Great British Insulation Scheme Willingness to Co-fund: A Discrete Choice Experiment Appendices

Prepared by the Behavioural Practice for Department for Energy Security and Net Zero

Contents

Appendix A: Demographics and survey responses

Appendix A1: Summary of sample demographics

How old are you?	Mean (SD)
Age	44 (12)
What best describes your gender?	**% (N)**
Female	75% (746)
Male	25% (252)
Other/Missing	<1% (2)
Where do you live?	**% (N)**
North East	5% (48)
North West	12% (121)
Yorkshire and the Humber	11% (109)
East Midlands	9% (87)
West Midlands	11% (114)
East	9% (90)
London	10% (101)
South East	15% (148)
South West	9% (86)
Scotland	7% (70)
Wales	3% (26)

What type of House/Property do you live in?	% (N)
Detached	16% (164)
Semi-Detached	40% (400)
Terraced	23% (229)
End Terrace	5% (51)
Flat, Apartment or Maisonette	9% (88)
Bungalow	7% (68)
How many bedrooms are available for use only by your household? Please include all rooms built or converted for use as bedrooms.	% (N)
1	3% (32)
2	23% (233)
3	53% (525)
4	17% (173)
5	2% (21)
6 +	1% (9)
Not answered	1% (7)
How many floors or storeys does the building your home is in have?	% (N)
Fewer than 5	8% (79)
5-6	1% (5)
7 or more	<1% (3)
I don't know	<1% (1)
Ineligible for question	91% (912)

An Energy Performance Certificate (EPC) gives a property an energy efficiency rating from A (most efficient) to G (least efficient). What is the EPC rating of the property you live in?	% (N)
D	68% (681)
E	27% (271)
F	4% (39)
G	1% (9)
Do you own or rent your home?	% (N)
Own Outright	35% (350)
Buying with the help of a mortgage or loan	63% (630)
Part-own and part rent (shared ownership)	2% (20)
Does your household include anyone over the age of 65 years old?	% (N)
Yes	8% (84)
No	92% (916)
Does your household include any children under the age of 5 years old?	% (N)
Yes	20% (204)
No	80% (796)
Does the building your home is in have a lift?	% (N)
Yes	1% (13)
No	8% (75)
Ineligible for question	91% (912)

Your council tax band determines how much council tax you pay. What is the Council Tax band for the property you live in?	England (% (N))	Scotland (% (N))	Wales (% (N))
A	13% (131)	<1% (1)	<1% (4)
B	20% (199)	2% (15)	1% (8)
C	30% (295)	3% (30)	1% (14)
D	28% (279)	2% (20)	-
E	-	<1% (4)	-

What is your total annual household income before tax?	% (N)
£0 - £9,999	3% (31)
£10,000 - £16,999	6% (56)
£17,000 - £34,999	25% (254)
£35,000 - £54,999	31% (310)
£55,000 - £69,999	16% (160)
£70,000 - £99,999	10% (105)
£100,000 - £149,999	2% (23)
More than £150,000	1% (7)
I don't know	1% (5)
Prefer not to say	5% (49)
Roughly how much money do you have in savings at the moment? Only count your own personal savings (not household savings).	% (N)
Less than £50	13% (133)
£50 - £99	2% (24)
£100 - £199	3% (34)
£200 - £399	3% (36)
£400 - £999	7% (73)
£1,000 - £1,999	11% (112)
£2,000 - £4,999	11% (107)
£5,000 - £9,999	10% (97)
£10,000 - £49,999	17% (168)
£50,000 +	9% (85)
I don't know	2% (21)
Prefer not to say	11% (110)

Appendix A2: Responses to survey questions

In the past two weeks, how worried or unworried have you been about rising costs of living?	% (N)
Very worried	38% (375)
Somewhat worried	47% (471)
Neither worried nor unworried	10% (95)
Somewhat unworried	4% (38)
Very unworried	2% (21)
Prefer not to say	-
How much do you agree or disagree with the following statement: 'If I wanted to, I would know how to go about getting insulation in my home and the steps I would need to take.'	% (N)
Strongly agree	12% (122)
Agree	35% (352)
Neither agree nor disagree	22% (223)
Disagree	20% (203)
Strongly disagree	8% (84)
I don't know	2% (16)
For how long do you plan to stay in your current home	% (N)
Less than a year	3% (33)
At least 1 year, but less than 3 years	12% (119)
At least 3 years, but less than 6 years	15% (154)
At least 6 years, but less than 10 years`	12% (123)
10 years or more	40% (404)
I don't know	17% (167)

In principle, would you consider taking out a loan to finance energy efficiency upgrades to your home?	% (N)
Definitely	4% (44)
Probably	11% (107)
Maybe	22% (222)
Probably not	28% (278)
Definitely not	33% (333)
I don't know	2% (16)

In principle, would you consider taking out a loan from your energy supplier to finance energy efficiency upgrades to your home?	% (N)
Definitely	4% (40)
Probably	9% (90)
Maybe	21% (205)
Probably not	23% (233)
Definitely not	7% (71)
I don't know	1% (12)
Ineligible for question	35% (349)

How confident do you feel in your understanding of the insulation measures you can install in your home to improve its energy efficiency?	% (N)
Very confident	9% (86)
Fairly confident	49% (490)
Not very confident	32% (319)
Not confident at all	8% (77)
I don't know	3% (28)

How confident are you in your understanding of energy efficiency in general?	% (N)
Very confident	9% (90)
Fairly confident	54% (540)
Not very confident	29% (291)
Not at all confident	6% (60)
I don't know	2% (19)

How easy or difficult is it to afford your energy bills?	% (N)
Very easy	8% (83)
Somewhat easy	35% (345)
Somewhat difficult	39% (389)
Very difficult	15% (150)
I don't know	2% (19)
Prefer not to say	1% (14)

You never chose Cavity Walls as the insulation measure you would be most likely to have installed in your home. Why not?	% (N)
I cannot afford the installation costs	23% (39)
The potential savings are not worth the installation costs	9% (15)
Installation is too inconvenient	8% (14)
My home is already fully insulated with cavity wall insulation	30% (52)
My home cannot have cavity wall insulation	31% (53)
I don't want to insulate my home	2% (4)
I am worried that cavity wall insulation will impact how my home looks	7% (12)
I am worried that cavity wall insulation will reduce the amount of space in my home	1% (1)
I don't know	3% (6)
None of these	12% (20)

Base: n= 173.

You never chose Solid Walls as the insulation measure you would be most likely to have installed in your home. Why not?	% (N)
I cannot afford the installation costs	70% (523)
The potential savings are not worth the installation costs	30% (226)
Installation is too inconvenient	13% (94)
My home is already fully insulated with solid wall insulation	11% (78)
My home cannot have solid wall insulation	9% (65)
I don't want to insulate my home	1% (4)
I am worried that solid wall insulation will impact how my home looks	10% (77)
I am worried that solid wall insulation will reduce the amount of space in my home	4% (33)
I don't know	3% (22)
None of these	3% (19)

Base: n= 743

You never chose Underfloor as the insulation measure you would be most likely to have installed in your home. Why not?	% (N)
I cannot afford the installation costs	47% (152)
The potential savings are not worth the installation costs	28% (91)
Installation is too inconvenient	41% (132)
My home is already fully insulated with underfloor insulation	5% (15)
My home cannot have underfloor insulation	19% (63)
I don't want to insulate my home	2% (6)
I am worried that underfloor insulation will impact how my home looks	6% (18)
I am worried that underfloor insulation will reduce the amount of space in my home	2% (7)
I don't know	3% (9)
None of these	6% (19)

Base: n= 326

You never chose Room-in-Roof as the insulation measure you would be most likely to have installed in your home. Why not?	% (N)
I cannot afford the installation costs	56% (278)
The potential savings are not worth the installation costs	29% (143)
Installation is too inconvenient	15% (75)
My home is already fully insulated with Room-in-Roof insulation	11% (54)
My home cannot have Room-in-Roof insulation	10% (52)
I don't want to insulate my home	1% (4)
I am worried that Room-in-Roof insulation will impact how my home looks	3% (14)
I am worried that Room-in-Roof I insulation will reduce the amount of space in my home	2% (12)
I don't know	5% (24)
None of these	6% (30)

Base: n = 499

You never chose Loft as the insulation measure you would be most likely to have installed in your home. Why not?	% (N)
I cannot afford the installation costs	21% (24)
The potential savings are not worth the installation costs	6% (7)
Installation is too inconvenient	5% (6)
My home is already fully insulated with Loft insulation	40% (45)
My home cannot have Loft insulation	20% (22)
I don't want to insulate my home	1% (1)
I am worried that Loft insulation will impact how my home looks	1% (1)
I am worried that Loft insulation will reduce the amount of space in my home	1% (1)
I don't know	6% (7)
None of these	12% (13)

Base: n = 113

Appendix B: DCE Design

Table 1. Block 1 DCE choices pairs

Question	Option 1		Option 2	
	Retrofit measure	Subsidy	Retrofit measure	Subsidy
1	underfloor	£1,500	loft	£750
2	solid wall	£0	underfloor	£0
3	cavity wall	£1,500	solid wall	£3,000
4	cavity wall	£0	room-in-roof	£0
5	room-in-roof	£3,000	solid wall	£750
6	underfloor	£3,000	underfloor	£1,500
7	loft	£750	loft	£3,000
8	cavity wall	£750	cavity wall	£1,500
9	solid wall	£3,000	cavity wall	£3,000
10	loft	£1,500	cavity wall	£0

Note: For each respondent in Block 1, the order of the questions and whether option 1 was shown on the left-hand side of the screen was randomised.

Table 2. Block 2 DCE choice pairs

Question	Option 1		Option 2	
	Retrofit measure	subsidy	Retrofit measure	subsidy
1	solid wall	£1,500	underfloor	£750
2	solid wall	£750	underfloor	£3,000
3	room-in-roof	£750	loft	£0
4	underfloor	£750	loft	£1,500
5	cavity wall	£3,000	room-in-roof	£1,500
6	loft	£0	room-in-roof	£3,000
7	room-in-roof	£1,500	cavity wall	£750
8	room-in-roof	£0	room-in-roof	£750
9	underfloor	£0	solid wall	£1,500
10	loft	£3,000	solid wall	£0

Note: For each respondent in Block 2, the order of the questions and whether option 1 was shown on the left-hand side of the screen was randomised.

Table 3. Characteristics of retrofit measures shown on the DCE cards

	Disruption level	Typical cost of installation	Potential energy bill savings per year
Cavity wall	Minimal	£1500	£140
Solid wall	Medium to significant	£20,000	£300
Loft	Minimal	£1200	£60 - £100
Room in roof	Medium to significant	£5,900	£100
Underfloor	Significant	£2,700	£70

The cost and bill savings are estimates produced based on the average across a 'typical home', which for this study was defined as a semi-detached or end-terraced home. Cost estimates were produced by analysts in DESNZ, using latest estimates and including inflation, and £395 PAS costs. Energy savings were based on the percentage heat demand reduction from SAP, applied to a 'typical' heating bill of £1,200/yr.

The disruption rating and time taken is taken from Gov.uk information and advice service (https://www.gov.uk/improve-energy-efficiency). The time taken refers to the number of days for installation (not the start-to-finish user journey) The disruption description is taken from a variety of sources, including the Gov.uk information and advice service. It focuses on major sources of disruption and may not be comprehensive. Disruption from any pre-installation surveys, or post-installation quality checks is not included.

The rating scale is based on the following definitions:

- **Minimal:** Measure is not expected to be considered disruptive. It does not require constructural changes and no dependency on occupant to change their living habits or living arrangement (e.g. not use a room during installation) at any point.
- **Medium:** Some disruption is expected with the measure. Installation may have minor constructural requirements but not expected to generate dust. Does not require occupant to move out or adjust their living arrangement (e.g. not use a room during installation), but may require reasonable adjustments to the occupant's living habit for a period (e.g. electricity may need to be turned off during the installation).
- **Significant:** Disruption is expected with the installation of measure, may generate dust. May require occupant to move out or adjust their living arrangement (e.g. not use a room) during at least one point during the installation.

Information button text on DCE cards

Cavity wall

'About a third of all the heat lost in an uninsulated home escapes through the walls. A cavity wall is made up of two walls with a gap in between. Many cavity walls can be insulated by injecting insulation material into the cavity from the outside.'

Solid wall

'About a third of all the heat lost in an uninsulated home escapes through the walls. To insulate a solid wall from the outside, a layer of insulation material is fixed to the walls with mechanical fixings and adhesive, then covered with protective layers of render or cladding.'

Loft

'A quarter of heat is lost through the roof in an uninsulated home. For regular, easy-access lofts, the installer can use rolls of mineral wool insulation.'

Room-in-roof

'A quarter of heat is lost through the roof in an uninsulated home. Room-in-roof insulation is fitted between exposed rafters or beams and the walls and ceilings of attic rooms.'

Underfloor

'10-20% of heat is lost through your floors. Solid floors are insulated using rigid insulation foam, which can be fitted either above or below the concrete. For timber floors, the installer can fit insulation in between them and hold it in place with netting. Depending on your property (e.g. whether you have a basement), and the type of floor, you may need to lift the floorboards to lay the insulation. '

Appendix C: Technical Appendix

DCE choice generation

A set of 20 discrete choices were generated using 'Support.CEs', an R package which facilitates rotation design (developed form an orthogonal main-effects array) (Aizaki, 2015). To avoid overburdening respondents during the DCE, respondents were randomly assigned to one of two 10-question blocks. Question presentation order of and screen placement of options (left- or right-hand side) were also randomised between respondents to control for ordering effects.

DCE model and calculating uptake rates

The primary outcome of this experiment is a main effects model showing the relative weight each attribute has on respondents' preferences. We analysed responses using mixed (or random parameters) logit models run using the *mlogit* package in R statistical software (Croissant, 2020).

The model defines attributes as random parameters – each with a normal distribution – to allow for preference heterogeneity across experiment respondents (Hole & Kolstad, 2012). The model allowed for correlations between random parameters using Choleski decomposition because a likelihood ratio test indicated that this significantly improved fit, relative to a non-correlated model.

The resulting model includes parameters for the following:

- the model alternative specific cons, representing the systematic preference for investing in any of the options available,

- each non-reference level of retrofit measure type (loft insulation, solid/external wall insulation, room-in-roof insulation, and underfloor insulation),

- each non-reference level of subsidy (£750, £1,500, and £3,000), and

- a random error term representing the non-systematic component in selection.

Coefficients' signs reflect whether a level has a positive or a negative effect on utility compared to the reference value; further, their absolute values indicate their relative importance in selection, again compared to the reference value. To facilitate ease of interpretation, we exponentiated the coefficients to generate odds ratios.

The trial protocol for this study stated that the planned analysis was a conditional logit, so this was the first model we trialled. While that generated similar model coefficients to the model presented in this report, a Hausmann-McFadden test determined that one of its key theoretical assumptions – the assumption of irrelevant alternatives – had not been met (Hausman & McFadden, 1984).

To calculate uptake rates for the different insulation measures at varying levels of subsidy, we applied the formula $1/(1+Exp(u))$, where u is the output of the primary analysis model. Because the model's parameters were not fixed, we needed to account for the distribution of coefficients

in this calculation. To do so, we simulated n=10,000 utility draws for each combination of subsidy and measure type and reported the mean implied uptake rate across these draws.

In addition to the main effects model, we generated several secondary subsample models: a sensitivity analysis using respondents who had not told us they couldn't have one or more measure installed, and three demographic subsample models (annual pre-tax household income < £55,000, council tax band = A-B, and council tax band = C-E).

Appendix D: Additional Results

Appendix D1: Full sample

Table 4. Results of the full-sample mixed logit model. A p-value less than 0.05 indicates that a parameter significantly affects choice, relative to the reference level. Coefficients may be shown as odds ratios – their natural exponent.

Predictor	Coefficient	Odds Ratio	Confidence Interval	*p*-value
ASC	0.63	1.87	1.49 – 2.35	<.001
Solid wall	-5.99	0.00	0.00 – 0.01	<.001
Loft	1.60	4.94	3.22 – 7.58	<.001
Room in roof	-4.24	0.01	0.01 – 0.03	<.001
Underfloor	-3.02	0.05	0.03 – 0.08	<.001
£750	1.57	4.80	3.11 – 7.39	<.001
£1,500	2.83	16.95	9.69 – 29.63	<.001
£3,000	3.87	47.75	25.77 – 88.46	<.001

Note: Cavity wall insulation is used as the baseline attribute level for retrofit measure attribute, and no subsidy (£0) is used as the baseline attribute level for the maximum subsidy attribute. Observations = 30,000. Respondents = 1,000.

The statistically significant and positive 'Alternative specific constant' indicates a systematic preference for installing energy efficiency upgrades at home over not doing so, before considering the attributes of the measure on offer.

Table 5. Simulated uptake using the full-sample model.

Retrofit Measure	£0	£750	£1,500	£3,000
Cavity wall	64%	70% (6%)	77% (7%)	80% (3%)
Solid wall	14%	16% (2%)	22% (6%)	30% (8%)
Loft	72%	73% (1%)	76% (3%)	80% (4%)
Room in roof	16%	34% (18%)	44% (12%)	52% (8%)
Underfloor	33%	42% (9%)	54% (12%)	60% (6%)

Note: Simulated uptake as a percentage shown in cells. Percentage point change between simulated uptake for subsidy level compared to no-subsidy shown in round parentheses. Simulated uptake produced using n=10,000 simulations on the full sample model.
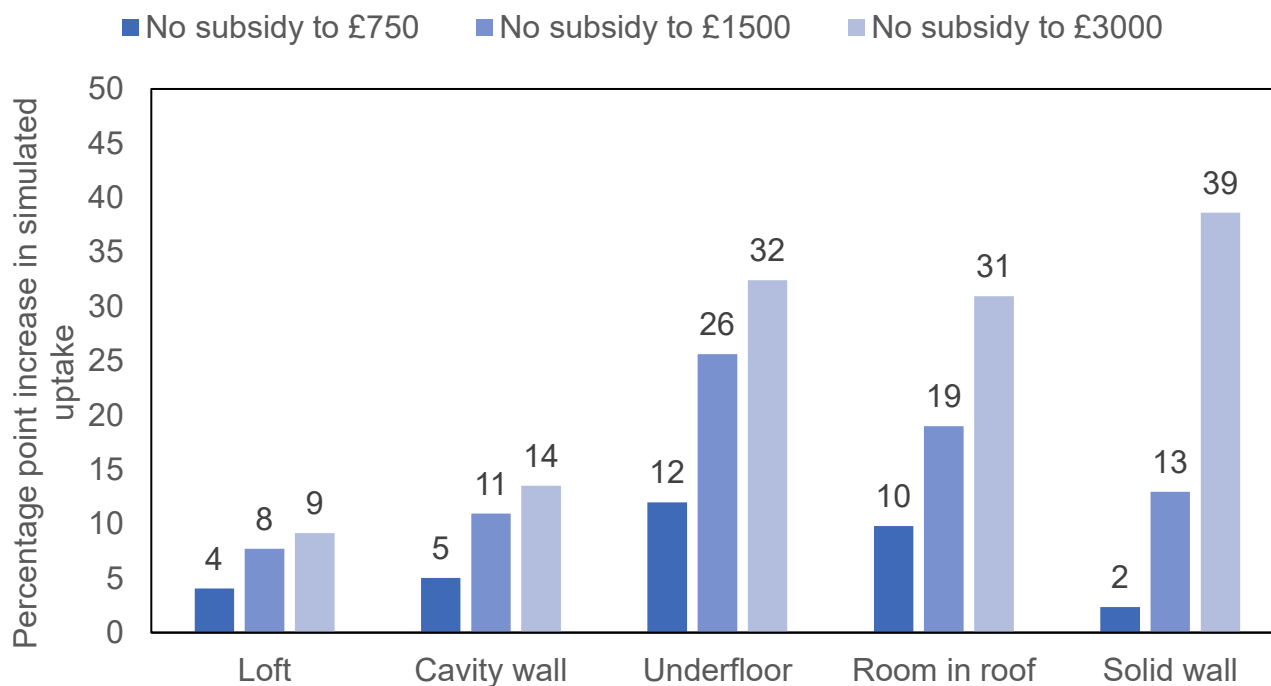
Appendix D2: Sensitivity analysis

Table 6. Results of the sensitivity analysis mixed logit model. A p-value less than 0.05 indicates that a parameter significantly affects choice, relative to the reference level. Coefficients may be shown as odds ratios – their natural exponent.

Predictor	Coefficient	Odds Ratio	Confidence Interval	*p*-value
ASC	1.48	4.38	2.95 – 6.52	<.001
Solid wall	-4.95	0.01	0.00 – 0.02	<.001
Loft	1.62	5.04	2.96 – 8.60	<.001
Room in roof	-4.71	0.01	0.00 – 0.02	<.001
Underfloor	-2.77	0.06	0.03 – 0.11	<.001
£750	1.32	3.73	2.38 – 5.86	<.001
£1500	2.71	15.03	7.69 – 29.39	<.001
£3000	4.03	56.22	26.71 – 118.32	<.001

Note: Cavity wall insulation is used as the baseline attribute level for retrofit measure attribute, and no subsidy (£0) is used as the baseline attribute level for the maximum subsidy attribute. Observations = 7,130. Respondents = 713.

Respondents were excluded from the model as a sensitivity analysis if they reported never choosing a retrofit measure during the DCE because they cannot have it installed in their home ('*My home is already fully insulated with [retrofit measure] insulation*' or '*My home cannot have [retrofit measure] insulation*')

The statistically significant and positive 'Alternative specific constant' indicates a systematic preference for installing energy efficiency upgrades at home over not doing so, before considering the attributes of the measure on offer.

Table 7: Simulated uptake using the sensitivity analysis model.

Retrofit Measure	£0	£750	£1,500	£3,000
Cavity wall	75%	80% (5%)	86% (6%)	88% (2%)
Solid wall	22%	24% (2%)	35% (11%)	61% (26%)
Loft	78%	82% (4%)	86% (4%)	87% (3%)
Room in roof	26%	36% (10%)	45% (9%)	57% (12%)
Underfloor	38%	50% (12%)	64% (14%)	71% (7%)

Note: Simulated uptake as a percentage shown in cells. Percentage point change between simulated uptake for subsidy level compared to no-subsidy shown in round parentheses. Simulated uptake produced using n=10,000 simulations on the sensitivity analysis model.

Figure 1. Percentage point increase in simulated uptake of each retrofit measure, by subsidy level (sensitivity-analysis model).

Note: Simulated uptake produced using n=10,000 simulations on the sensitivity analysis model.
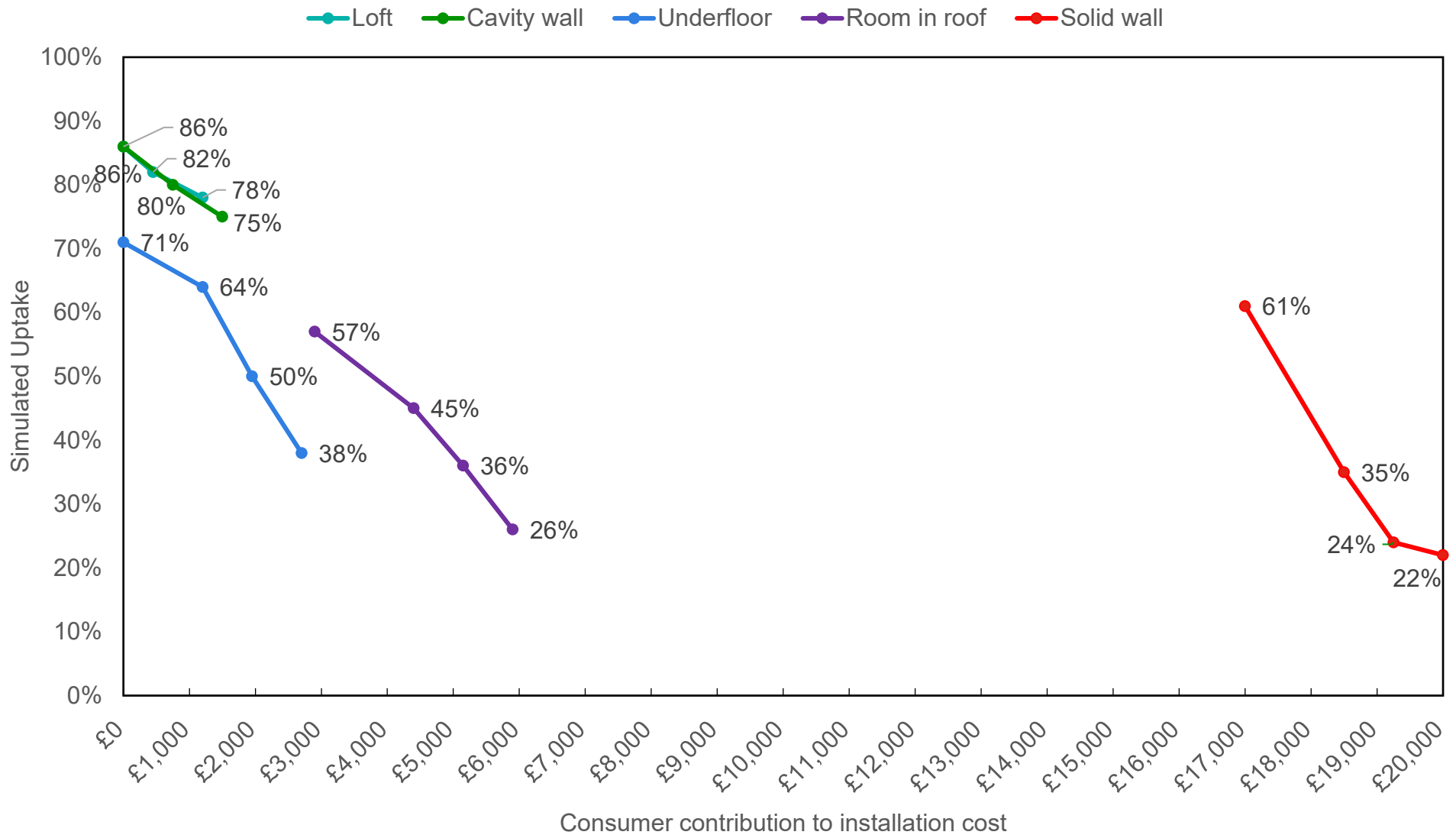
Figure 2. Simulated uptake (using sensitivity-analysis model) of retrofit measures by consumer contribution to the cost of installation.

Note: Simulated uptake produced using n=10,000 simulations on the sensitivity analysis model.

Appendix D3: Demographic splits

Table 8: Simulated uptake for respondents with annual household income less than £55,000 compared to the full sample

Measure	Annual household income	£0 subsidy	£1500 subsidy
Cavity wall	<£55,000	60%	75%
	Full sample	64%	77%
Solid wall	<£55,000	17%	21%
	Full sample	14%	22%
Loft	<£55,000	67%	74%
	Full sample	72%	76%
Room in roof	<£55,000	16%	39%
	Full sample	16%	44%
Underfloor	<£55,000	30%	50%
	Full sample	33%	54%

Note: Simulated uptake for full sample produced using n=10,000 simulations on the full sample model. Simulated uptake for those with annual household income <£55,000 produced using n = 10,000 simulations on sub-sample model with n = 651 respondents whose annual household income <£55,000.

Table 10. Simulated uptake for respondents living in council tax bands A-B and bands C-E.

Measure	Council Tax Band	£0 subsidy	£1500 subsidy
Cavity wall	A-B	64%	70%
	C-E	71%	77%
Solid wall	A-B	6%	18%
	C-E	14%	21%
Loft	A-B	69%	80%
	C-E	71%	78%
Room in roof	A-B	21%	39%
	C-E	21%	43%
Underfloor	A-B	34%	51%
	C-E	34%	52%

Note: Simulated uptake for Council Tax bands A-B produced using n=10,000 simulations on sub-sample model with n = 358 respondents who live in bands A - B. Simulated uptake for Council Tax bands C-E produced using n=10,000 simulations on sub-sample model with n = 642 respondents who live in bands C - E.

Appendix E: Questionnaire

Question 1: REGION

ASK ALL

SINGLE CODE

*SCRIPTER NOTES: If REGION = 5 'Somewhere else' or REGION = 4 'Northern Ireland'
terminate the study.*

Where do you live?

1   England

2   Scotland

3   Wales

4   Northern Ireland

5   Somewhere else

Question 2: REGION_GB

ASK IF REGION = 1 'England'

SINGLE CODE

In which part of England do you live?

1   North East

2   North West

3   Yorkshire & The Humber

4   East Midlands

5   West Midlands

6   East

7   London

8   South East

9   South West

Question 3: OWN

ASK ALL

SINGLE CODE

SCRIPTER NOTES: If OWN = 4 'Renting it' or OWN = 5 'Living rent-free' or OWN = 6 'Other' terminate the study.

Do you own or rent your home?

1   Own outright

2   Buying it with the help of a mortgage or loan

3   Part-own and part-rent (shared ownership)

4   Renting it (include being on Housing Benefit or Local Housing Allowance)

5   Living rent-free (include living rent-free in a relative's/friend's property but excluding squatting)

6   Other

Question 4: COUNCILTAX

Your council tax band determines how much council tax you pay. What is the Council Tax band for the property you live in?

If you are unsure, please check the Council Tax band for your home on the gov.uk website:

1   A

2   B

3   C

4   D

5   E

6   F or below

Question 5: EPC

SINGLE CODE

SCRIPTER NOTES: If EPC = 1 'A' OR EPC = 2 'B' OR EPC = 3 'C' OR EPC = -1 'My home does not have an EPC rating' terminate the study.

An Energy Performance Certificate (EPC) gives a property an energy efficiency rating from A (most efficient) to G (least efficient). What is the EPC rating of the property you live in?

If you are unsure, please check the registered EPC of your property by using the gov.uk website: https://www.gov.uk/find-energy-certificate. You can search for a certificate by postcode, street name and town, or certificate number.

1   A

2   B

3   C

4   D

5   E

6   F

7   G

98   My home does not have an EPC rating

Question 6: ATTN_CHECK

On a scale from 1 'Extremely unlikely' to 7 'Extremely likely' …

For quality purposes, please select option 2.

1	1 = Extremely unlikely
2	2
3	3
4	4 = Neither likely nor unlikely
5	5
6	6
7	7 = Extremely likely

Introduction to DCE

We will now ask you to consider some imaginary choices about energy efficiency measures for your home, offered by your energy supplier. Some of these measures will be available at a discounted price, with some or all of the cost covered through a government subsidy scheme. All costs and savings quoted are for a typical home.

There are 10 questions in total. For each question, we'd like you to select the decision that you would make - would choose to install one of the measures, or would you do nothing?

We are interested in your preferences. There are no right or wrong answers.

DCE Block 1: DCE_BLK1_Q1 to DCE_BLK1_Q10

SINGLE CODE

ORDER RANDOMISED

If Left = 1 show Option 1 always on the left-hand-side.

This block consists of 10 choices between energy efficiency measures which are presented in appendix item B: Table 2, which were shown as cards in the format shown in Figure 1. For every pair, respondents also have the option to choose 'Neither measure'

The following variables are derived based on respondent's responses to this block. These variables are used for subsequent routing.

cavity_count = how many times the respondent chose an option with product type of 'cavity wall'

external_count = how many times the respondent chose an option with product type of 'solid wall'

ufloor_count = how many times the respondent chose an option with product type of 'underfloor'

rir_count = how many times the respondent chose an option with product type of 'room-in-roof'

loft_count = how many times the respondent chose an option with product type of 'loft'

DCE Block 2: DCE_BLK2_Q1 to DCE_BLK2_Q10

SINGLE CODE

ORDER RANDOMISED

If Left = 1 show Option 1 always on the left-hand-side.

This block consists of 10 choices between energy efficiency measures which are presented in appendix item B: Table 3, which were shown as cards in the format shown in figure 1. For every pair, respondents also have the option to choose 'Neither measure'

The following variables are derived based on respondent's responses to this block. These variables are used for subsequent routing.

cavity_count = how many times the respondent chose an option with product type of 'cavity wall'

external_count = how many times the respondent chose an option with product type of 'solid wall'

ufloor_count = how many times the respondent chose an option with product type of 'underfloor'

rir_count = how many times the respondent chose an option with product type of 'room-in-roof'

loft_count = how many times the respondent chose an option with product type of 'loft'

Post DCE Q1: NO_CAVITY

MULTI CODE

You never chose cavity wall insulation as the insulation measure you would be most likely to have installed in your home. Why not?

Please select all that apply.

1   I cannot afford the installation costs

2   The potential savings are not worth the installation costs

3   Installation is too inconvenient

4   My home is already fully insulated with cavity wall insulation

5   My home cannot have cavity wall insulation

6   I don't want to insulate my home

7   I am worried that cavity wall insulation will impact how my home looks

8   I am worried that cavity wall insulation will reduce the amount of space in my home

97   None of these *EXCLUSIVE*

98   I don't know *EXCLUSIVE*

Post DCE Question 2: NO_EXTERNAL

ASK IF external_count = 0

MULTI CODE

You never chose external wall insulation as the insulation measure you would be most likely to have installed in your home. Why not?

Please select all that apply.

1   I cannot afford the installation costs

2   The potential savings are not worth the installation costs

3   Installation is too inconvenient

4   My home is already fully insulated with external wall insulation

5   My home cannot have external wall insulation

6   I don't want to insulate my home

7   I am worried that external wall insulation will impact how my home looks

8   I am worried that external wall insulation will reduce the amount of space in my home

97   None of these *EXCLUSIVE*

98   I don't know *EXCLUSIVE*

Post DCE Question 3: NO_UFLOOR

ASK IF ufloor_count = 0

MULTI CODE

You never chose underfloor insulation as the insulation measure you would be most likely to have installed in your home. Why not?

Please select all that apply.

1   I cannot afford the installation costs

2   The potential savings are not worth the installation costs

3   Installation is too inconvenient

4   My home is already fully insulated with underfloor insulation

5   My home cannot have underfloor insulation

6   I don't want to insulate my home

7   I am worried that underfloor insulation will impact how my home looks

8   I am worried that underfloor insulation will reduce the amount of space in my home

97   None of these *EXCLUSIVE*

98   I don't know *EXCLUSIVE*

Post DCE Question 4: NO_RIR

ASK IF rir_count = 0

MULTI CODE

You never chose room-in-roof insulation as the insulation measure you would be most likely to have installed in your home. Why not?

Please select all that apply.

1   I cannot afford the installation costs

2   The potential savings are not worth the installation costs

3   Installation is too inconvenient

4   My home is already fully insulated with room-in-roof insulation

5   My home cannot have room-in-roof insulation

6   I don't want to insulate my home

7   I am worried that room-in-roof insulation will impact how my home looks

8   I am worried that room-in-roof insulation will reduce the amount of space in my home

97   None of these *EXCLUSIVE*

98   I don't know *EXCLUSIVE*

Post DCE Question 5: NO_LOFT

ASK IF loft_count = 0

MULTI CODE

You never chose loft insulation as the insulation measure you would be most likely to have installed in your home. Why not?

Please select all that apply.

1   I cannot afford the installation costs

2   The potential savings are not worth the installation costs

3   Installation is too inconvenient

4   My home is already fully insulated with loft insulation

5   My home cannot have loft insulation

6   I don't want to insulate my home

7   I am worried that loft insulation will impact how my home looks

8   I am worried that loft insulation will reduce the amount of space in my home

97   None of these *EXCLUSIVE*

98   I don't know *EXCLUSIVE*

Cost-cap Question Routing

SCRIPTER NOTES: Define the following derived variables here:

NOELIG_CAVITY: Whether the respondent is ineligible for further cavity wall insulation

IF (NO_CAVITY_4 = 1 'selected' OR NO_CAVITY_5 = 1 'selected') NOELIG_CAVITY = 1 'yes'

IF (NO_CAVITY_4 = 0 'not selected' AND NO_CAVITY_5 = 0 'not selected') NOELIG_CAVITY = 0 'no'

NOELIG_EXTERNAL: Whether the respondent is ineligible for further external insulation

IF (NO_EXTERNAL_4 = 1 'selected' OR NO_EXTERNAL_5 = 1 'selected') NOELIG_EXTERNAL = 1 'yes'

IF (NO_EXTERNAL _4 = 0 'not selected' AND NO_EXTERNAL_5 = 0 'not selected') NOELIG_EXTERNAL = 0 'no'

NOELIG_UFLOOR: Whether the respondent is ineligible for further external insulation

IF (NO_UFLOOR_4 = 1 'selected' OR NO_UFLOOR_5 = 1 'selected') NOELIG_UFLOOR = 1 'yes'

IF (NO_UFLOOR_4 = 0 'not selected' AND NO_UFLOOR_5 = 0 'not selected') NOELIG_UFLOOR = 0 'no'

NOELIG_RIR: Whether the respondent is ineligible for further external insulation

IF (NO_RIR_4 = 1 'selected' OR NO_RIR_5 = 1 'selected') NOELIG_RIR = 1 'yes'

IF (NO_RIR_4 = 0 'not selected' AND NO_RIR_5 = 0 'not selected') NOELIG_RIR = 0 'no'

NOELIG_LOFT: Whether the respondent is ineligible for further external insulation

IF (NO_LOFT_4 = 1 'selected' OR NO_LOFT_5 = 1 'selected') NOELIG_LOFT = 1 'yes'

IF (NO_LOFT_4 = 0 'not selected' AND NO_LOFT_5 = 0 'not selected') NOELIG_LOFT = 0 'no'

Post DCE Question 6: COSTCAP

ASK IF NOELIG_CAVITY = 0 OR NOELIG_EXTERNAL = 0 OR NOELIG_UFLOOR = 0 OR NOELIG_RIR = 0 OR NOELIG_LOFT = 0

MULTI CODE

Previously, you told us which single insulation measure you would be most likely to install in a series of pairs.

Now, please imagine you can install as many insulation measures as you like. You can access a subsidy to pay up to £1,500 of the costs. Which of the following measures, if any, would you have installed in your home?

Please select all that apply.

1   Cavity wall insulation (cost to install = £1,500) [i] *HIDE IF NOELIG_CAVITY = 1*

2   External wall insulation (cost to install = £20,000) [i] *HIDE IF NOELIG_EXTERNAL = 1*

3   Underfloor insulation (cost to install = £2,700) [i] *HIDE IF NOELIG_UFLOOR = 1*

4   Room-in-roof insulation (cost to install = £5,900) [i] *HIDE IF NOELIG_RIR = 1*

5   Loft insulation (cost to install = £1,200) [i] *HIDE IF NOELIG_LOFT = 1*

97   None of these *EXCLUSIVE*

Post DCE Question 7: KNOW

SINGLE CODE

How much do you agree or disagree with the following statement: If I wanted to, I would know how to go about getting insulation in my home and the steps I would need to take.

1   Strongly agree

2   Agree

3   Neither agree nor disagree

4   Disagree

5   Strongly disagree

98   I don't know

Post DCE Question 8: LOAN

SINGLE CODE

In principle, would you consider taking out a loan to finance energy efficiency upgrades to your home?

1   Definitely

2   Probably

3   Maybe

4   Probably not

5   Definitely not

98   I don't know

Post DCE Question 9: LOAN_ES

SINGLE CODE

In principle, would you consider taking out a loan from your energy supplier to finance energy efficiency upgrades to your home?

1   Definitely

2   Probably

3   Maybe

4   Probably not

5   Definitely not

98   I don't know

Post DCE Question 10: CONF_OWN

SINGLE CODE

How confident do you feel in your understanding of the insulation measures you can install in your home to improve its energy efficiency?

1   Very confident

2   Fairly confident

3   Not very confident

4   Not confident at all

98   I don't know

Post DCE Question 11: CONF_GEN

How confident are you in your understanding of energy efficiency in general?

1   Very confident

2   Fairly confident

3   Not very confident

4   Not at all confident

98   I don't know

Introduction to Demographic Questions

SHOW TO ALL

PLAIN TEXT (NO INPUT)

Finally, a few questions about you and your home.

Demographic Question 1: COSTLIVING

ASK ALL

SINGLE CODE

In the past two weeks, how worried or unworried have you been about rising costs of living?

1   Very worried

2   Somewhat worried

3   Neither worried nor unworried

4   Somewhat unworried

5   Very unworried

99   Prefer not to say

Demographic Question 2: BILLS

ASK ALL

SINGLE CODE

How easy or difficult is it to afford your energy bills?

1   Very easy

2   Somewhat easy

3   Somewhat difficult

4   Very difficult

98   Don't know

99   Prefer not to say

Demographic Question 3: STAY

ASK ALL

SINGLE CODE

For how long do you plan to stay in your current home?

1   Less than a year

2   At least 1 year, but less than 3 years

3   At least 3 years, but less than 6 years

4   At least 6 years, but less than 10 years

5   10 years or more

98   I don't know

Demographic Question 4: AGE

ASK ALL

NUMERIC

SCRIPTER NOTES: Valid range = 16 – 99.

How old are you?

Demographic Question 5: GENDER

ASK ALL

SINGLE CODE

What best describes your gender?

1   Female

2   Male

3   Non-binary or gender fluid

99   Prefer not to say

Demographic Question 7: OVER65

ASK IF AGE < 66

SINGLE CODE

Does your household include anyone over the age of 65 years old?

1   Yes

2   No

Demographic Question 8: CHILDREN

ASK ALL

SINGLE CODE

Does your household include any children under the age of 5 years old?

1   Yes

2   No

Demographic Question 9: INCOME

SINGLE CODE

What is your total annual household income before tax?

1	£0 - £9,999
2	£10,000 - £16,999
3	£17,000 - £34,999
4	£35,000 - £54,999
5	£55,000 - £69,999
6	£70,000 - £99,999
7	£100,000 - £149,999
8	More than £150,000
99	Prefer not to say
98	I don't know

Demographic Question 10: SAVINGS

SINGLE CODE

Roughly how much money do you have in savings at the moment? Only count your own personal savings (not household savings).

1   Less than £50

2   £50 - £99

3   £100 - £199

4   £200 - £399

5   £400 - £999

6   £1,000 – £1,999

7   £2,000 - £4,999

8   £5,000 - £9,999

9   £10,000 - £49,999

10   £50,000 +

98   Don't know

99   Prefer not to say

Demographic Question 11: PROPERTYTYPE

ASK ALL

SINGLE CODE

What type of property do you live in?

1   House

2   Flat, apartment, or maisonette

3   Bungalow

Demographic Question 12: HOUSETYPE

SINGLE CODE

What type of house do you live in?

1   Detached (does not share any of its walls with another house or building)

2   Semi-detached (is attached to one other house or building)

3   Terraced (sits in the middle with a house or building on each side)

4   End terrace (sits at the end of a row of similar houses with one house attached to it)

Demographic Question 13: STOREYS

ASK if PROPERTYTYPE = 2 'Flat, apartment, or maisonette'

SINGLE CODE

How many floors or storeys does the building your home is in have?

1   Fewer than 5

2   5 to 6

3   7 or more

98   I don't know

Demographic Question 14: LIFT

ASK if PROPERTYTYPE = 2 'Flat, apartment, or maisonette'

SINGLE CODE

Does the building your home is in have a lift?

1   Yes

2   No

98   I don't know

Demographic Question 15: BEDROOMS

ASK ALL

NUMERIC

SCRIPTER NOTES: Valid range = 0 – 15.

How many bedrooms are available for use only by your household?

Please include all rooms built or converted for use as bedrooms.

99   Prefer not to say

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