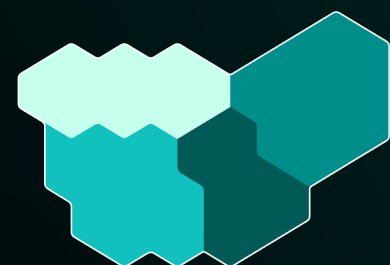


# Consumption Habits

A report into household energy use  
in South Yorkshire



South Yorkshire  
**Sustainability**  
Centre

29 October 2024 - V01.2



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# About this report

This report was written by Jayne Carrick and Matthew Wood, and compiled by Simon Archer for the South Yorkshire Sustainability Centre. It brings together findings from a survey of household energy use completed over three weeks in January and February 2024, by 622 people from across South Yorkshire.

The report should be cited as: Carrick, J. and Wood, M. 'Consumption Habits: A report into household energy use in South Yorkshire'. Sheffield: University of Sheffield, 2024.



# Why study consumption habits?

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Domestic energy use represents between 29% (Doncaster) and 39% (Sheffield) of total energy use in South Yorkshire<sup>1</sup>.

Reflecting the potential for reductions in domestic energy use to effectively contribute to the regional and national Net Zero targets, one of the four goals in the South Yorkshire Mayoral Combined Authority' Energy Strategy (2022) is to: “improve the energy efficiency and sustainability of our built environment, and encourage communities to be part of the transition”.

The data presented in this report aims to inform evidence based policy making to support the region's energy strategy and stimulate further research.

# Our Research

## Consuming Sustainably project, South Yorkshire Sustainability Centre

This report follows a review of the [drivers of domestic energy use](#) in the UK, which showed that income is one of the strongest and most consistent drivers of energy use; energy use increases with income. This mirrors the global picture; globally, the richest 10% are responsible for 49% of greenhouse gas emissions<sup>2</sup>.

Previous studies have identified the concepts of energy decadence, over consumption and high consumers to describe those who use more energy than they need, because they can afford to.

This report describes data from a survey of householders in South Yorkshire. The results contribute towards our Consuming Sustainably research project, testing the link between income and energy use in South Yorkshire and at this point in time (post Covid and cost of living crisis, and with increasing awareness of climate change). Using mixed methods Consuming Sustainably research project will address the following research questions:

1. What is the evidence for 'energy decadence' in South Yorkshire?
2. How has the 'cost of living crisis' affected the attitudes of high energy users to their domestic energy consumption?

# Key Findings

- The survey was completed by a **diverse group** in terms of **key demographics, income, and attitude to climate change**.
- As expected, **reported energy use**, as measured by spending on energy bills, **increases with income**.
- A **quarter of respondents said they found it difficult to pay their utility bills**. Those on lower incomes, those with a disability and those who do not own their home are more likely to find it difficult to find enough money to heat their home.
- Around **three quarters** of respondents said they **have loft insulation, double glazing and energy saving light bulbs**.
- **Most respondents engaged in some energy saving behaviour**, such as wearing extra layers with most saying they did so to reduce the cost of energy.
- **Social networks were identified as key sources of information on energy use**. Family and friends were rated as the source respondents had most confidence in to provide them with information on energy. More than half of respondents agreed they are encouraged to take energy saving action if someone they know takes action.

# Collaboration

The survey presented an ideal opportunity to obtain data from across South Yorkshire, which could support regional policy ambition. As part of the South Yorkshire Sustainability Centre (SYSC), we co-designed the survey with academic colleagues across SYSC, as well as our partners; EDF, South Yorkshire Mayoral Combined Authority (SYMCA), Sheffield City Council, Rotherham Metropolitan Borough Council, Barnsley Metropolitan Borough Council, and City of Doncaster Council.

Ipsos Mori were commissioned to conduct the survey on behalf of the SYSC.



# About the Respondents

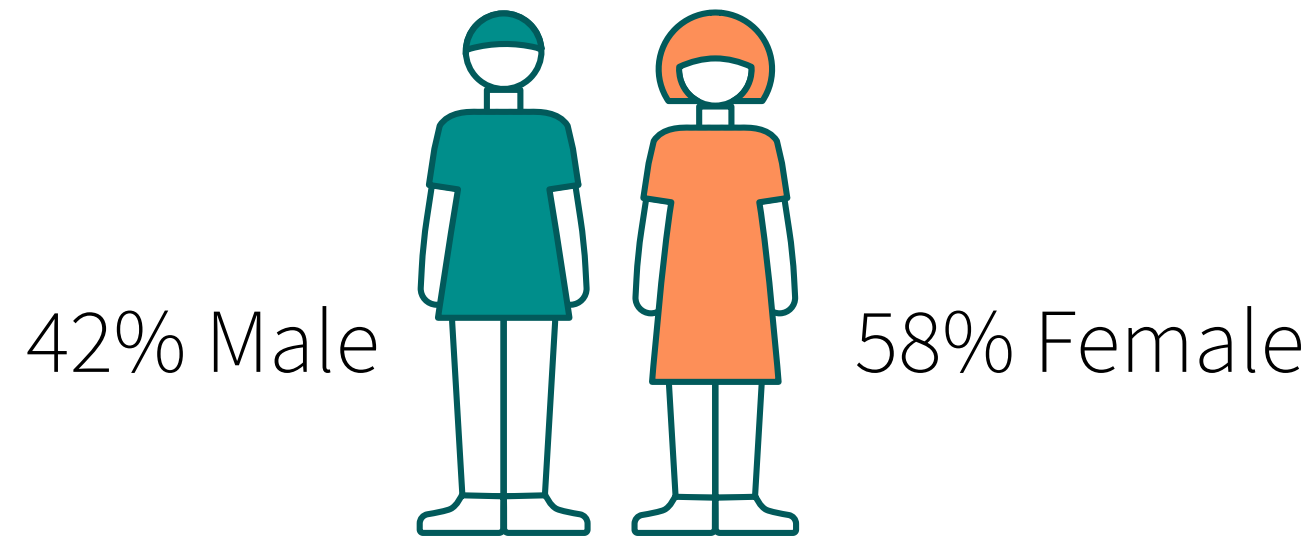
The respondents were diverse in terms of gender, age, where they live in the region and education.

Around half the respondents were graduates. 57% of respondents are employed or self employed and 27% are retired.

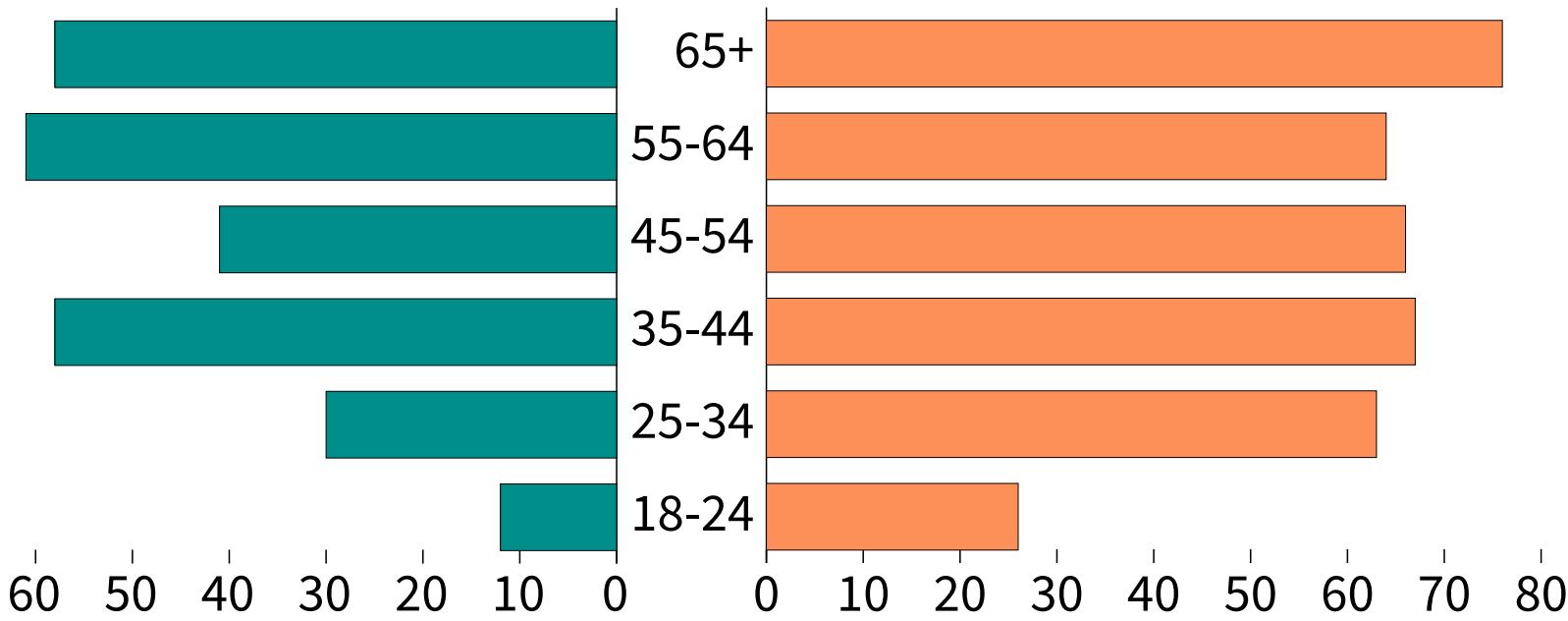
More women responded than men. Their median age of our respondents is 59 years, older than the UK median age of 41 years (ONS).

Almost half of the respondents are married. The majority are white, British.

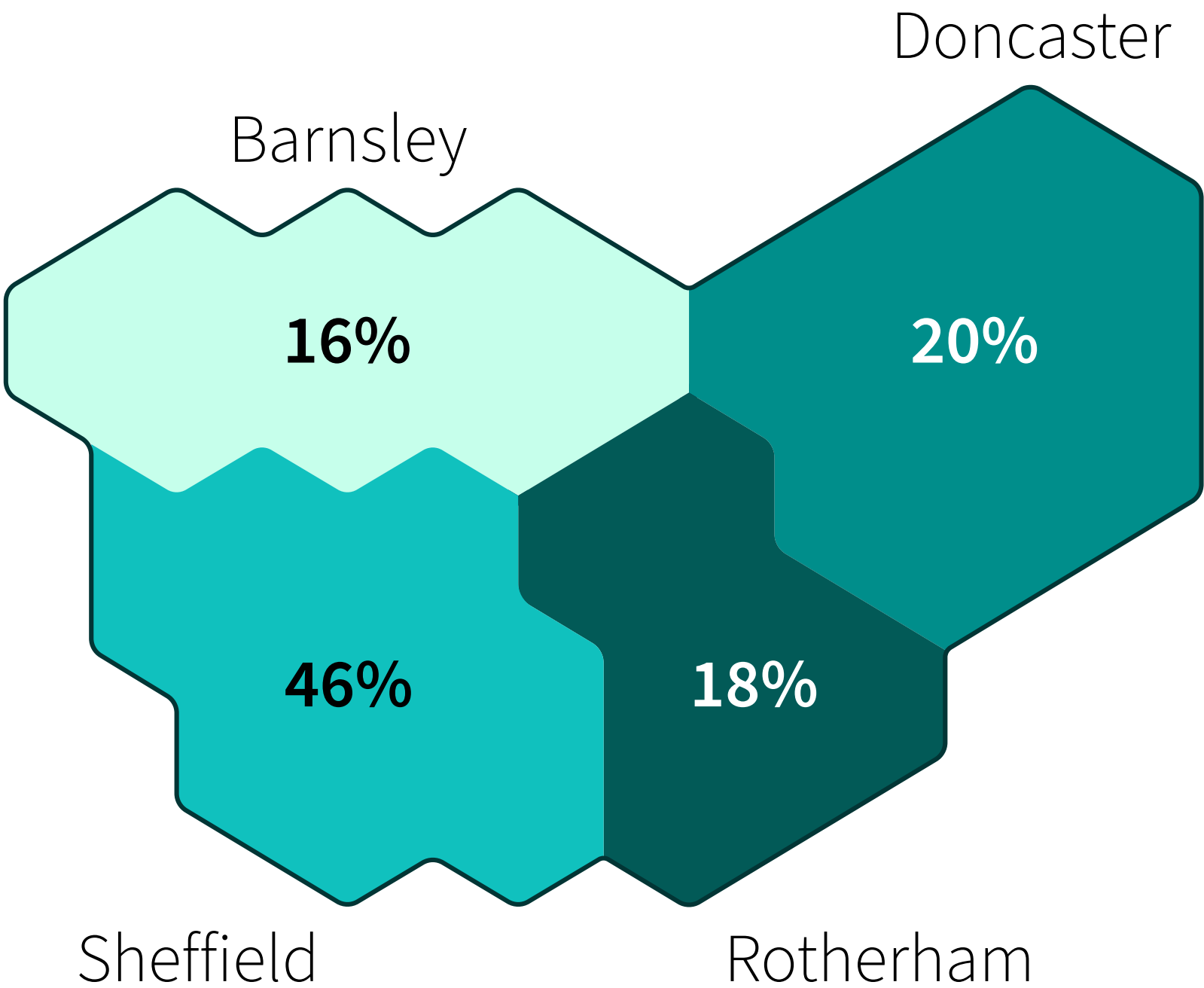
## Gender:



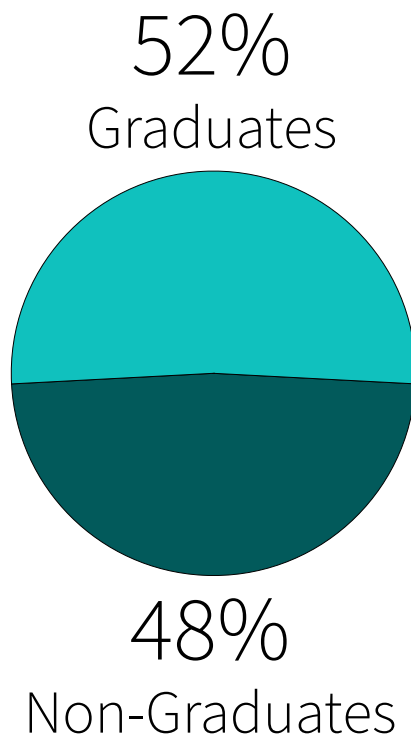
## Age:



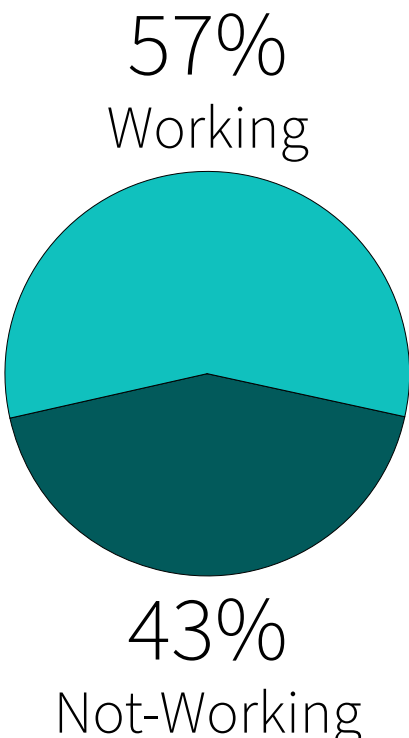
## Location:



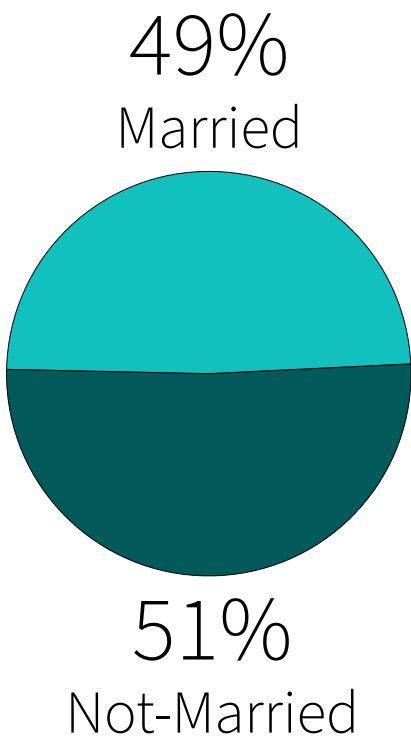
## Education:



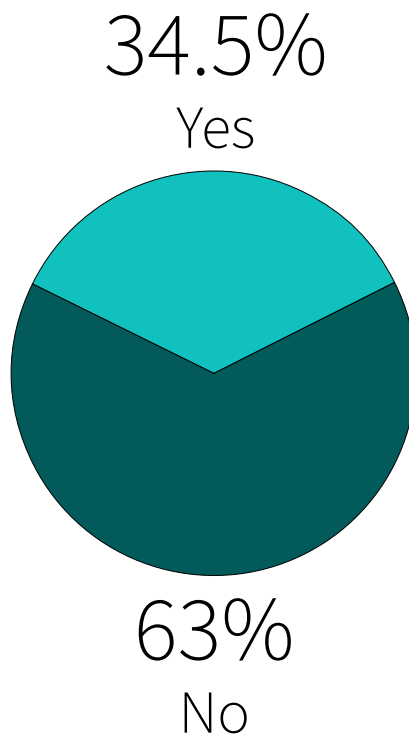
## Employment:



## Marital Status:



## Do you have a disability\*:



\*Respondents were asked if they, personally had any long-standing physical or mental impairment, illness or disability. 2.5% of respondents answered 'don't know' or 'prefer not to say'.

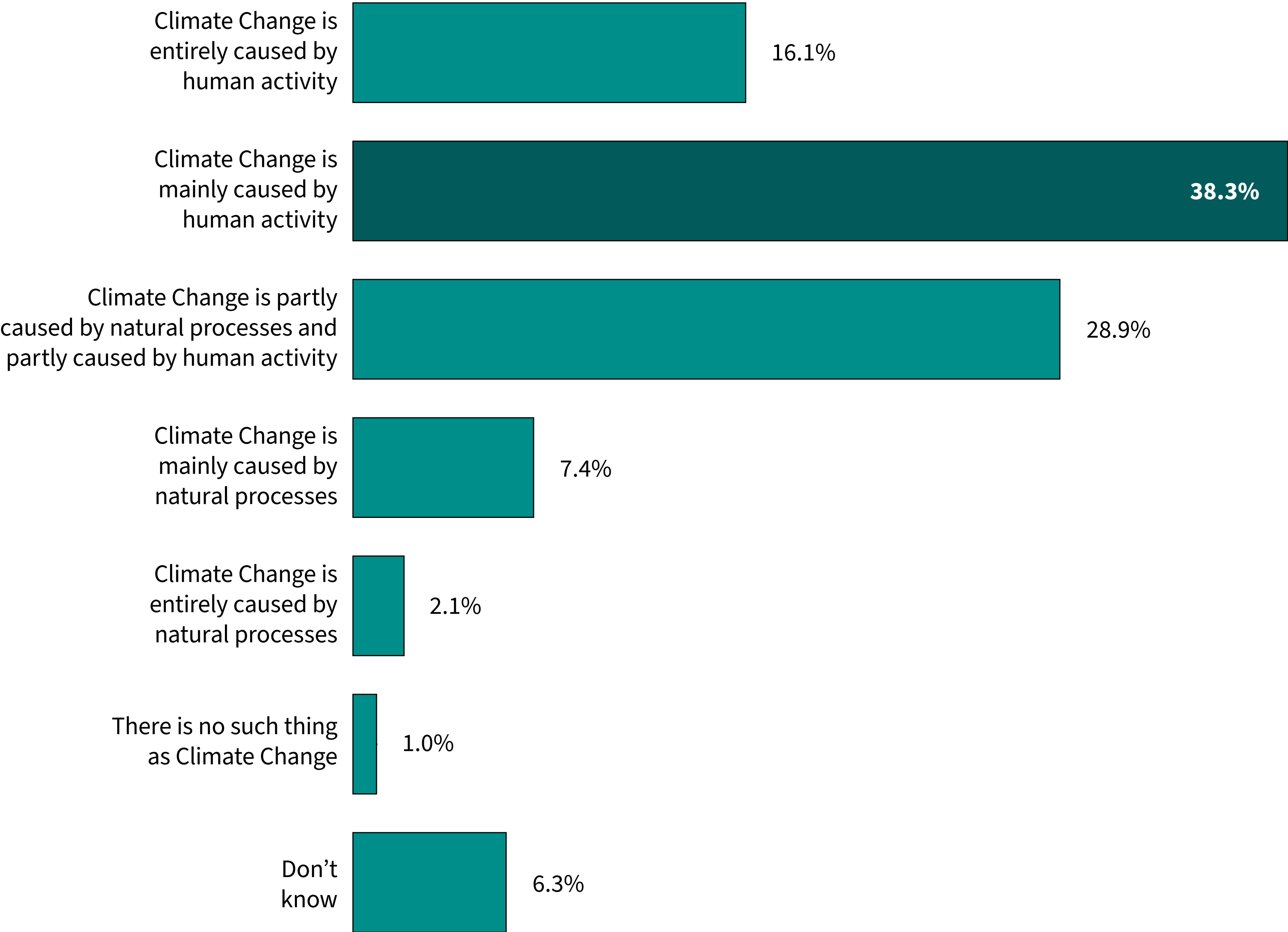
# Attitudes of Respondents to Climate Change

We asked some questions to assess the attitude of the respondents to environmental issues. The results indicate respondents had a diversity of views about climate change.

Although 54% said that climate change is mainly or entirely caused by human activity, 17% were unconvinced, saying that climate change was mainly or entirely caused by natural processes, that there was no such thing as climate change, or that they didn't know.

Analysis indicates there is no statistically significant relationship between respondents' climate change scepticism (those who said that there was no such thing as climate change or thought that climate change was entirely or mostly caused by natural processes) and the amount that they say they spend on energy, or how often they say they think about saving energy. This indicates that respondents' opinion of climate change is not a significant driver of domestic energy use.

Which of the following best describes your personal opinion about Climate Change?



# Attitudes of Respondents to Interventions

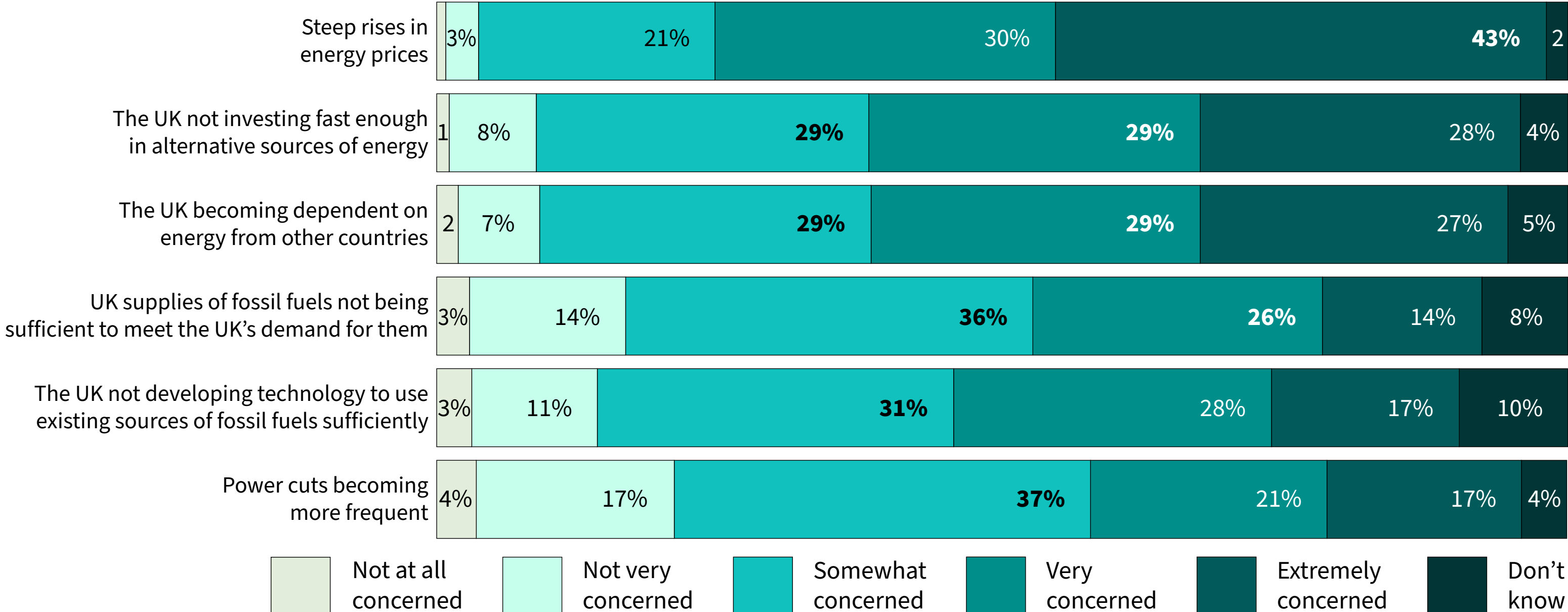
When asked about their concerns for the next 10 years, the respondents were most concerned about the rising cost of energy. Our analysis indicates that there is a statistically significant relationship between age and gender with concern for the rising cost of energy, with female and older respondents being more likely to be concerned.

Respondents were also concerned about the UK not investing in alternative sources of energy and the UK becoming dependent on other countries for energy. Our analysis indicates that respondents educated to degree level and older respondents are more likely to be concerned about the UK becoming dependent on other countries for energy.

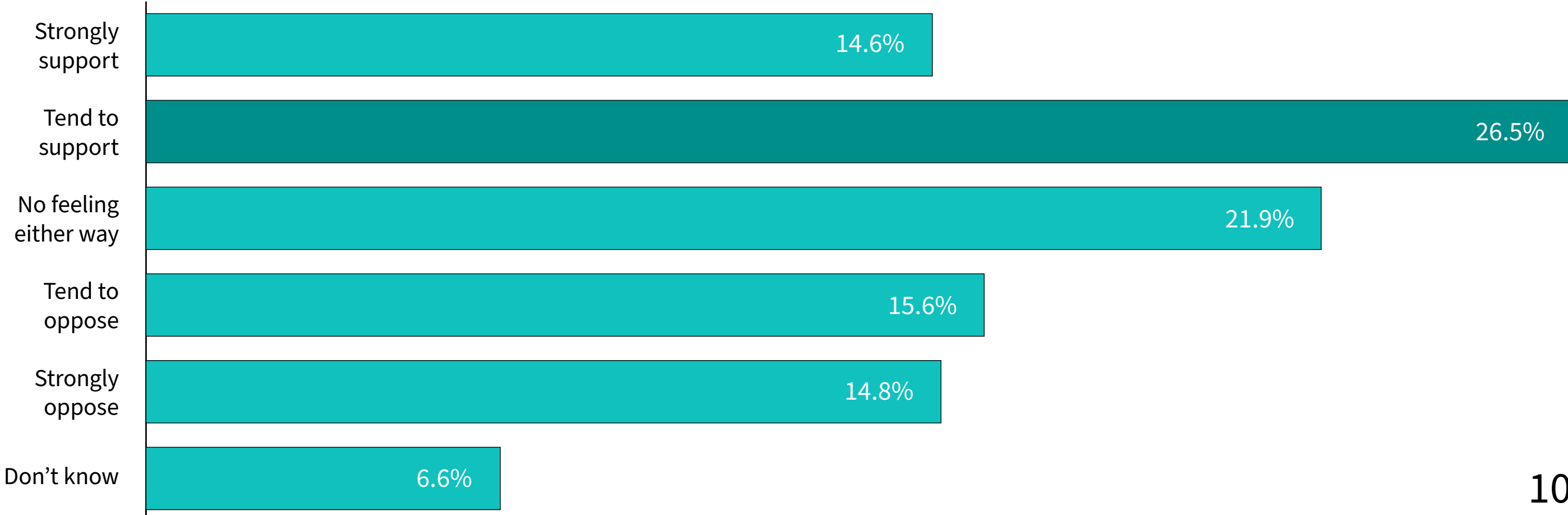
We asked respondents for their opinion of Ultra Low Emission Zones (ULEZs) which are designed to improve an area's air quality. In London, the ULEZ has imposed restrictions on all vehicles. Over 40% were in favour of, and support the introduction of ULEZs with a further 22% with no feeling either way. It is important to note that out of the four Local Authority areas that make up South Yorkshire, only Sheffield City imposes emissions restrictions, and which are limited to some vehicles.



## Thinking about the next 10 years, how concerned, if at all, are you about the following?



## To what extent are you in favour of or opposed to the introduction of “Ultra Low Emission Zones (LEZ’s)” to improve air quality in your local area?



# Households

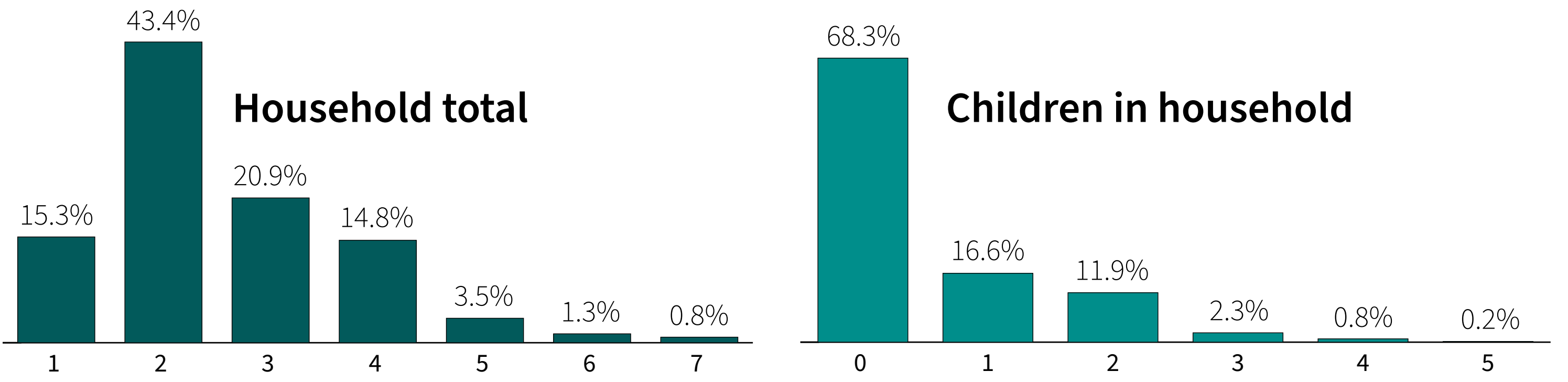
The composition of the respondents' households varied, but most had no children (68%) and comprised 1 or 2 people (59%). For comparison, across the UK approximately 60% of households contain no children and the average household is 2.36 people.

The median household income is £35,000 - £44,999; the median UK household income is £35,000 (ONS).

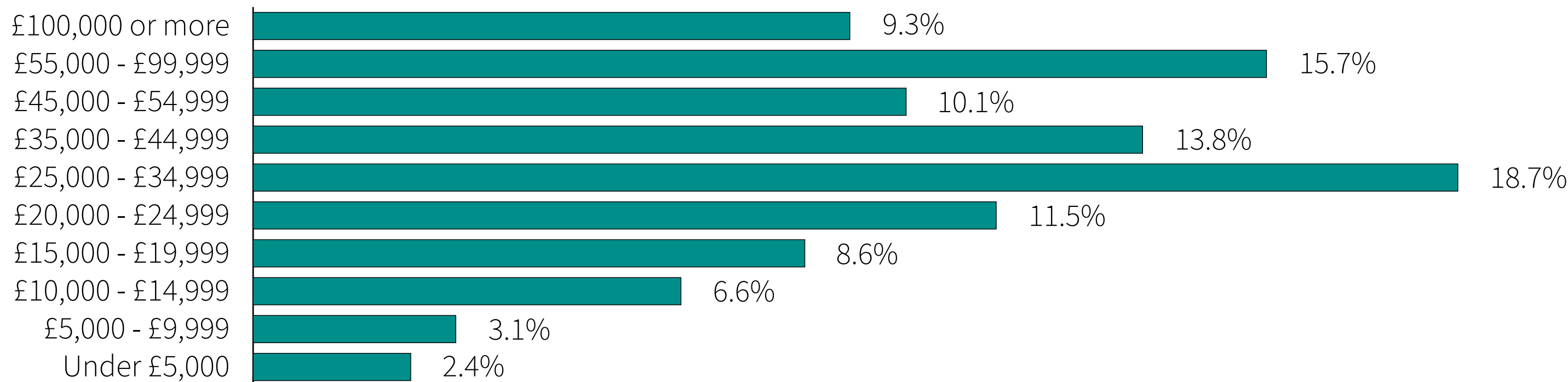
Most of our respondents (71%) own their homes, more than the UK average of 63%.

Although the household compositions differed slightly from the UK data, the results show a range in the composition of the households of respondents.

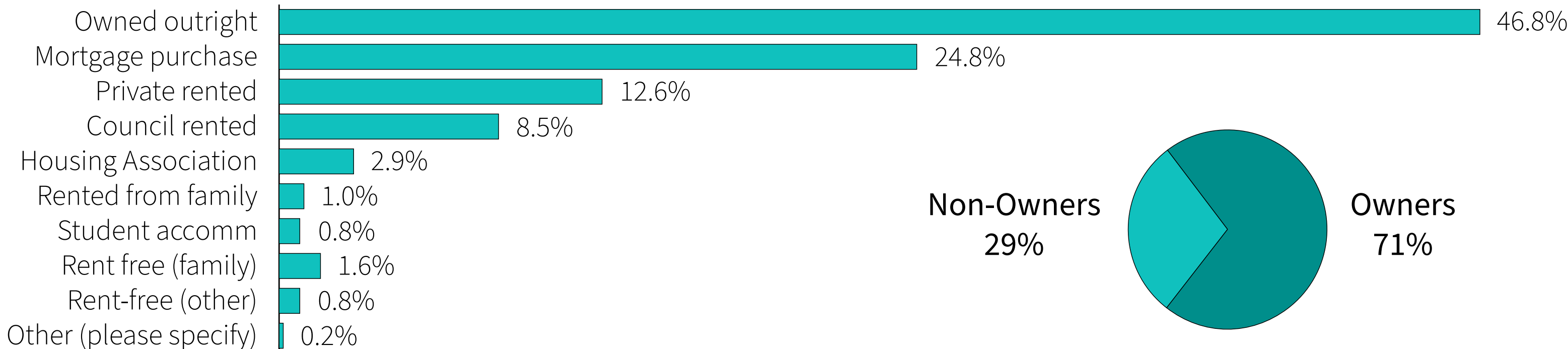
## Household Composition:



## Household Income:



## Home Ownership:



# Bills

Most of our respondents were solely or jointly responsible for paying the energy bills for their household.

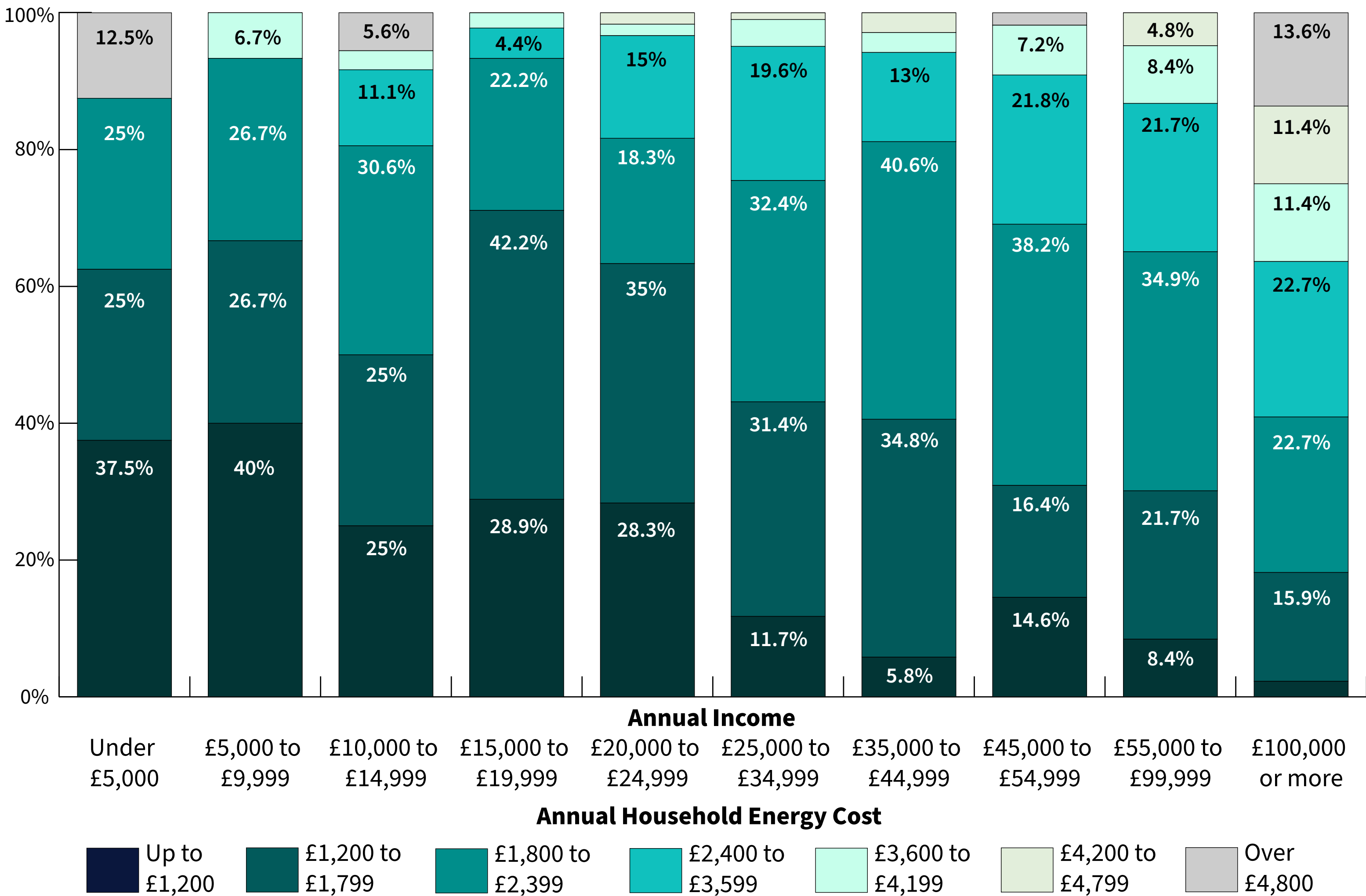
The median household energy bill was £1,800 - £2,399 (about £150 - £199 per month), in line with the energy price cap that was £1,928 between 1 January to 31 March 2024 (Ofgem).

Analysis shows that the cost of energy increased with income, indicating that, in line with our review<sup>3</sup>, energy use increases with income.

Are you responsible, either solely or jointly, for paying the energy bills in your household?:

|                      |                       |            |
|----------------------|-----------------------|------------|
| Yes, solely<br>51.4% | Yes, jointly<br>41.8% | No<br>6.8% |
|----------------------|-----------------------|------------|

In the last 12 months how much is your household's energy bill?



<sup>3</sup> Carrick, Jayne (2023). Review of Domestic Energy Use: Drivers of Energy Decadence. The University of Sheffield. Report. <https://doi.org/10.15131/shef.data.23560194.v1>

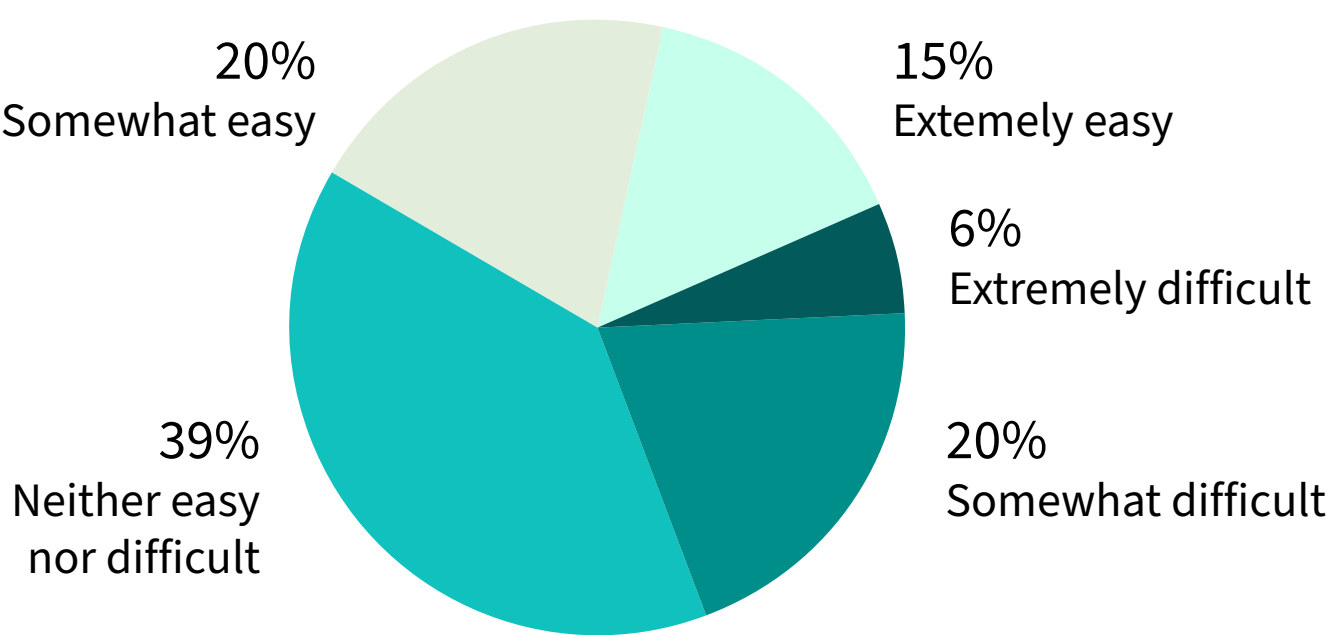
# Bills

Just over a quarter of respondents said they had found it somewhat difficult or extremely difficult to pay their heating bills over the last 12 months.

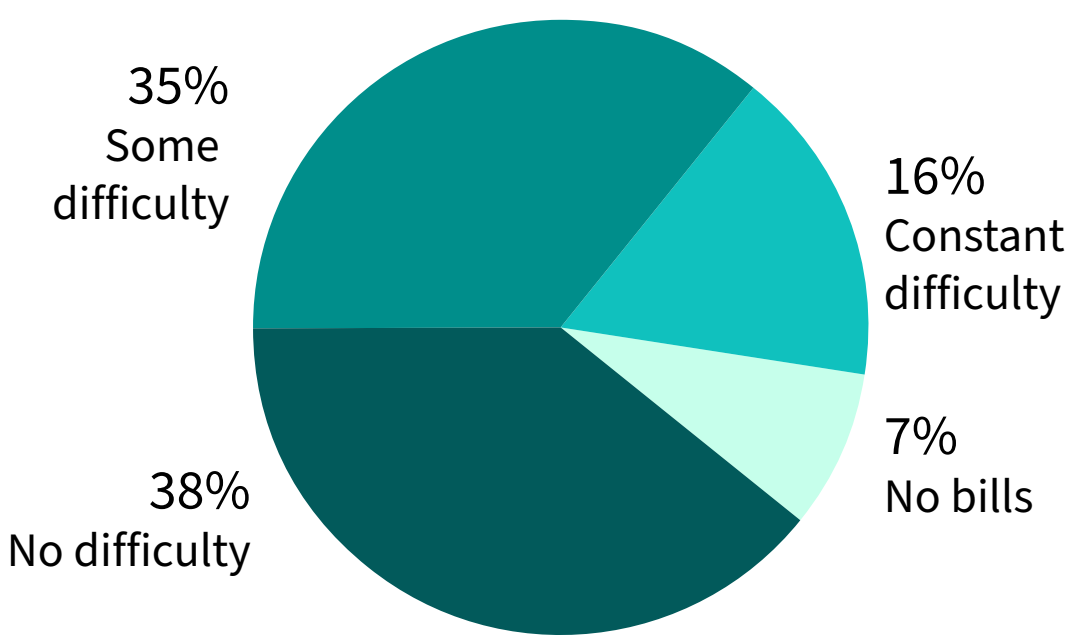
Unsurprisingly, those on lower incomes are more likely to find it difficult to find enough money to heat their homes. Our analysis also indicates those with a disability and those who do not own their home are more likely to find it difficult to find enough money to heat their home.

More respondents found utility bills and food bills difficult to pay (25%-26%) than rent / mortgage, or travel costs (15%-17%).

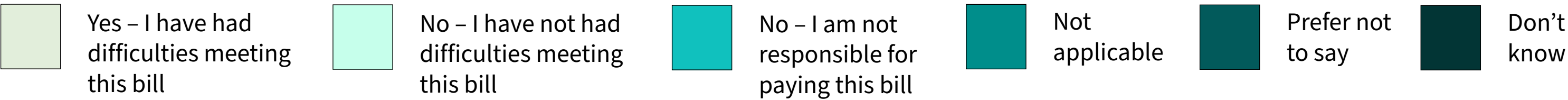
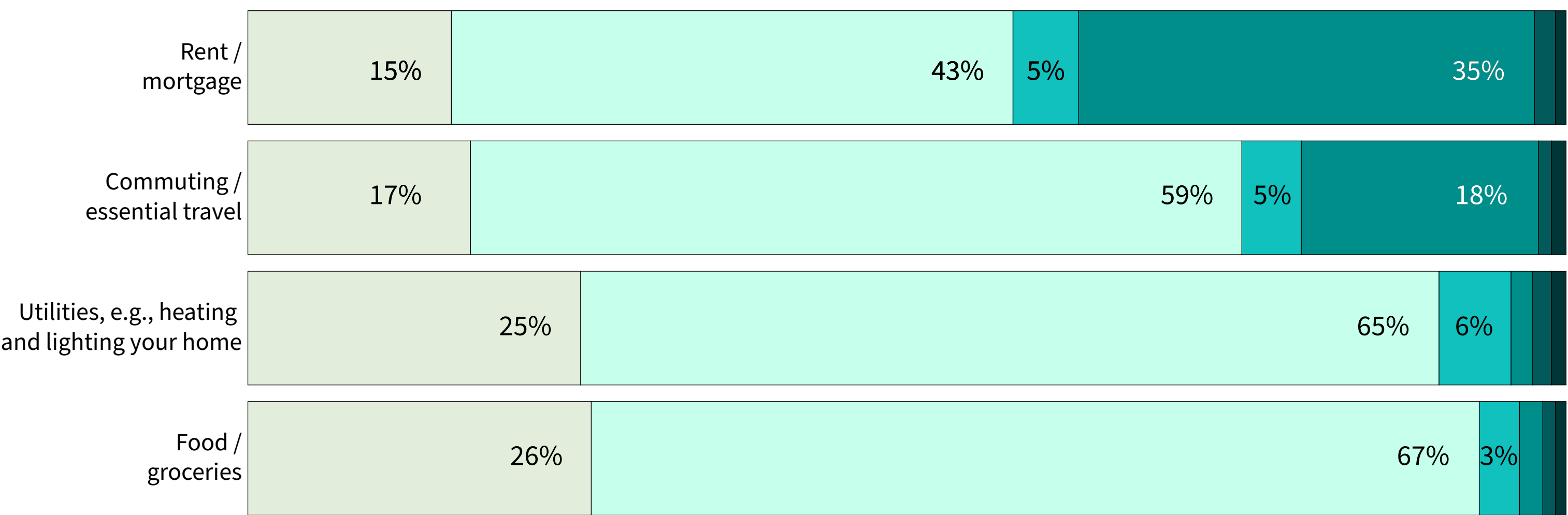
In the last 12 months how easy or difficult has it been for your household to find enough money to pay the bills for: heating your home?



On balance, which one, if any, of the following statements best describes how well, or not, your household is meeting its bills and credit commitments at the moment?



In the last 12 months, have you, personally, experienced difficulties meeting any of the following bills, or not?



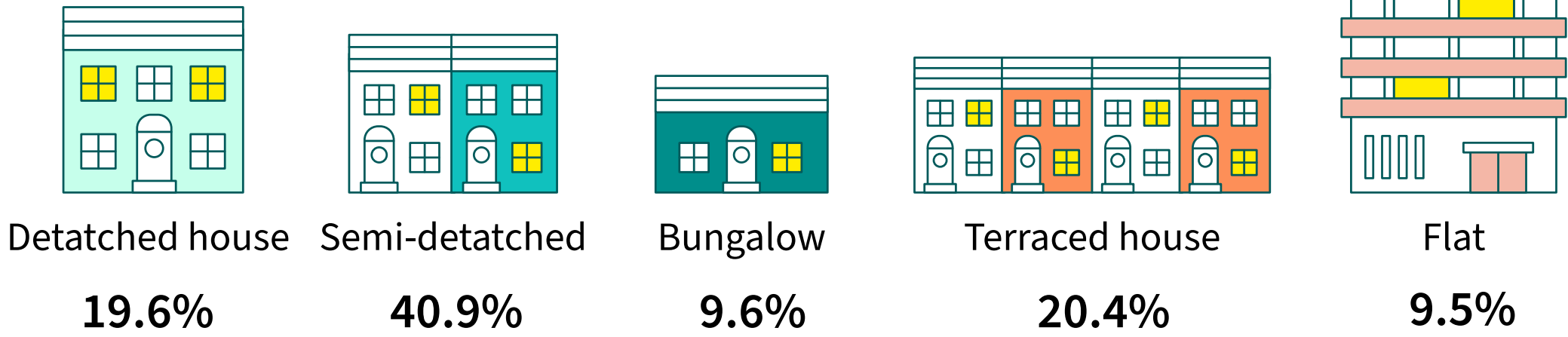
# Physical properties of homes

The most common types of home were semi detached houses, of brick construction, post war (around 50-80 years old), with 6 rooms for personal use.

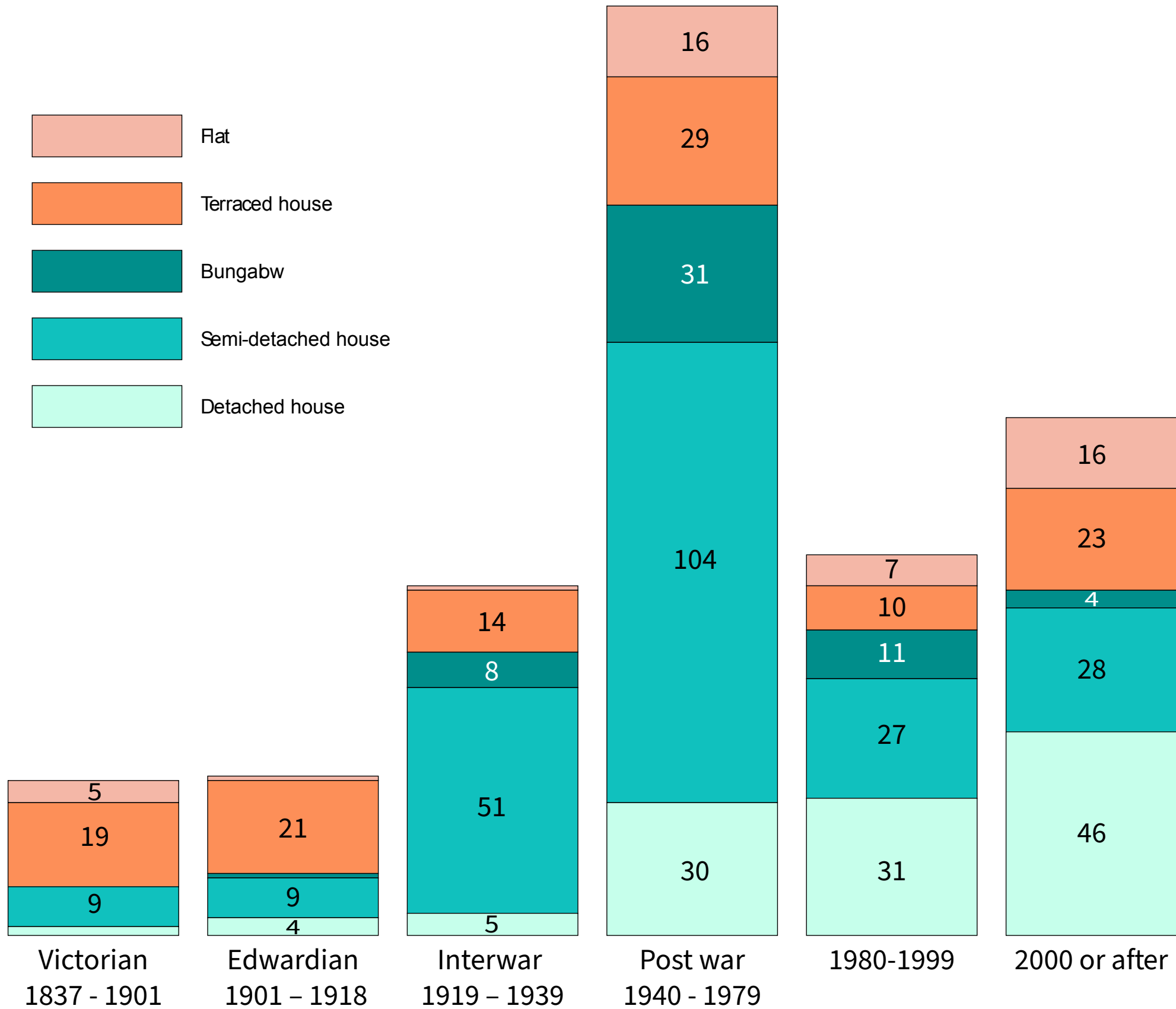
Analysis shows how different types of housing were popular at different times. Across South Yorkshire bungalows and semi-detached housing were mostly built in the interwar and post war periods, and are therefore between 50 and 100 years old, whereas most detached houses have been built since 1980 (less than 45 years old).

This data will be used to inform retrofit modelling, as the extent and type of retrofitting needed largely depends on house type and age. For example, due to improved building regulations, older properties (pre-1980), are unlikely to have been built with insulation and therefore require retrofitting.

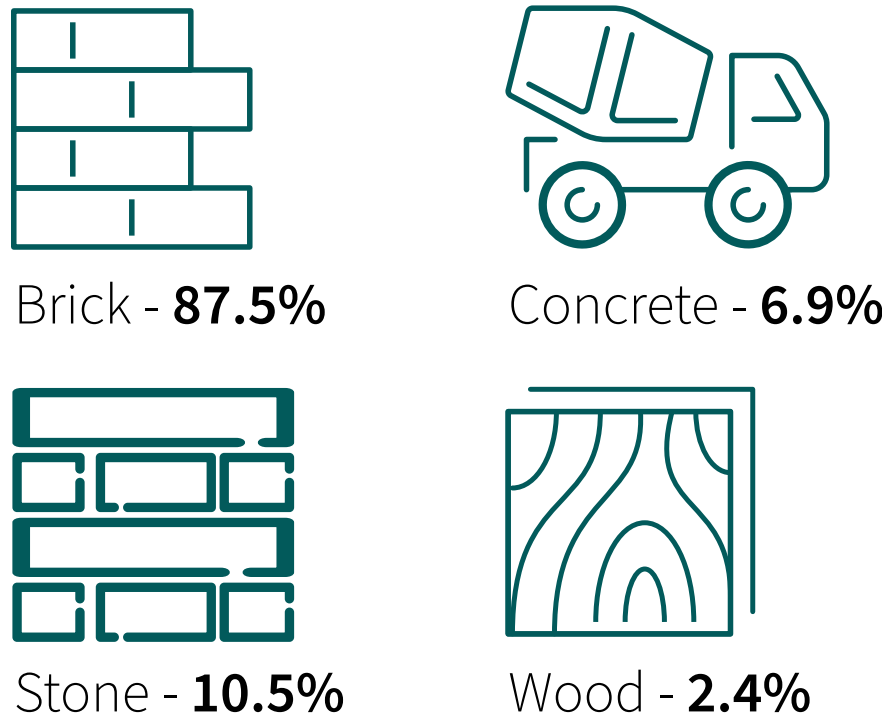
## Property Type:



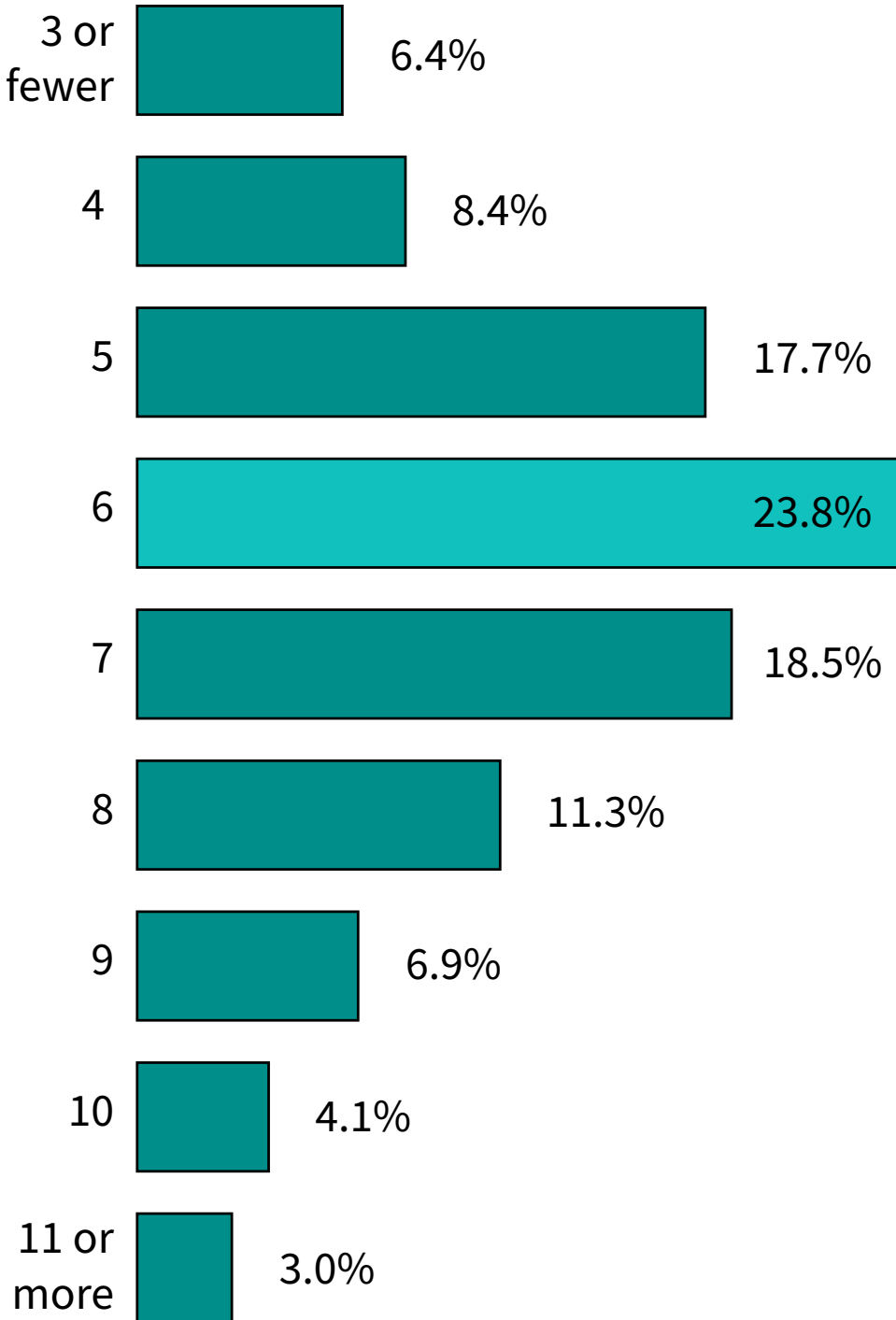
## When was your property built by type?



## External Wall Material:



## How many rooms do you have in your home:



# Heating

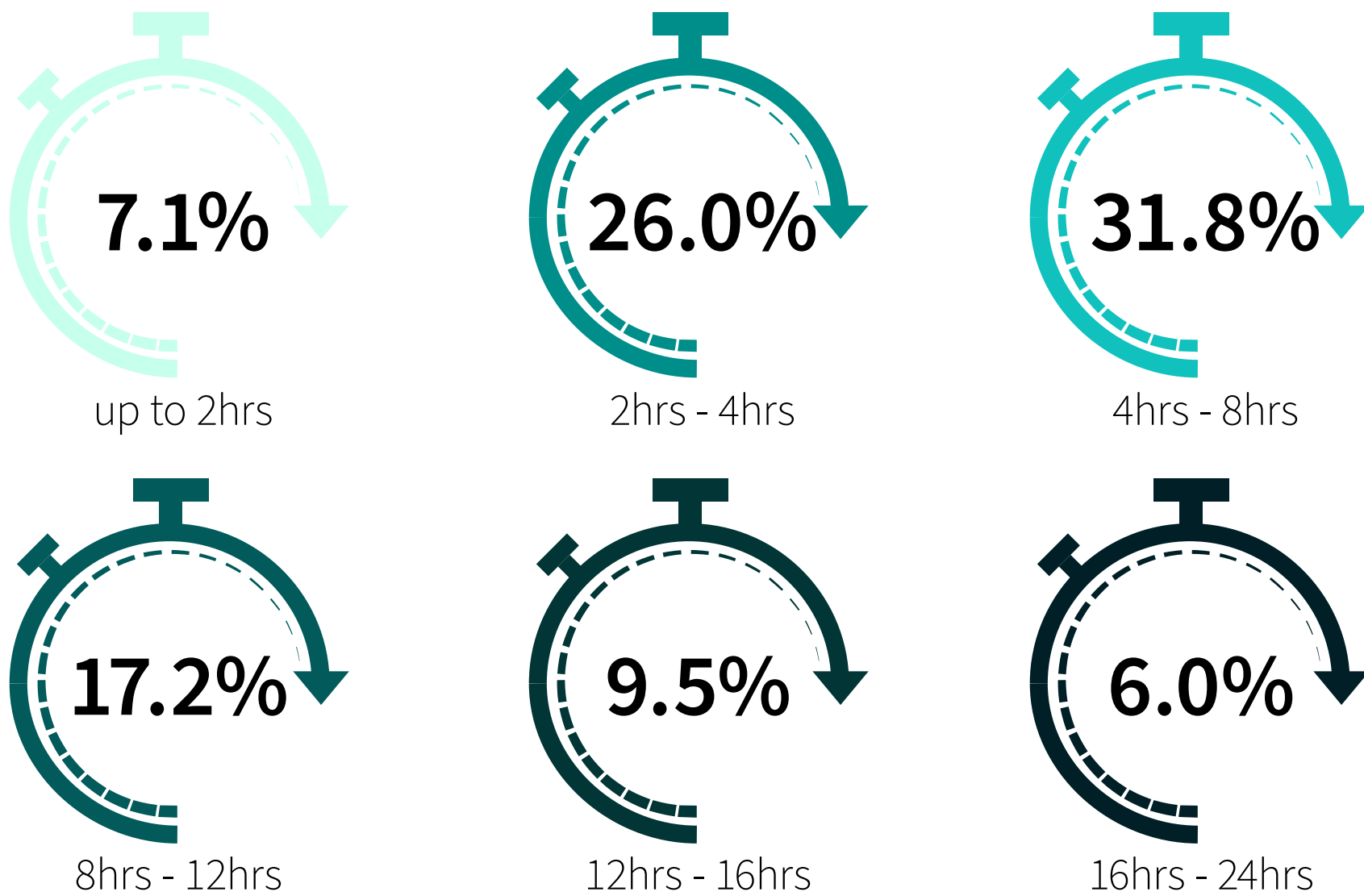
The cost of domestic energy largely depends on a household's source of heating. The results indicate that, similar to other parts of the UK, most homes in South Yorkshire have gas central heating (90%). Until recently, gas prices have been relatively low, reducing the cost effectiveness of switching to a low carbon alternative, such as a heat pump. However, the price of gas has risen and there are government plans to ban new gas boilers.

How people use their heating also affects their energy use. Over half of respondents said they heated all the rooms in their home. Less than 5% of respondents said they only heated one, or no rooms.

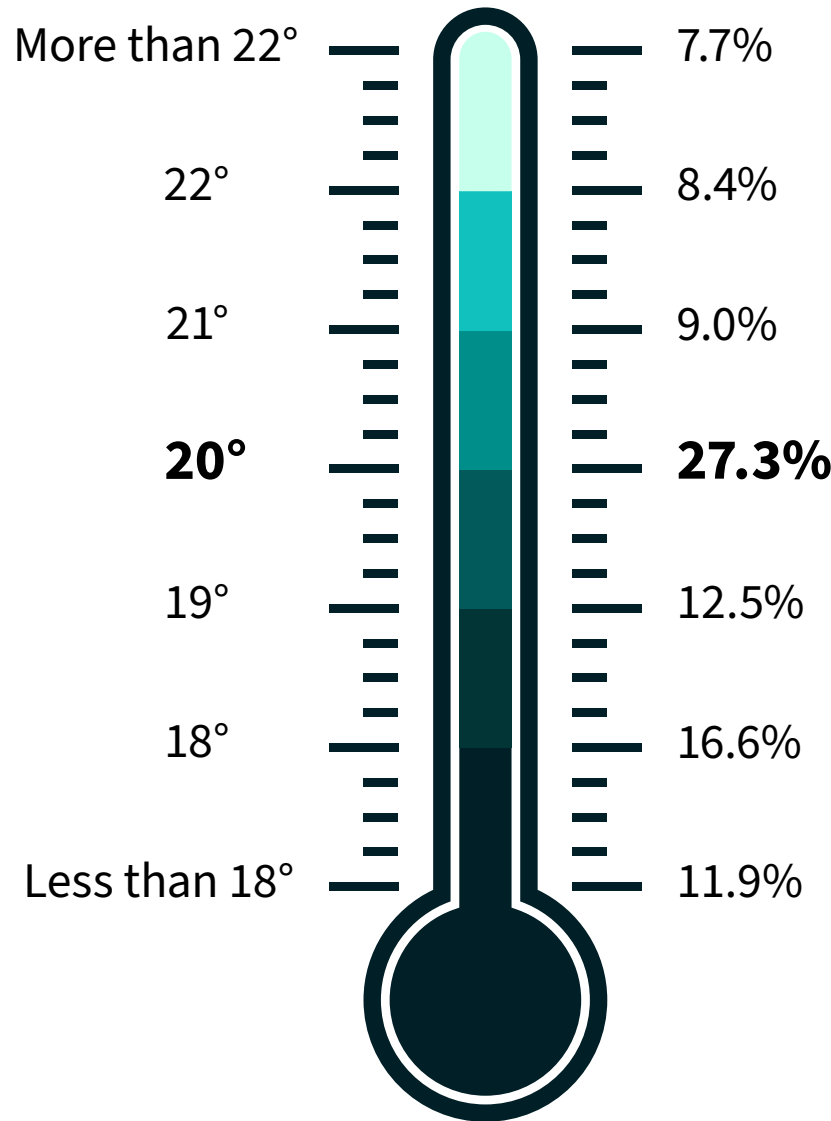
The median time respondents used their heating on a cold day was 4-8 hours and the median temperature they set their thermostat was 20°C.

29% of the respondents said they used an alternative source of heating; most of whom (80%) said they did so to save on the cost of their usual source of heating.

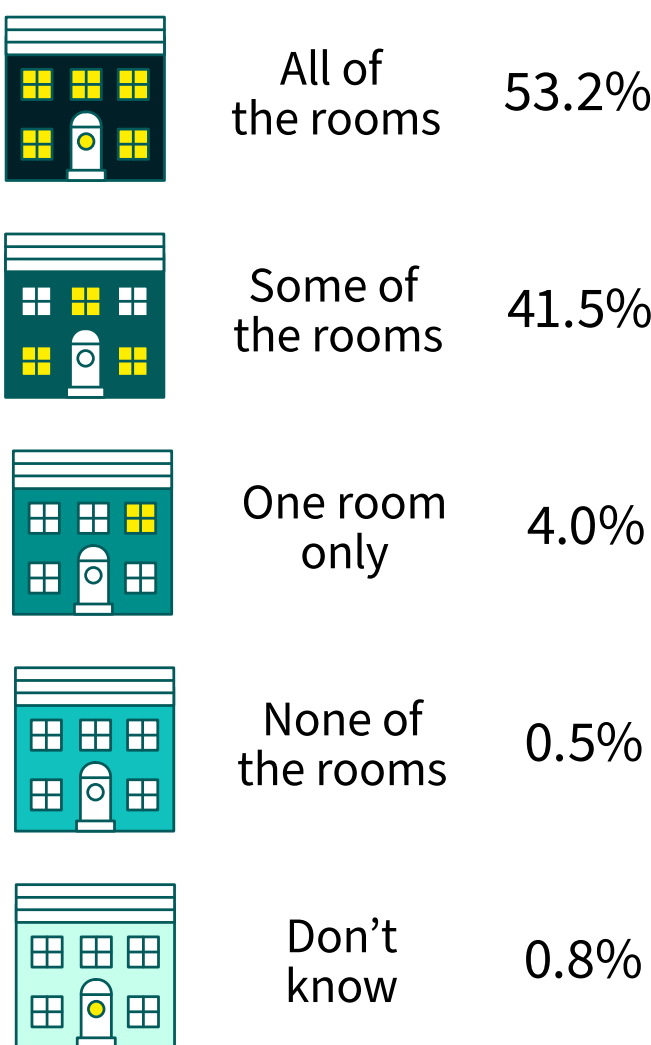
How many hours per day is your heating on for?\*



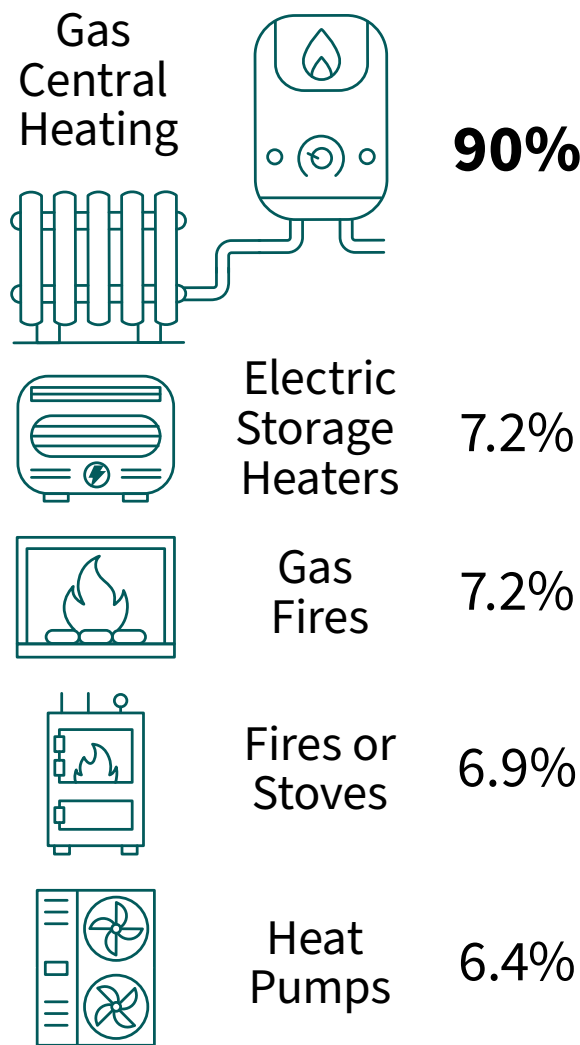
What temperature is your house typically heated to?\*\*



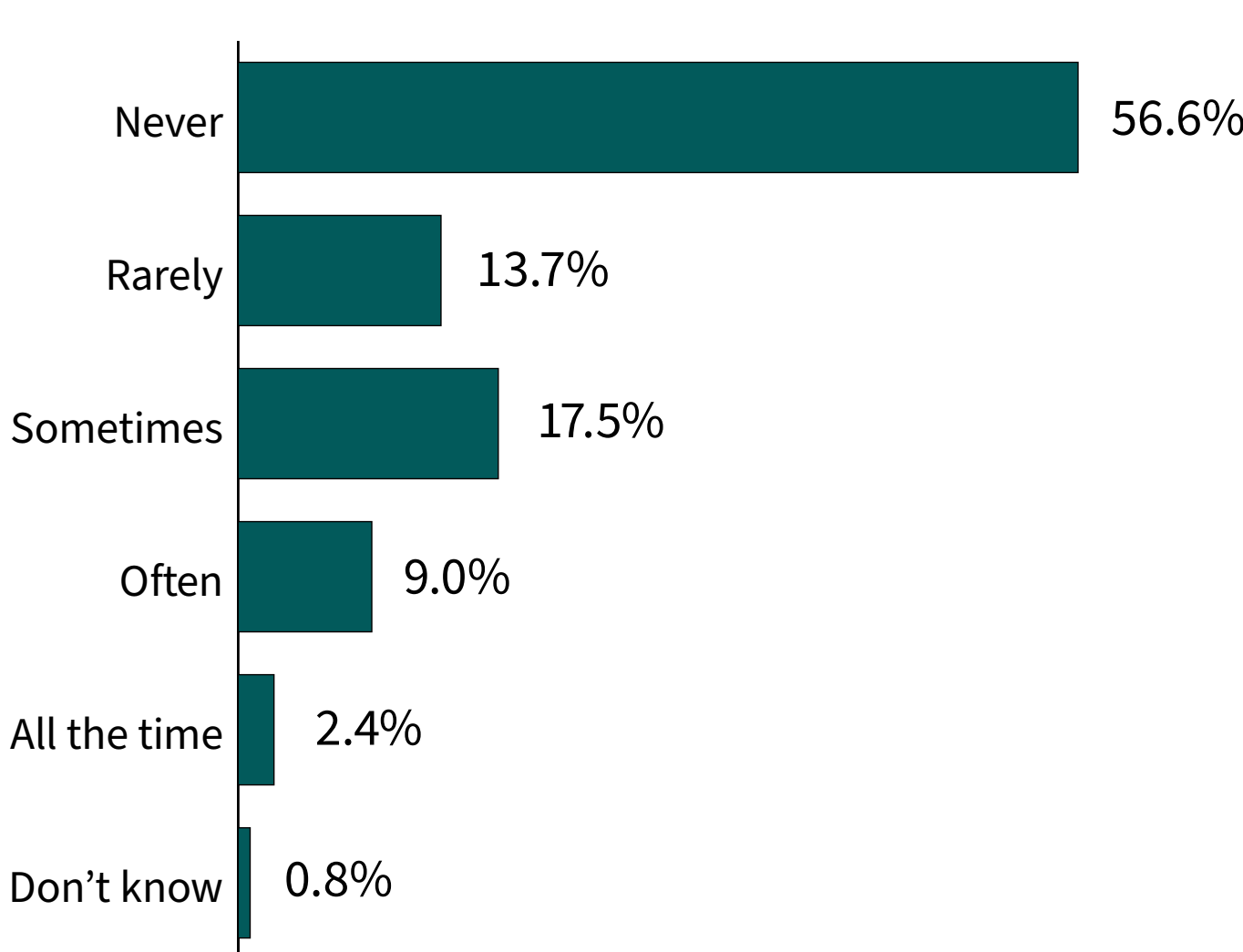
How many rooms do you heat when the heating is on?^



What was the main way your household heated your home?



How often if at all, has your household used alternative sources of fuel to heat your home?



2.4% of respondents either had no heating in home or did not know how long they heated their home.

\*\* 4.5% of respondents either were unable to set a temperature or did not know what temperature was set.

^ 0.8% of respondents did not know how many rooms they heated

^^ 3% of respondents either had a different heating system, no heating system or did not know what type of heating system they had

# Control & Monitoring

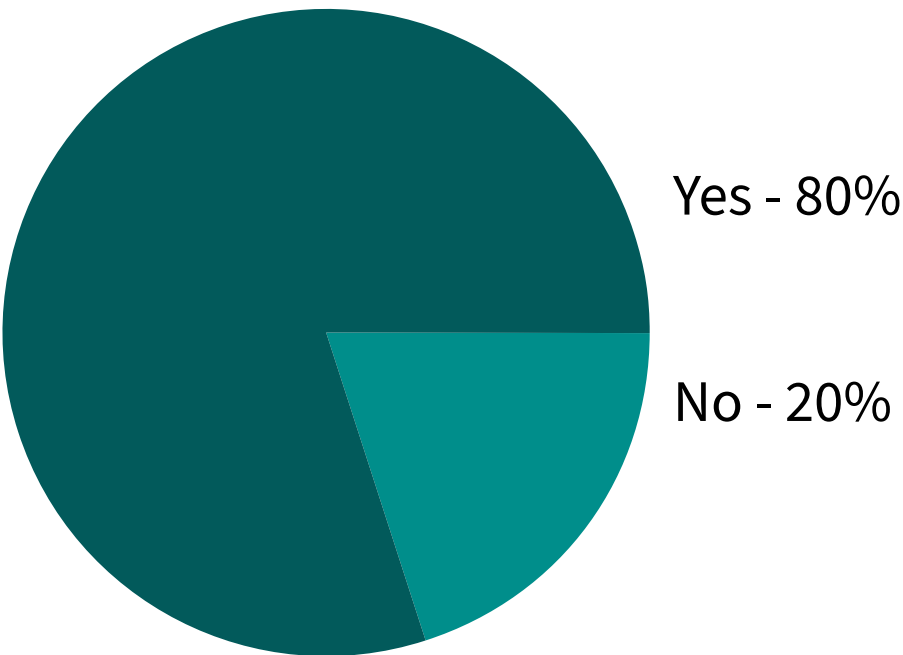
The ability to reduce energy use (and associated emissions and costs) is dependent on householders' ability to monitor and control how energy is used in their home.

Around a third (31%) of respondents said they didn't understand how their home uses as much energy as it does around a fifth (21%) said they did not feel in control of their household energy use. Furthermore,

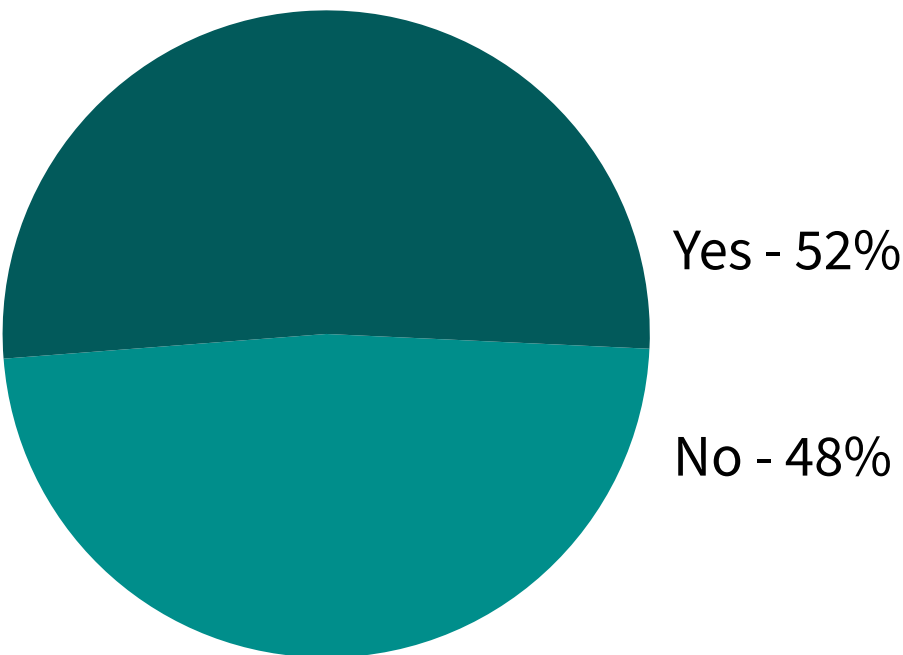
15% of respondents said that they could not easily monitor energy use in their home and 28% said they didn't monitor energy use in their home.

The ability to control and monitor heating also affects the health and wellbeing of occupants. The results indicate that around 20% of respondents couldn't keep their home warm enough and around half said they had mould, mildew or damp in at least one room.

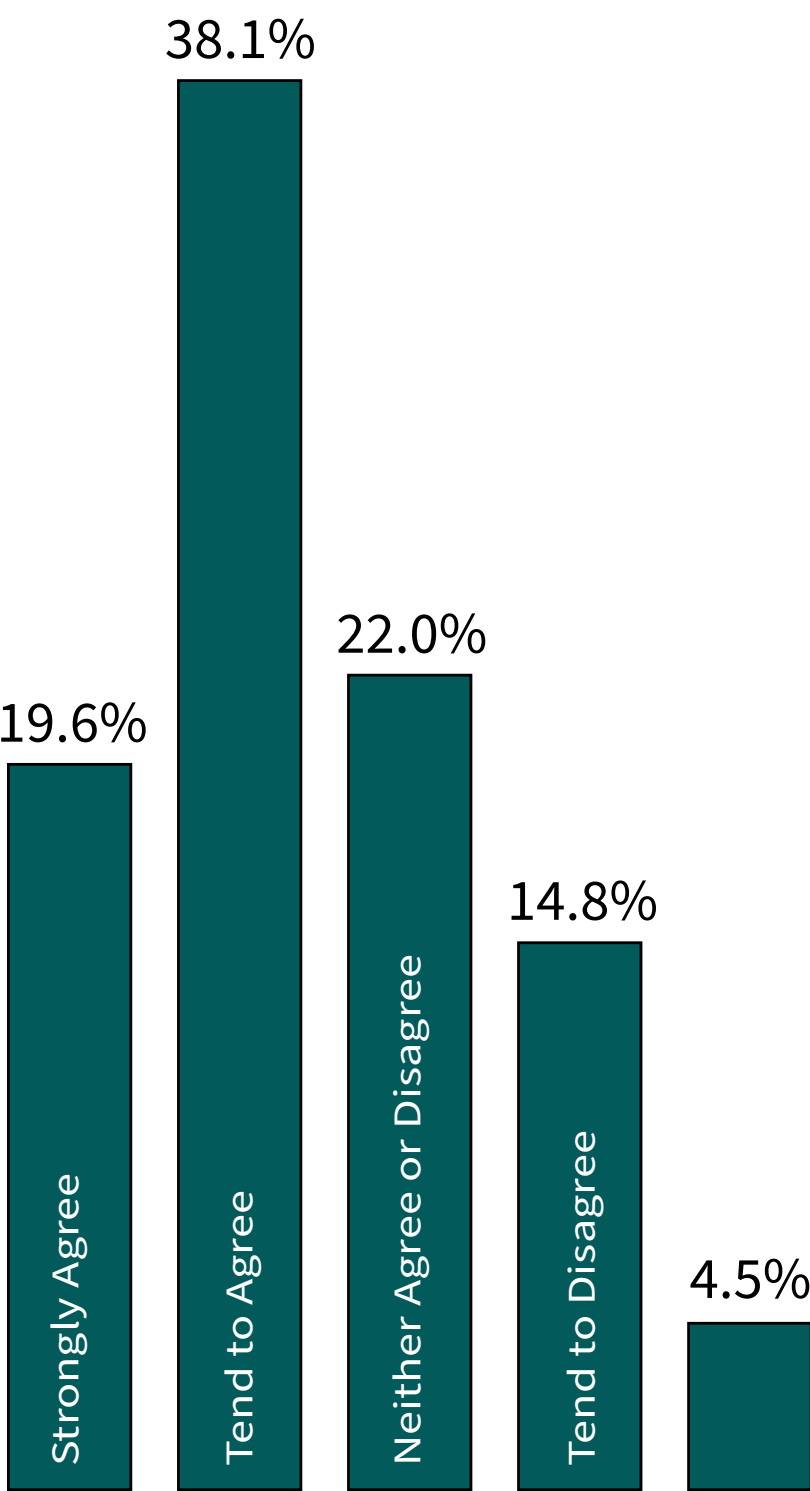
Are you able to keep your home warm enough?



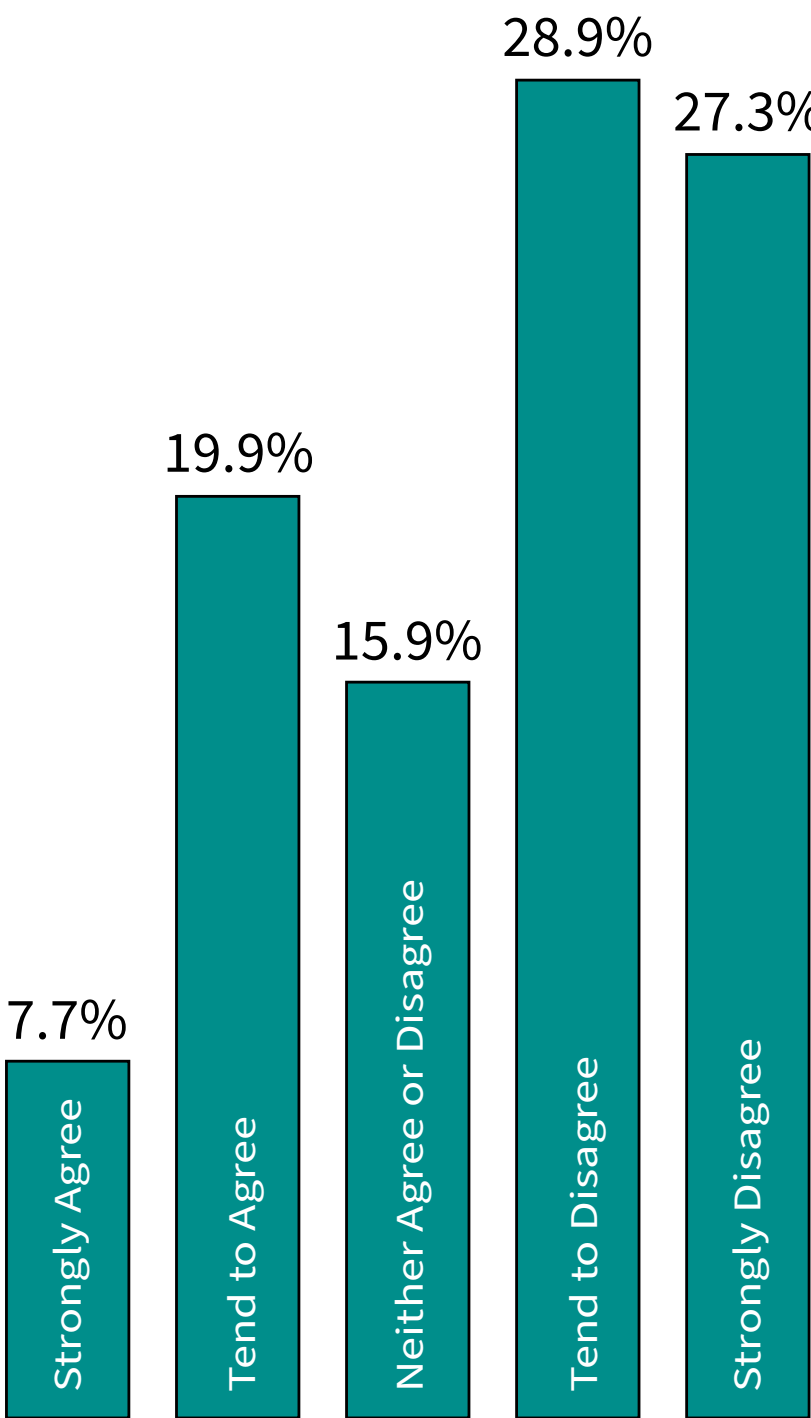
In the last 12 months have had mould, mildew or damp?



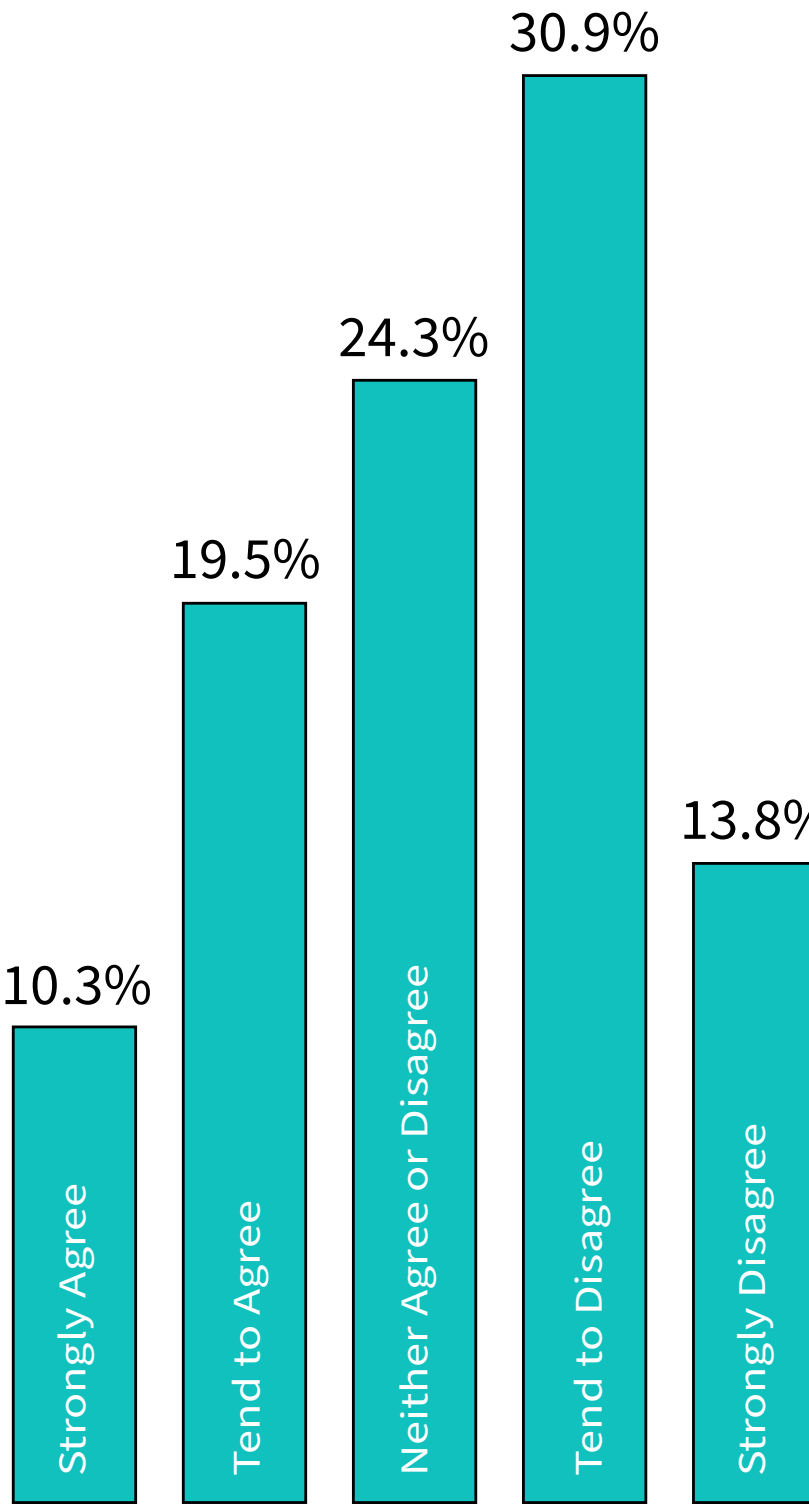
It's easy to monitor how much energy my home uses



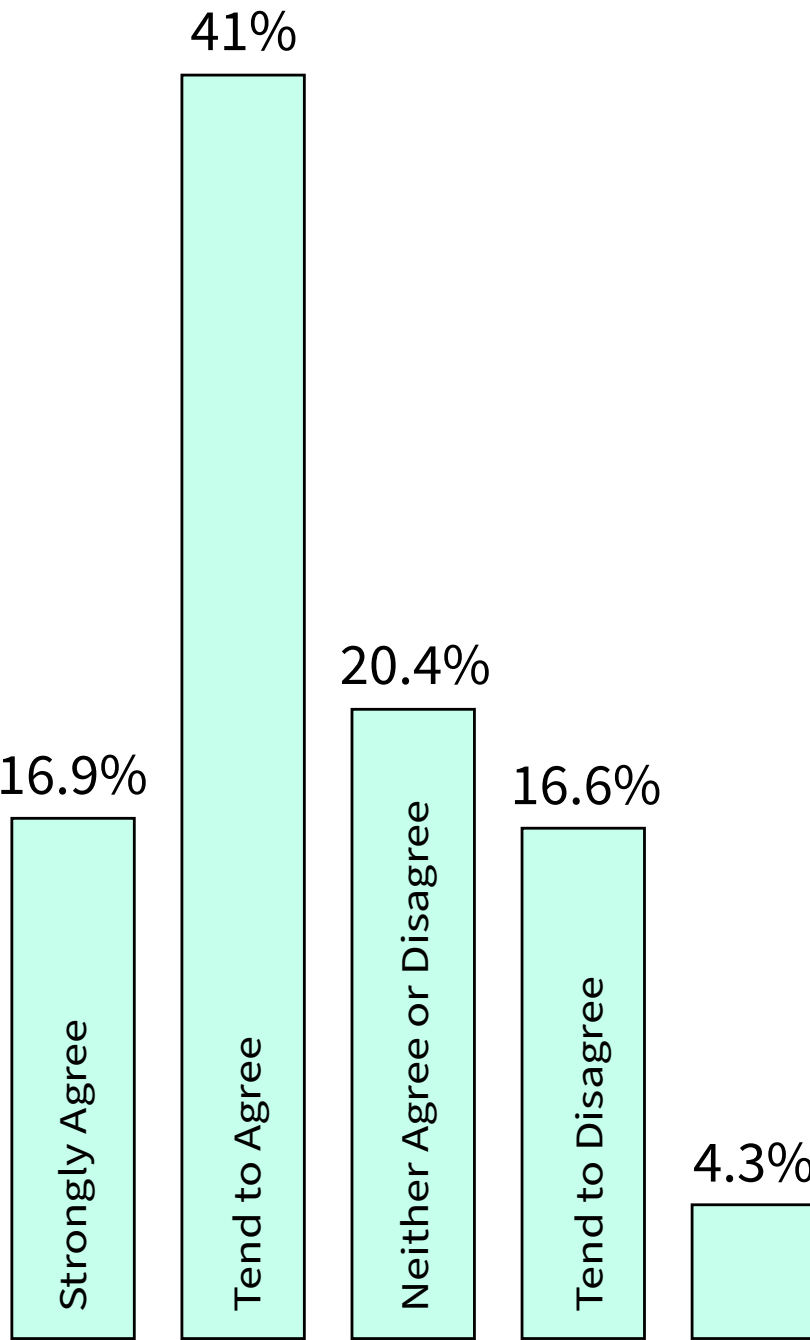
I don't personally monitor my household's energy use



I don't understand how my home uses as much energy as it does



I feel in control of how much energy is consumed in my home



# Energy efficiency features

Retrofitting energy efficiency measures in homes is a key part of the regional (and the UK) Energy Strategy. To develop specific policies to achieve this, the extent and type of energy efficiency measures already present in homes needs to be considered, as well as householders’ motivation and ability to install the technologies necessary.

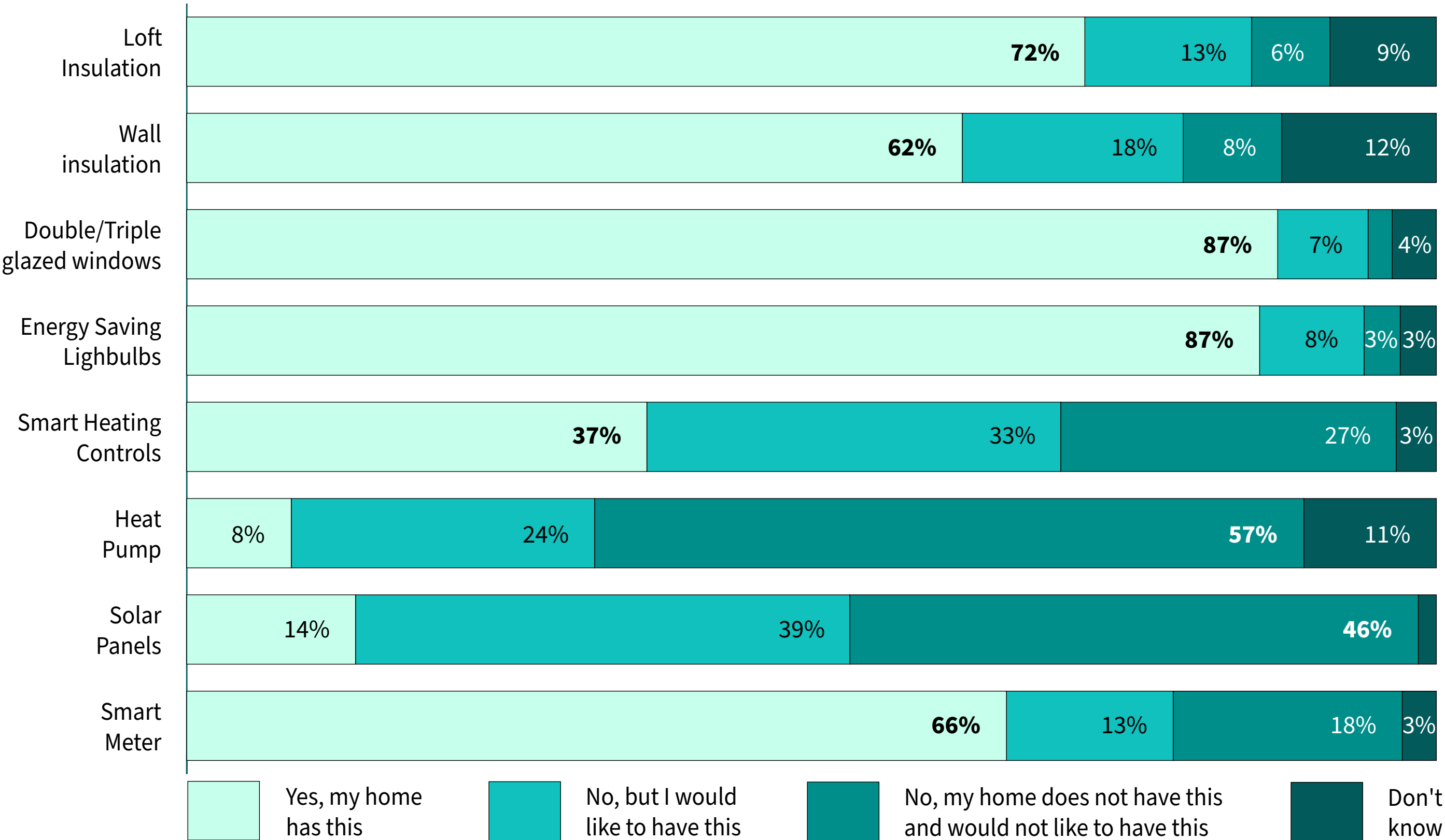
The survey results show that most households reported having loft (72%) or wall (62%) insulation, double glazing (87%) and a smart meter (66%).

Unsurprisingly, much less common were heat pumps (8%), solar panels (14%) and smart heating controls (37%). More surprisingly is that more than half of respondents said they wouldn’t like to have a heat pump (57%) and nearly 46% said they wouldn’t like to have solar panels.

These results indicate that there is work to do to improve the acceptability of these technologies. Analysis shows that income is negatively correlated with the respondents saying they wouldn’t like to have a heat pump or solar panels, indicating that respondents may have felt these technologies were unaffordable. Interestingly age is positively correlated with not wanting a heat pump (but not solar panels), indicating that younger people are more likely to invest in a heat pump.



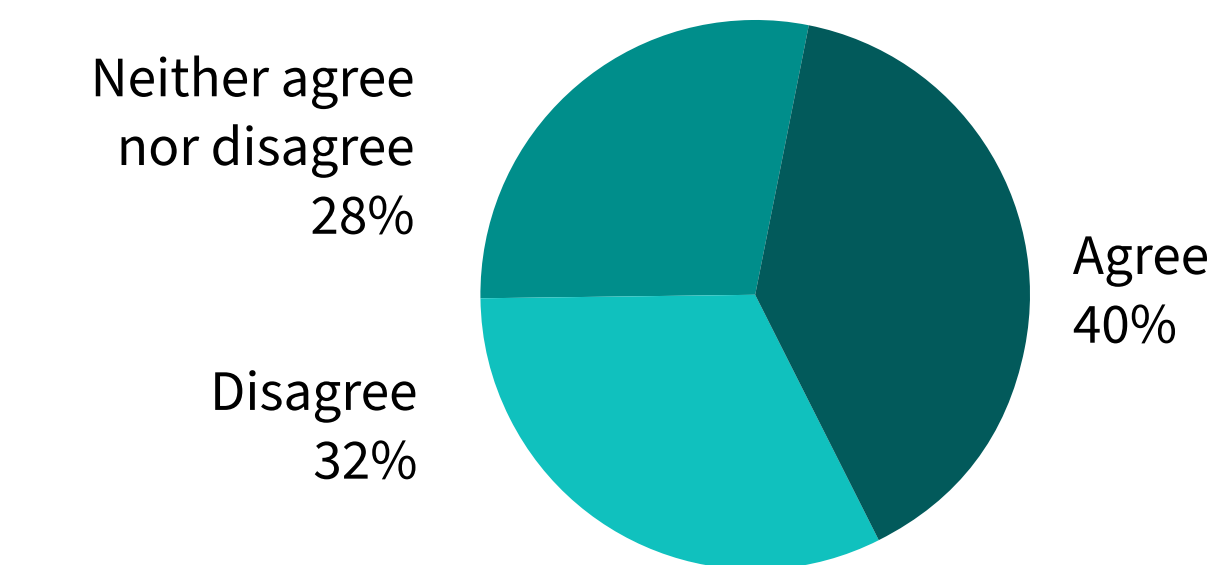
Energy efficiency features present in the home



How likely is it that you will adopt smart technologies to control your energy consumption in the future?



My home’s smart meter influences how much energy my household uses



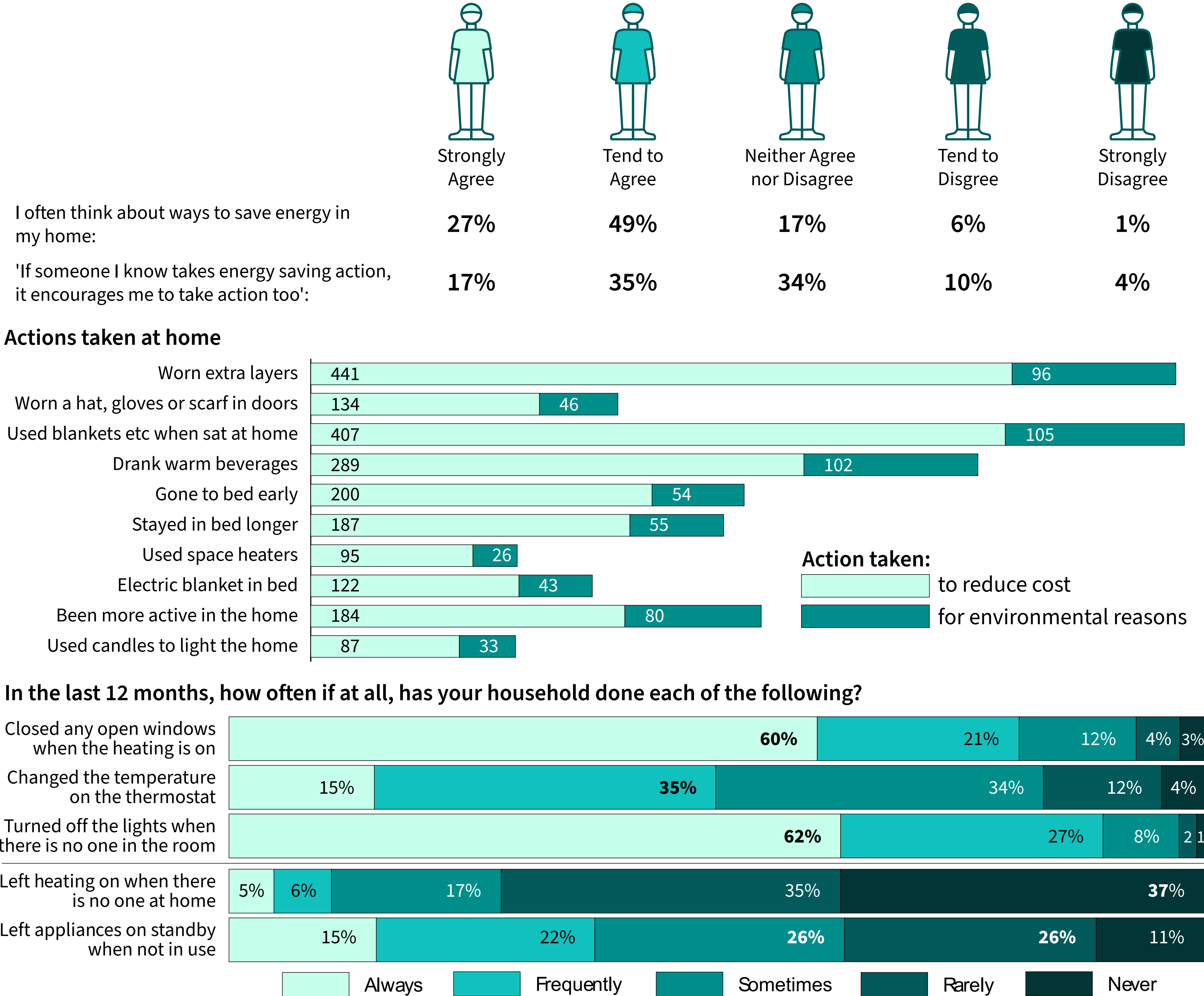
# Action to reduce energy use

Energy use depends on householder behaviour and most of our respondents said they often think about saving energy. Most said they engaged in some sort of energy saving behaviour, most commonly, wearing extra layers or using a blanket.

Most respondents frequently or always closed windows when the heating is on and switch lights off in empty rooms, and rarely or never left the heating on in an empty house.

Respondents more commonly said they engaged in energy saving behaviour to reduce cost, rather than for environmental reasons.

Just over half (52%) said they would be encouraged to take energy saving action if someone they know did so.



# Help and information about heating

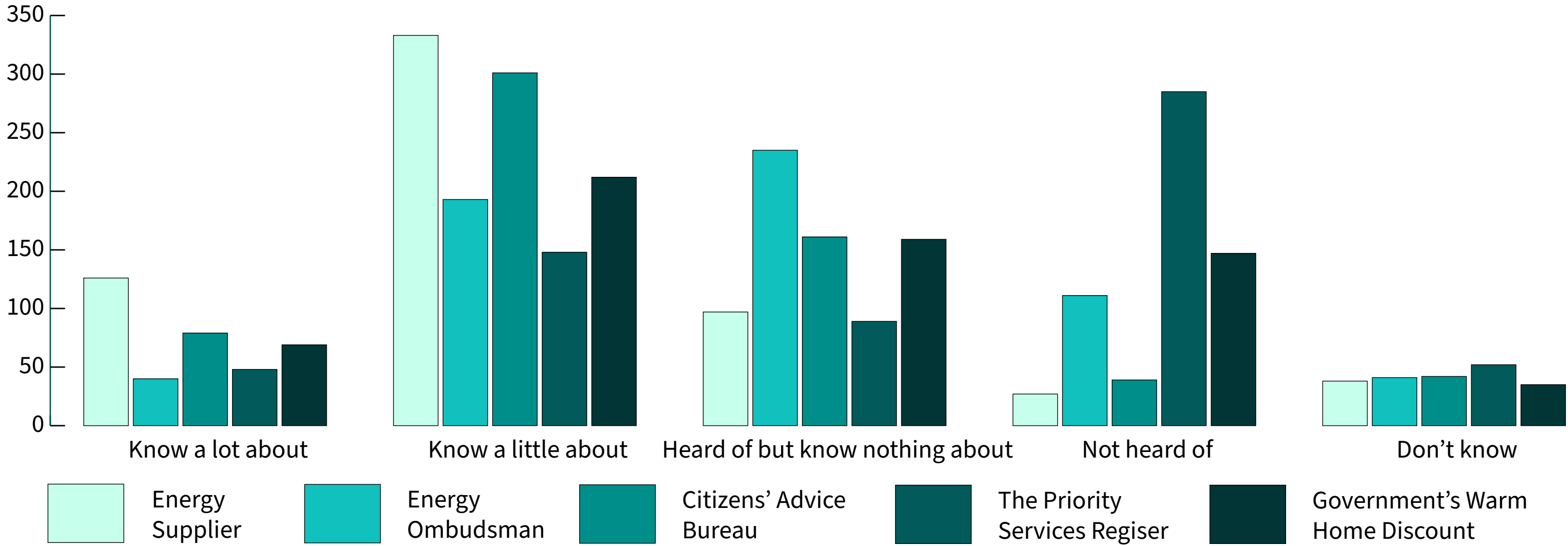
Reducing energy use depends on householders’ knowledge and awareness about the options (technical and behavioural), as well as the associated benefits. To develop specific policies to improve knowledge, the survey asked about awareness of, and confidence in a range of sources of information on, and support with energy use.

Energy suppliers and the Citizens’ Advice Bureau were the most commonly known sources of support with energy bills. The Priority Services Register was the least well known.

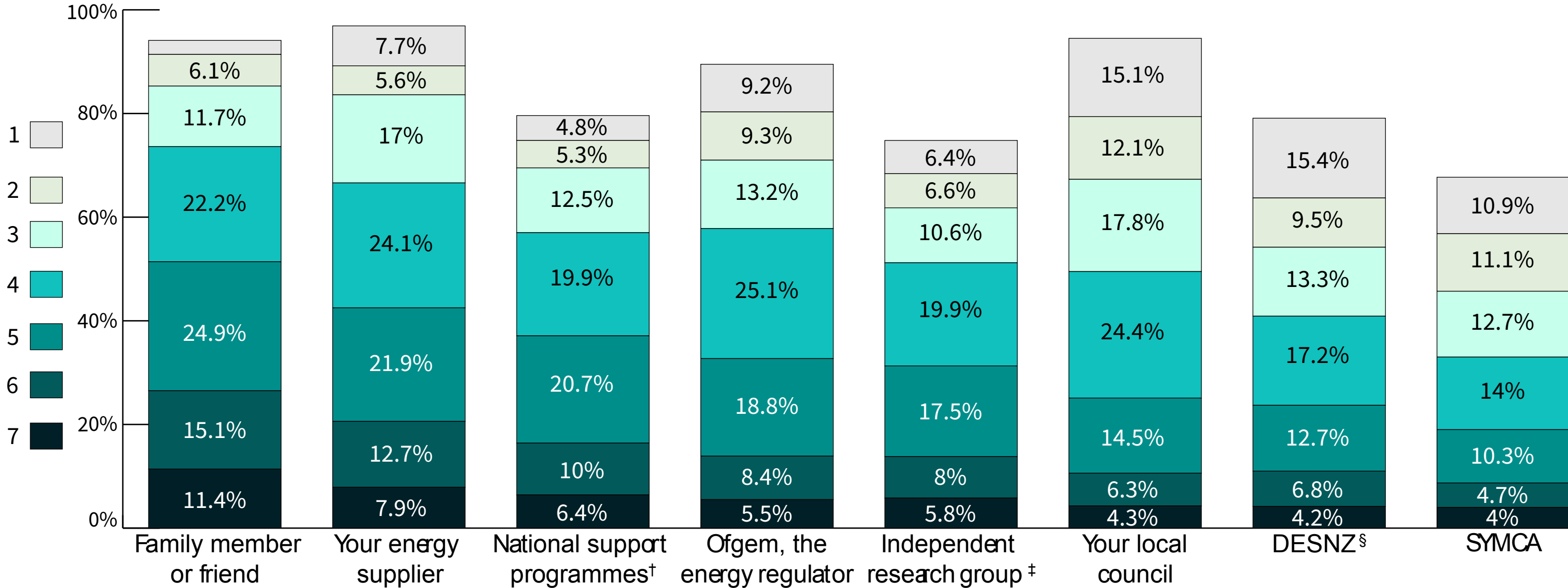
Respondents rated friends and family as the source they had most confidence in to provide them with energy saving information. SYMCA scored lowest and just over a quarter of respondents (27%) said they had never heard of them.



To what extent are you personally aware of the following sources for obtaining support with energy bills?



How much confidence, if at all, do you have in the following sources to provide information on energy saving? Please use a scale of 1-7, where 1 means no confidence at all and 7 means a lot of confidence.\*



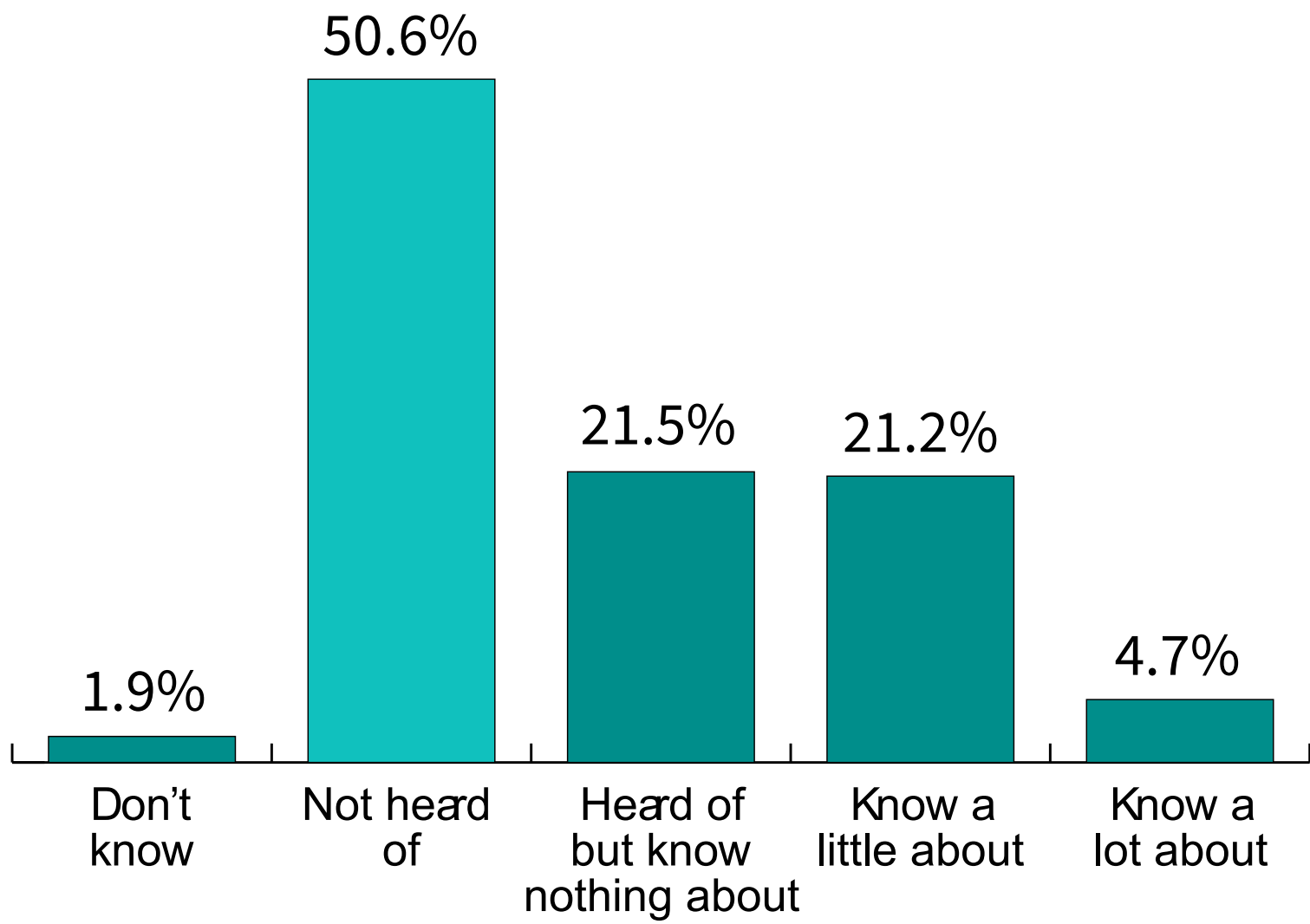
\* This question also had answers of “never heard of them” and “don’t know”. These have been omitted for purposes of illustration  
† National support programmes e.g. National Energy Action (NEA), Energy Saving Trust, Citizens Advice Bureau (CAB), Universities’  
‡ Independent research group e.g. The UK Climate Change Committee, Universities’  
§ Department for Energy Security & Net Zero

# Heat networks

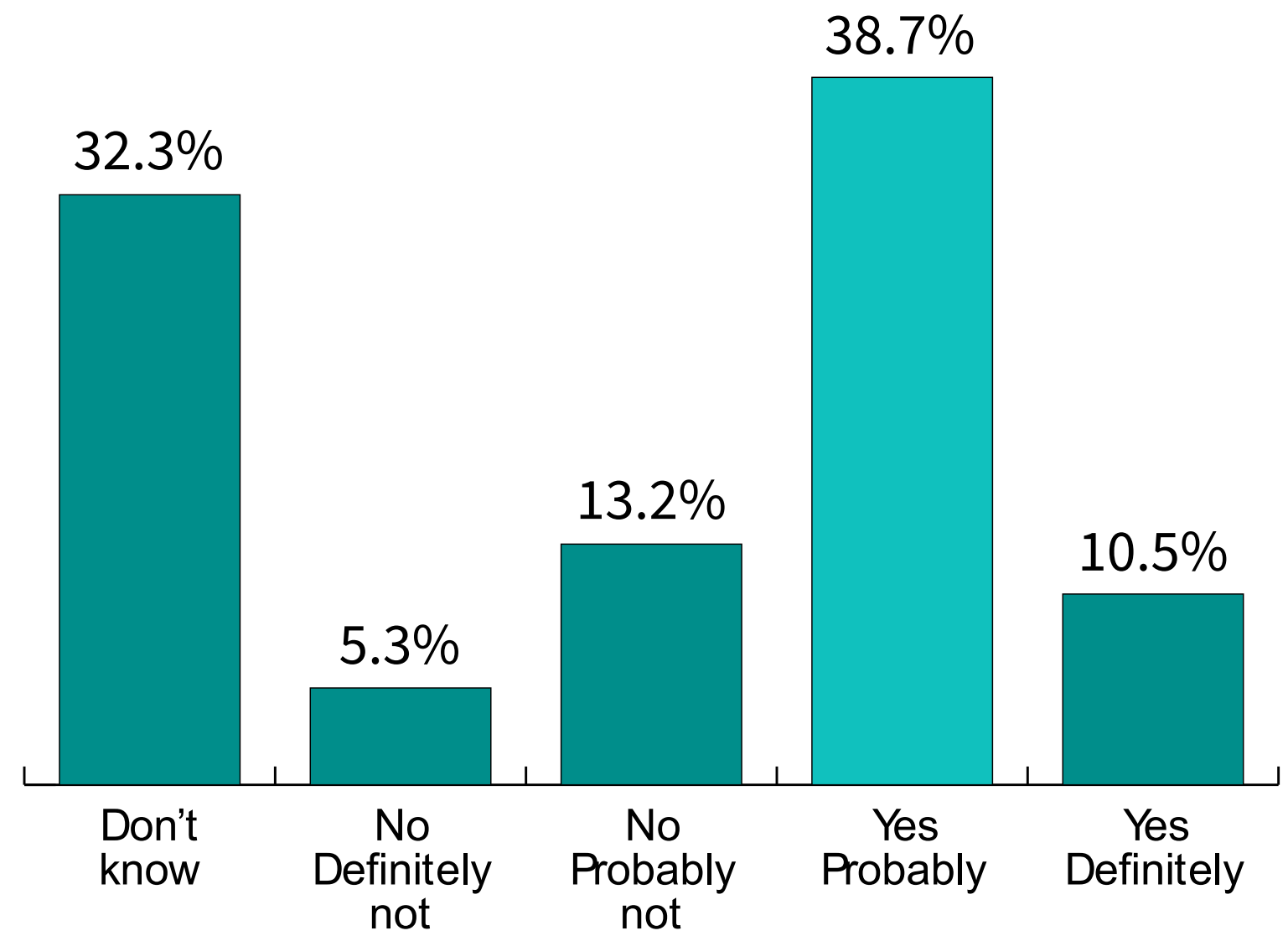
Just over a quarter of respondents (26%) said they knew a little or a lot about heat networks. Once we described a heat network, around half said they would probably or definitely join a heat network, and around a third said they didn't know. Less than a fifth of respondents said they probably or definitely not join a heat network.

The strongest driver for joining a heat network was saving money; 65% of respondents said that cost savings would influence their decision. Reliability of service was also a strong influence; 42% of respondents said this would influence their decision. Only a quarter of respondents said that the environment would influence their decision. Recommendations from family and friends were more likely to influence respondents' decision to join a heat network than recommendations from an energy supplier, Ofgem or their local council.

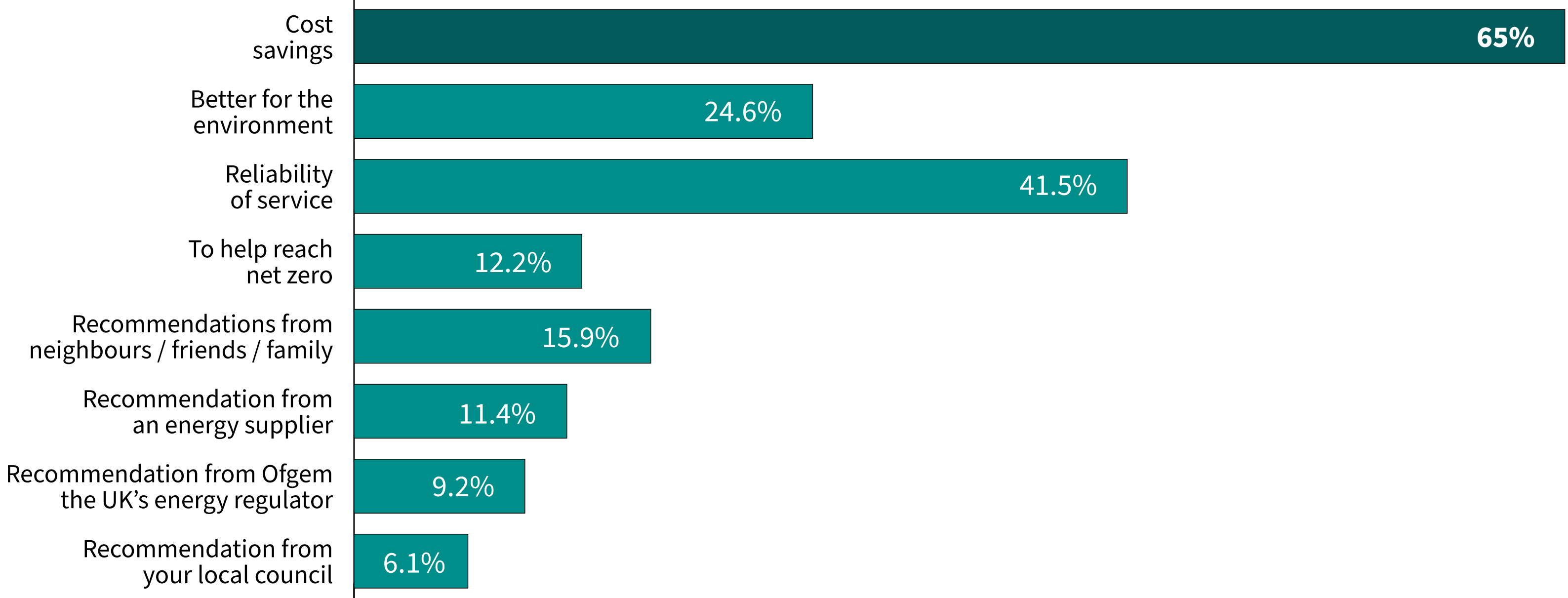
Before today, how much did you know about district heat networks?



If a district heat network was available in your area as a heating option, would you consider joining?



What factors, if any, would most influence your decision to join a district heat network?



# Conclusions and Next Steps

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We are planning to follow up this survey with a series of interviews to explore some of the data, such as the apparent lack of interest in heat pumps.

We are keen for these survey results to be used widely for the benefit of research and knowledge development. We have already shared the data with colleagues working on:

- the roll out of heat networks in Sheffield;
- mapping public and active travel infrastructure with areas of deprivation in Sheffield; and
- models to inform retrofit planning across the region

If you are working on a project that you think could benefit from our survey data, please get in touch with the South Yorkshire Sustainability Centre ([sysustainabilitycentre@sheffield.ac.uk](mailto:sysustainabilitycentre@sheffield.ac.uk)) or Jayne Carrick ([j.carrick@sheffield.ac.uk](mailto:j.carrick@sheffield.ac.uk)) to discuss your ideas.

In accordance with the terms set by our funding (UKRI), at the end of the project (March 2026), the raw data from the survey will be available on the University's open access database (ORDA).