this impacts perceptions of the barriers and solutions needed • Gauge how solutions and barriers differ vs. energy efficiency measures	10 mins (1h 50)	7 mins (1hr 25)
6	Summary and close	• Summarise most significant barriers to making energy efficiency improvements and whole house retrofit, and the most effective solutions to overcome these • Capture final thoughts	10 mins (2h 00)	5 mins (1hr 30)

		• Thank and close		

Stimulus list

Moderators will be showing participants a range of stimulus materials:

- Stimulus will be developed for three different types of energy efficiency measure:
    - Air source heat pumps
    - Simple insulation measures (draught proofing, hot water cylinder insulation, loft insulation)
    - Complex insulation measures (internal / external wall insulation, cavity wall insulation)
- The following stimulus will be developed for each of the above, at each of the three stages of the insulation journey (bracketed). The known barriers will also be included:
    - What the measure is (awareness and understanding)
    - The benefits, costs and grants available (consideration)
    - Organising suppliers and the installation (planning)
    - What installation involves (installation)
- Summary of all the barriers (differences for heat pumps / insulation as relevant)
- Definition of whole-house retrofit

Rotation table

1	1st 2nd 3rd 4th 5th 6th
2	1st 2nd 3rd 4th 5th 6th
3	1st 2nd 3rd 4th 5th 6th
4	1st 2nd 3rd 4th 5th 6th
5	1st 2nd 3rd 4th 5th 6th
6	1st 2nd 3rd 4th 5th 6th

Please note, this guide is not a script and is intended to be used flexibly, with participant responses guiding the flow of the conversation, topics covered in the order that they naturally arise, and probes used only when needed.

Key contacts

Hanna Williams hanna.williams@veriangroup.com

Maine Charlton maine.charlton@veriangroup.com

1. Introduction (5 mins)

To introduce the research, set the tone of the session, provide clarity on what is expected of the participant and start to build rapport

Starting the group

- Wait until all participants have joined and then admit them from the waiting room
- Check that everyone's video and audio is working
- Check all participants are using first name only on their Zoom display

Introduce the session

- Introduce moderator and Verian - an independent social research agency
- Research is being conducted on behalf of Department for Energy Security and Net Zero (DESNZ). The majority of the discussion will be around the energy performance of their homes.
- This information will be used to help DESNZ understand how they can support homeowners help improve the energy performance of their homes through implementation of various measures – which we will discuss in more detail today.
- For groups: acknowledge (as relevant) that they are here today because they share some similar experiences. They are all homeowners, who [have a long-term health condition; find it difficult to afford energy bills]
- For interviews: acknowledge we are speaking to them to understand if and how consideration of particular measures to improve energy performance impact those who have [visual/hearing impairments, neurodiverse conditions, or those who care for others]
    - For carers: it will be important to understand their perspective, but understanding the person they support day-to-day will also be important as relevant
- Group sessions will last 2 hours / interviews will last 90 minutes
- Research is voluntary – they are free to pause or end at any time
- Research is confidential and anonymous – no personal details will be shared with DESNZ or publicly.
- Introduce stakeholder observing (if relevant)
- Any questions?

House rules

- Please make sure you're in a quiet room, with minimal distractions
- Please imagine that we are in the room together, close any other windows on your PC / put down your phone and be present to the discussion for duration of the session
- There are no right or wrong answers and no rules to the discussion – just please be open and contribute your honest views – and at the same time respect others and allow them to do the same
- I will be asking lots of questions but don't feel that I always need to address you before speaking – if someone else says something that you agree or disagree with, then please do feel free to respond (respectfully!)

- We know there is a lot to say on this topic, but we only have a limited amount of time so if I move on the conversation at any point that is just to ensure that we stay on topic and can finish on time
- Any questions?

Recording

- Ask participant for permission to record, then start recording and confirm consent [Note: Verian will ensure that recordings of groups or depth interview responses are only conducted with consent and only used for the purposes for which the consent was given]

2. Awareness of and attitudes towards energy efficiency (20/10 mins)

Understand in-home heating needs, attitudes and behaviours towards energy efficiency and gauge awareness, knowledge and perceptions of air source heat pumps / insulation measures

Participant introduction

- For groups: Each participant to briefly introduce themselves – who they are, who they live with, and describe how they typically need to heat their home
- For interviews: Each participant to introduce themselves – who they are, who they live with
    - As relevant:
        - How their visual/hearing impairment or neurodiversity impacts them day-to-day, if at all
        - What support they provide the person they care for day-to-day
    - Describe how they typically need to heat their home

Considerations around heating and energy improvement measures

- To what extent they feel they are able to comfortably heat their home?
- Main issues around heating homes and any impacts of these (*added after Wave 1*):
    - Probe: cost/bills, warmth/draught/damp/mould
- Have they ever considered doing anything to their property which could help improve the issues discussed in relation to heating their home? Why / why not?
    - If yes:
        - What prompted this?
        - What did they do? Probe: where they looked or asked for information / what they considered
        - Did they install any measures, such as insulation, double glazing, new heating systems, or others? Why / why not?

  - If no:
    - What would prompt them to consider it?

Introduce air source heat pumps / insulation

Moderator to explain to participants that the majority of the discussion today will be about [heat pumps / insulation]. We will be showing them lots of information on this later in the discussion, but first of all we want to understand their initial thoughts on this – this is not a test of their knowledge.

- What comes to mind when they think of [heat pumps / insulation]? For insulation: probe awareness of different types.
  - Benefits
  - Concerns or disadvantages

Moderator to explain that several factors have already been identified as reasons why homeowners might not take these up – we may refer to these as 'barriers' today. Some of the barriers might not apply to everyone, we are simply looking to understand your individual thoughts on them. Therefore, the focus of the discussion will be about understanding your views on the barriers, and how these could potentially be overcome as we provide more detail on [heat pumps / insulation]. First of all, we'd like to get their views on these, based on what they currently know.

MODERATOR TO SHOW SUMMARY OF THE BARRIERS (**STIMULUS A**)

- Initial thoughts on the barriers
  - Do they agree / disagree – why / why not?
  - Which they currently feel is the most significant?
  - Probe: if answer is costs, if they could afford it, what would be the next most significant barrier? (*added after Wave 1*)

3. Impact of barriers across the installation journey, and potential solutions (1h10 mins/60 mins)

Explore reaction to barriers to installation across the installation journey and identify and test solutions to overcome them

Explain overall purpose of the main session

- For the next part of the session, we will be looking at the installation of [heat pumps / insulation] in detail.
- We will look at this in different stages of the installation journey from awareness of the measures available, considering them, planning an installation, through to the installation itself. We will also look at the barriers at each stage. Sometimes barriers might be similar across stages. However, the focus of the discussion will be about understanding what barriers are most apparent at each stage.

- Acknowledge that participants might have had [heat pump/insulation] installed already, but they can use this experience to understand how they may have overcome barriers associated with installing these measures. Additionally, it might not be feasible for some measures to be fitted in some properties, but participant's views on these are still important.
- For insulation interviews / groups: explain that there are a number of different types of insulation we'll be looking at.

Awareness (stage 1)

- Moderator to explain that we'll first look at what [heat pumps / insulation] are (very briefly – *added after Wave 1*) to help provide initial awareness and understanding of them. Later we will provide more detail about how they work, and information about their benefits and costs as part the next part of the discussion, when we will focus on considerations around [heat pumps / installation].
- Ask participants to imagine that they are therefore initially hearing and learning about [heat pumps / insulation] as a way of improving energy performance of their homes.
- MODERATOR TO SHOW AND READ OUT SLIDE HP1a/InS1a/InC1a (FOLLOWING ROTATION TABLE IF RELEVANT).
- Moderator to explain that we will now show barriers associated understanding and learning about [heat pumps / insulation]. We want to specifically understand their views on what impacts them at this stage – when hearing about [heat pumps / insulation].
- MODERATOR TO SHOW AND READ OUT SLIDE HP1b/In1b

Barriers

- Which are most likely to prevent them from learning about and understanding [a heat pump / insulation] initially? Reasons.
    - And least?
    - For insulation: understand how these differ across each type of measure
- Moderator to select those identified as most significant and explore further.
    - How do the barriers prevent them from understanding and learning about [heat pumps / insulation]?
        - For lack of knowledge about the measures probe what knowledge they lack:
            - What they are and how they work
            - How to install them
            - The costs of installing them
            - General scepticism
        - For uncertainty on where to seek advice, probe whether this is about:
            - Where to seek advice

            - Suitability of advice available
            - Who to trust for information
        - For lack perceived lack of benefit probe around their initial perceptions of:
            - Their current needs
            - Heat pumps: uncertainty about future direction of heating systems
        - For previous negative personal experiences: understand where these have come from and how they have impacted perceptions
- For insulation: how might these vary across type of insulation measure (if at all)?

Solutions - spontaneous

- What would support them at this stage to understand and learn about [heat pumps / insulation]?
    - Probe: ease, understanding, incentive, timing.
- Moderator to then focus on the barriers they selected as most significant in previous discussion and ask participants what would support them to overcome these.
- How would they want to find out and learn more about [heat pumps / insulation]?
    - What would they trust? Where would this information be? How would they access it?
        - Probe who they might trust: GP, local authority, UK Government, others (e.g., disability groups, or elderly groups as relevant)
        - For heat pumps probe around uncertainty around new technology (if raised) – what would help them to overcome this?
    - What would they want to hear about [heat pumps / insulation] at this early stage that would incentivise them to find out more?
        - Probe potential trigger points: weather, moving house, health needs, change in circumstance (e.g., financial), house renovation / boiler replacement.
    - What would reassure them on their concerns, or scepticism, or negative experiences or accounts they have heard?
- For insulation: would ways to support them be different depending on insulation type? If so, how?

Solutions – testing specific interventions

- Moderator to explain that we want to show them ideas that could potentially help overcome some of the barriers related to awareness and understanding of [heat pumps / insulation] and we want to hear their views. These are currently very broad ideas, but we want to understand how they might see some of them working in practice, and if they see these as useful.

- Moderator to explain that there will be multiple ideas on each slide, so we will read them out and talk about each in turn. Moderator to guide conversation and focus on ideas that feel most relevant based on discussion to date.
- MODERATOR TO SHOW HP1c/In1c
    - Initial thoughts?
    - Which ideas feel like they might help them understand more about [heat pumps / insulation]. Why?
    - How might it help them overcome the barriers discussed?
    - How do they see these ideas working in practice?
    - Any concerns?
- For insulation: moderator to understand if reaction is different to any ideas listed, depending on insulation type

Consideration (stage 2)

- Moderator to explain that we'll now focus on the consideration stage for [heat pumps / insulation] and we will look at information to help understand more about the measure, as well as the potential benefits and the financial costs. Later we will look at what installation involves.
- Ask participants to imagine that they are strongly considering having [heat pumps / insulation] installed in their homes.
- FOR INSULATION: MODERATOR TO SHOW AND READ OUT SLIDE HP2a/In2a
- Moderator to explain that we will now show barriers that might apply to them at this stage in the journey. We want to specifically understand their views on what impacts them at this stage – when strongly considering having [heat pumps / insulation] installed in their homes.
- MODERATOR TO SHOW AND READ OUT SLIDE HP2b/In2b
- MODERATOR TO REVISIT SLIDES AS RELEVANT WITHIN THE DISCUSSION

Barriers

- Which are most likely to prevent them considering installation of [a heat pump / insulation] once they have heard about them? Reasons.
    - And least?
    - For insulation: understand how these differ across each type of measure
- Moderator to select those identified as most significant and explore further.
    - How do the barriers prevent them from considering installation of [a heat pump / insulation]?

        - Probe barriers they see around upfront costs: how they now feel about costs, understand whether this is around a lack of affordability, whether they would use or are aware of savings, loans, grants, or about value
        - Probe perceptions of government schemes (awareness, access, relevance, complexity, trust).
        - For lack of knowledge and access to reliable information probe what information they lack to consider installation
        - For level of disruption understand perceptions of what this might be –
            - What are they most concerned about and how much of a barrier is it at this stage vs. others (*added after Wave 1*)
        - For concerns around the impact on their home, understand what main concerns are and probe behaviour change needed and control over temperature required for heat pumps
        - For lack of incentive to do so or perceived benefit probe around whether this is:
            - Cost savings and value for money
            - Improvements to warmth / comfort (and current satisfaction)
            - Environmental impact
            - Impact on property value
- For insulation: how might these vary across type of insulation measure (if at all)?

Solutions - spontaneous

- What would support them at this stage when considering installing [heat pumps / insulation]?
- Moderator to then focus on the barriers they selected as most significant in previous discussion and ask participants what would support them to overcome these.
- What information is most likely to make them consider installing a heat pump or insulation? Probe: environment impact, improvements to warmth and comfort, financial information, other
    - How would they want to find out about benefits and costs of installing [heat pumps / insulation]?
    - What would they trust? Where would this information be? How would they access it?
- How would they want to be supported on the costs?
    - Would they prefer support on the costs from an alternative source (e.g., not government)? If so, who might this be and why?
    - What would make them feel there is a financial advantage to installing this (cost of installation, running costs, maintenance).

- How could they be supported on concerns around levels of disruption, or concerns they have on the impact of their home?
    - What would be important for them to understand about potential disruption? (*added after Wave 1*)
- How could they be supported on decisions around which measures to install? (for the insulation groups)
- For insulation: moderator to understand if reaction is different to any ideas listed, depending on insulation type

Solutions – testing specific interventions

- Moderator to explain that we want to show them ideas that could potentially help overcome some of their concerns when considering installing [heat pumps / insulation] and we want to hear their views.
- MODERATOR TO SHOW HP2c/In2c
    - Initial thoughts?
    - Which feel like they might support them when considering whether to install [heat pumps / insulation]. Why?
    - How might it help them overcome the barriers discussed?
    - How do they see these ideas working in practice?
    - Any concerns?
    - If not mentioned – probe
        - Case studies and what these would provide (*added after Wave 1*)
        - Tax cuts – e.g., a lower rate of stamp duty if they upgrade
        - Your employer covers (some/all of) the upfront costs of your chosen measure, which you pay back via gross salary contributions, meaning your income tax is effectively reduced. This is similar to the cycle to work scheme (*added after Wave 1*)
- For insulation: moderator to understand if reaction is different to any ideas listed, depending on insulation type

Planning (stage 3)

- Moderator to explain that we'll now focus on the planning stage, now that they have decided to get [heat pumps / insulation] installed. Later we will look at what installation itself involves.
- Ask participants to imagine that they have decided to have [heat pumps / insulation] installed in their homes and they are planning it – who to work with and what needs to happen (*added after Wave 1*).
- FOR INSULATION: MODERATOR TO SHOW AND READ OUT SLIDE HP3a/InS3a

- Moderator to explain that we will now show barriers that might apply to them at this stage in the journey. We want to specifically understand their views on what impacts them at this stage – when planning to have [heat pumps / insulation] installed in their homes.
- MODERATOR TO SHOW AND READ OUT SLIDE HP3b/In3b
- MODERATOR TO REVISIT SLIDES AS RELEVANT WITHIN THE DISCUSSION

Barriers

- Which are most likely to impact them when planning to install [a heat pump / insulation] once they have heard about them? Reasons.
    - And least?
    - For insulation: understand how these differ across each type of measure
- Moderator to select those identified as most significant and explore further.
    - How do the barriers prevent them from planning to install [a heat pump / insulation]?
        - For concerns around suppliers, probe around:
            - Awareness: unsure about access to them, whether they fit these measures
            - Reliability: lack of trust, unknown reputation, fears of being sold to, concerns over quality and their own knowledge
            - Availability: long wait times, lack of qualified suppliers
        - For time and effort related to planning the installation probe:
            - Decision fatigue – selecting the right measures
            - Finding and selecting an installer
            - Probe around property: whether they feel their property is suitable for this, whether they have the permissions, space (*added after Wave 1*)
            - Probe around concerns around level of disruption – what particular concerns are – and how this might affect planning (*added after Wave 1*)
    - For insulation: how might these vary across type of insulation measure (if at all)?

Solutions - spontaneous

- What would support them at this stage to when planning installation of a [heat pumps / insulation]?
- Moderator to then focus on the barriers they selected as most significant in previous discussion and ask participants what would support them to overcome these.
- What information would support them to plan installation of [a heat pump or insulation]?

    - What would they trust? Where would this information be? How would they access it?
- How would they want to be supported on:
    - Finding a supplier they can trust
    - Decisions related to a supplier
    - Decisions related to what type of [heat pump / insulation] they install
- How could they be supported on understanding what is required as part of the installation? (*added after Wave 1*)
- For insulation: moderator to understand if reaction is different to any ideas listed, depending on insulation type

Solutions – testing specific interventions

- Moderator to explain that we want to show them ideas that could potentially help overcome some of their concerns when planning to install [heat pumps / insulation] and we want to hear their views.
- MODERATOR TO SHOW HP3c/In3c
    - Initial thoughts?
    - Which feel like they might help them plan to install [heat pumps / insulation]. Why?
    - How might it help them overcome the barriers discussed?
    - How do they see these ideas working in practice?
    - Any concerns?
- For insulation: moderator to understand if reaction is different to any ideas listed, depending on insulation type

Installation (stage 4)

- Moderator to explain that we'll now look at what is involved when installing [heat pumps / insulation].
- Ask participants to imagine that they are having [heat pumps / insulation] installed within their homes.
- MODERATOR TO SHOW AND READ OUT SLIDE HP4a/InS4a/InC4a (FOLLOWING ROTATION TABLE IF RELEVANT)
- Moderator to explain that we will now show the barriers that might apply to them at this stage in the journey. We want to specifically understand their views on what impacts them at this stage – when they are actually having [heat pumps / insulation] installed in their homes.
- MODERATOR TO SHOW AND READ OUT SLIDE HP4b/In4b

Barriers

- What are their main concerns around the installation, after making the choice to install [a heat pump / insulation]?
- Which is most likely to impact them during installation of [a heat pump / insulation]? Reasons.
    - And least?
    - For insulation: understand how these differ across each type of measure
- Moderator to select those identified as most significant and explore further.
    - How do the barriers impact them during the installation process [a heat pump / insulation]?
        - Probe barriers around disruption:
            - Time it takes
            - Hassle
            - Noise
            - Routine changes
            - Views on having someone in their home and feelings of safety
            - Whether feel a need to move out
            - Impact on household members
        - For heat pumps probe impact of: requiring installations of radiators, insulation or hot water cylinders prior to heat pumps and suitability of property
        - Probe barriers around supplier during installation: reliability, communication, quality
        - Probe around property: whether they feel their property is suitable for this, whether they have the permissions, space.
        - Probe around significance of potential delays or additional costs
- For insulation: how might these vary across type of insulation measure (if at all)?

Solutions - spontaneous

- What would support them at this stage when [heat pumps / insulation] are being installed?
- Moderator to then focus on the barriers they selected as most significant in previous discussion and ask participants what would support them to overcome these.
- What information is most important about [heat pump or insulation] installation?
- How would they want to find out about what can help them during installation of [heat pumps / insulation]?

    - What would they trust? Where would this information be? How would they access it?
    - What would support them to through any disruption?
- What support would they need if there were delays or additional costs? (*added after Wave 1*)
- For insulation: moderator to understand if reaction is different to any ideas listed, depending on insulation type

Solutions – testing specific interventions

- Moderator to explain that we want to show them ideas that could potentially help overcome some of their concerns around installing [heat pumps / insulation] and we want to hear their views.
- MODERATOR TO SHOW HP4b/In4b
    - Initial thoughts?
    - How might it help them overcome the barriers given?
    - How do they see these ideas working in practice?
    - Any concerns?
- For insulation: moderator to understand if reaction is different to any ideas listed, depending on insulation type

4. Summary of barriers and solutions (5/3 mins)

Understand overall reaction to barriers, identify the most significant and solutions needed to overcome them

Barriers and solutions around heat pumps / insulation

- Would they install any [insulation measures/heat pumps] having discussed them today? Why / why not? (*added after Wave 1*)
    - (*Added after Wave 1*)
      If costs:
        - Understand affordability vs. perceived value
        - If they could afford them, what would prevent them from installing them?
- For insulation: MODERATOR TO SHOW STIMULUS B
    - Which do they think is the insulation measure they would least likely take up? Why?
    - How this could be overcome?
    - What are main factors preventing them from taking up the different insulation measures?
    - How could these be overcome?

  - Could anything else be required?
- For heat pumps:
  - The main barrier to taking up heat pumps (beyond cost? - *added after Wave 1*) Reasons?
  - How this could be overcome?
  - Anything else required?
- If they have already had a measure installed, how does this affect their views on future installation of measures such as this?

5. Whole house retrofit (10/7 mins)

Understand how whole-house refrofit impacts perceptions of the barriers and the solutions needed. Gauge how solutions and barriers differ vs. energy efficiency measures

Barriers to whole house retrofit

- Initial reactions
- How does this impact perceived barriers?
- Which feel most significant?
  - How do they prevent you from considering whole house retrofit?
- How does this differ vs. [heat pumps / insulation]?
- What can they see as the benefits of this?

Solutions overcoming barriers to whole house retrofit

- What could help support them overcome these barriers?
  - Probe: increasing knowledge, understanding the benefits, grant/cost support, hassle around disruption, reliability of suppliers, suitability of property, concerns about negative impacts of measures.
  - How would this support them? Probe: ease, understanding, incentive, timing.

6. Summary and close (10/5 mins)

Summarise the most significant barriers to making energy efficiency improvements and whole house retrofit, and the most effective solutions to overcome these

Summary

- Following discussion today:
- What has stood out to them the most following today's discussion so far? (*added after Wave 1*)
  - Which do they feel overall are the main barriers preventing them from taking up energy performance measures?

        - How does this differ across whole house retrofit vs. specific energy measures?
            - Or across different insulation measures?
    - What do they feel would most effectively support them to consider and install energy performance measures?
        - Any specifically mentioned today that would be most effective?
        - Probe specifically for:
            - Heat pumps?
            - Insulation measures – and how these vary across insulation measures?
            - Whole-house retrofit?
        - Moderator to probe (as relevant):
            - To increase knowledge / information / awareness
            - To increase trust (in technology / grants / suppliers)
            - To emphasise the benefits
            - To decrease concerns around disruption
            - To help them understand their individual property needs

Wrap up questions

- Anything else they would like to add before closing?

Incentive

- Give details of how incentive is accessed

Thank and close

3.2 Heat pump stimulus

Slide 1 (A)

Overarching barriers to heat pumps:

Knowledge and awareness:

- Lack of knowledge on measure generally
- Lack of access to reliable information
- A perceived lack of incentives or benefits (cost savings, warmth comfort, environment, impact on property value)
- Concerns installation might have no impact on your home (e.g., on saving energy), or a negative one (e.g., on the appearance)

Financial:

- Upfront costs of installation

Practical:

- Concerns over suitability of your property (not enough space, planning restrictions)
- Concerns around suppliers (availability, reliability, quality)
- Disruption of the installation (planning it and during it)

Slide 2

Air source heat pumps

Slide 3 (HP1a)

What are heat pumps?

- Gas boilers and other fossil fuel-based home heating (coal, oil, LPG) need to be phased out before 2050
- New technologies are needed to heat homes – heat pumps are one of them
- Air source heat pumps are heating systems that take heat from the outside air to heat homes and provide hot water (*removed after Wave 1*)

Slide 4 (HP1b)

Barriers to awareness and initial understanding of heat pumps:

- Lack of knowledge about what the measures are, how they work, what installation involves
- Scepticism about them
- Uncertainty on where to seek trusted advice about measures; perceived inadequacy of advice to meet needs
- A perceived lack of incentive or benefits (compared to existing heating system); happy with existing heating; uncertainty around future heating systems
- Previous negative personal experiences or third-party accounts (of schemes, installations, installers) reducing motivation to learn more

Slide 5 (HP1c)

Potential ways to build initial awareness and understanding of heat pumps:

- A ‘campaign’ on the different measures to improve your home’s energy performance
- A national website with energy advice including details about measures, trusted tradespeople and how to apply for grants
- Energy advice embedded in existing services already used, local authorities or other agencies (e.g., tradespeople)
- Home assessment to provide personalised advice on how to improve the property’s energy performance (e.g., by trusted bodies, local authorities) (*removed after Wave 1*)
- Online self-assessment tool to direct people to the relevant advice and support (*removed after Wave 1*)
- Community groups and forums (e.g. in libraries/local council) to discuss heat pumps (*added after Wave 1*)

Slide 6 (HP2a)

How do heat pumps vary to gas boilers?

- Heat pumps work well, providing consistent warmth, even when outdoor temperatures are well below freezing levels. They use electricity and a special liquid called a refrigerant to take warmth from the air to provide central heating
- The outdoor unit will make a faint humming noise, typically no louder than a fridge/freezer or gas boiler
    - Refrigerant is able to absorb heat at very low temperatures, meaning that heat pumps work effectively even during the coldest months of the year (*added after Wave 1*)
- Heat pumps maintain a constant temperature (rather than switching on and off through the day) to keep homes warm during winter efficiently
- They may take longer to heat your home compared to a regular boiler, so many people install smart controls alongside their heat pump to ensure their home is warm when they need it to be
- You may need larger radiators to make sure the system is as efficient as possible. You will also need a hot water cylinder
- Heat pumps are expected to last 15-20 years. As with gas boilers, heat pumps should be serviced every year

Slide 7 (HP2a)

What are the potential benefits of heat pumps?

- Heat pumps are up to four times more energy efficient than a gas boiler to generate the same heat. Switching to a heat pump typically reduces carbon emissions by up to 70%
- Heat pumps do not produce any Nitrous Oxide pollution (NOx), unlike gas or oil boilers. Increasing the number of heat pumps would improve air quality in the UK

What are the potential costs of heat pumps?

- To install: 1-2 bedroom properties cost around £8k and 3-4 bedroom properties cost around £11k. Installation costs can be support by government schemes: e.g. Home Upgrade Grant, Great British Insulation Scheme, Warm Homes Fund (WHF).
- The Boiler Upgrade Scheme offers £7,500 towards the cost of installing a heat pump (*added after Wave 1*)
- To run: Over time heat pumps should become cheaper to run than gas boilers, but current costs are similar.

Slide 8 (HP2b)

Barriers to heat pump consideration:

- Concerns about upfront costs of installation and running costs
- Concern about grants to pay for measures – how to access them, complexity, mistrust, relevance of schemes

- Lack of knowledge and access to reliable information: how to install, costs of installation, uncertainly about what installation involves
- Concerns about the level of disruption during installation
- Concerns installation might have no impact on your home (e.g., on saving energy, on running costs), or a negative one (e.g., on the appearance, or ability to heat the home, ways to heat the home)
- A perceived lack of incentive or benefits (compared to the existing heating system): uncertainties about cost savings and value for money; improvements to warmth / comfort (and current satisfaction); impact on property value; environmental impact; uncertainty around future heating systems

Slide 9 (HP2c)

Potential ways to support consideration of heat pumps:

Understanding

- Home assessment to provide personalised advice on how to improve the property's energy performance (e.g., by trusted bodies, local authorities)
- Detailed information on bill savings and benefits of measures (e.g., thermal comfort)
- Online self-assessment tool to direct people to the relevant advice and support
- Potential to receive a green badge to label homes with certain measures installed as 'energy efficient'

Financial

- Green mortgage: reduced interest rate for more efficient homes or additional lending to cover upfront installation costs
- Green loans: cashback/lower interest rates on loans to install energy efficient upgrades
- A website to signpost to relevant grants available

Slide 10 (HP3a)

What does the planning process of heat pumps involve?

- Air source heat pumps should be installed by accredited and qualified heating engineers to ensure the system is safe and efficient
- The heat pump provider would first conduct a survey of the home to identify whether having a heat pump is feasible, and if any changes are required to the property.
- Heat pump installation involves installing:
    - an outdoor unit, similar to air conditioning units, at the side or back of a property with space around for air to circulate
    - a thermal store, like a water tank, to provide hot water through your taps (many houses already have this installed)

  - (in some cases, only) new, larger radiators, or upgrading the existing insulation in the home if it isn't sufficient for a heat pump to work. Around 9 in 10 homes have adequate insulation to install a heat pump
- Need to make plan on mitigating the disruption for household, where possible – an installation would take 2-7 days, depending on the property (*added after Wave 1*)

Slide 11 (HP3b)

Barriers to planning of heat pump installation

- Time and effort related to planning the installation (finding and deciding on the right type of heat pump, finding an installer)
- Concerns around suppliers: (availability, reliability, quality): long wait times; unsure about how to access supplier and whether they fit relevant measures, lack of trust; lack of qualified suppliers and concerns over quality and reputation; concerns about supplier's knowledge)
- Concerns about the level of disruption during the installation
- Home not being suitable for installation – e.g. planning restrictions, property type (*added after Wave 1*)

Slide 12 (HP3c)

Potential solutions to planning of insulation measures

- Registered installers (e.g. Trustmark - a government endorsed quality scheme)
- Increased availability and training of local installers (*added after Wave 1*)
- Information on consumer protection and compensation schemes
- Information and advice to help understand the different stages of installation to support planning

Slide 13 (HP4a)

What does the installation process involve?

(Removed after Wave 1)

Installation would take 2-7 days, depending on how much needs to be changed within the property

- A heat pump installation will need:
  - An outdoor unit similar to air conditioning units, at the side or back of a property with space around for air to circulate
  - A thermal store, like a water tank, to provide hot water through your taps (many houses already have this installed)
- Some houses will need:

  - New, larger radiators installed
  - Insulation upgrades, if the property isn't sufficient for a heat pump to work efficiently (around 9 in 10 homes have adequate insulation to install a heat pump)

(Added after Wave 1)

- As a reminder the installation would take 2-7 days and would involve installing:
  - An outdoor unit
  - A water tank (if not already got one)
  - New radiators (if deemed necessary)
  - Upgraded insulation (e.g., loft insulation, wall insulation)

Slide 14 (HP4b)

Barriers to heat pump installation:

- Disruption of the installation
  - Hassle and noise
  - Having a professional in the house
  - Time taken for installation to be completed
  - Time frame for installation to be completed due to change in weather (*added after Wave 2*)
- Concerns around suppliers (availability, reliability, quality): lack of trust, lack of qualified suppliers and concerns over supplier quality and reputation; concerns about supplier's knowledge
- Concerns about potential complications with the install process that result in longer delays or additional costs
- Home not being suitable for installation – e.g. planning restrictions, property type

Slide 15 (HP4c)

Potential ways to be supported around installation:

- Increased availability and training of local installers (*removed after Wave 1*)
- Support throughout the installation process and post installation through access to consumer advice services
- On-site support during the installation process (e.g. a project manager) (*added after Wave 1*)

Slide 16

Summary

Slide 17 (A)

Overarching barriers to heat pumps:

Knowledge and awareness:

- Lack of knowledge on measure generally
- Lack of access to reliable information
- A perceived lack of incentives or benefits (cost savings, warmth comfort, environment, impact on property value)
- Concerns installation might have no impact on your home (e.g., on saving energy), or a negative one (e.g., on the appearance)

Financial:

- Upfront costs of installation, available grants or running costs

Practical:

- Concerns over suitability of your property (not enough space, planning restrictions) Concerns around suppliers (availability, reliability, quality)
- Disruption of the installation (planning it and during it)

Slide 18

Whole-house retrofit

Slide 19 (A)

What is whole-house retrofit?

- Retrofit refers to any improvement work on an existing building to improve its energy efficiency, making it easier to heat your home and retain the heat for longer
- Whole-house retrofit is a comprehensive renovation plan to improve the overall performance of a home, where a number of measures are installed at the same time. For example – multiple insulation measures (e.g., loft insulation, draught proofing, insulating walls), and low carbon heating systems (such as heat pumps – an energy efficient way to heat your home)

Benefits of whole-house retrofit

- Whole-house retrofit can save time and money as it is more efficient than installing individual measures over one time period
- A whole house assessment plan will also ensure all upgrades work well together and will therefore likely provide higher energy savings

Slide 20 (A)

Overarching barriers to heat pumps:

Knowledge and awareness:

- Lack of knowledge on measure generally
- Lack of access to reliable information
- A perceived lack of incentives or benefits (cost savings, warmth comfort, environment, impact on property value)
- Concerns installation might have no impact on your home (e.g., on saving energy), or a negative one (e.g., on the appearance)

Financial:

- Upfront costs of installation, available grants or running costs

Practical:

- Concerns over suitability of your property (not enough space, planning restrictions) Concerns around suppliers (availability, reliability, quality)
- Disruption of the installation (planning it and during it)

3.3 Insulation stimulus

Slide 1 (A)

Overarching barriers to insulation measures:

Knowledge and awareness:

- Lack of knowledge on measure generally
- Lack of access to reliable information
- A perceived lack of incentives or benefits (cost savings, warmth comfort, environment, impact on property value)
- Concerns installation might have no impact on your home (e.g., on saving energy), or a negative one (e.g., on the appearance)

Financial:

- Upfront costs of installation

Practical:

- Concerns over suitability of your property (not enough space, planning restrictions) Concerns around suppliers (availability, reliability, quality)
- Disruption of the installation (planning it and during it)

Slide 2

Insulation measures

Slide 3 (InS1a)

What is draught proofing?

- This is when gaps and cracks are sealed in a building to prevent the entry of cold air from the outside and the escape of warm air from the inside
- It involves using materials to block gaps around windows, doors, and other openings in the building's structure

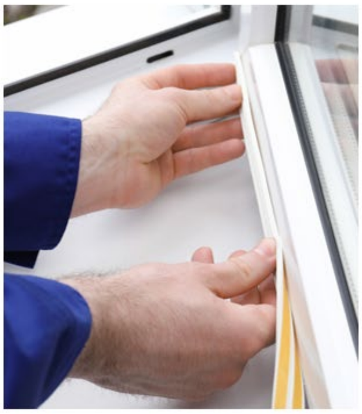
What is hot water cylinder insulation?

- An insulation jacket fits over your existing hot water cylinder (the tank that stores your heated water in your property). If you already have a cylinder jacket, check that it is at least 80 mm thick for the best results
- This reduces the amount of heat lost through the tank and the hot water stays hotter for longer

What is loft insulation?

- Loft insulation is a barrier of material in your roof space that traps heat
- It prevents heat from escaping and helps regulate the overall temperature of a house

Slide 4 (InS1a)


Draught proofing a window

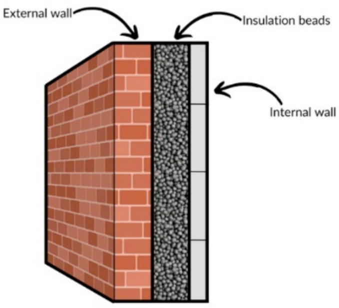
Jacket fitted over hot water tank


Loft insulation

Slide 5 (InC1a)

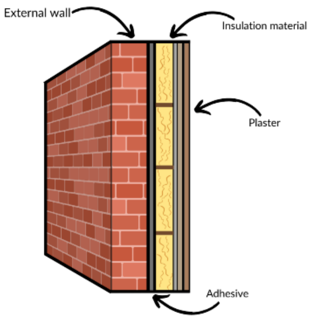
What is cavity wall insulation?

- Involves installing glass fibre or mineral wool panels in the cavity of a wall
- The material traps warm air reducing the heat loss



What is solid wall insulation?

- Solid walls can be insulated internally or externally (they do not have a cavity between them). You can choose which you opt for:
- Internal solid wall insulation works by adding a layer of thermal material to the existing inside wall.
- External solid wall insulation will involve adding a layer of insulation to the exterior of your home filling cracks and gaps in the brickwork to reduce draughts



Houses built after 1920's are more likely to have cavity walls, and solid walls if built after

Slide 6 (In1b)

Barriers to awareness and initial understanding of insulation measures:

- Lack of knowledge about what the measures are, how they work, what installation involves
- Scepticism about the measures
- Uncertainty on where to seek trusted advice about measures and the installation process; perceived inadequacy of advice to meet needs
- A perceived lack of incentive or benefits (compared to existing heating system); happy with existing levels of insulation
- Previous negative personal experiences or third-party accounts (of schemes, installations, installers) reducing motivation to learn more

Slide 7 (In1c)

Potential ways to build initial awareness and understanding of insulation:

- A 'campaign' on the different measures to improve your home's energy performance
- A national website with energy advice including details about measures, trusted tradespeople and how to apply for grants
- Energy advice embedded in existing services already used, local authorities or other agencies (e.g., tradespeople)
- Home assessment to provide personalised advice on how to improve the property's energy performance (e.g., by trusted bodies, local authorities) (*removed after Wave 1*)
- Online self-assessment tool to direct people to the relevant advice and support (*removed after Wave 1*)
- Community groups and forums (e.g. in libraries/local council) to discuss insulation (*added after Wave 1*)

Slide 8 (In2a)

What are the potential benefits and costs of insulation measures?

MEASURE	INSTALLATION COST	ENERGY BILL SAVINGS
Draught-proofing	~£200 for a full professional retrofit. ~£30 for DIY (materials)	£35-£95/year
Hot water cylinder jacket	~£20 for a standard jacket	~£50/year
Loft insulation	~£880-£1200 depending on material used + ~£250/day if using a professional installer (typically takes half a day)	£240-£445/year
Cavity wall insulation	~£1000-£4600 depending on size of the property	£135-£485/year
Solid wall insulation (internal)	~£7,500	£180-£660/year
Solid wall insulation (external)	~£12,000	£180-£660/year

Slide 9 (In2a)

What are the potential benefits and costs of insulation measures?

- All measures lead to reduced carbon output of property and therefore have an environmental benefit
- Installation costs can be support by government schemes: e.g. Home Upgrade Grant (HUG), Great British Insulation Scheme, Warm Homes Fund (WHF).

Slide 10 (In2b)

Barriers to consideration of insulation measures

- Concerns about upfront costs of installation and running costs
- Concern about grants to pay for measures – how to access them, complexity, mistrust, relevance of schemes
- Lack of knowledge and access to reliable information: how to install, costs of installation, uncertainly about what installation involves
- Concerns about the level of disruption during installation
- Concerns installation might have no impact on your home (e.g., on saving energy, on running costs), or a negative one (e.g., on the appearance, or ability to heat the home)
- A perceived lack of incentive or benefits (compared to the existing heating system): uncertainties about cost savings and value for money; improvements to warmth / comfort (and current satisfaction); impact on property value; environmental impact; uncertainty around future heating systems

Slide 11 (In2c)

Potential ways for consideration of insulation measures to be supported:

Understanding

- Home assessment to provide personalised advice on how to improve the property's energy performance (e.g., by trusted bodies, local authorities)
- Detailed information on bill savings and benefits of measures (e.g., thermal comfort)
- Online self-assessment tool to direct people to the relevant advice and support
- Potential to receive a green badge to label homes with certain measures installed as 'energy efficient'

Financial

- Green mortgage: reduced interest rate for more efficient homes or additional lending to cover upfront installation costs
- Green loans: cashback/lower interest rates on loans install energy efficient upgrade
- A website to signpost to relevant grants available

Slide 12 (In3a)

What does the planning process of insulation involve

(*Removed after Wave 1*)

- You will need to find and hire an installer
- If DIY – will need to find and buy insulation material
- If DIY – need to take the time out to install the measure
- Need to make plan on mitigating the disruption for household, where possible

(*Added after Wave 1*)

MEASURE	DIY?	FACTORS TO CONSIDER	HOW LONG WILL IT TAKE?
Draught-proofing	Yes	Professional installation is likely to save more energy as they will know the right materials and where to use them.	n/a
Hot water cylinder insulation	Yes	You will need to purchase a British Standard jacket and	n/a

		follow the manufacturer's instructions to fit it over the water cylinder.	
Loft insulation	Yes	Can be DIY if easy to access and no damp or condensation problems. A professional installer is needed in more complex cases.	Around half a day (dependent on property size)
Cavity wall	No	A specialist company is required for this insulation measure.	Around 2 hours to complete.
Solid wall (external)	No	Should only be fitted by a specialist trained installer.	7-10 days
Solid wall (internal)	Yes	Ensuring there is no damp in the walls before installation is key.	3-5 days per room

Slide 13 (In3a)

What does the planning process of insulation involve?

(*Added after Wave 1*)

- Consider whether the insulation measure requires an installer or can be done by DIY
- If it requires a professional, you will need to find and hire an installer
- If DIY – will need to find and buy insulation material and time out to install the measure
- Need to make plan on mitigating the disruption for household, where possible – depending on the insulation measure

Slide 14 (In3b)

Barriers to planning of insulation measures

- Time and effort related to planning the installation (finding and deciding on the right measures, finding an installer)

- Concerns around suppliers: (availability, reliability, quality): long wait times; unsure about how to access supplier and whether they fit relevant measures, lack of trust; lack of qualified suppliers and concerns over quality and reputation; concerns about supplier’s knowledge)
- Concerns about the level of disruption during the installation
- Concerns around acquiring the necessary skills to do a DIY job
- Home not being suitable for installation – e.g. planning restrictions, property type (*added after Wave 1*)

Slide 15 (In3c)

Potential ways to support planning around insulation measures

- Registered installers (e.g. Trustmark - a government endorsed quality scheme)
- Increased availability and training of local installers (*added after Wave 1*)
- Information on consumer protection and compensation schemes
- Information and advice to help understand the different stages of installation to support planning
- YouTube videos (e.g., provided by government or other trusted bodies) to assist self-installation (*added after Wave 1*)

Slide 16 (InS4a)

What does the installation process involve?

(*Removed after Wave 1*)

Draught-proofing

- Consider what draught-proofing needs to be done – can be done by professional or DIY
- Professional installation is likely to save more energy as they will know the right materials and where to use them

Hot water cylinder insulation:

- You will need to purchase a British Standard jacket and follow the manufacturer’s instructions to fit it over the water cylinder.

Loft insulation

- Can be DIY if easy to access and no damp or condensation problems. A professional installer is needed in more complex cases.
- Insulation material is laid between joists
- Takes an average of 2 hours to install loft insulation (depending on property size)

Cavity wall:

- A specialist company will drill holes in the outside walls, inject insulation through the holes and then seal them with cement
- The job will take about 2 hours to complete.

Solid wall (external):

- Involves installing different layers of insulating materials to the outside walls of a building
- The installation process will take 7-10 days

Solid wall (internal):

- Can be done room-by-room - involves installing insulation boards to the interior walls of the building
- The installation process will take 3-5 days per room

(*Added after Wave 1*)

MEASURE	WHAT IS INVOLVED?	DIY?	HOW LONG WILL IT TAKE?
Draught-proofing	Consider what draught-proofing needs to be done	Yes	n/a
Hot water cylinder insulation	You will need to purchase a British Standard jacket and follow the manufacturer’s instructions to fit it over the water cylinder	Yes	n/a
Loft insulation	Insulation material is laid between joists.	Yes	It takes an average of 2 hours (depending on property size)
Cavity wall	A specialist company will drill holes in the outside walls, inject insulation through the holes and then seal them with cement	No	The job will take about 2 hours to complete.
Solid wall (external)	Involves installing different layers of insulating materials to the outside walls of a building	No	The installation process will take 7-10 days
Solid wall (internal)	Can be done room-by-room - involves installing insulation boards to the interior walls of the building	Yes	The installation process will take 3-5 days per room

Slide 17 (In4b)

Barriers to installation of insulation measures:

- Disruption of the installation
  - Hassle and noise
  - Learning how to do it yourself (if DIY)
  - Having a professional in the house (if hiring someone)
  - Time taken for installation to be completed
  - Time frame for installation to be completed due to change in weather (*added after Wave 2*)
- Concerns around suppliers (availability, reliability, quality): lack of trust, lack of qualified suppliers and concerns over supplier quality and reputation; concerns about supplier's knowledge
- Concerns about potential complications with the install process that result in longer delays or additional costs

Slide 18 (In4c)

Potential ways to be supported around installation:

- Increased availability and training of local installers (*removed after Wave 1*)
- Support throughout the installation process and post installation through access to consumer advice services
- On-site support during the installation process (e.g. a project manager) (*added after Wave 1*)
- YouTube videos (e.g., provided by government or other trusted bodies) to assist self-installation (*added after Wave 1*)

Slide 19

Summary

Slide 20 (B)

- Draught-proofing
- Hot water cylinder insulation
- Loft insulation
- Cavity wall insulation
- Internal wall insulation (solid)
- External wall insulation (solid)

Slide 21 (A)

Overarching barriers to insulation measures:

Knowledge and awareness:

- Lack of knowledge on measure generally
- Lack of access to reliable information
- A perceived lack of incentives or benefits (cost savings, warmth comfort, environment, impact on property value)
- Concerns installation might have no impact on your home (e.g., on saving energy), or a negative one (e.g., on the appearance)

Financial:

- Upfront costs of installation

Practical:

- Concerns over suitability of your property (not enough space, planning restrictions) Concerns around suppliers (availability, reliability, quality)
- Disruption of the installation (planning it and during it)

Slide 22

Whole-house retrofit

Slide 23 (A)

What is whole-house retrofit?

- Retrofit refers to any improvement work on an existing building to improve its energy efficiency, making it easier to heat your home and retain the heat for longer
- Whole-house retrofit is a comprehensive renovation plan to improve the overall performance of a home, where a number of measures are installed at the same time. For example – multiple insulation measures (e.g., loft insulation, draught proofing, insulating walls), and low carbon heating systems (such as heat pumps – an energy efficient way to heat your home)

Benefits of whole-house retrofit

- Whole-house retrofit can save time and money as it is more efficient than installing individual measures over one time period
- A whole house assessment plan will also ensure all upgrades work well together and will therefore likely provide higher energy savings

Slide 24 (A)

Overarching barriers to insulation measures:

Knowledge and awareness:

- Lack of knowledge on measure generally
- Lack of access to reliable information

- A perceived lack of incentives or benefits (cost savings, warmth comfort, environment, impact on property value)
- Concerns installation might have no impact on your home (e.g., on saving energy), or a negative one (e.g., on the appearance)

Financial:

- Upfront costs of installation

Practical:

- Concerns over suitability of your property (not enough space, planning restrictions) Concerns around suppliers (availability, reliability, quality)
- Disruption of the installation (planning it and during it)

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