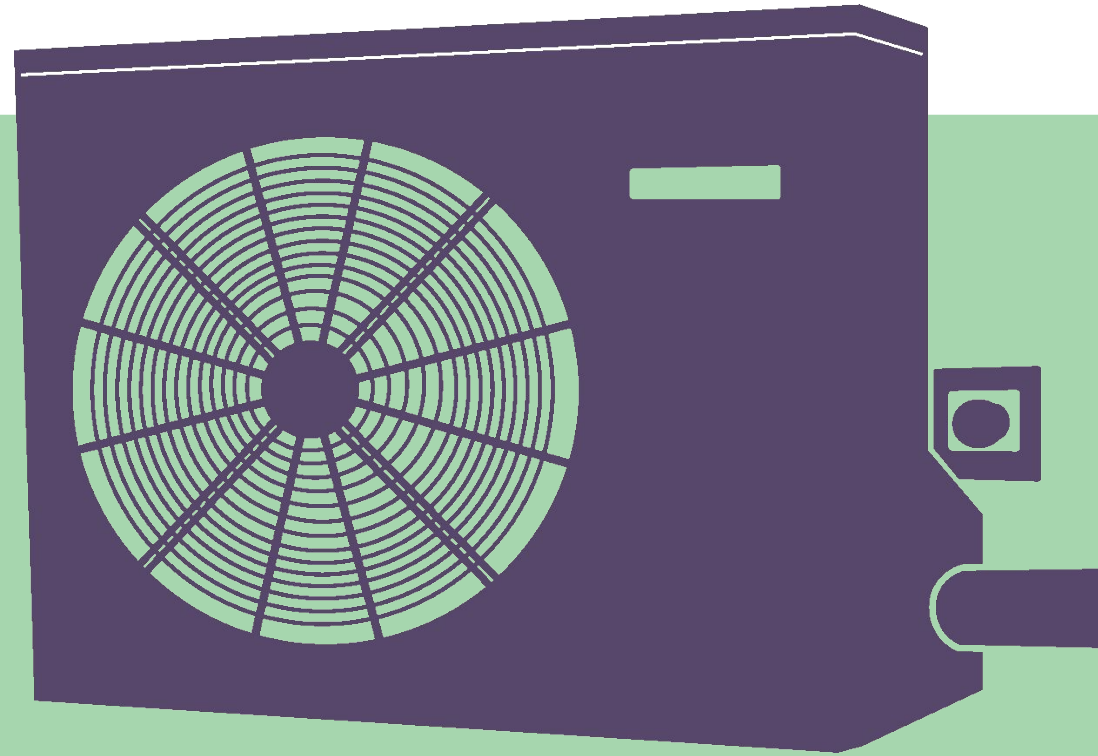


Who are the early adopters?

Understanding homeowner demand for heat pumps



Introduction

To reach Net Zero many homes will need to install heat pumps as an alternative to fossil fuel heating. Many of these homes will also need fabric energy efficiency measures installed to improve their thermal performance, ensuring that they retain heat for longer. The cost of this work is significant and for many homeowners there is currently limited support to help them navigate this journey.

We commissioned research to uncover homeowner attitudes to retrofit measures and their willingness and ability to fund the upfront cost of making these changes. Our report, [Demand: Net Zero](#), found that while over 1 in 4 (28%) of homeowners are interested in a heat pump, fewer than 1 in 10 (8%) are either able to pay or willing to borrow to fund the installation.

If we are to build the heat pump market fast enough to reach Government targets of 600,000 installs per year by 2028, then we need to rapidly get heat pumps into the homes of those who are most willing to receive them.

This briefing takes a closer look at the data to identify some of the key demographic differences between groups of homeowners. Throughout the briefing, key characteristics of each group are highlighted through the use of fictionalised case studies. Additionally, there is an annexe of fact sheets covering particular demographic groups.



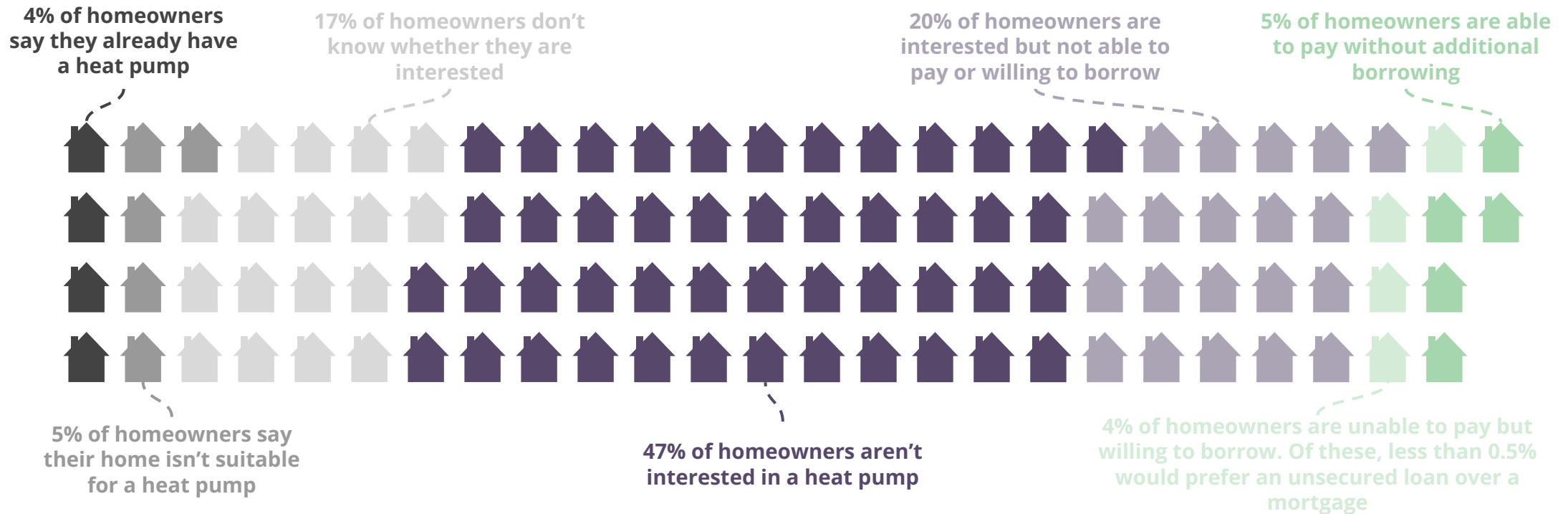
Interest in heat pumps is low

General interest in heat pumps amongst homeowners is low, with almost 1 in 2 not interested in a heat pump.

This is largely driven by the perception that heat pumps are unaffordable, with almost half of those not interested in a heat pump saying that upfront cost played a part in their lack of interest and almost 1 in 4 (24%) saying that they are waiting for prices to come down.

Almost 1 in 5 homeowners are not sure whether they are interested or not, potentially indicating a lack of general knowledge about heat pumps as a heat source.

Despite this, there is still a significant minority of homeowners who are interested in installing a heat pump with over 1 in 4 (28%) of homeowners interested. And of those interested, almost 1 in 3 (30%) are able to pay or willing to borrow (8% of all homeowners).



Note: rounding to the nearest whole number means the total exceeds 100%

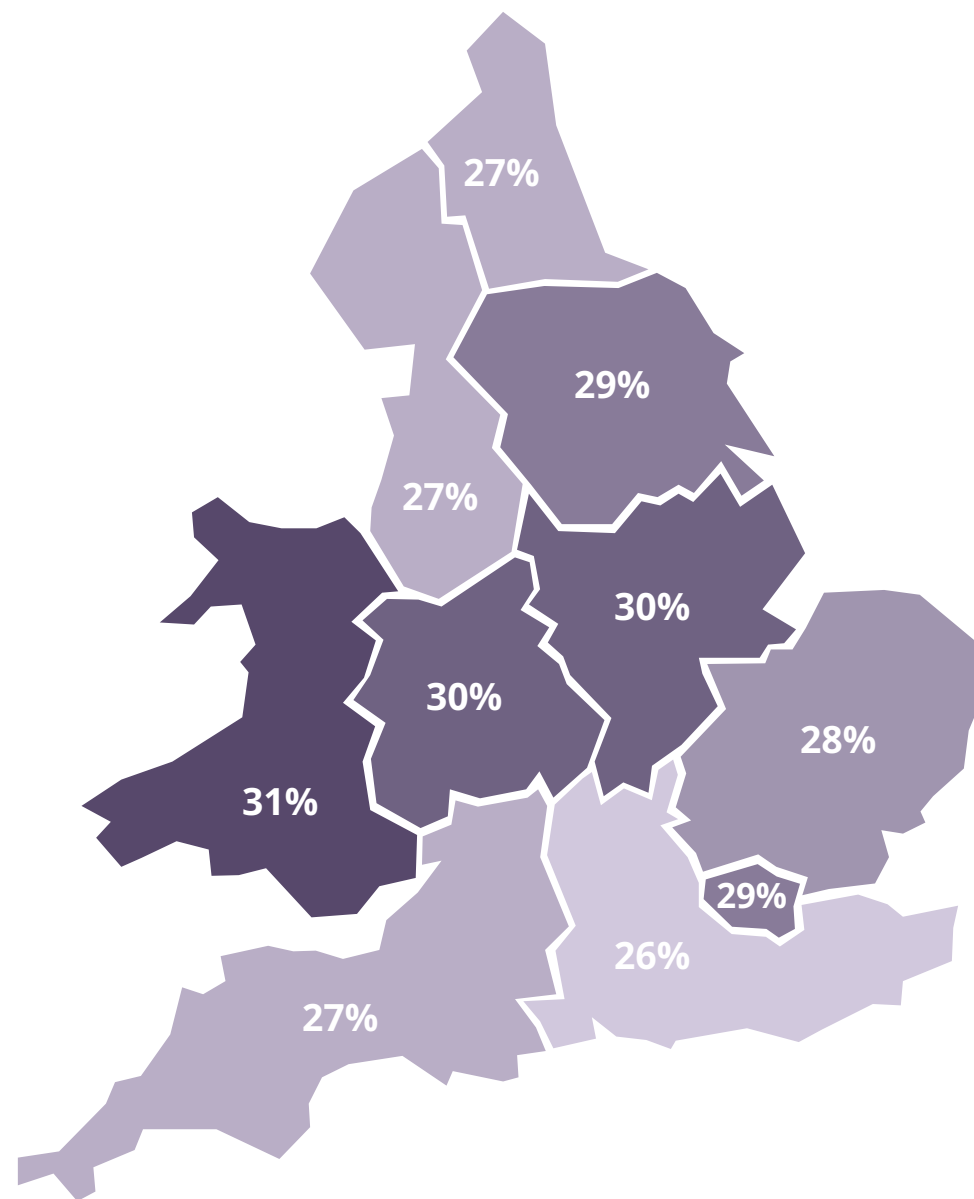
Mapping interest

Using statistical analysis we are able to use the survey results to predict heat pump demand at a local level. This data suggests that interest is highest in Wales where almost 1 in 3 (31%) homeowners are interested in heat pumps.

However, when we look at how many interested homeowners are in a position to afford the upfront costs, or take out finance to cover the costs, the situation changes. In this view, London has the greatest 'conversion potential', with almost 1 in 2 (47%) interested homeowners able to pay or willing to borrow for a heat pump.

Outside of London the percentage of interested homeowners able to pay or willing to borrow drops significantly. This means that in some of the areas where total interest is high, affordability is low. For example, in Wales just over 1 in 5 (22%) interested homeowners are able to pay or willing to borrow.

And while the South East has the fewest interested homeowners, it is in the North East levels of active disinterest are highest with over 1 in 2 (51%) homeowners saying they aren't interested in a heat pump.



Percentage of homeowners interested in a heat pump

[Click here to explore this data in more detail using our interactive map](#)



Not interested in a heat pump

Almost half (47%) of UK homeowners aren't interested in installing a heat pump. People who aren't interested in a heat pump are likely to be older, with interest decreasing with age.

These homeowners are also likely to own their property outright with a household income under £40,000 per year. Over half of this group (52%) has a household income of under £20,000.

It's unsurprising that homeowners with no outstanding mortgage are not interested in taking on debt to pay for a heat pump, but low levels of disposable income may also make it difficult for this group to access alternative forms of finance.

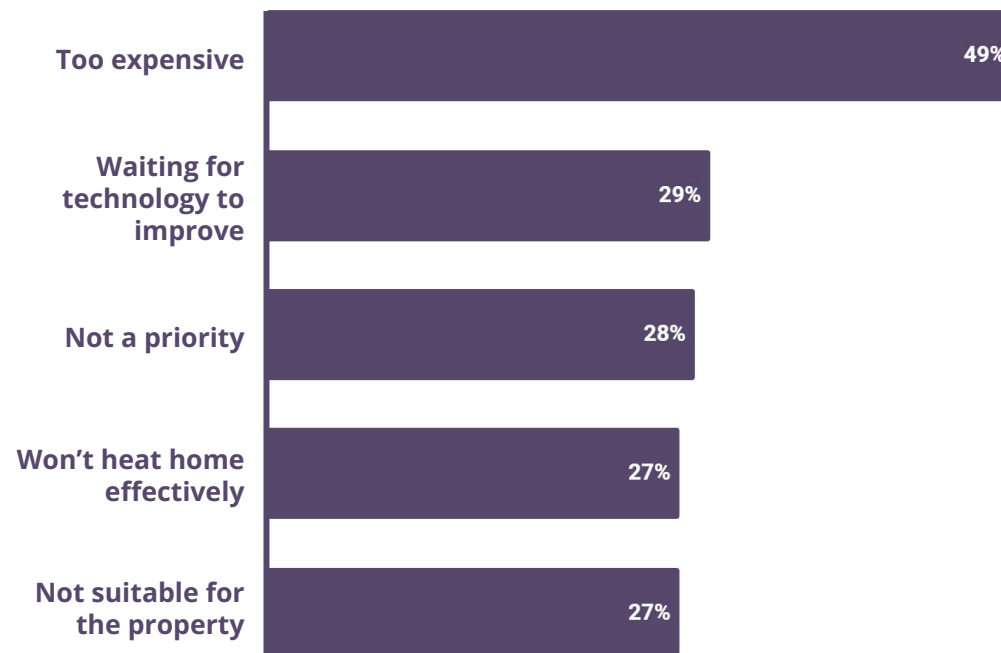
John

John is 62 years old and lives with his wife in the South East in a semi-detached house. John's household income is £35,000 and he has £10,000 in savings.

John thinks his home retains heat well even though he finds it expensive to heat. During the colder months he has the heating on between 5 and 6 hours per day. He would ideally like to have the heating on for longer, but can't afford it. John has managed to keep up with his energy bills but has had to make some changes like using the oven and tumble dryer less frequently.

John's home is currently heated by a gas boiler. He has loft insulation and double glazing. He's not interested in energy efficiency measures or a heat pump because he doesn't feel he can afford to make the changes and thinks it would cause too much disruption.

Top 5 reasons for lack of interest:

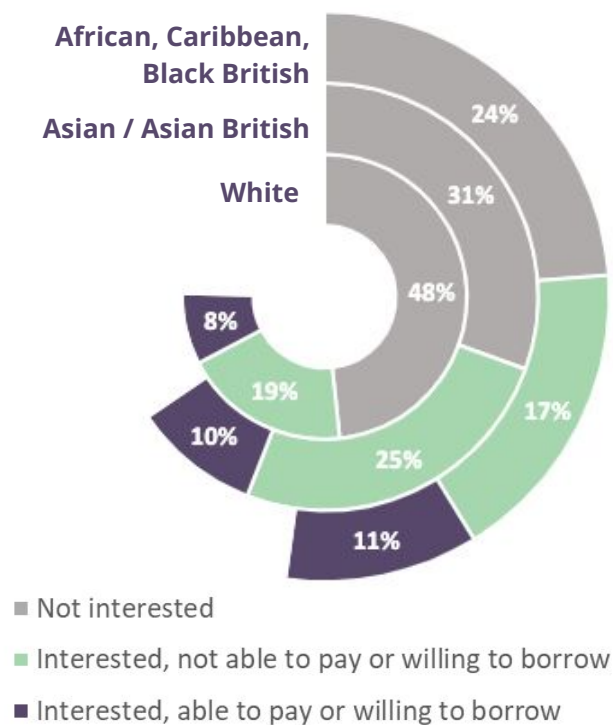


Interested in a heat pump, not able to pay

Almost 1 in 5 (19%) of homeowners are interested in a heat pump but are unable to afford the upfront cost without additional borrowing and are unwilling to take out a loan or extend their mortgage.

Many in this group think their homes retain heat badly and are likely to rarely or never have their heating on as long as they'd like. Their homes also have slightly fewer energy efficiency measures than average. This indicates that they could benefit from additional insulating measures to improve the comfort of their homes.

Interest in heat pumps by ethnicity:



Although they have higher household incomes, above £40,000 per year, they sometimes struggle to cover their essentials and are most likely to have monthly disposable incomes of £100 or less. These low levels of disposable income are likely to make it difficult for this group to access traditional forms of finance.

Homeowners of colour are more likely to be interested in heat pumps than their white counterparts.

This is particularly the case for Asian British homeowners with over 1 in 3 (35%) being interested in a heat pump compared to 28% of white homeowners.

Ahmed

Ahmed is 44 years old and lives in the West Midlands with his partner and two sons. His combined household income is £48,000 and he has £10,000 in savings. Ahmed can afford his essential bills each month but the amount he has left has reduced as the cost of fuel and food has increased.

Ahmed lives in a semi-detached house and has double glazing and loft insulation. He thinks it's expensive to heat his home. He is interested in having a heat pump in his home but he is not willing to borrow from his mortgage provider or take out an unsecured loan to fund a heat pump. He has an outstanding mortgage of £110,000 and has monthly savings of £150.



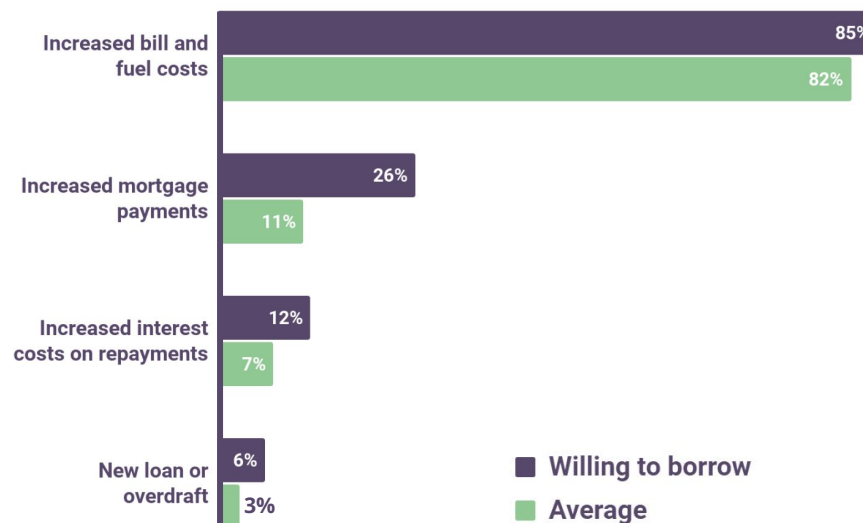
Interested in a heat pump, willing to borrow

4% of homeowners are interested in a heat pump, not able to pay outright, but willing to borrow money to cover the upfront costs. Mortgage borrowing is significantly more attractive than unsecured loans with only 1 in 10 of those willing to borrow preferring a loan over a mortgage.

People in this group have higher property values than those who are interested but unable to pay or take out a loan and have low average loan to value ratios of around 40%.

However, they are likely to feel that their disposable income has decreased significantly, in part due to increased mortgage payments. This increasing pressure on household budgets may make it harder for these households to release home equity.

Reasons disposable income has decreased:



Anne

Anne is 35 years old and lives in the South East with her partner. She lives in a 3 bedroom semi-detached house. Her combined household income is £62,000. They have a monthly disposable income of £200 and £4,000 in savings. The remaining mortgage on the house is £185,000. The value of her home is £285,000.

Anne's main heating system is currently a gas boiler. During the colder months, Anne had her heating on between 3 and 4 hours a day per day which wasn't as long as she would have liked. She believes her home retains heat well but finds it expensive to heat.

Currently, Anne has some energy efficiency measures installed including cavity wall insulation, loft insulation and double glazing. She wants a heat pump for her home but lacks the funds to cover the cost but is open to borrowing on her mortgage to fund the installation of a heat pump.



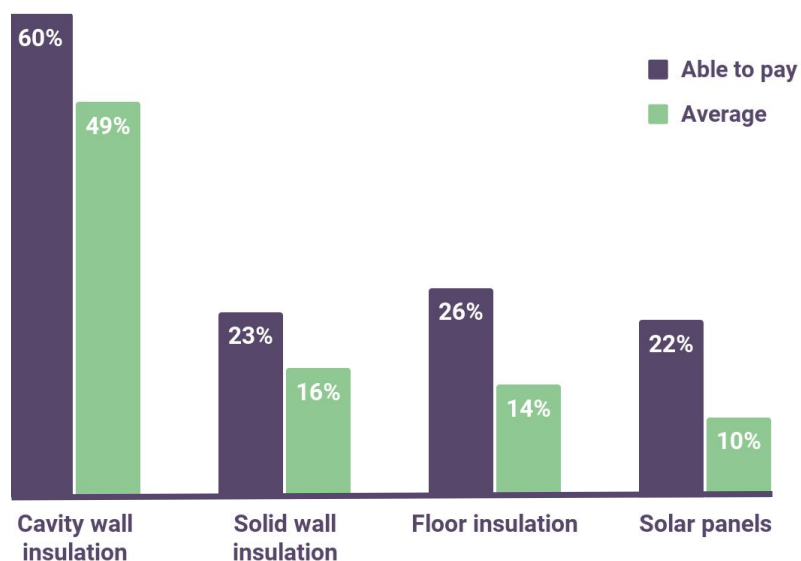
Interested in a heat pump, able to pay

4% of homeowners can afford to invest in a heat pump without additional borrowing. They are slightly older than those who are interested but unable to pay or unwilling to borrow, and have high household incomes and high levels of savings.

They live in detached houses with higher than average levels of insulation and higher EPCs. This means they are likely to be 'heat pump ready' without the need for many, if any, additional energy efficiency improvements.

Household income in this group has increased due to reduced loan and mortgage payments. Bill affordability is not an issue for this group, so they may well be less sensitive to money saving arguments.

Insulation rates:



Lucy

Lucy is 51 years old. She lives in London with her partner. Lucy's children have moved out. The couple's combined income is £63,000 and they have £57,000 in savings.

They have a gas boiler, and Lucy believes her home retains heat well. During the winter months she had her heating on between 3 and 4 hours a day. Lucy shared her home was often as warm as she would like and often has the heating on for as long as she likes.

Currently her home has cavity wall insulation, loft insulation and double glazing. Lucy cares about climate change and believes it is a threat. She believes it is mainly the homeowner's responsibility to fund low carbon changes in the home. She is interested in having a heat pump installed in her home and she can afford to pay for the upfront costs without additional borrowing.











Challenges and Opportunities

Our research has uncovered the significant difference between households around the country, both in their willingness and ability to engage with the transition to clean heat.

This, again, challenges the concept of an 'able to pay' sector and highlights that while some households are fully prepared to install a heat pump their financial reality prevents them from doing so.

When developing policy, products and services to support homeowners to Net Zero we must consider their different starting points and ensure that the framework of support on offer meets the diverse needs of all homeowners.

The following table highlights the challenges and opportunities associated with each of the groups we've identified.

	Challenges	Opportunities
Not interested in a heat pump	 May find traditional financial products difficult to access due to age or low levels of disposable income	 Those on the lowest incomes may qualify for government support schemes
Interested in a heat pump, not able to pay	 Low levels of disposable income may make loans or increased mortgage payments unattractive	 Strong regional interest in Yorkshire and the Humber and Wales indicates area based approaches could be successful
Interested in a heat pump, willing to borrow	 Many have newer boilers so may be reluctant to change their heating system before they need to	 Many in this group have small mortgages, so may be able to release equity from their homes
Interested in a heat pump, able to pay	 Energy affordability not an issue, so may be less likely to be convinced by money saving arguments	 Many live in 'heat pump ready' detached and well insulated properties

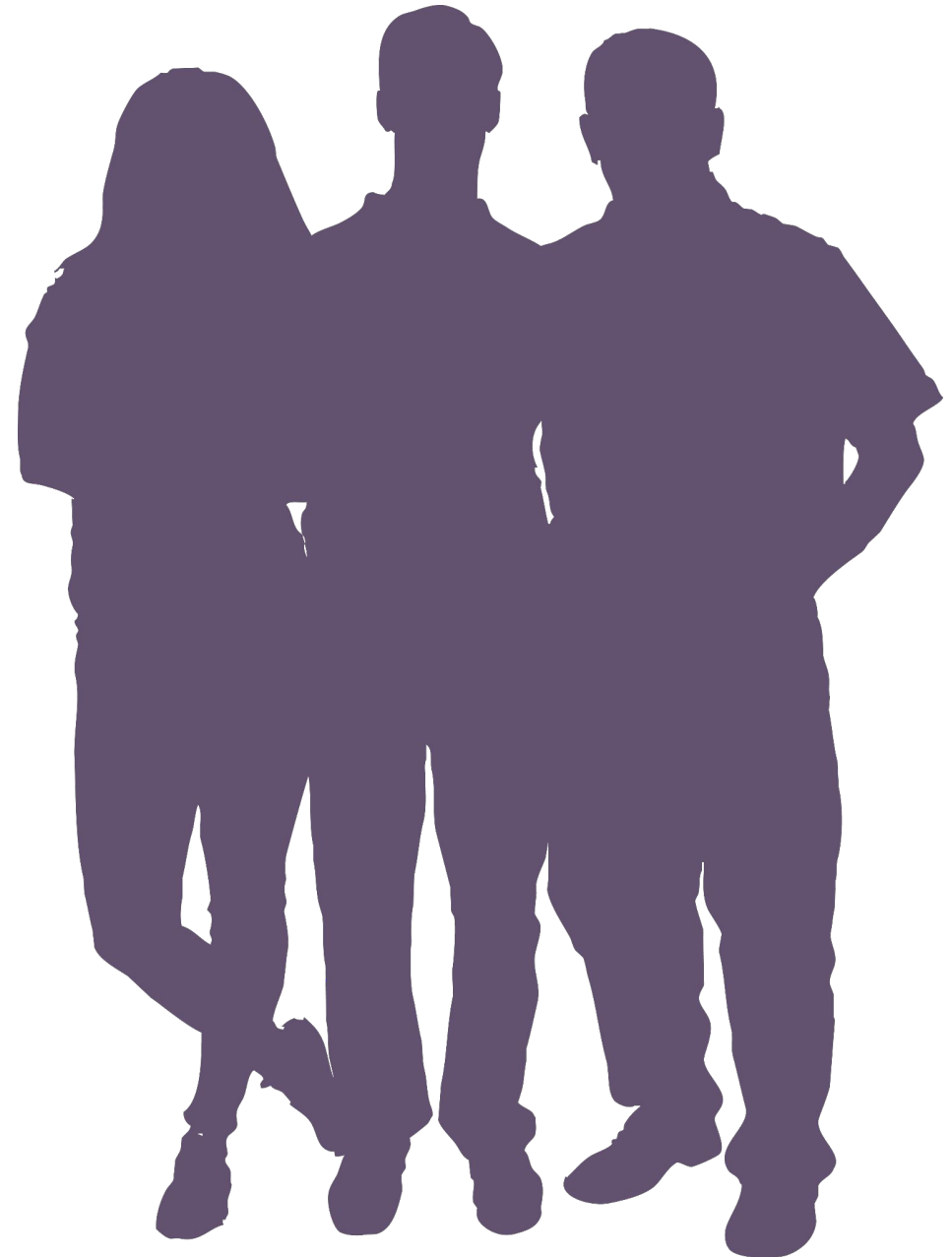
Conclusion

Our research has found that almost 1 in 2 homeowners are not currently interested in installing a heat pump. But there is interest there if we can mobilise it, with 1 in every 3 (34%) homeowners who expressed an opinion interested in a heat pump. And of these, over 1 in 4 (30%) are able to afford the upfront cost or are willing to borrow to do so.

And although cost isn't the only barrier, with our research highlighting issues with lack of advice, protections, ongoing running costs or other regulatory incentives, it's clear that finance will be a major part of the transition to clean heat.

This data illustrates that there is no 'one size fits all' approach to decarbonisation and that there will need to be a holistic framework of solutions to accommodate the reality of homeowners' lives.

We'll be building on this work in the coming months to understand the key motivating and restraining forces outside of finance that are impacting on homeowner decision making. This will allow us to develop a clear roadmap for translating interest into demand.



Annex: demographic case studies

To complement this briefing we've also created fact sheets for different groups, highlighting their particular challenges and opportunities around adopting low carbon heat.

The fact sheets cover:

- Homeowners living off the gas-grid
- Disabled homeowners
- Homeowners with children
- Homeowners on a low income
- Older homeowners



Living off the gas grid

Whilst the vast majority of homeowners heat their homes using mains gas, over 1 in 10 use different methods of heating their homes. Of these, over 1 in 3 (35%) have an oil boiler, 9% use LPG, with 5% using solid fuel.

There are significant regional differences in fuel usage. Oil is most common in the East of England (10%), Wales (8%), and the South West (7%). LPG is significantly less common, used by 2% of homeowners in the East Midlands, South West and Wales and solid fuels are used by just over 1% of homeowners in Wales and the South West.

Liam

Liam is 58 years old and lives with his partner in the East of England. His household income is £63,000. Liam's home is valued at £250,000 with an outstanding mortgage of £45,000.

Liam's main heating system is an oil boiler. Liam thinks his home retains heat badly and finds it expensive to heat, during colder months only heating his home 3-4 hours a day.

Liam is interested in having a heat pump and solar panels installed, but doesn't feel comfortable borrowing money on his mortgage or taking out a loan.

Opportunities:

- Those heating their home with oil, LPG or solid fuel are more likely to be very interested in a heat pump and are more likely to be able to pay or willing to borrow than average.
- These homeowners are significantly more likely to live in detached houses or bungalows potentially making heat pump installation more straightforward.

Challenges:

- This group are more likely to think their home is cheap to heat and find it easy to keep up with their energy bills than those heating their homes with mains gas making financial arguments unlikely to be convincing.
- There are significant income disparities within this group. Those heating their homes with oil are more likely to have higher household incomes than those heating their homes with LPG or solid fuel.

Disabled person

Over 1 in 4 homeowners have a health problem or disability that limits their day-to-day activities. There are significant differences in heat pump interest depending on the severity of disability.

1 in 2 homeowners whose daily activities are limited a little are not interested in a heat pump. This group is slightly less willing to take out finance and less able to pay without additional borrowing.

Homeowners whose daily activities are limited a lot are more likely to be interested in a heat pump and more likely to be able to pay or willing to borrow than both non-disabled homeowners and homeowners with less significant disabilities.

Joan

Joan is 57 years old and lives in Wales in a 3 bedroom semi-detached house.

Joan's household income is £25,000. The amount left each month after paying essential bills is no more than £100.

Joan currently has loft and cavity wall insulation and double glazing in her home.

She is interested in other measures, such as floor insulation and solar panels, but these measures are not affordable for Joan without borrowing and she is not willing to borrow on her mortgage or take out an unsecured loan.

Opportunities:

- Disabled homeowners are more likely to have household incomes that would qualify them for government support schemes.
- Disabled homeowners are more likely to have solar panels than non-disabled homeowners. This could reduce heat pump running costs making a heat pump more attractive.

Challenges:

When presented with information about a fossil fuel boiler phase out, disabled people's willingness to borrow money for the upfront cost of a heat pump significantly decreases.

- Disabled people have significant concerns about heat pumps with those not interested thinking heat pumps are too expensive, they aren't effective or are unsuitable, and they are too big and noisy.



Family with children

Over 1 in 4 (28%) homeowners have children in their household.

Homeowners with children in their household are more likely than average to be interested in a heat pump and almost twice as likely to be able to pay or willing to borrow than households without children.

This group tends to live in well insulated homes, being more likely than average to have measures such as solid wall insulation, floor insulation and solar panels. Households without these measures installed are also more likely to be interested in installing them than households without children.



Susan

Susan is 39 years old and lives in London in a 3 bedroom semi-detached house. Her household income is £62,000. She usually puts around £100 towards her savings each month and has £2,000 in savings overall.

Susan has cavity wall insulation, loft insulation and double glazing in her home. Susan thinks her home retains heat badly and finds it expensive to heat her home.

She is interested in installing a heat pump but doesn't think she can afford a heat pump without taking out a loan.

Susan is reluctant to take out an unsecured loan and is more inclined to borrow on her mortgage.

Opportunities:

- 1 in 10 families with children are planning major renovations to their home in the next 12 months providing an opportunity to build retrofit measures into these works.
- Those interested in heat pumps are more likely to be able to afford a heat pump without additional borrowing as well as being more open to both mortgage borrowing and unsecured loans.

Challenges:

- Many in this group report their disposable income decreasing due to increased mortgage repayments which may make it difficult to use their mortgage to fund retrofit works.
- This group is likely to not be eligible for low-income support schemes but their disposable income could make borrowing difficult. While some have significant levels of disposable income many households with children have between £250 or less left per month after essential spending.

Low income household

Almost 1 in 5 (18%) homeowners have a household income below £20,000 per year.

People in this income bracket are the least likely to be interested in a heat pump. Fewer than 1 in 4 low income households are interested in a heat pump, compared to almost 2 in 5 among households earning over £60,000 annually.

Low income households are less likely than average to have insulating measures and are taking drastic measures to reduce their heating costs, such as turning off their heating completely, not using the oven and reducing the frequency of showering and bathing.

George

George is 72 years old and lives alone in a 3 bedroom semi-detached house. He has loft insulation, double glazing and cavity wall insulation.

George's annual income is £19,000 and he has £1,500 in savings. He usually has about £50 a month left after essential spending. He rarely has his heating on for as long as he would like and finds it expensive to heat his home.

George is interested in a heat pump but can't afford the upfront costs and isn't willing to borrow on the equity on his house or take out an unsecured loan.



Opportunities:

- Homeowners in this bracket are likely to qualify for government support schemes such as the Energy Company Obligation.
- Communications based around comfort of the home may be effective given homeowners in this group are twice as likely than average to report that their homes are never as warm as they'd like.

Challenges:

- Homeowners in this group are significantly less likely to be interested in insulating measures than those in higher income brackets. Reasons for lack of interest include cost, suitability and upheaval.
- Over 1 in 2 homeowners with a low household income are over 65. This may make it difficult to borrow either via a mortgage or unsecured loan.

Older person

1 in 2 homeowners are over 55, with almost 1 in 3 (32%) over 65.

Older homeowners are less interested in heat pumps than younger homeowners, with fewer than 1 in 4 homeowners aged over 55 interested in heat pumps compared to over 1 in 3 homeowners under 55. Interest falls even further among the over 65's, with fewer than 1 in 5 interested in a heat pump.

When asked why they weren't interested, older homeowners are more likely than younger homeowners to be worried about heat pump effectiveness. Almost 1 in 3 homeowners over 55 said they are waiting for technology to improve and that they don't think a heat pump would effectively heat their home.

Aisha

Aisha is 58 years old. She lives in the South West with her partner in their 3 bedroom semi-detached house. Their household income is £25,000 per year.

Aisha believes her home retains heat well even though she finds it expensive to heat.

She currently has loft insulation, cavity wall insulation and double glazing.

She is interested in a heat pump but she is not willing to take out a loan to fund the insulation. She has £10,000 in savings.

Opportunities:

- Over 1 in 5 homeowners over 55 have savings over £50,000. Cash-back schemes or other incentives to reduce ongoing running costs might encourage upfront spending on retrofit measures.
- Over 1 in 4 homeowners over 55 have an annual household income of £20,000 or lower meaning they could qualify for government support schemes.

Challenges:

- Over 4 in 5 homeowners over 55 and over 9 in 10 homeowners over 65 own their homes outright, making any finance linked to their property likely to be unattractive.
- Homeowners in this group are likely to think that their homes retain heat well and are generally satisfied with the warmth of their home. This may mean they are less motivated to make significant changes to their homes.

Methodology

We commissioned YouGov to understand consumer views on the topic of energy efficiency, affordability and home improvements.

An online survey of 12,102 adults was conducted from the 10th to 24th of February 2023. Questions covered consumer interest in, and affordability of, heat pumps and some of the most common energy efficiency measures; loft, cavity wall, solid wall, floor insulation, and double or triple glazing.

Figures have been weighted and are representative of all adults aged 18+ in England and Wales.

To understand how this data might map out on a local level key questions were modelled using Multilevel regression with post stratification (MRP). This technique allows us to model potential heat pump interest and ability to pay for each constituency in the UK.

Unless indicated otherwise, all the findings in this discussion paper come from this data set and are produced by Citizens Advice.

Data points:

- Gender, age, ethnicity
- Housing tenure
- Landlord status, number of properties, annual profit
- Property type, property value, outstanding mortgage (where applicable)
- Council tax band
- Main heating system, boiler age
- Retrofit measures already in place
- EPC rating
- Heat retention, costs to heat, hours heating on, satisfaction with heating
- Energy bill payment method
- Energy bill affordability, strategies for reducing energy usage (where applicable)
- Interest in home retrofit measures, reasons not interested (where applicable)
- Responsibility for cost of retrofit measures
- Affordability of home retrofit measures (without borrowing)
- Willingness to borrow on mortgage or use an unsecured loan to pay for home retrofit measures
- Household income, disposable income, income changes, savings
- Benefits received
- Household size, caring responsibilities

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