

LOW CARBON TECHNOLOGY TRACKER RESULTS – Wave 5

Prepared for WWU

24th May 2024

IMPACT

FROM INSIGHT TO INFLUENCE

BACKGROUND &
OBJECTIVES

IMPACT
FROM INSIGHT TO INFLUENCE

OUR STUDY



LOW CARBON TECHNOLOGY TRACKER

We have conducted 5 waves of our LCT tracker, aimed at understanding perceptions of LCTs, including heat pumps and hydrogen boilers.

It runs twice a year, in Spring and Autumn, tracking how these perceptions change over time.

The following slides give an overview of some of the results from the most recent wave, with fieldwork taking place in April 2024.

Previous fieldwork dates:

Wave 1 (Spring 2022)

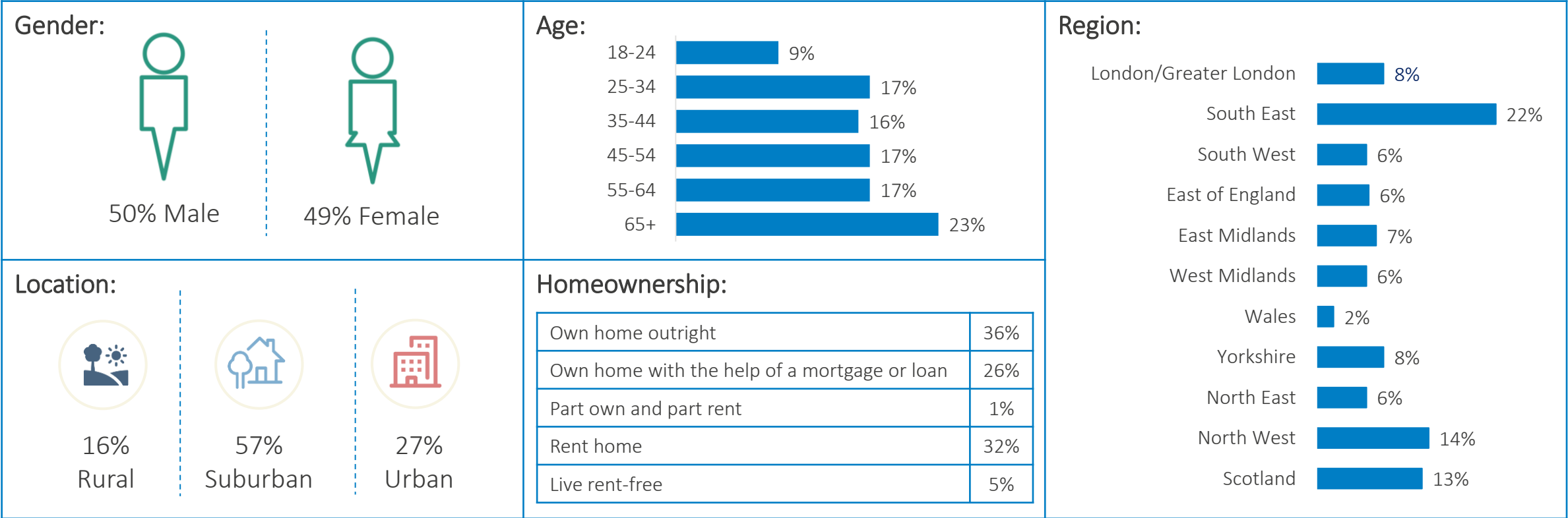
Wave 2 (Autumn 2022)

Wave 3 (Spring 2023)

Wave 4 (Autumn 2023)

KEY DEMOGRAPHICS – NAT REP GB SAMPLE

This wave of the LCT tracker represents **1,001** citizens from across the GB and is nationally representative. Participants were from all over the GB with just over half of them living in the suburbs, and most owning their homes, either outright or through a mortgage or loan.

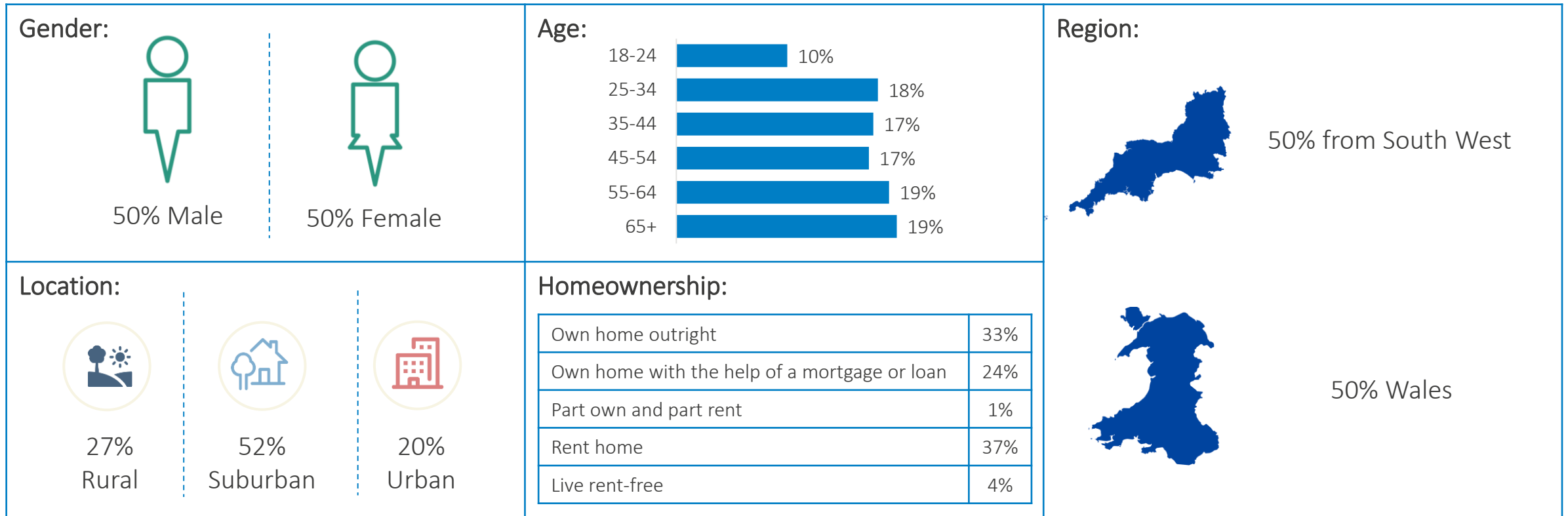


Data has not been weighted. All significance testing is conducted at 95% level.

S2. Please record your age below. S1. Please record your gender below? S3. Please can you confirm where you live? S4. How would you describe the location where you live? S5. Do you (or your household) rent or own your home? . Base: Total sample W5 Nat Rep (1001)

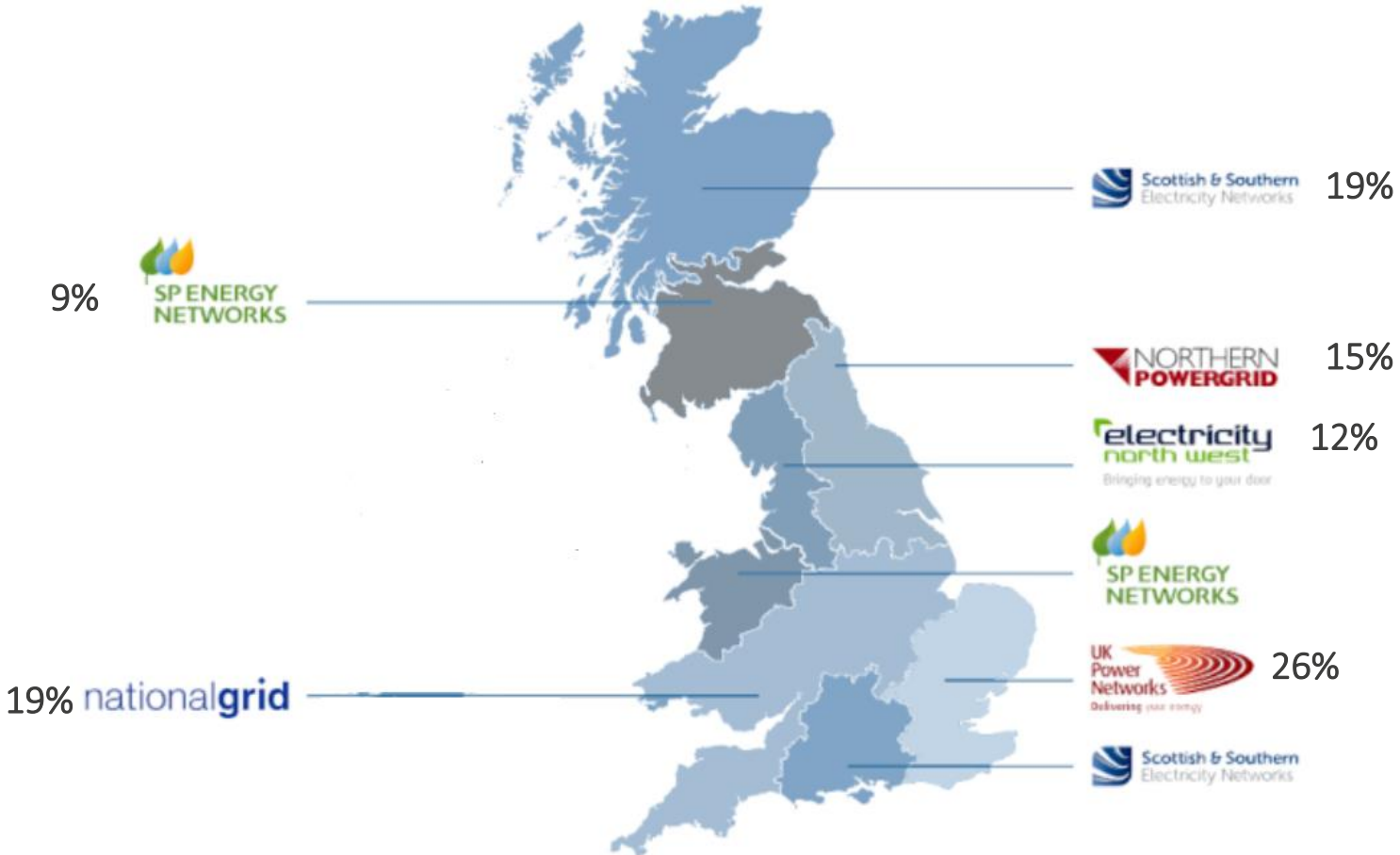
KEY DEMOGRAPHICS – SAMPLE BOOST WWU

This wave of the LCT tracker included a boost of **1,014 WWU customers**. The majority lived in **suburban areas** with **more than half owning their homes** either outright or through a mortgage/ loan.



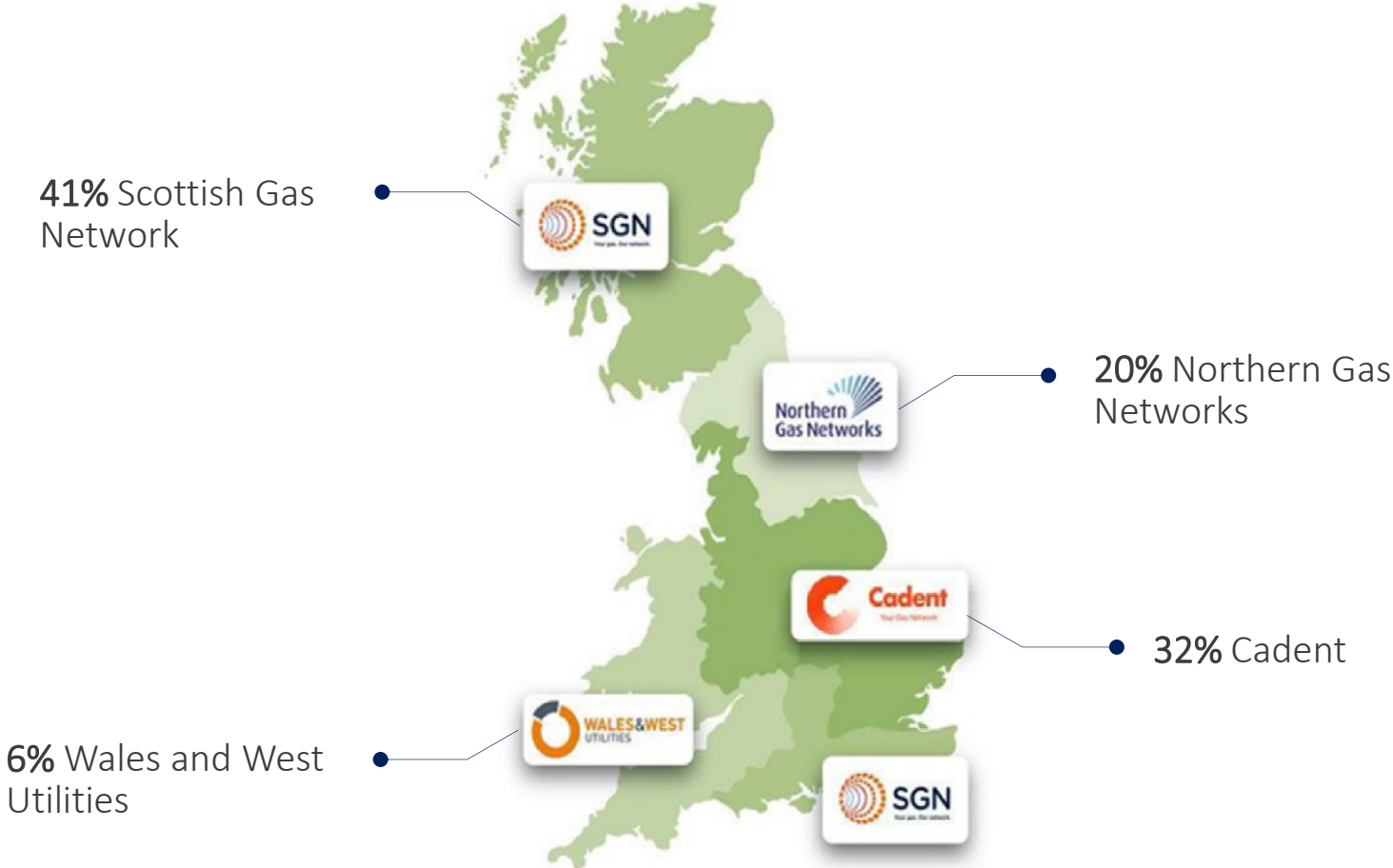
Data has not been weighted. All significance testing is conducted at 95% level.

PARTICIPANTS WERE FROM ALL MAINLAND GB DNOs



S3a. Which distribution company is responsible for maintaining the electricity network (this is the company that distributes your electricity, not the supplier you pay bills to) where you live? This map may help if you are unsure. If you are still unsure.
 Base: Total sample W5 Nat Rep (1001)

PARTICIPANTS WERE ALL FROM MAINLAND GB GDNS, WITH THE MAJORITY BEING FROM CADENT OR SGN



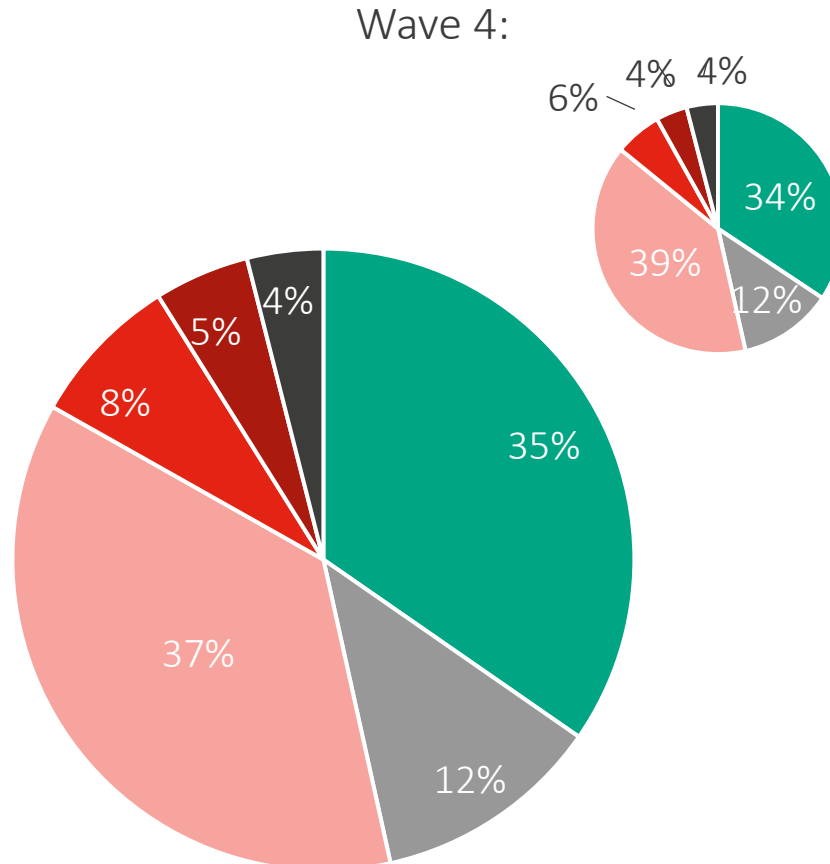
S3b. Which distribution company is responsible for maintaining the gas network (this is the company that distributes your gas, not the supplier you pay bills to) where you live? This map may help if you are unsure. If you are still unsure.
Base: Total sample W5 Nat Rep (1001)

PAYING ENERGY BILLS

Over half of GB struggles to pay their bills to some degree.

Paying energy bills:

- Never struggle to pay
- Not struggled in the past, but concerned about future payments
- Sometimes struggle to pay but usually keep on top of bills
- Struggle to pay and I/we am often behind in my payments
- Always struggle to pay and nearly always behind in payments
- Would rather not say



WWU sample:

- WWU customers were less likely to say they **never struggled** (32%).
- 8% say they **struggle and are often behind on payments**.
- 37% say they **sometimes struggle**.
- 11% have not struggled in the past but are concerned with future payments.



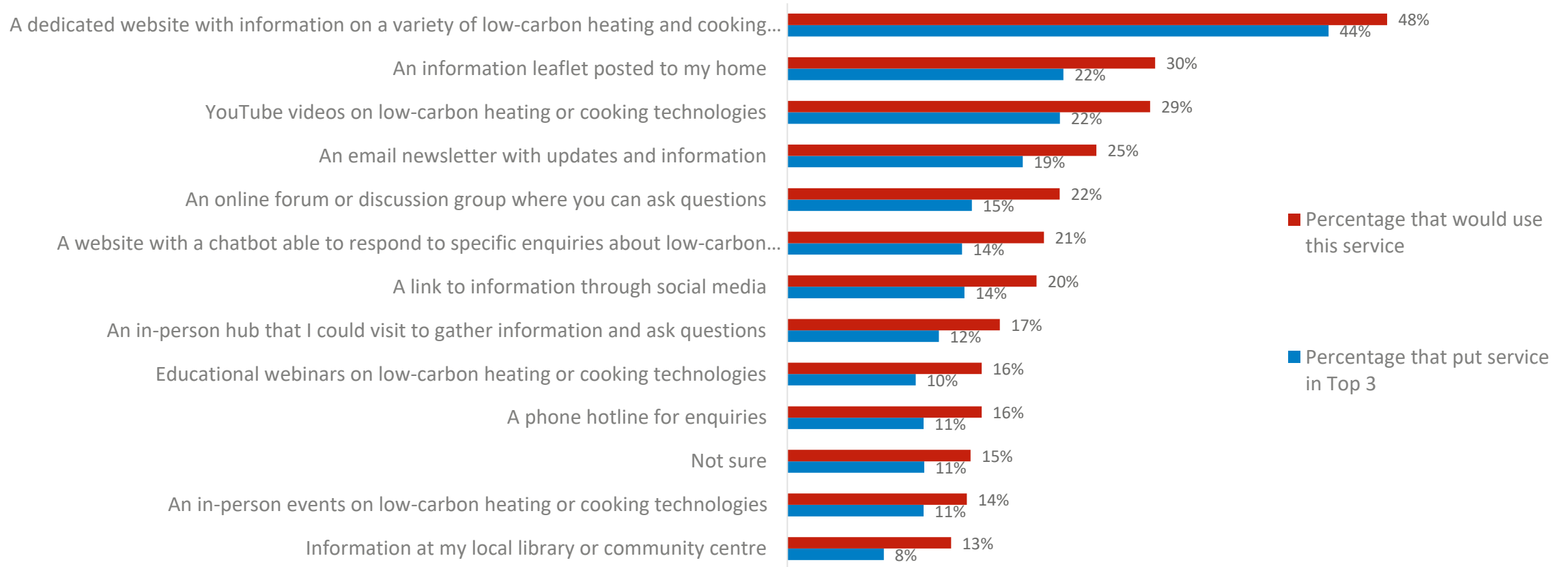
WWU QUESTIONS

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Sources of information on LCT

The most preferred place to find information on low carbon technology and low carbon heating, was a dedicated website. The order of preferred sources was very similar to Wave 4.



WWU1. If you wanted to find out more about new low-carbon heating technology or low-carbon cooking options such as hydrogen heating (of any type, not specifically one mentioned in this survey), how would you like to access this information? Please select all that apply. Base size: W5 WWU (1014)

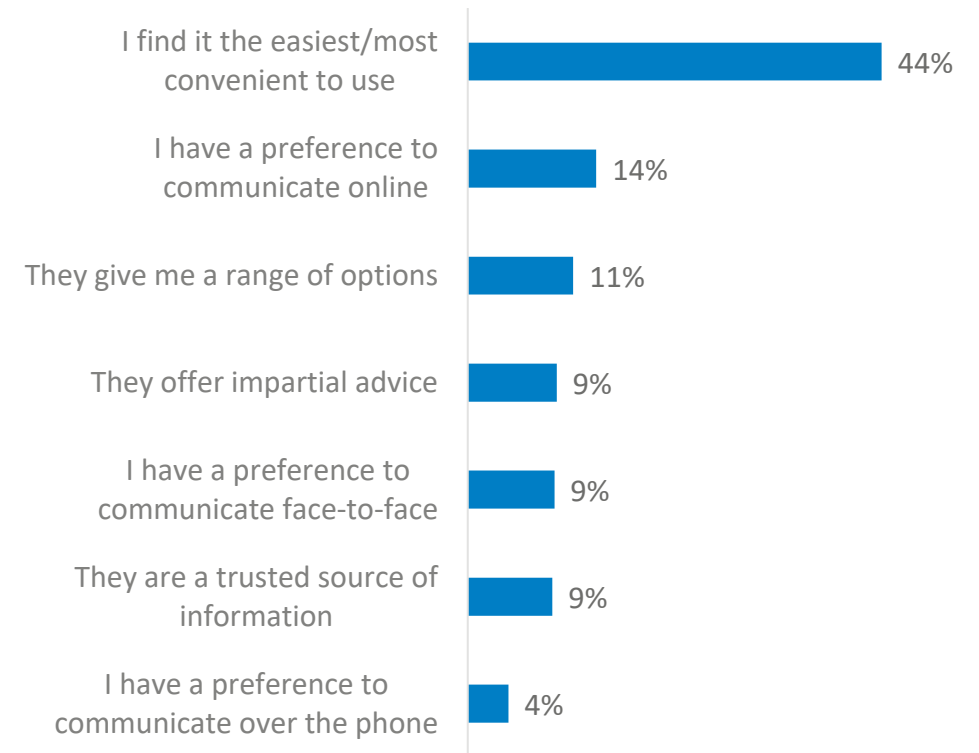
WWU2. From the information sources you selected above, please select the [if two options selected at WWU1: two, if three are selected: three] you would most like to use to access information, and rank them with the one you would most prefer in first place and your third most preferred in third place. Base size: W5 WWU (1014)

Reasons for source of information

The key reason why customers selected the source of information they did was ease of access. As this was different for different customers, there was a range of resources that customers would like to use.

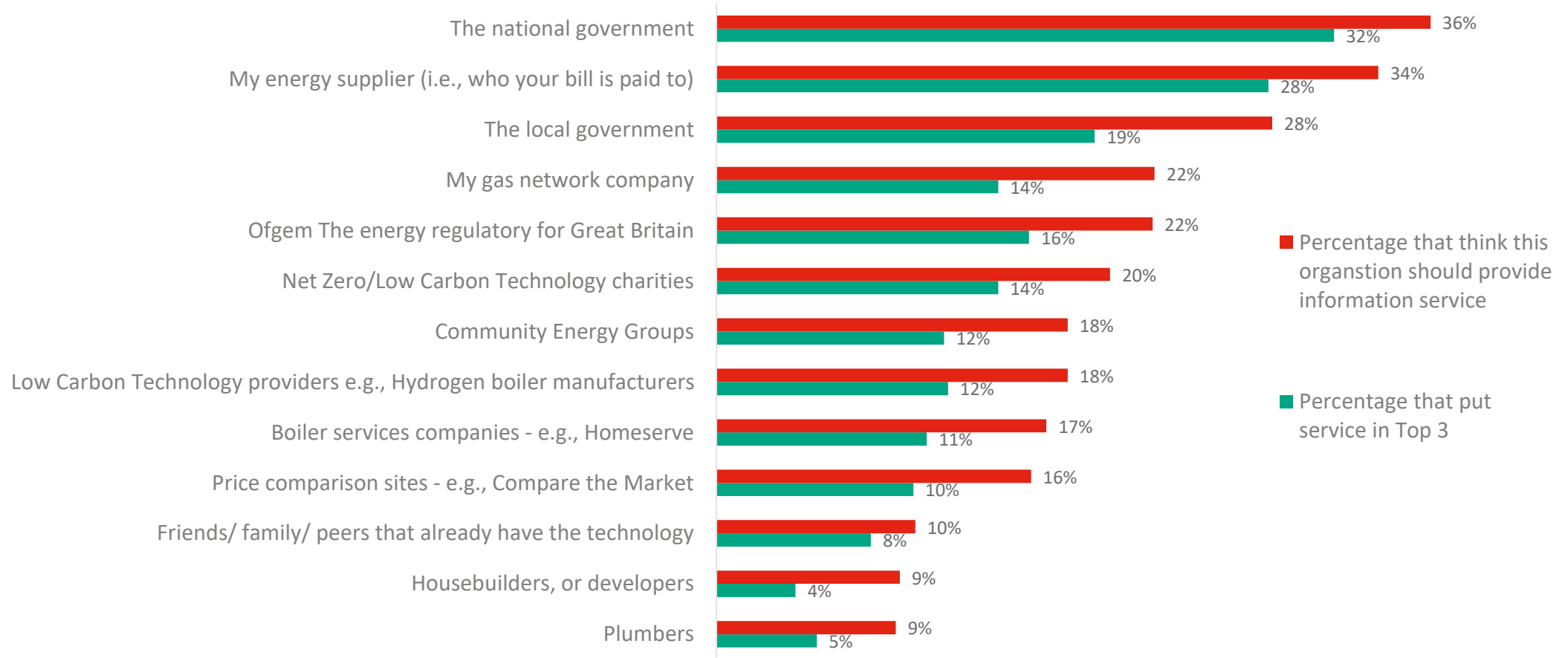
Source of information	Number that ranked in first place
An in-person hub	43
Dedicate website	285
Website with chatbot	50
Online forum	45
Leaflet posted	94
Information at library of community centre	23
Link through social media	45
Educational Webinar	23
Educational YouTube video	85
Emailed newsletter	39
In-person event	44
Phone hotline	40

Reason for ranking in first place



Who should be providing this information

Energy suppliers and local and national government were the most selected places customers would like to see information supplied from



WWU3. Who would you like to see provide this information service? Please select all that apply. Base size: W5 WWU (1014)

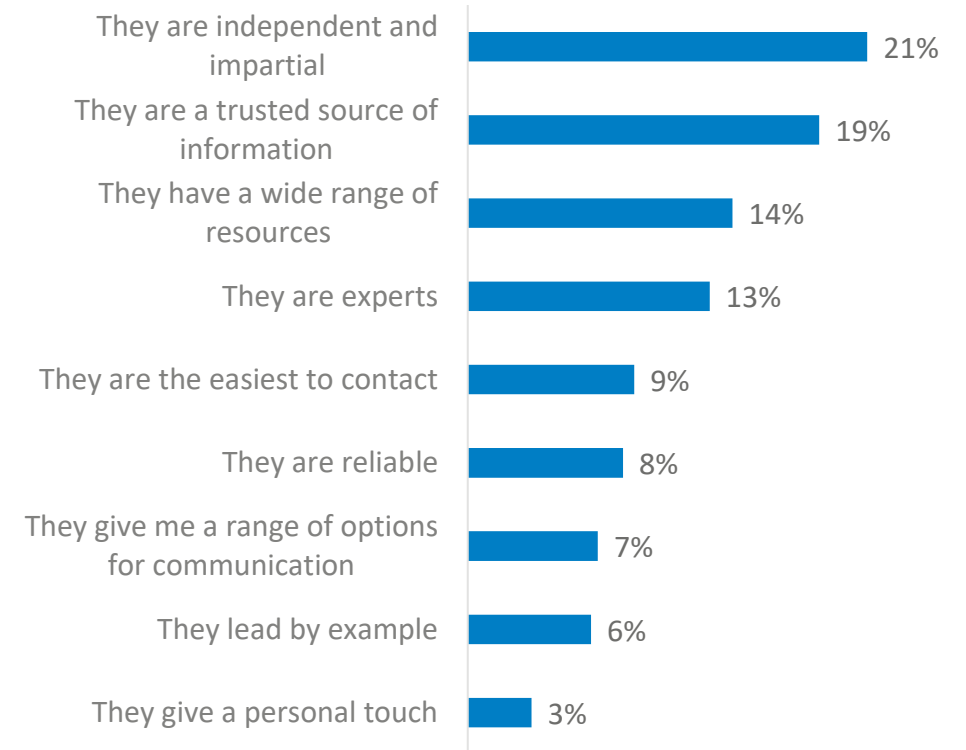
WWU4. From the providers of information you selected above, please select the [if two options selected at WWU3: two, if three are selected: three] you would most like to have information provided from, and rank them with the one you would most prefer in first place and your third most preferred in third place.. Base size: W5 WWU (1014)

Reasons for who customers would like to see provide information

Customers tended to trust different types of organisation, resulting in many different providers being wanted to give out information. Impartiality and ease were important to customers, along with expertise being provided.

Provider of information	Number that ranked in first place
Energy supplier	162
Local govt.	81
National govt.	174
LCT providers	47
Net Zero/ Low Carbon charities	61
Community Energy Groups	44
Ofgem	66
Boiler service companies	32
Plumber	17
Price comparison site	35
Friends/family/peers	33
Housebuilders or developers	6
My gas network	55

Reason for ranking in first place



NET ZERO PERCEPTIONS

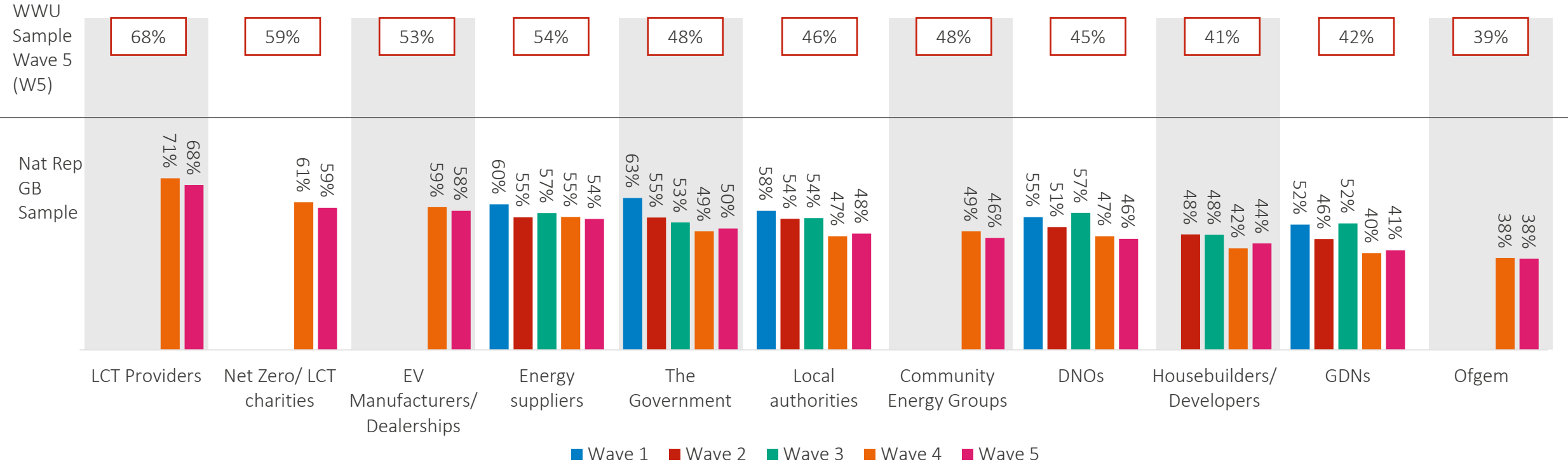
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CONTRIBUTION TO HELPING ACHIEVE NET ZERO

GB consumers believe that LCT Providers, Net Zero/LCT charities, and EV Manufacturers/Dealerships contribute the most to helping the UK reach net zero.

Contribution – T2B% (Top 2 box: significantly + make some contribution):



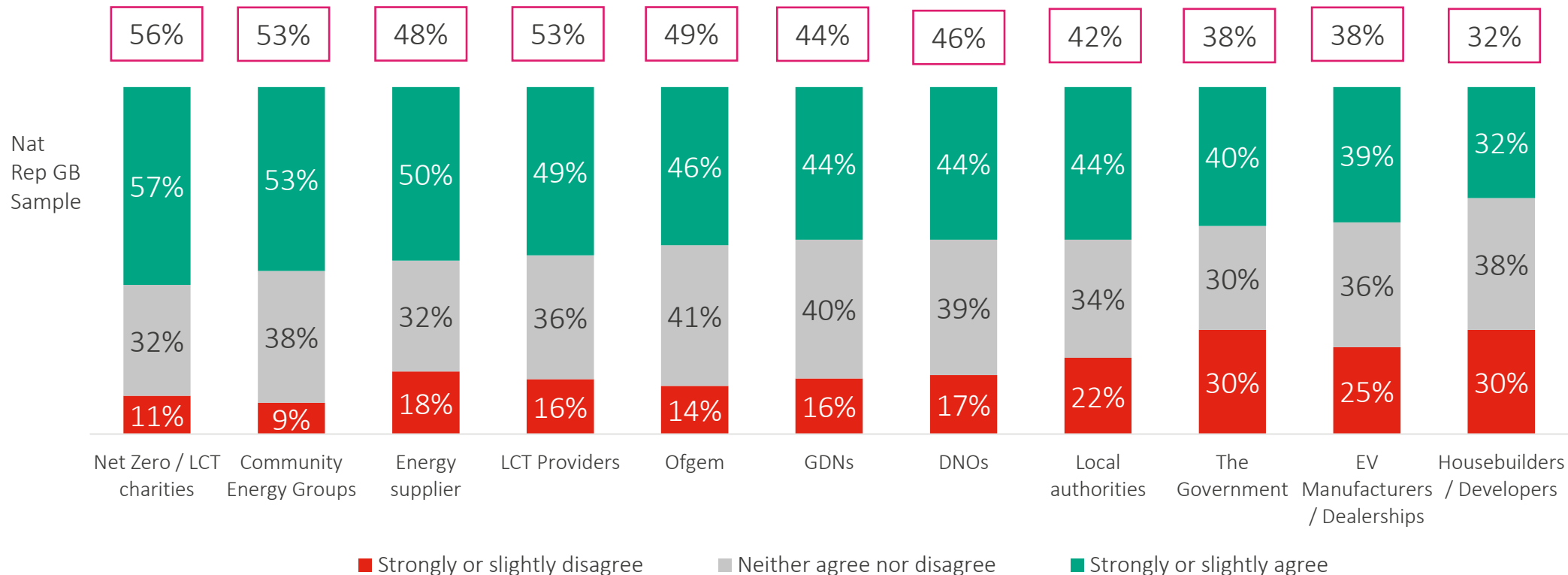
Those without data were not asked in previous waves.

L3. To what extent do each of the following contribute, if at all, to helping the UK reach net zero?
 Base: Total sample W5 Nat Rep (1001) WWU (1014)

TRUST IN THE INFORMATION ORGANISATIONS PROVIDE ON LCT

Trust in the information that organisations provide is varied, with Net Zero/Low Carbon Technology charities and Community Energy Groups being the most trusted sources, and Housebuilders/developers, EV manufacturers/dealerships, and the Government being the least trusted (and most distrusted) sources.

T2B% WWU Sample W5 (Top 2 Box – Strongly or slightly agree)



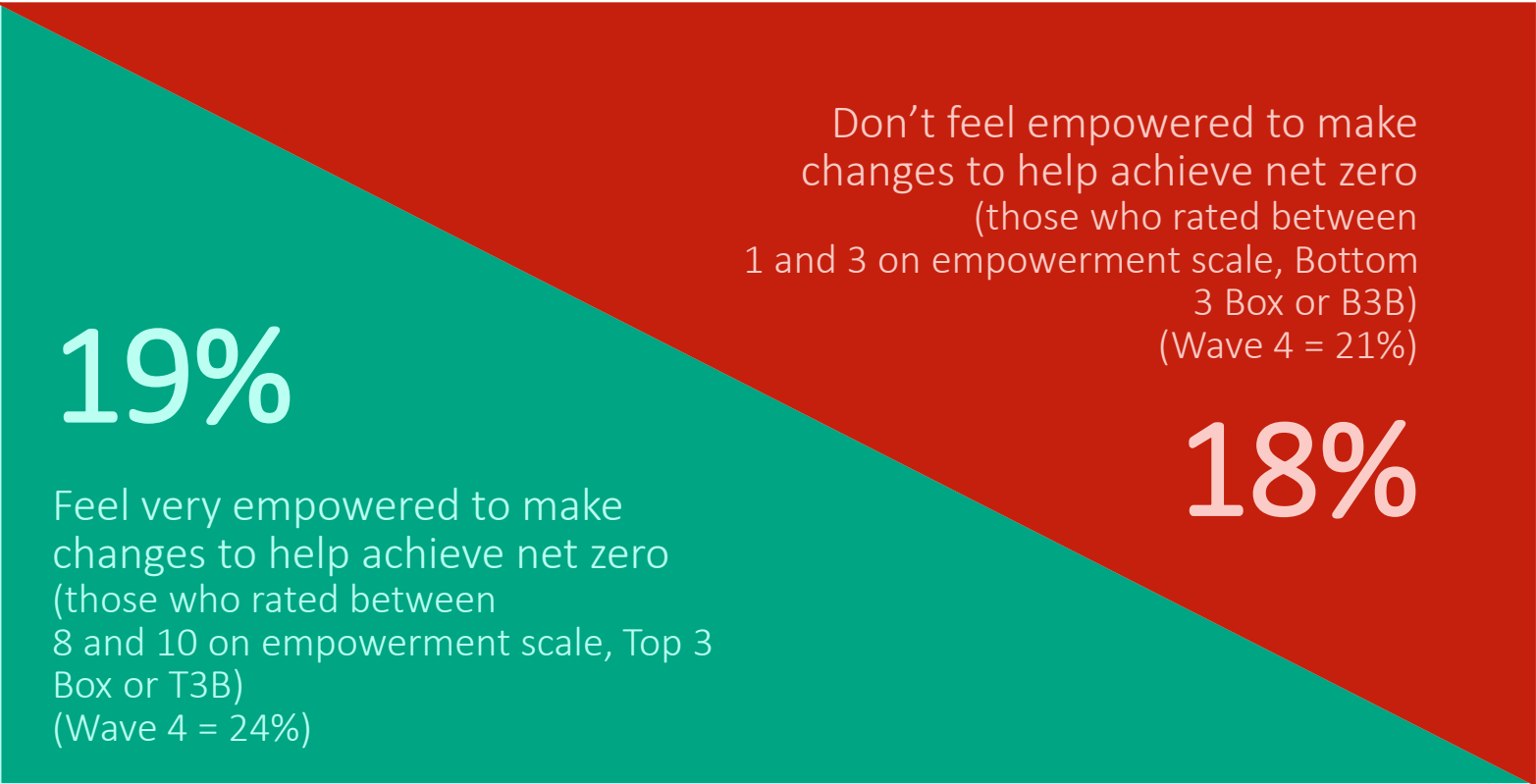
Subgroup differences (wave 5)

- A higher proportion of those living in SEG A agreed they trusted all organisations, compared to other SEG groups .
- No key differences were identified across the statements for age and gender

L3a. For each of the following types of organisations please indicate your level of agreement to the statement 'I trust this organisation to provide impartial advice on different aspects regarding your energy supply and usage'
 Base: Total sample W5 Nat Rep (1001) WWU (1014)

EMPOWERED TO MAKE A CHANGE TO ACHIEVE NET ZERO

Around a quarter of GB consumers feel empowered to make changes to achieve Net Zero. In comparison with the previous wave, the number of customers stating that they feel empowered has fallen.



Wave 5 Nat Rep = 7% Don't know, (Wave 4 = 4%)

WWU Sample:
20% very empowered to make a change to achieve Net Zero
22% who do not (T3B and B3B)

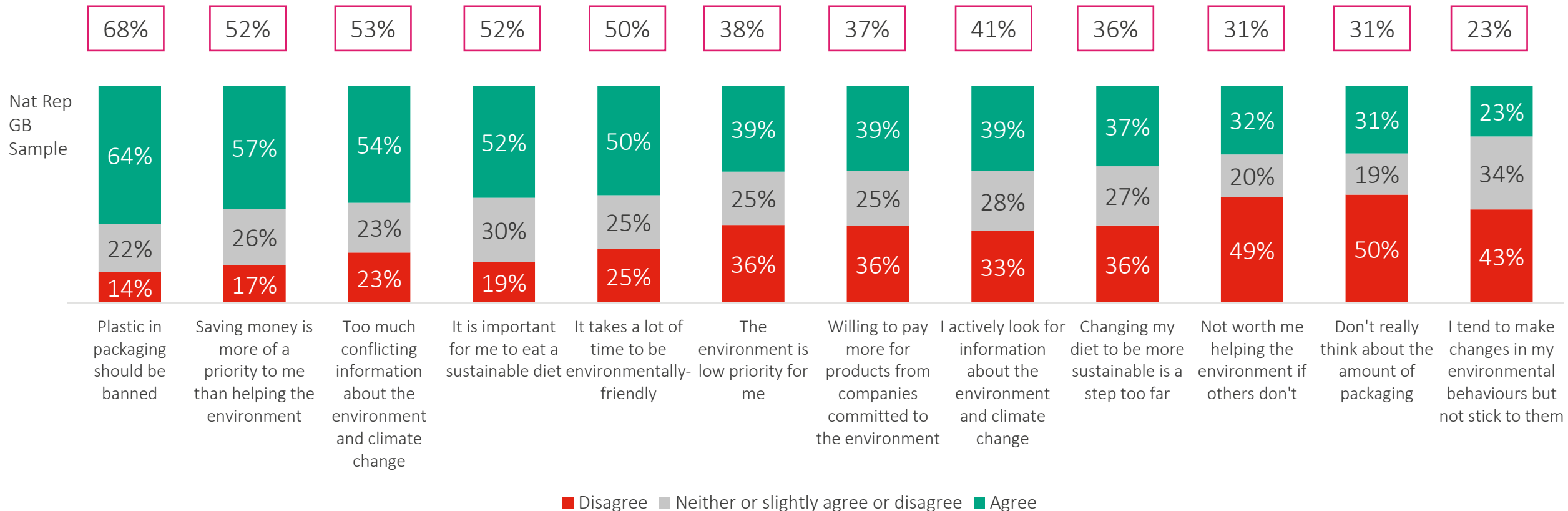


AGREEMENT/DISAGREEMENT WITH ENVIRONMENTAL STATEMENTS

The majority of GB consumers voiced views that personal financial issues are more pressing than helping the environment, and that there is too much conflicting information regarding the environment and climate change. There was also widespread agreement with highly reported topics such as the banning of plastics.

People disagreed with statements that deferred the responsibilities of climate change onto others.

T3B% WWU Sample W5 (Top 3 Box – 8-10 on a 10-point agreement scale)



GQ1r: To what extent do you agree or disagree with the following statements?
Base: Total sample W5 Nat Rep (1001) WWU (1014)

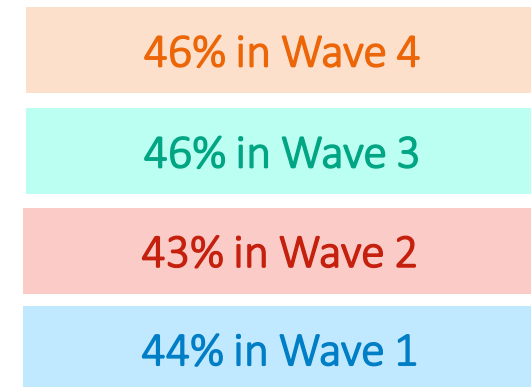
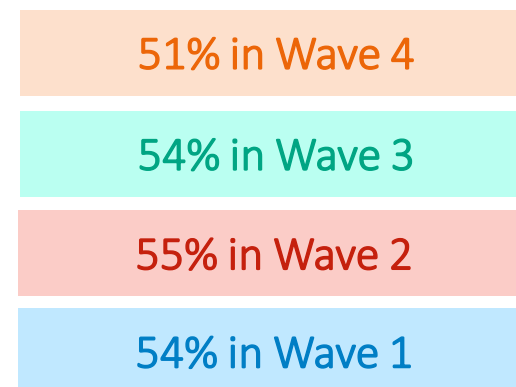
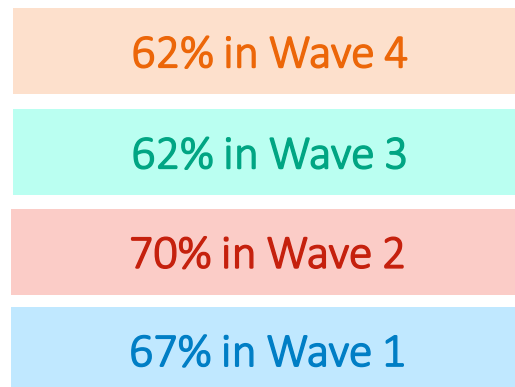
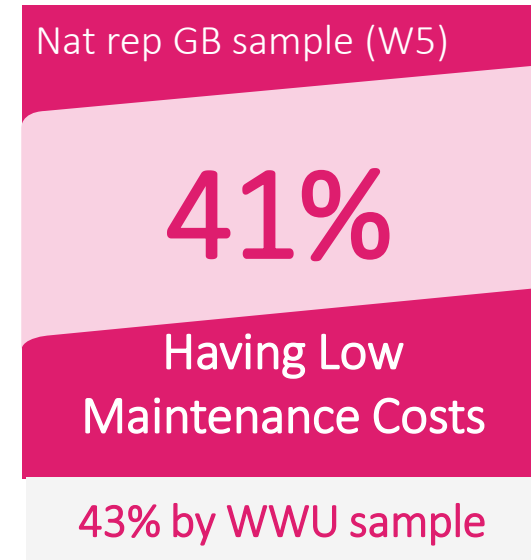
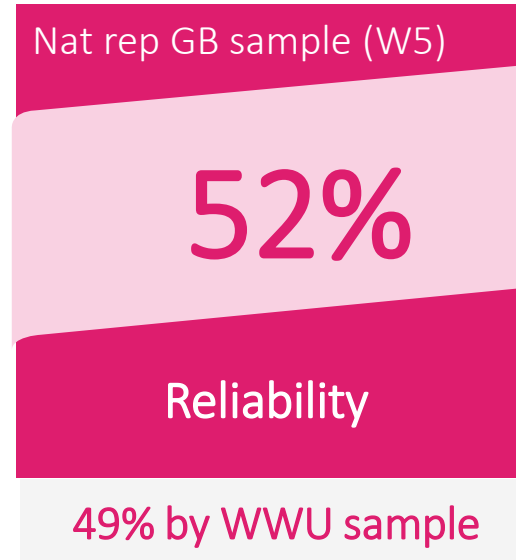
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PRIORITIES WHEN SELECTING A HEATING SYSTEM (TOP 3)

The most important features in a heating system for consumers are being economical to run, reliability and low maintenance costs. “Being economical to run” scored the lowest on record this wave.



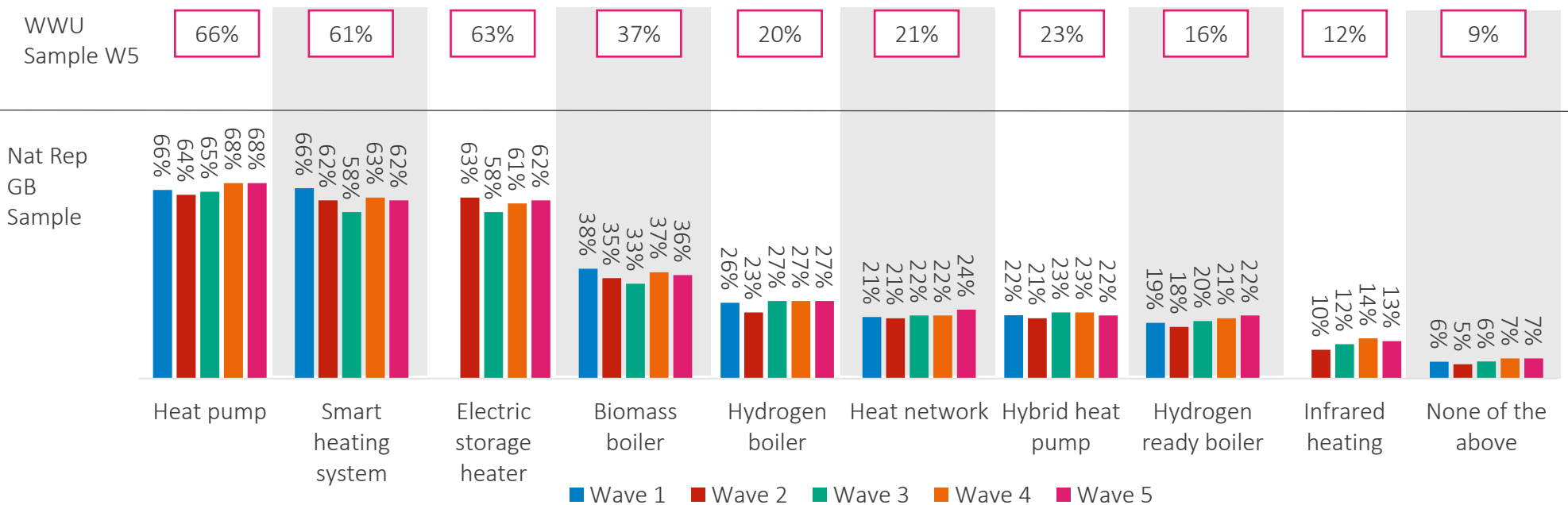
PHASING OUT GAS BOILERS AND REDUCING CARBON EMISSIONS

Prior to the survey, most had heard about the phasing out of gas boilers. Awareness of low carbon heating technologies was highest for heat pumps, smart heating, and electric storage heating.

71% (68% WWU) had heard of the phasing out of gas boilers *(73% in wave 4)*

59% (57% WWU) expected new build developers to already have stopped installing gas systems in new builds in favour of LCTs *(61% in wave 4)*

Respondents' awareness of low carbon heating technologies prior to the survey:



Subgroup differences (wave 5)

- Males, those over 55, and those who own their own home were more likely to be aware of a number of LCTs.

C1: Have you heard about the phasing out of gas boilers and other fossil fuels in homes?

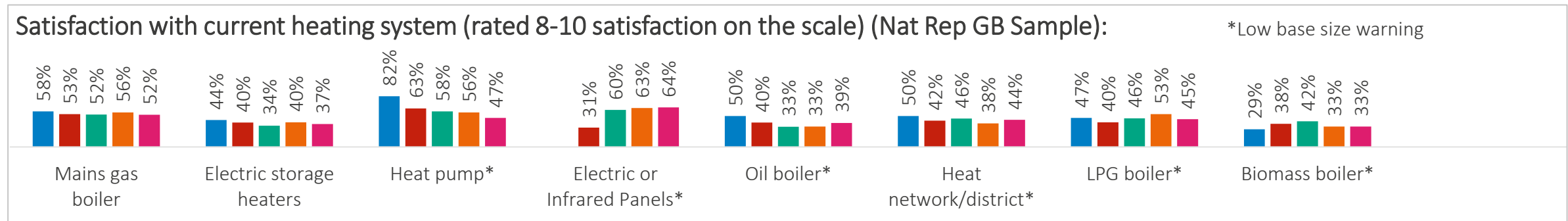
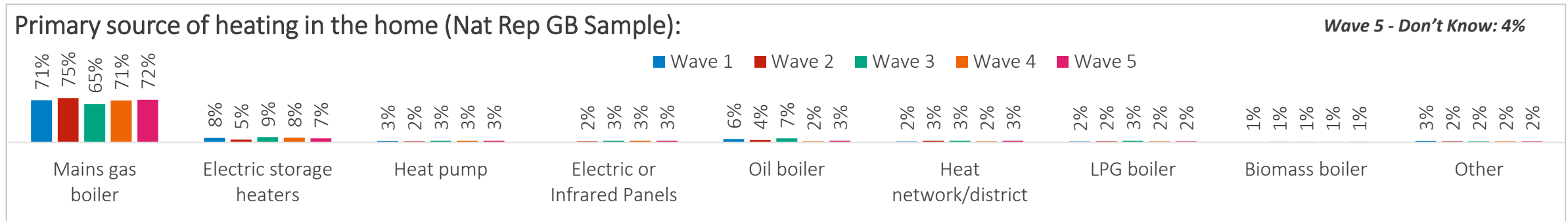
C2: When would you expect new build developers to stop installing gas systems and start including this low-carbon heating technology?

L5: There are lots of ways you can reduce carbon emissions from your home, such as how you choose to heat your home. Before this survey, which of the following low carbon heating technologies, if any, had you heard of?

Base: Total sample W5 Nat Rep (1001) WWU (1014)

HEATING IN THE HOME

The majority of GB consumers use a mains gas boiler to heat their homes. This wave saw similar proportions of gas boilers to waves 1 and 2. Those with electrical or infrared panels have the highest levels of satisfaction, as was the case in the last wave. Satisfaction with heat pumps has been steadily dropping over the previous waves.

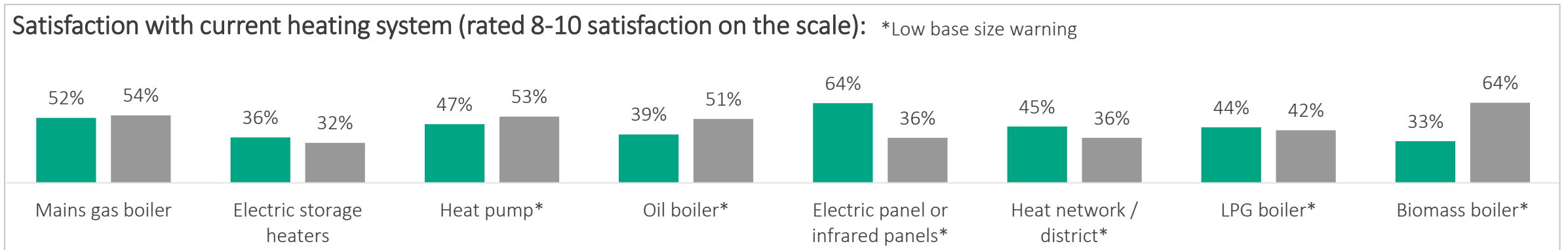
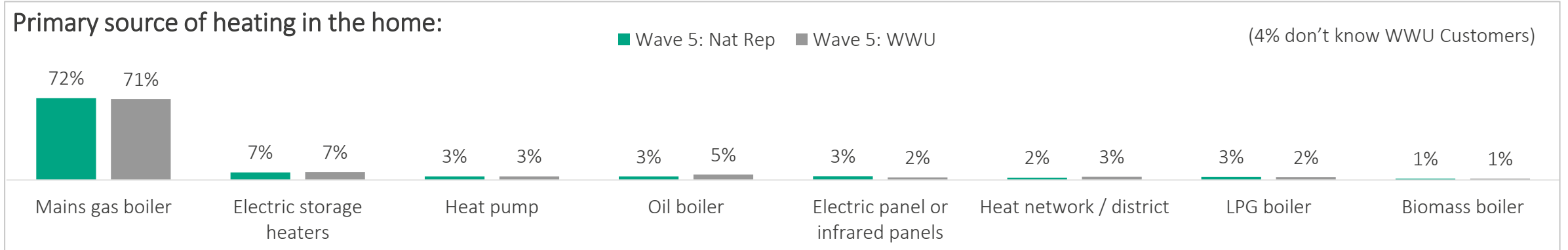


Subgroup differences (wave 5)

- Younger customers, those less than 34, are less likely to have a mains gas boiler as their primary source of heating and those that own their home are more likely

HEATING IN THE HOME (WAVE 5 NAT REP SAMPLE VS WWU SAMPLE)

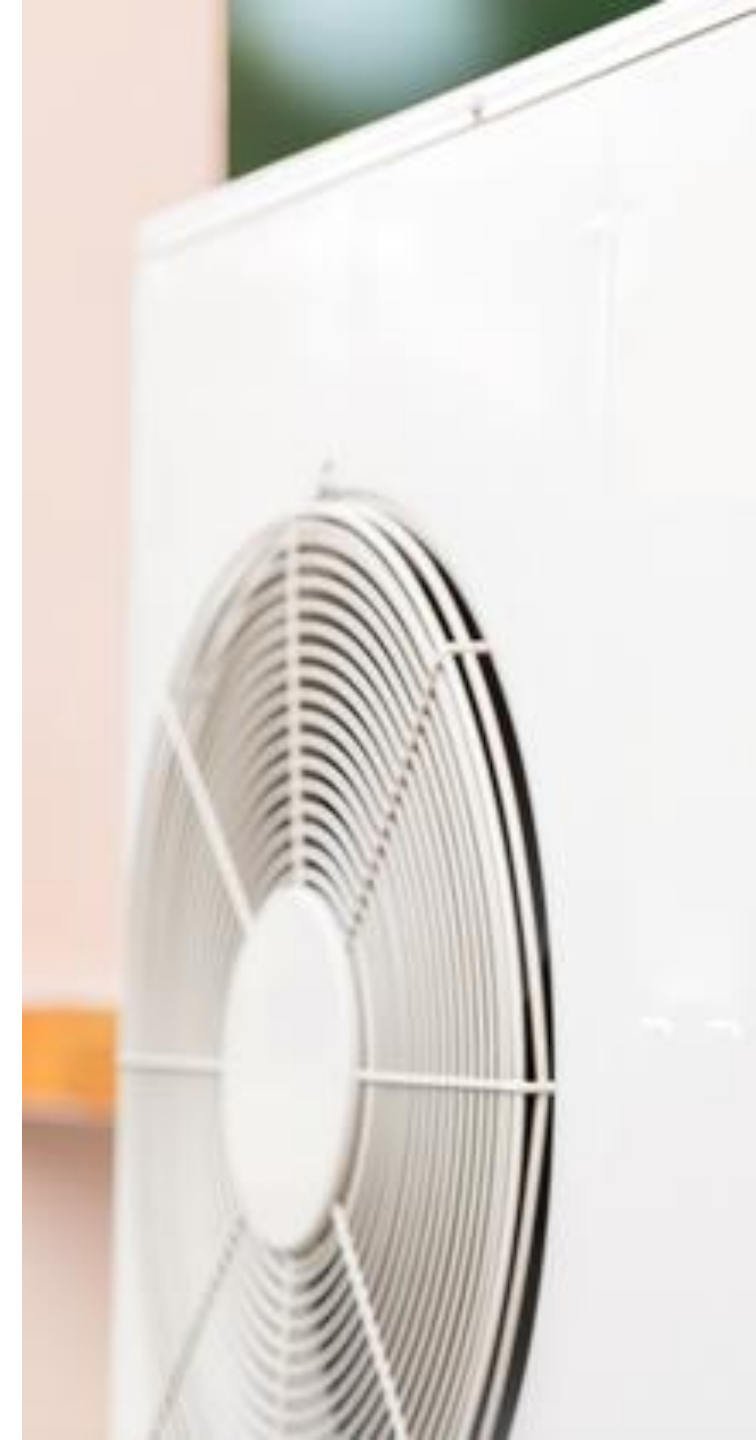
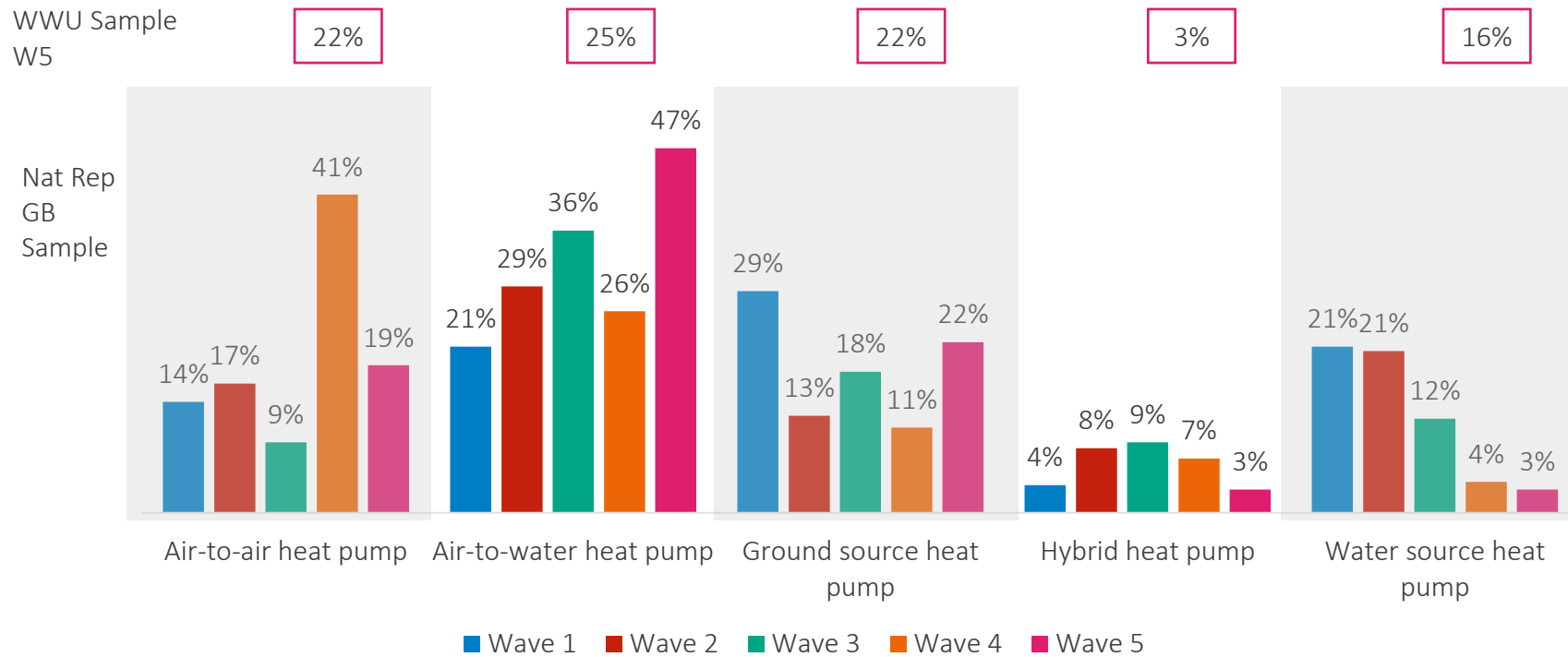
Customers of WWU had a similar number of gas boilers as GB overall, with satisfaction slightly higher



HEAT PUMP USED IN HOME

While base sizes are small and indicative, there appears to have been an increase in ownership of air-to-water heat pumps.

Current ownership of Low Carbon Technology: *Low base size warning

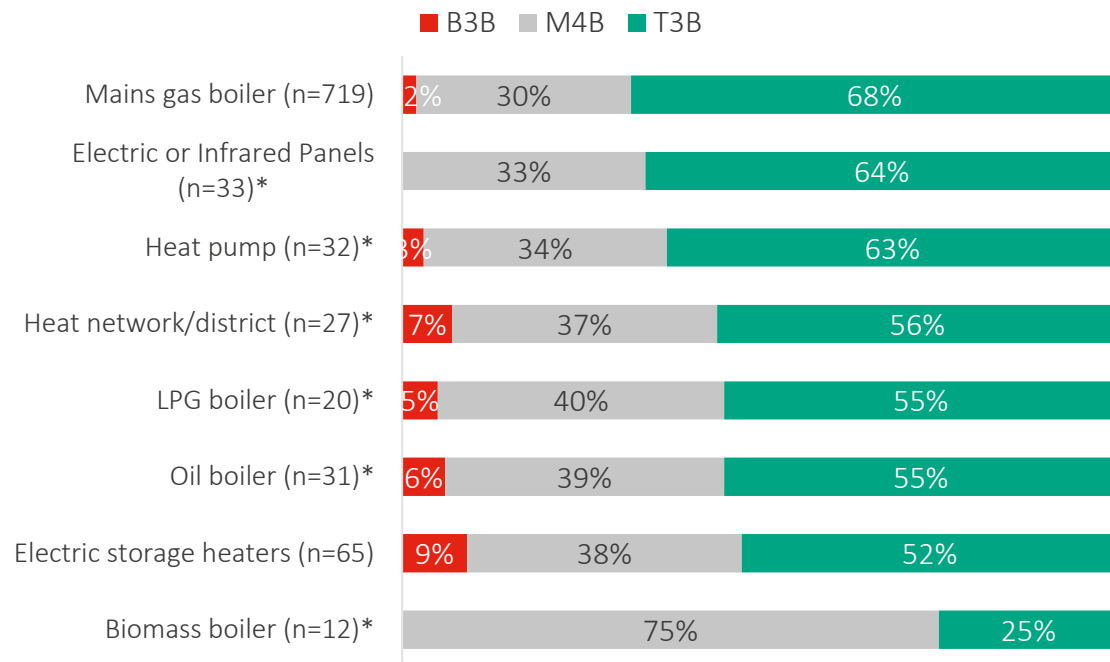


SATISFACTION WITH RELIABILITY OF CURRENT HEATING SOURCE

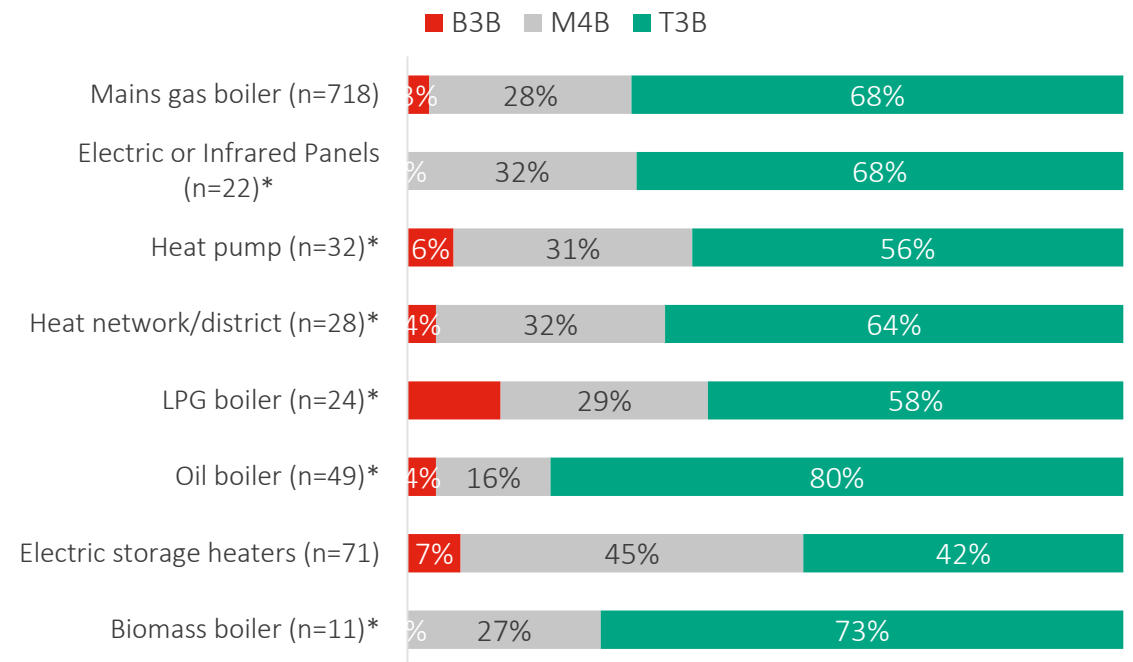
*Low base size warning

Overall consumers are fairly satisfied with the reliability of their heat system, with LPG boilers, Heat pumps, and mains gas scoring the highest in this area.

Satisfaction with reliability: Nat Rep GB Sample (W5)



Satisfaction with reliability: WWU Sample (W5)



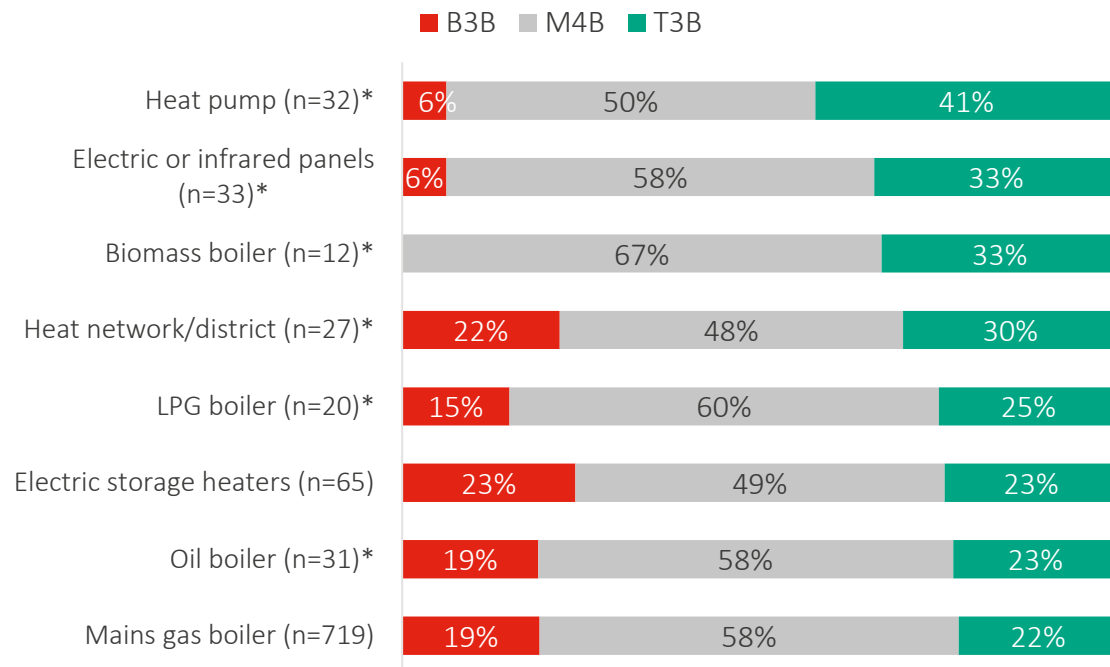
L10a How satisfied or dissatisfied are you with the reliability of your current heating system? Please give a score on the scale below, where 1 is very dissatisfied and 10 is very satisfied.

Base: Nat rep has each heating system, installed (12-719), WWU sample (11-718)

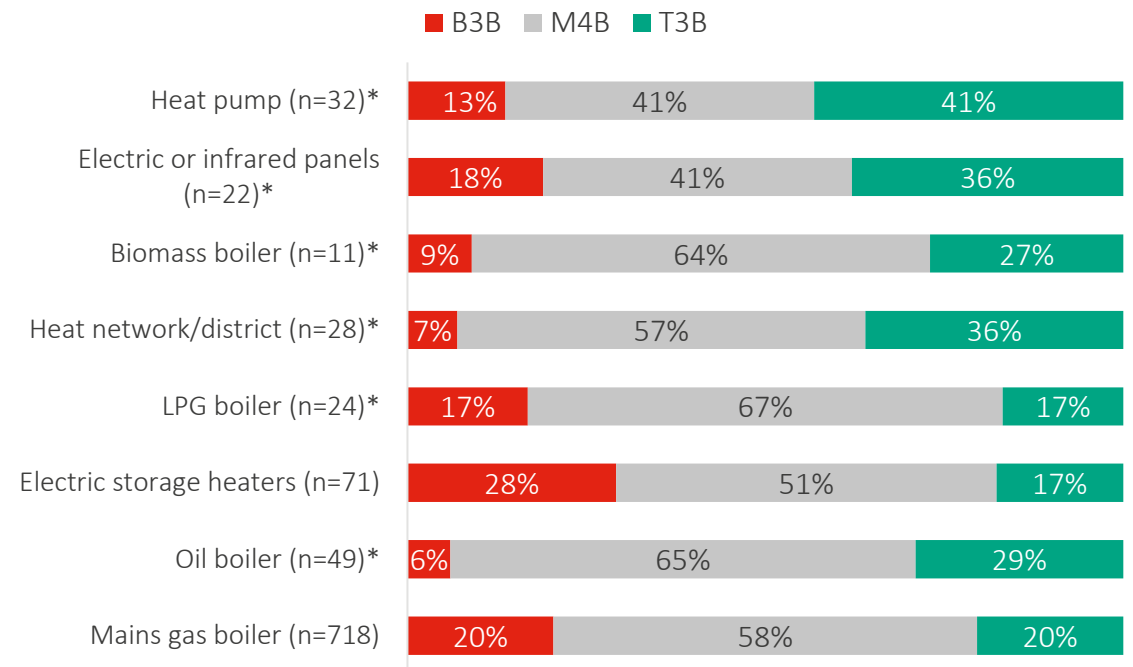
SATISFACTION WITH RUNNING COST OF CURRENT HEATING SOURCE ^{*Low base size warning}

Customers were generally less satisfied with the cost of their current heating system, compared to the reliability. Satisfaction scores for mains gas boilers are on the lower end of the scale, along with oil boilers.

Satisfaction with running cost: Nat Rep GB Sample (W5)



Satisfaction with running cost: WWU Sample (W5)

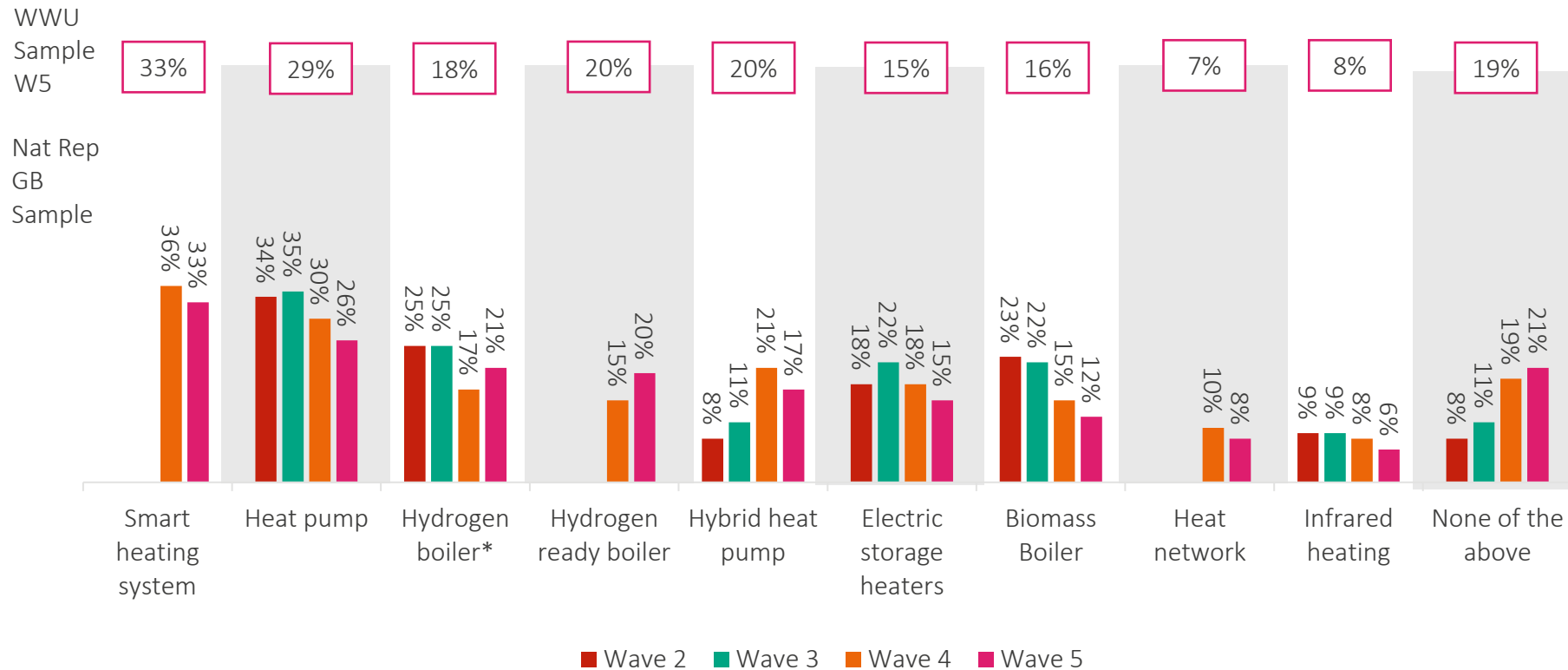


L10b How satisfied or dissatisfied are you with the cost to run your current heating system? Please give a score on the scale below, where 1 is very dissatisfied and 10 is very satisfied
 Base: Nat rep has each heating system, installed (12-719), WWU sample (11-718)

CONSIDERATION

If they needed to replace their current heating system, consumers are most likely to replace it with a smart heating system or a heat pump. However, interest in these has fallen since the previous wave.

Consideration if current heating system stops working:



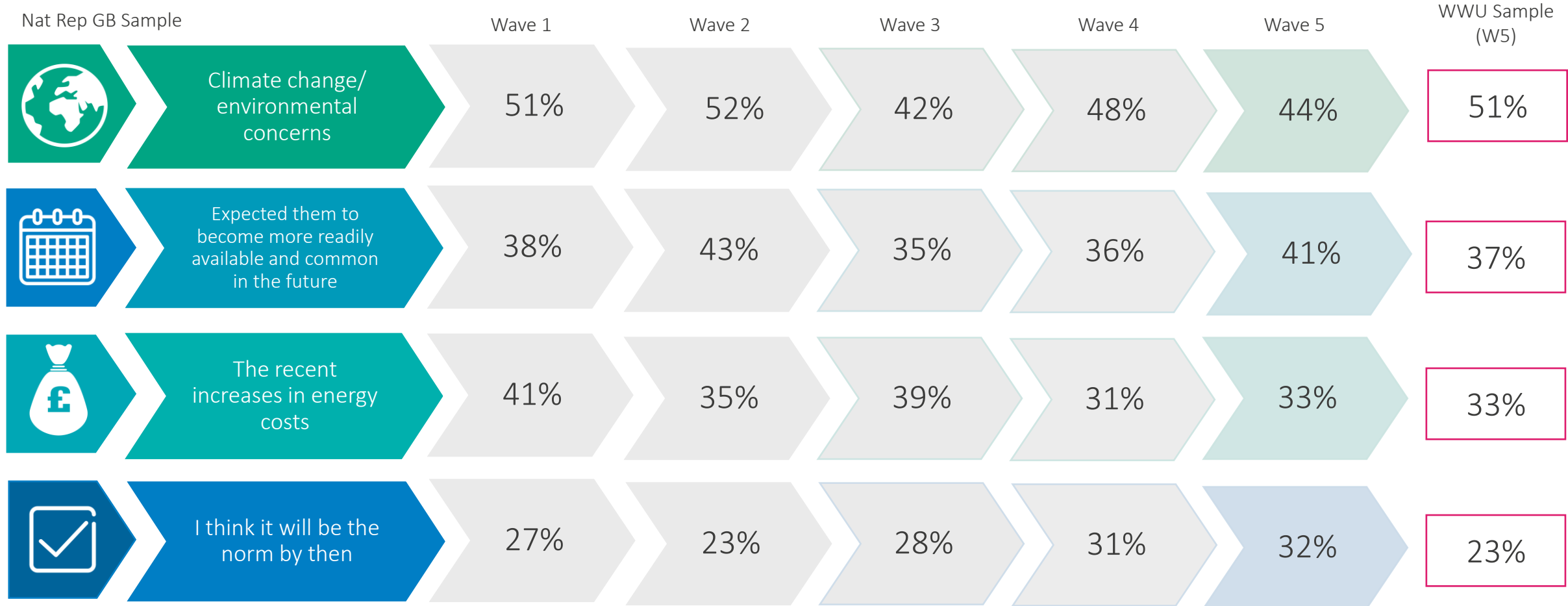
Subgroup differences (wave 5)

- Those in SEG D and E, as well as those who rent are more likely to say none of the above.

* Participants were asked to answer as if hydrogen boilers were available and ready to use.

WHY THEY WOULD CONSIDER A HEAT PUMP (TOP 4 REASONS)

The most mentioned reasons for being interested in heat pumps are due to climate change concerns and the expectation of them becoming more readily available in the future. Interest in climate change/environmental concerns has dropped slightly since the previous wave, while expected commonality has increased.



AWARENESS OF REQUIREMENTS FOR HEAT PUMPS

The majority of those interested in getting a heat pump are unaware of the level of work that could be needed to install a heat pump.

To maximize the efficiency of your heat pump, it's essential to have proper insulation in your home. If you do not currently have insulation in your walls, ceiling and floors, they may be needed to prevent heat loss in the winter and heat gain in the summer. You will need to seal any gaps or cracks in the house exterior, including around the windows, to prevent drafts and maintain a consistent indoor temperature.

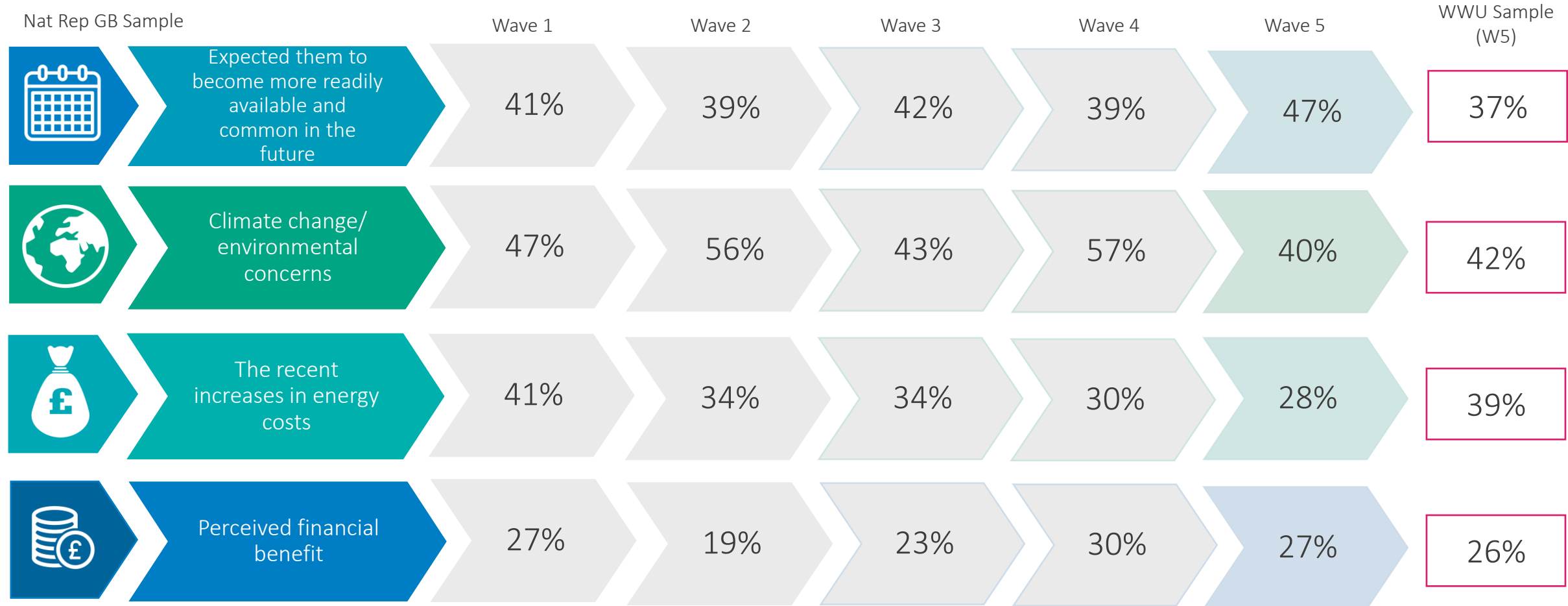
In addition, for a ground source heat pump, there is work needed outside your house, ideally in your garden. A ground source heat pump requires a network of pipes to be installed in the ground, either through a vertical ground hoop (fitted into a borehole up to 150 to 120 meters deep) or horizontal (installed in trenches around 1-2 meters deep). The pipes in the ground loop contain a fluid that absorbs heat from the soil to warm your home. An air source heat pump will provide less disruption to your home, as it runs through pipework similar to a traditional boilers, however it will require a unit to be installed on the outside of your building.

41% (40% WWU sample) of those who are interested in getting a heat pump are aware of the level of work that could be required when installing a heat pump. (Wave 4: 42%)

45% (49% WWU sample) of those who are interested in getting a heat pump stated that this information makes it less likely that they will install a heat pump. (Wave 4: 44%)

WHY THEY WOULD CONSIDER A HYDROGEN BOILER (TOP 4 REASONS)

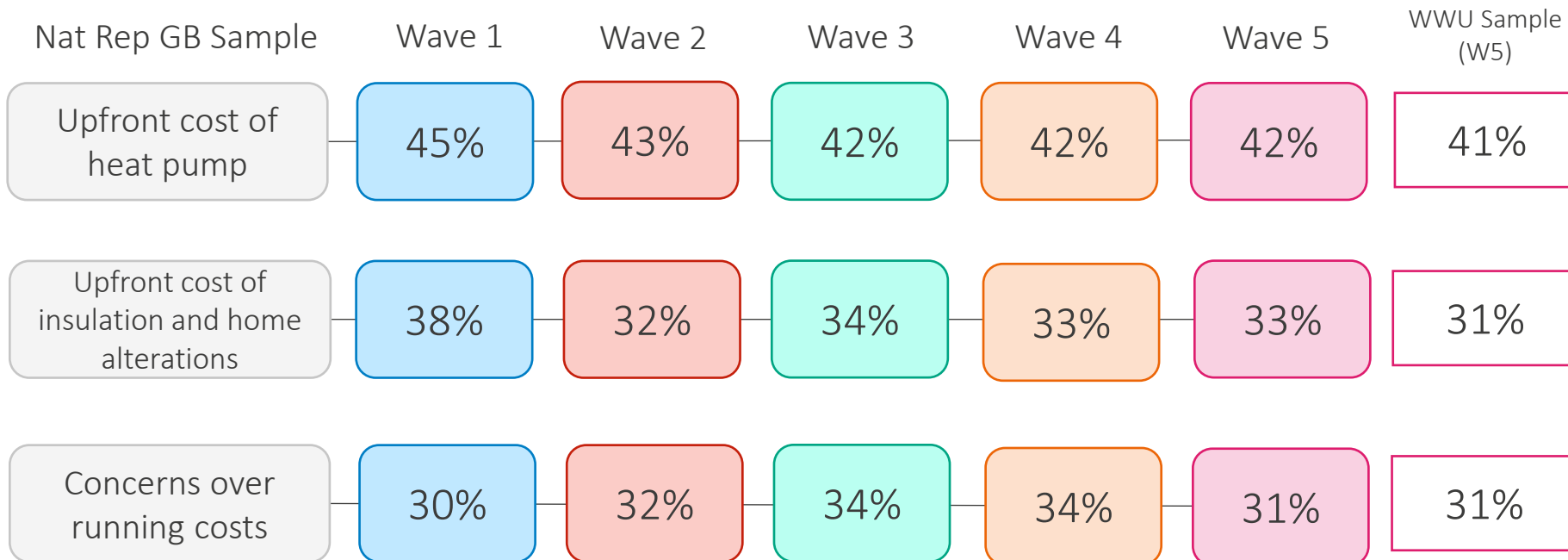
The most mentioned reasons for being interested in hydrogen boilers are due to expecting them to be more readily available and climate change. Climate change reasoning has significantly fallen since the previous wave, with expected commonality significantly rising to take its place.



BARRIERS TO HEAT PUMPS

Those not interested in installing a heat pump are mostly concerned about costs e.g. upfront costs, running costs and insulation costs.

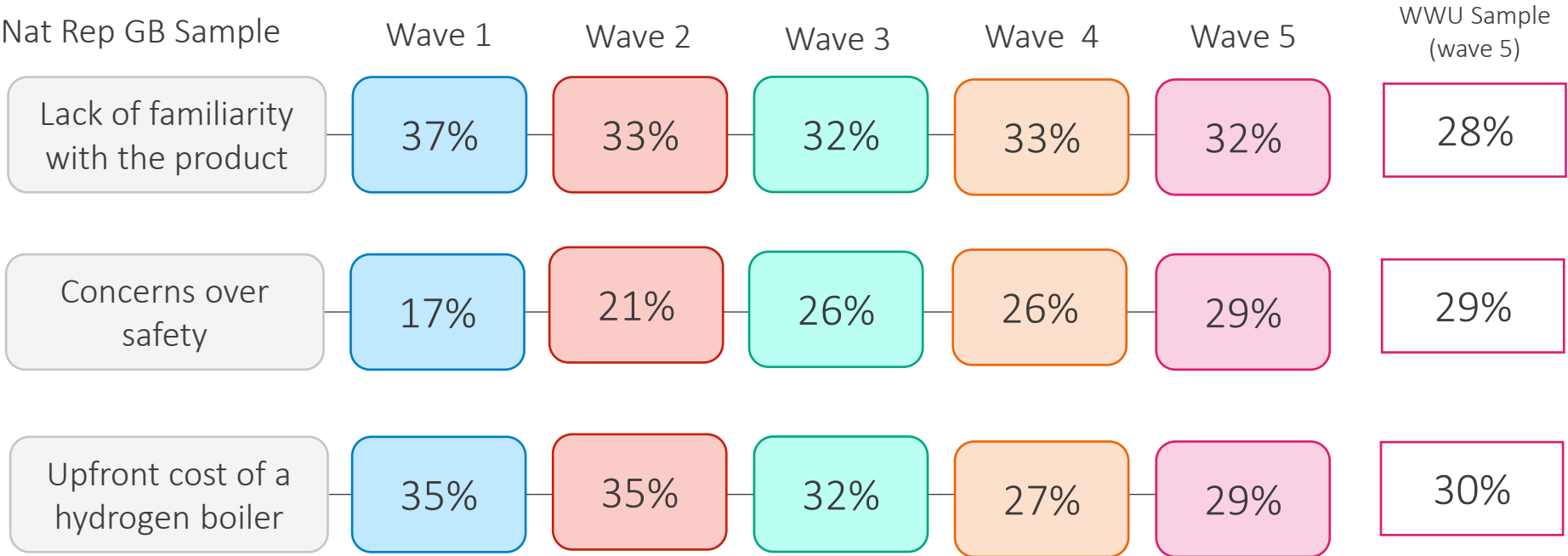
Top Barriers:



BARRIERS TO HYDROGEN BOILERS

Those not interested in installing a hydrogen boiler often lack familiarity and are concerned about the upfront costs. Concerns over safety emerged as a new top 3 barrier this wave, replacing lack of information about new technology (21%).

Top Barriers:

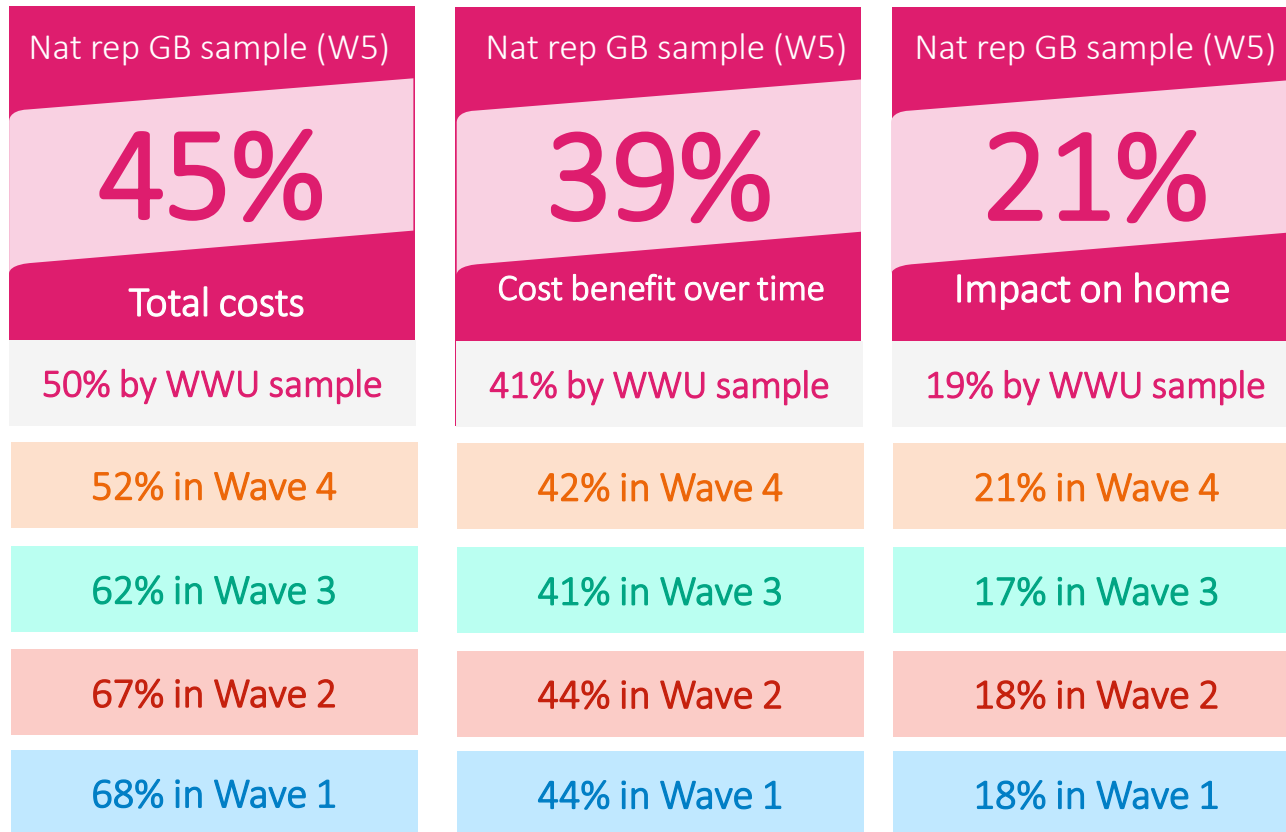


L17: You said you don't think you'll switch to using a hydrogen boiler (assuming they are available to buy, and hydrogen gas is supplied to your house) to heat your home, why is this?
 Base size: not willing to install hydrogen boiler Nat rep (790) WWU (827)

HEAT PUMPS - INFORMATION

Consumers are most interested to learn about total costs, cost benefits over time and the impact on the home. The latter has replaced subsidies to fund purchase (W5: 21%) as the third most popular information. Consumers would most likely approach energy suppliers for heat pump information, although less so than for previous waves.

Top 3 bits of information about heat pumps they would like:



Top 3 orgs to help them find info about heat pumps (Nat rep GB sample W5):



Energy suppliers (27%)

- WWU W5 sample (30%)



Price comparison sites (20%)

- WWU W5 sample (21%)



Friends/family/peers (20%)

- WWU W5 sample (23%)

Not sure (26%) WWU sample (22%)

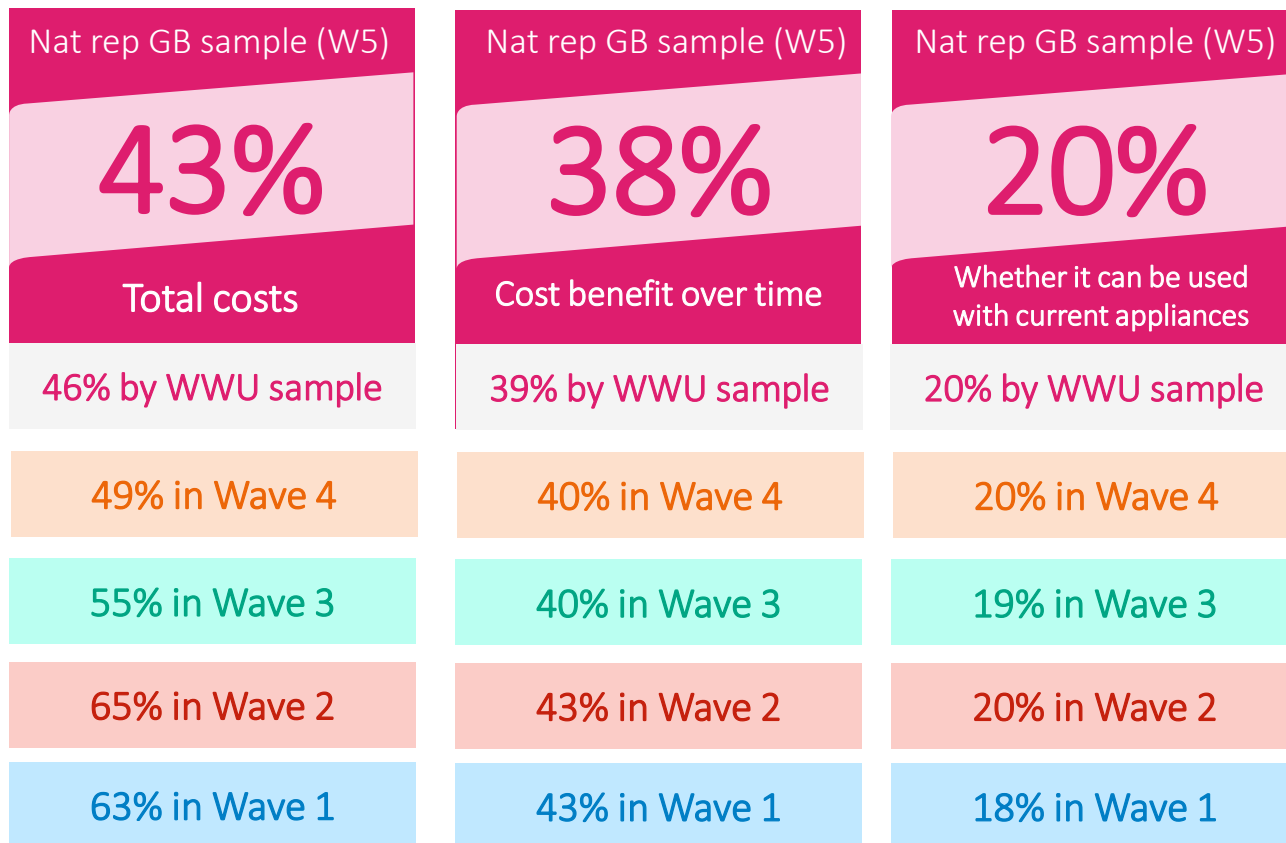
L22. If you were to receive information on low-carbon heating technologies, which of the following aspects would be the most important to you personally? Please select three options from below. Base: Total sample W5 Nat Rep (1001) WWU (1014)

L21. If you were interested in finding out more about any of the low carbon heating alternatives mentioned in this questionnaire, which of the following organisations, if any, would you approach for information? Base: Total sample W5 Nat Rep (1001) WWU (1014)

HYDROGEN BOILERS - INFORMATION

Consumers are most interested in learning about total costs, cost benefits over time and whether hydrogen can be used with current appliances. They would be most likely to approach energy suppliers for information about hydrogen boilers, closely followed by boiler service companies and price comparison sites.

Top 3 bits of information about hydrogen boilers they would like:



Top 3 orgs to help them find info about hydrogen boilers (Nat rep GB sample W5):



Energy suppliers (23%)

- WWU W5 sample (25%)



Boiler services companies (18%)

- WWU W5 sample (19%)



Price comparison sites (18%)

- WWU W5 sample (18%)

Not sure (27%)

- WWU W5 sample (26%)

L22. If you were to receive information on low-carbon heating technologies, which of the following aspects would be the most important to you personally?

Please select three options from below. Base: Total sample W5 Nat Rep (1001), WWU (1014)

L21. If you were interested in finding out more about any of the low carbon heating alternatives mentioned in this questionnaire, which of the following organisations, if any, would you approach for information? Base: Total sample W5 Nat Rep (1001), WWU (1014)

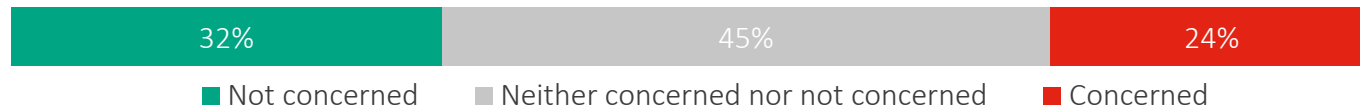
HYDROGEN AWARENESS

Awareness of hydrogen boilers was relatively high. Most participants had heard of hydrogen boilers from traditional media. Concern was relatively low, however, most who were concerned highlighted safety measures, costs, and environmental benefits.

65% (60% WWU) were aware of hydrogen as an alternative fuel source.

Participants saw travel as the most appropriate use of hydrogen fuel (64% Nat rep and 62% WWU), then industrial processes (53% Nat rep and WWU), and home heating (48% Nat rep and WWU).

Concern about the use of hydrogen as a fuel (Nat Rep GB sample):



The most common concern regarding hydrogen as a fuel was safety (87% Nat rep GB and 79% WWU), followed by cost (48% Nat rep GB and 43% WWU), with environmental impact scoring last (39% Nat rep GB and 38% WWU).

Additional information requested:

	Nat rep GB sample	WWU W5 sample
Safety measures	73%	72%
Cost comparison to natural gas	66%	64%
Environmental benefits	58%	59%
How hydrogen is produced	47%	48%
Home adaptations required	46%	48%

Where customers have heard of hydrogen as an alternative fuel source:

	Nat rep GB sample	WWU W5 sample
Traditional media	69%	67%
Social media	25%	29%
Industry publications	12%	11%
Government	11%	13%
Academia	9%	12%

GDN1: Were you aware of hydrogen being used as an alternative fuel source, before taking part in this questionnaire? GDN3: Which of the following applications of hydrogen do you feel are appropriate? GDN4: On a scale from 1 to 5, how concerned are you about the following aspects of using hydrogen as an alternative fuel? GDN6: What additional information would you like to know about hydrogen as a fuel source? Total sample W5 Nat Rep (1001), WWU (1014)

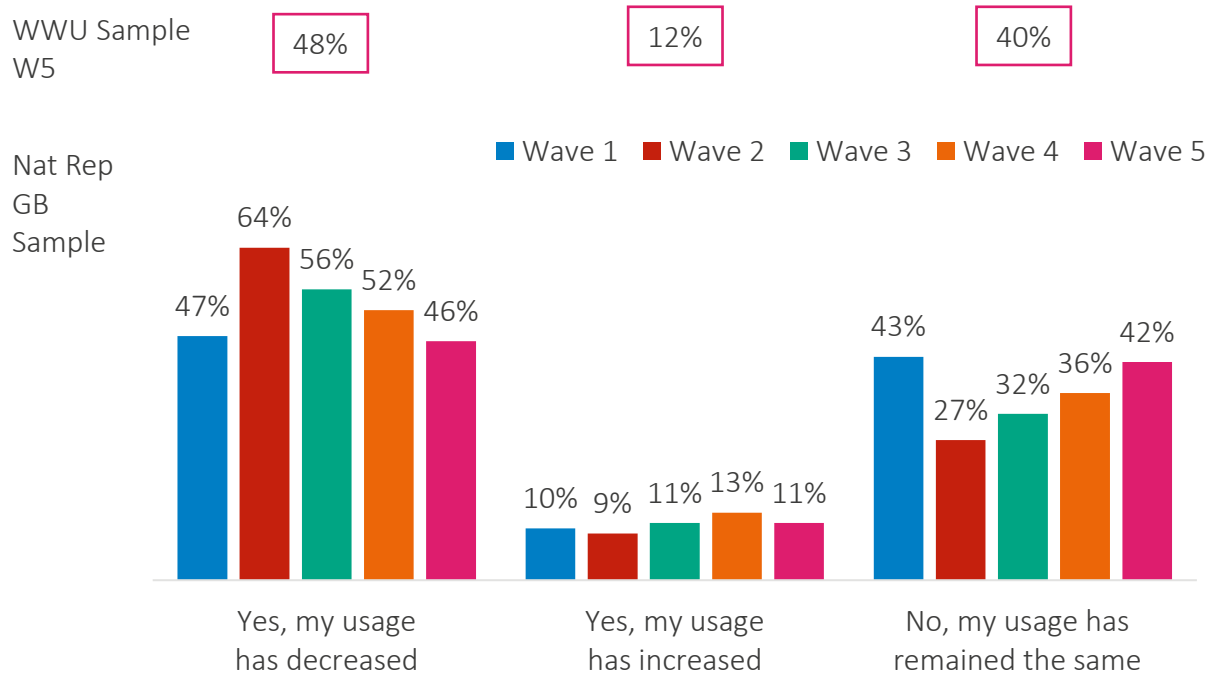
GDN2: From where have you heard about hydrogen as an alternative fuel source? Base: Heard of hydrogen as a fuel source Nat Rep (654) WWU (609)

GDN5: What concerns do you have about using hydrogen as an alternative fuel to natural gas? Base: Concerned about hydrogen as a fuel source (236) WWU (215)

HEATING HABITS

W2 (Autumn 2022) saw a significant shift in people claiming to use less heating. However, habits are now gradually returning to where they were in W1 (Spring 2022).

Have your heating habits changed recently?



Why they have reduced heating in the home?

- **89% (91% WWU)** - To save money (*Wave 1 = 85%, Wave 2 = 92%, Wave 3 = 92%, Wave 4 = 92%*)
- **8% (6% WWU)** - To be better for the environment (*Wave 1 = 5%, Wave 2 = 3%, Wave 3 = 5%, Wave 4 = 6%*)
- **3% (3% WWU)** - Other

L24: Have your heating habits changed recently? Please compare your usage with previous years, when outside temperatures would have been similar. Base:

Total sample W5 Nat Rep (1001), WWU (1014)

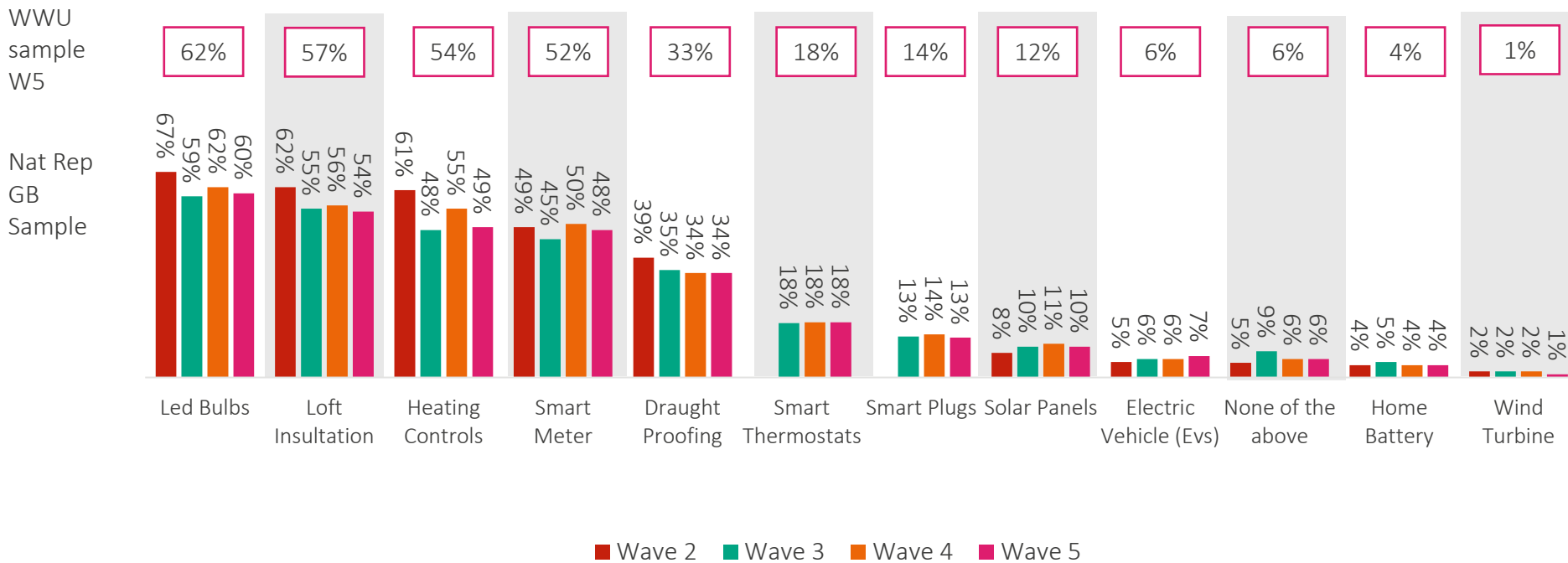
L24a: You said you have reduced the amount of heating you use in the home, What is the main reason for this? Base: Have reduced heating Nat Rep (464),

WWU (490)

CURRENT OWNERSHIP OF ENERGY EFFICIENCY MEASURES

Over half of participants currently own LED bulbs, loft insulation and heating controls, very few owned electric vehicles.

Current ownership of Low Carbon Technology:



Subgroup differences (wave 5)

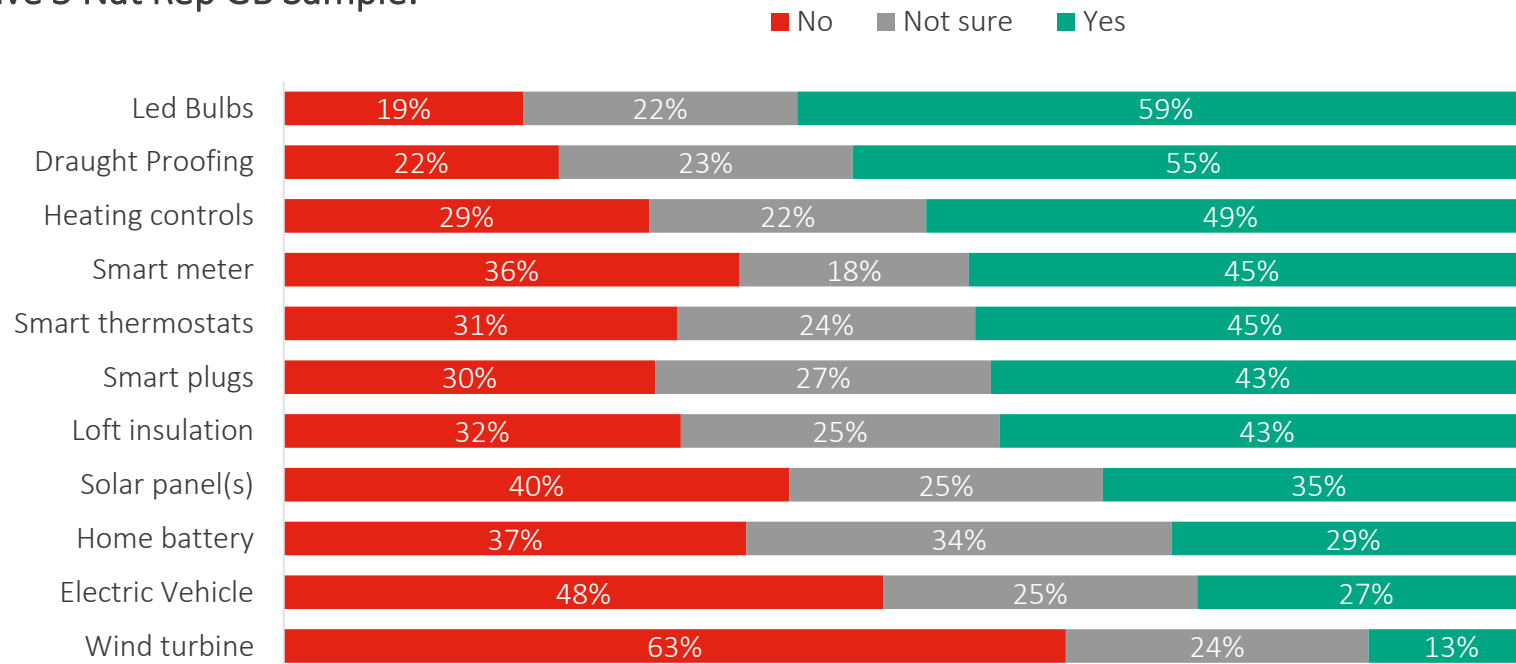
- Those aged 45+ and those who own their home are **more likely** to own a number of LCTs.
 - 45+** = LED bulbs, loft insulation, heating controls, draught proofing.
 - Own home** = LED bulbs, loft insulation, heating controls, draught proofing, solar panels.

Those without data were not asked in previous waves.

CONSIDERATION LCTs

Around half of consumers would consider LED bulbs, draught proofing and heating controls, whereas electric vehicles, home battery and wind turbine are less appealing.

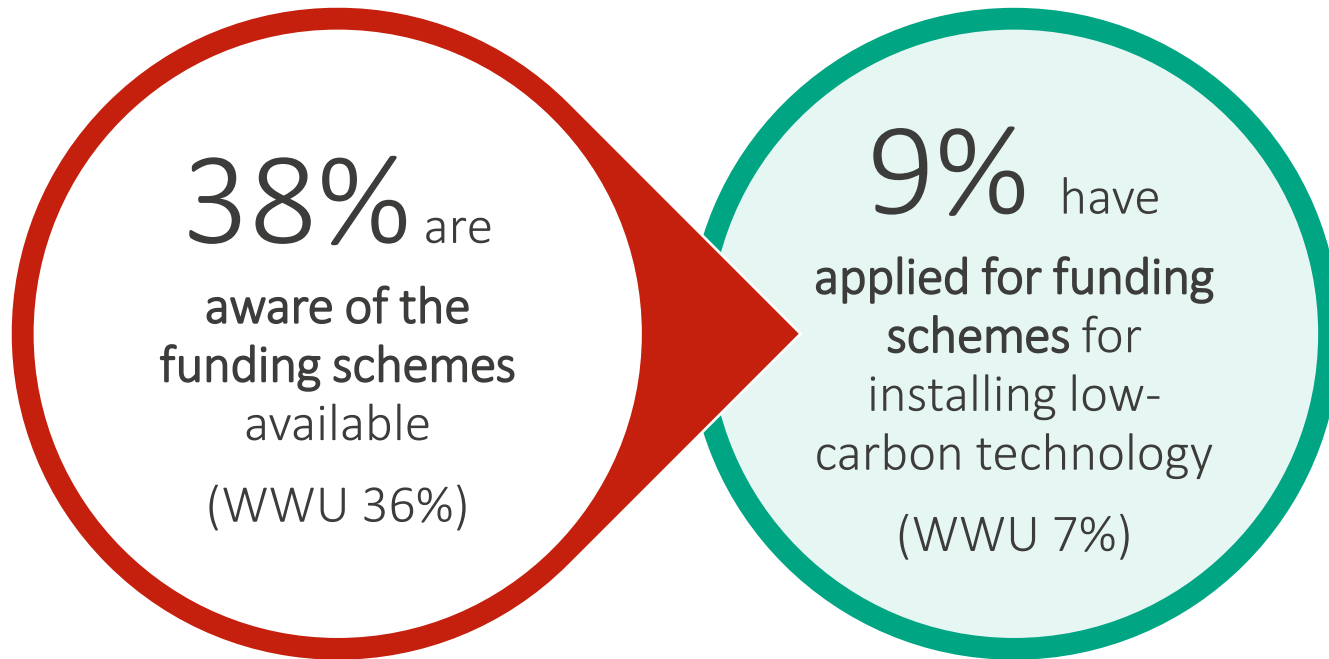
Consideration of LCT in the next 5 years:
Wave 5 Nat Rep GB Sample:



WWU W5 'yes'	Nat rep GB sample % 'Yes'			
	W1	W2	W3	W4
66%	-%	63%	59%	65%
57%	-%	59%	52%	55%
49%	-%	53%	49%	55%
41%	66%	49%	45%	49%
47%	-%	-%	-%	49%
46%	-%	-%	-%	46%
46%	-%	44%	41%	41%
38%	47%	40%	39%	37%
31%	30%	34%	34%	32%
25%	45%	36%	33%	31%
15%	20%	16%	19%	15%

FUNDING SCHEMES

Awareness of funding schemes is relatively low (however, is rising), and even fewer have applied.



Wave 4 GB nat rep = 34%
Wave 3 GB nat rep = 34%
Wave 2 GB nat rep = 30%
Wave 1 GB nat rep = 29%

Wave 4 GB nat rep = 7%
Wave 3 GB nat rep = 7%
Wave 2 GB nat rep = 12%
Wave 1 GB nat rep = 9%

The most popular funding schemes included:

- **Generic government grants**
- **ECO4** – A new 4-year scheme replacing ECO3 and is intended to run from 1 April 2022 to 31 March 2026 with the aim of improving the least energy efficient housing stock occupied by low income and vulnerable households.
- **Boiler upgrade scheme** – Grants to partially cover the cost of replacing fossil fuel based heating systems with a heat pump or biomass boiler

L31: Are you aware of any funding schemes that are available for installing certain types of low carbon technology (such as those listed in the previous questions)? Base: Total sample W5 Nat Rep (1001), WWU (1014)

L32: Please list the funding schemes you have heard of? Base heard of any funding schemes (380) WWU (367)

INVESTMENT IN HOME LCT & ENERGY EFFICIENCY IMPROVEMENTS

The most frequent responses were anywhere between £0-4,999; however, a relatively large proportion of the population are unsure.

If you were going to make any low-carbon or energy efficiency improvements to your home, how much would you be willing to invest?



How would installation be funded?

- 49% - Would self-finance, i.e., pay with their own money (44% WWU)
- 39% - Would apply for a grant (45% WWU)
- 15% - Would apply for a loan (14% WWU)
- 20% - Were not sure (21% WWU)

F1: If you were going to make any low-carbon or energy-efficiency improvements to your home, how much would you be willing to invest? Base: Total sample

W5 Nat Rep (1,001), WWU (1014)

F2: How would you fund the installation of low-carbon technologies? If you would use a combination of more than one method, please select all that apply. Base heard of scheme (1001) WWU (1014)

THANK YOU

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IMPACT

FROM INSIGHT TO INFLUENCE