

Demand: Net Zero

Tackling the barriers to increased homeowner demand for retrofit measures

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citizens
advice



Executive summary

To reach Net Zero almost all homes will require some level of retrofit. The costs of this work are significant and for many homeowners there is currently limited financial support.

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 findings reveal that although finances are tight, money does not appear to be the most significant barrier to increased home retrofit.

Homeowner interest in retrofit measures is low. Across all measures explored, only an average 2 in 5 homeowners were interested in installing them.

This appears to be driven in part by a **lack of personalised advice**. Over 1 in 3 homeowners cited concerns related to suitability or effectiveness when asked why they weren't interested in retrofit measures.

For those who are interested, **only a minority can afford measures without borrowing.**

Our findings suggest that while 1 in 2 homeowners can afford cheaper retrofit measures without additional borrowing, this falls to only 16% for heat pumps.

For homeowners unable to afford upfront costs, **borrowing is not seen as an attractive option**. Fewer than 1 in 5 homeowners are willing to borrow either through a mortgage or unsecured loan to fund improvements.

Clear incentives seem to increase interest.

Almost 2 in 5 homeowners are more willing to pay for energy efficiency measures when they understand the potential financial benefits of an efficient home.

Without significant and coordinated action across all of these identified challenges, demand will remain low, stalling the country's progress towards Net Zero.



Introduction

Reaching Net Zero will require significant changes to almost every home. These changes have the potential to be disruptive as well as costly.

Despite the existence of schemes to help those on the lowest incomes, those who are not eligible will be expected, for the most part, to self-fund works to improve energy efficiency and install low carbon heat.

We wanted to understand more about the so-called 'able to pay' market to discover how many homeowners are actually willing and able to invest in energy efficiency and low carbon heat.

This discussion paper outlines the key findings from this research and presents potential solutions to the barriers it reveals.

The solutions presented deliberately cover a wide range of options and are not designed to be taken as clear policy recommendations.

The intention is that by putting all these options on the table we have a clear starting point to work with government, policy makers, and industry to develop solutions commensurate to the scale of the problem. Without bigger interventions, our research clearly indicates that homeowner demand for retrofit measures is likely to remain low, stalling progress towards Net Zero.

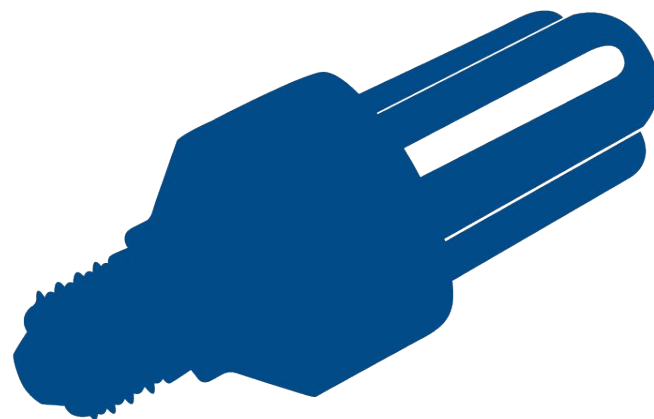
Methodology

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.

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





Who are the 'able to pay'?

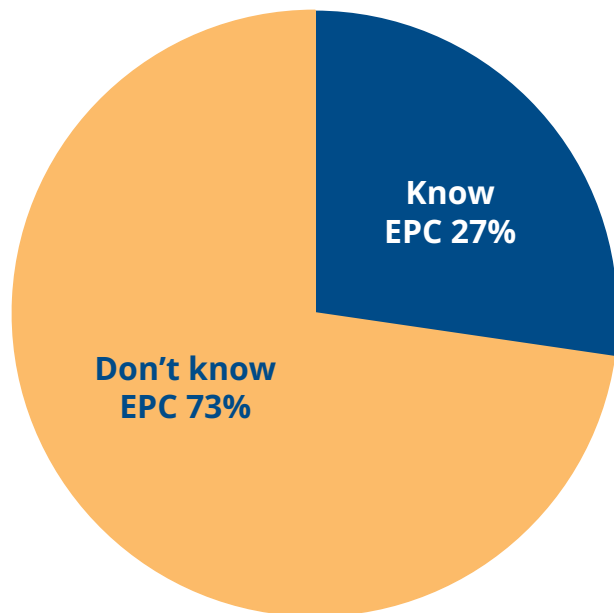
Despite being commonly used, there is no consistent definition of the term 'able to pay' when it comes to home retrofit. The government does not have a published definition of who is considered to be 'able to pay'. When the term is used, it appears to refer loosely to all those who are not currently eligible for existing support schemes.

As part of this research we attempted to understand more about the size and shape of this group of people. However, a key eligibility criteria for the main low-income energy efficiency schemes is a low Energy Performance Certificate (EPC) rating. But when asked, almost 3 in 4 homeowners weren't aware of their EPC rating.

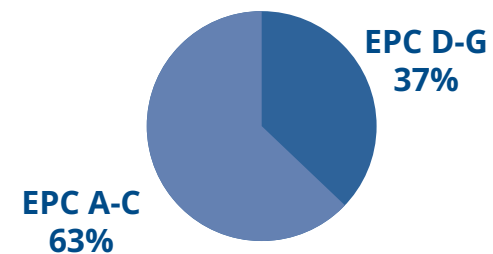
Our failure to both find a consistent definition, and to calculate the number of those ineligible for existing schemes, has brought two problems to light:

-  **Identifying those currently eligible for support** will remain challenging where an EPC rating is an essential eligibility criteria.
-  **Putting in place the right level of policy support** is difficult when there is no clear understanding of which groups need it. With no clear definition consumers must navigate a complicated web of mismatched support offers.

Fewer than 1 in 3 homeowners know their EPC rating



Homeowners that do know their EPC are almost twice as likely to have an EPC of A-C than D-G



Interest in energy efficiency is low

While some energy efficiency measures are installed in the majority of homes, these are generally more established or low-cost measures such as double glazing, loft and cavity wall insulation.

More expensive and invasive measures such as solid wall and floor insulation are not common and only a tiny minority of homeowners have a heat pump.

Among those who don't have the measures installed, homeowners are again most interested in the more well-known and understood measures.

While household income makes little difference to levels of interest for cheaper measures, those on lower incomes are less likely to be interested in solid wall insulation, floor insulation, and heat pumps.

Younger homeowners are more interested in all measures, with 18-34 year olds over 2.5 times more likely to be interested in a heat pump than homeowners aged over 55.

Percentage of homeowners with each measure installed:



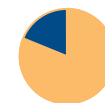
95% of homeowners have double or triple glazing



29% of homeowners have solid wall insulation



91% of homeowners have loft insulation



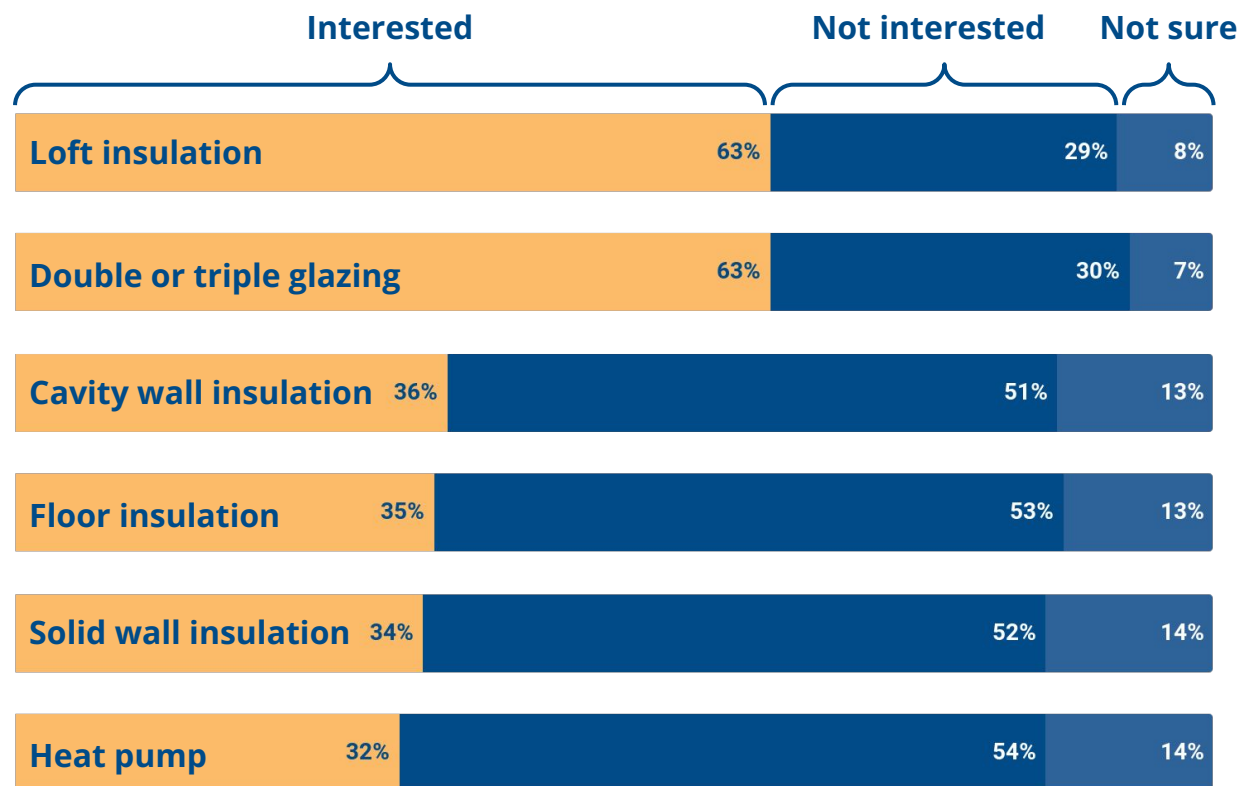
20% of homeowners have floor insulation



68% of homeowners have cavity wall insulation



4% of homeowners have a heat pump



Consumer finances are tight

The pandemic and cost of living crisis have hit consumers hard, with 2 in 3 homeowners saying that their disposable income has decreased over the last 6 months. And 1 in 5 homeowners are now unable to cover their essentials at least some of the time.

We estimate the average cost of improving the energy efficiency of a home or transitioning to low carbon heat to be just under £15,000.¹ For those currently ineligible for public support schemes, the main options for financing these works are cash, home equity, or unsecured loans.

However, survey results suggest that these costs will be unmanageable for many without significant changes to either the cost of improvements or the financial incentives surrounding the adoption of energy efficiency and low carbon heat.

While affordability is fairly low across the board there are also significant demographic differences. Homeowners who own their homes outright are 4 times more likely to have over £20,000 in savings than those who own their homes with a mortgage. And homeowners in London are almost 2.5 times more likely to have over £100 in disposable income after paying for essentials each month than homeowners in the West Midlands.



Savings

The average cost of increasing energy efficiency to EPC C and installing low carbon heat is just under £15,000.

Although almost 2 in 5 homeowners have over £20,000 in savings, 1 in 2 have less than £10,000 and over 1 in 10 have no savings.



Home equity

While the costs of decarbonisation are a fraction of the value of most homes, households with mortgages own on average less than a third of the value of their properties.

In London £15,000 represents 7% of a typical homeowner's equity. In the North East this rises to 43%.²



Unsecured loans

Even at 0% interest, over 10 years a £15,000 loan would cost £125 per month in repayments.

Almost 1 in 3 homeowners have £100 or less after paying for essentials each month, with almost 1 in 10 having nothing left at all.

Homeowners are not convinced of the benefits of home retrofit

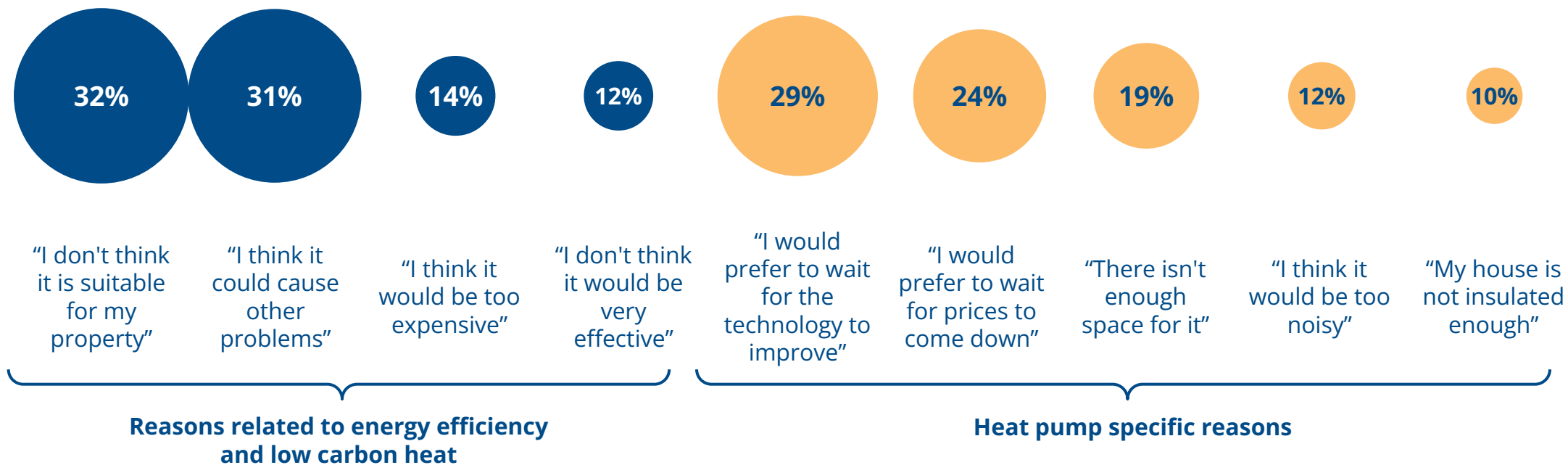
For homeowners who aren't interested in energy efficiency or low carbon heat, costs are a major concern. Over 9 in 10 homeowners listed costs as a reason for their lack of interest in at least one of the measures listed.

Aside from cost, many homeowners aren't convinced of the benefits of home retrofit. 3 in 5 aren't sure whether measures would be effective or suitable for their property, or whether they would cause problems such as damp and mould.

When it comes to heat pumps, many homeowners are waiting for conditions in the market to change before considering upgrading. Over 1 in 2 homeowners were worried about issues of size, noise, or general suitability for their property.

Homeowners aren't sure which measures are right for their properties, indicating a **clear need for personalised advice**. This lack of support is likely to be suppressing interest in both energy efficiency measures and low carbon heat.

Reasons homeowners provide for not being interested in energy efficiency and low carbon heat:



Only a minority of interested homeowners can afford home retrofit

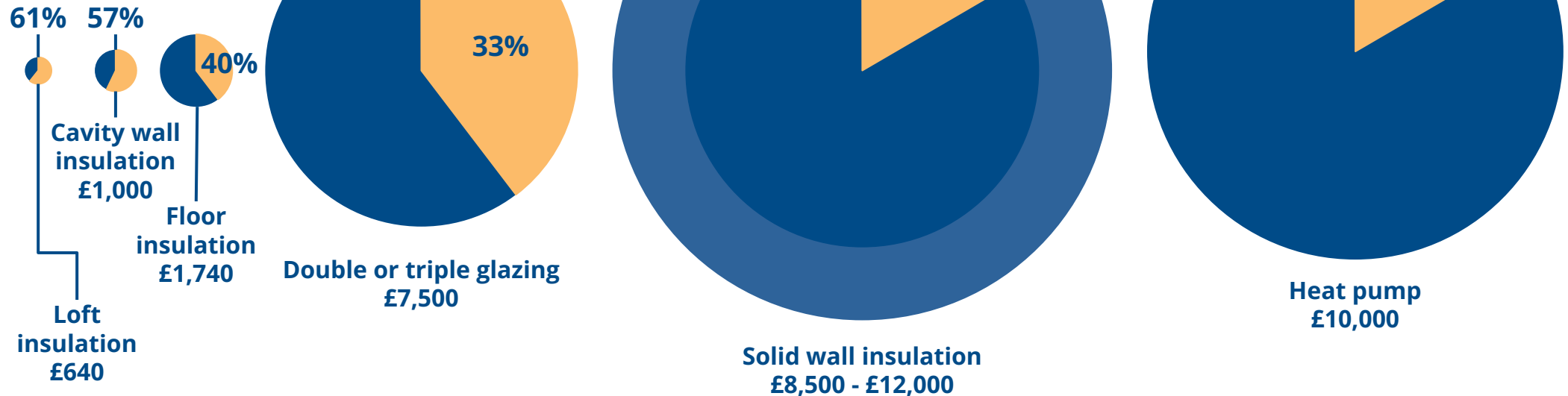
Among homeowners interested in each measure, affordability varies significantly depending on cost.

While the majority of homeowners would be able to fund low-cost measures such as loft and cavity wall insulation, there are significant drops in affordability for measures over £1,000 and again for measures over £8,000.

Homeowners living in London are the most likely to say a heat pump is affordable, and are almost 6 times more likely to say they can afford the costs than homeowners in Wales.

Age also has an influence on affordability, with over 75s 3 times more likely to say a heat pump is affordable without additional borrowing than homeowners aged 45-54.

Percentage of interested homeowners who could afford measures without additional borrowing:



Borrowing is not an attractive option

For interested homeowners who are unable to fund measures through savings or disposable income, borrowing is not viewed as an attractive option.

Fewer than 1 in 5 homeowners are willing to borrow to fund either energy efficiency measures or low carbon technologies.

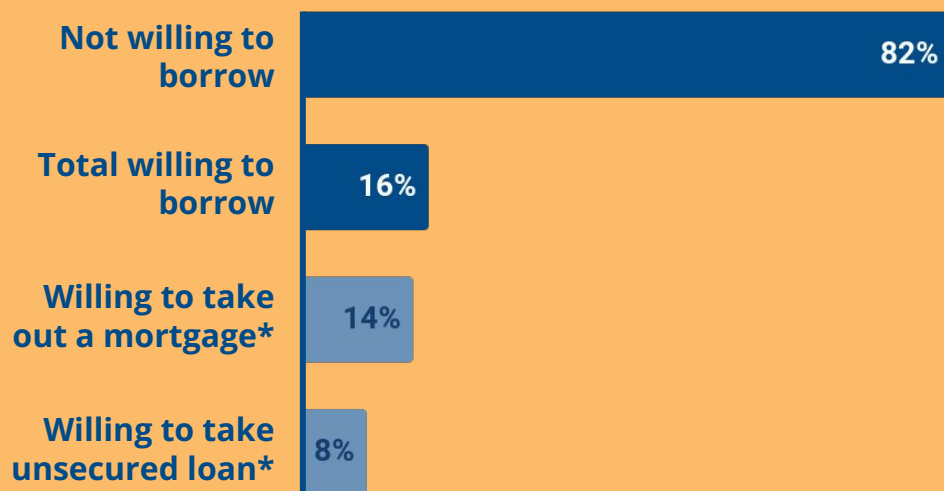
Of the two borrowing methods examined, unsecured loans are the least popular. And although twice as many homeowners are willing to use mortgage borrowing to fund home retrofit, this only represents a little over 1 in 10 interested homeowners who are unable to meet the upfront cost.

Younger homeowners are more likely to be willing to take out mortgages and unsecured loans to fund the installation of energy efficiency and low carbon technologies.

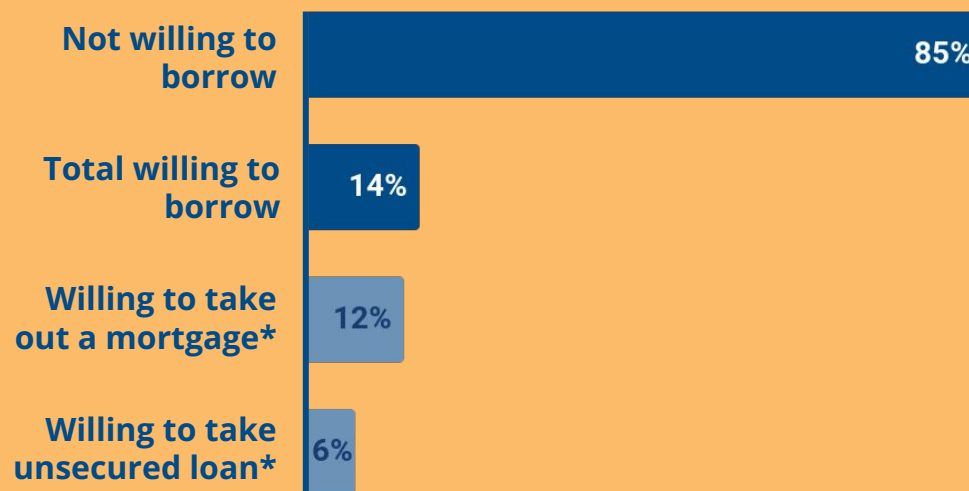
Income also plays a factor in willingness to borrow, with those earning over £60,000 more willing to borrow across every scenario than those earning less than £20,000.

As the affordability of higher cost measures is low and borrowing is such an unattractive option for many, **upfront costs are a significant barrier** in the uptake of both energy efficiency and low carbon heat.

Willingness to borrow to fund installation of energy efficiency measures



Willingness to borrow to fund installation of low carbon technology



* These figures do not add up to the total number of homeowners willing to borrow as some are willing to take out both a mortgage and an unsecured loan

Demand is low for the most common measures

Putting all the pieces together it's clear that the size of the 'able to pay' market is impacted by several factors. First, the existing numbers of homeowners who already have the measures installed. Second, levels of interest among those who don't have the measures. And third, the number of homeowners who are able to pay or willing to borrow.

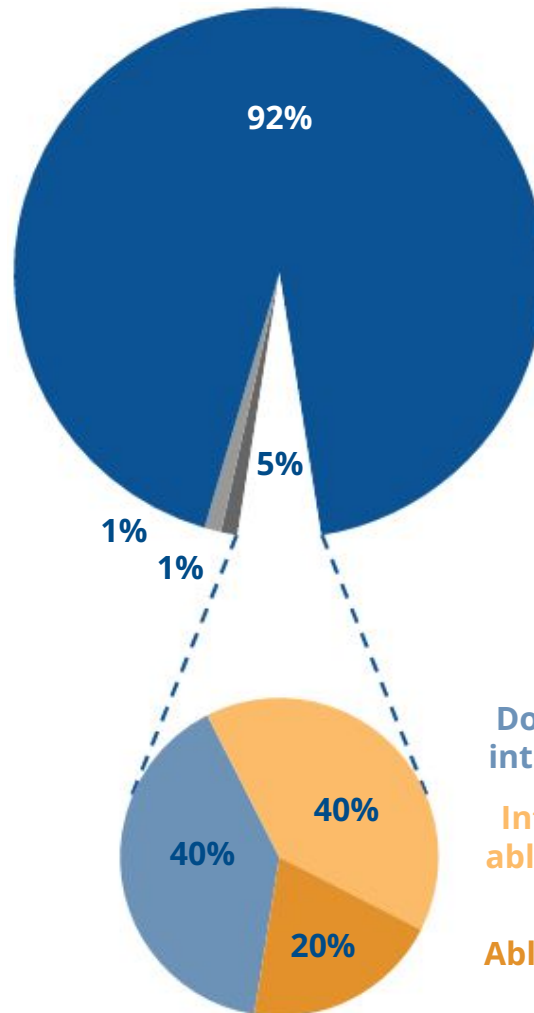
Double or triple glazing and loft insulation are common, well understood measures. It's therefore not surprising that interest in these measures is the highest.

However, penetration of these measures is already high. Therefore this interest still only translates into a very small percentage of total homeowners who are willing to make these upgrades to their properties.

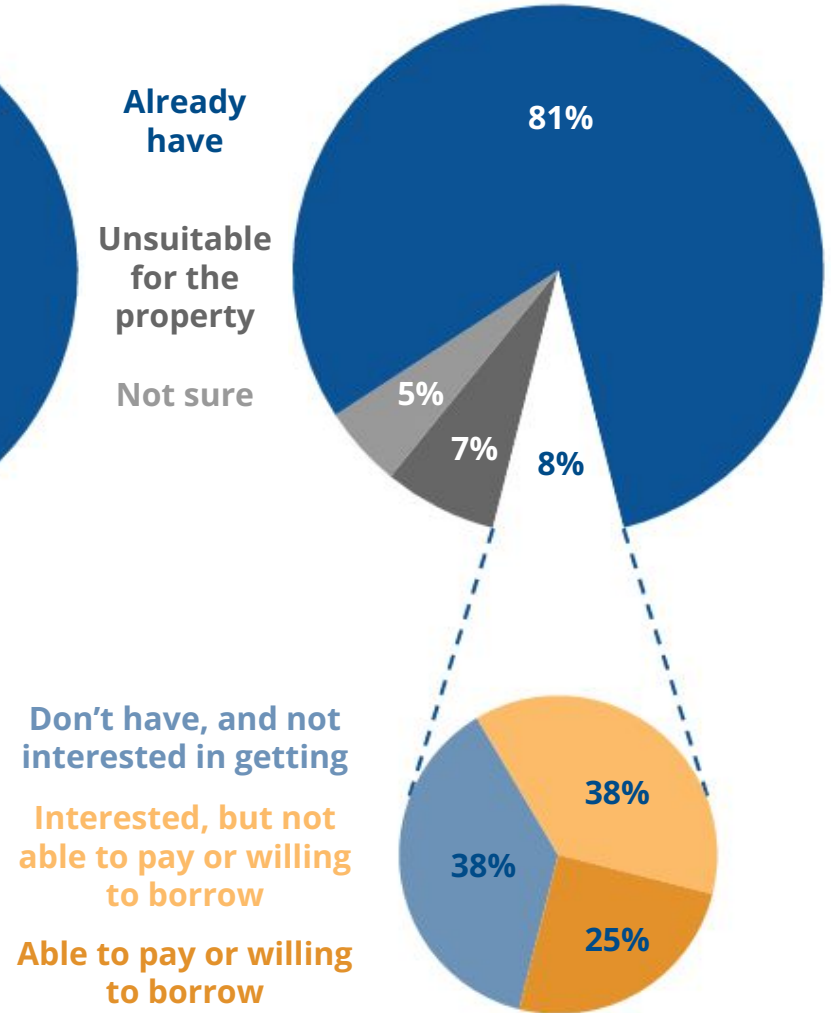
Those least likely to have double or triple glazing or loft insulation are young people, those on lower incomes, and those who are not connected to the mains gas grid.

Rates of double or triple glazing are also low amongst those who own their homes through shared ownership schemes.

Double or triple glazing:



Loft insulation:



Some measures are not well understood

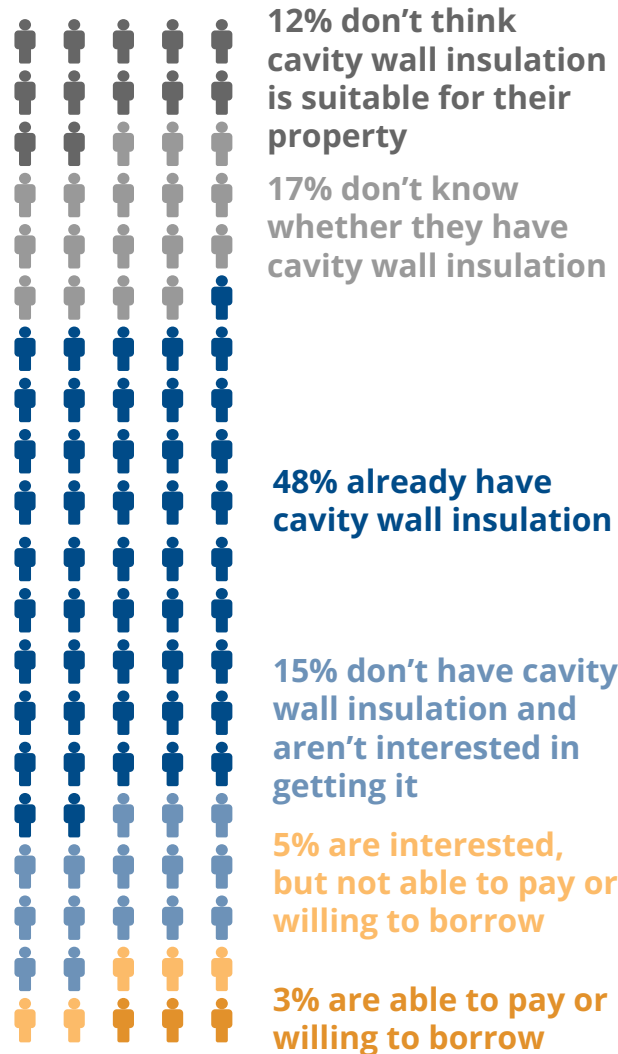
Cavity wall insulation has fairly high penetration at almost 1 in 2 homeowners. However, interest is low, and over 1 in 10 homeowners don't think this type of insulation is suitable for their property.

This concern carried through to those who weren't interested in getting cavity wall insulation. Suitability was the most common reason for lack of interest, followed by concern that it would cause other problems. This indicates that low interest may be linked to well-documented issues with this kind of insulation.³

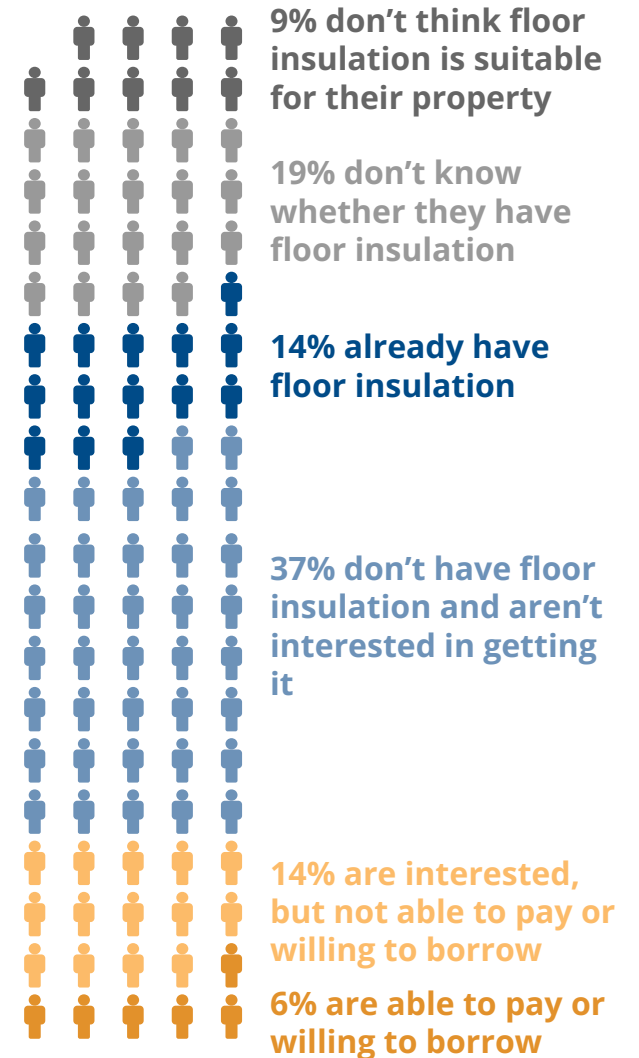
Interest in floor insulation is the highest among the measures tested but this still only represents fewer than 1 in 10 homeowners. Consistent with most measures tested, those most likely to be interested and able to pay or willing to borrow are young and have high incomes.

The most common reasons given for not being interested in floor insulation were upheaval and cost. However, given that almost 1 in 5 aren't sure whether they have floor insulation, this measure may not be well understood.

Cavity wall insulation:



Floor insulation:



Note: rounding to the nearest whole number means in some cases the total does not equal 100

There is low interest in the most expensive measures

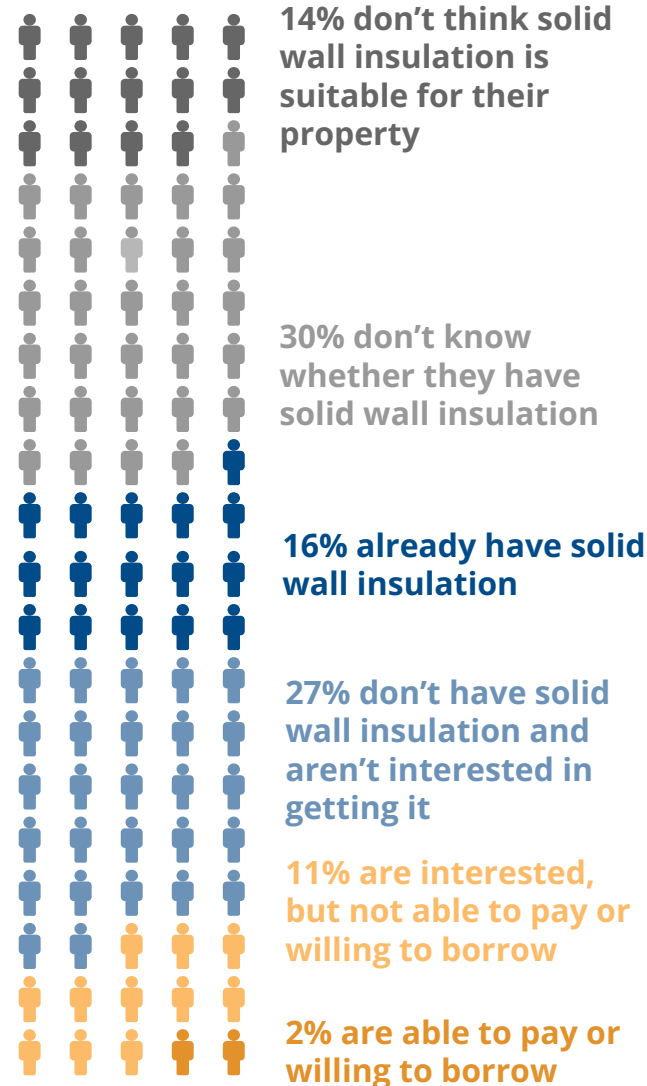
Unsurprisingly, high-cost measures like solid wall insulation and new technologies like heat pumps attract the lowest interest amongst consumers.

Lack of knowledge and information may also be a factor for low interest for these measures. 3 in 10 homeowners don't know whether they have solid wall insulation and over 1 in 10 don't think it's suitable for their property. Similarly to cavity wall insulation, homeowners' perceptions of this measure may have been influenced by failures of these measures elsewhere.⁴

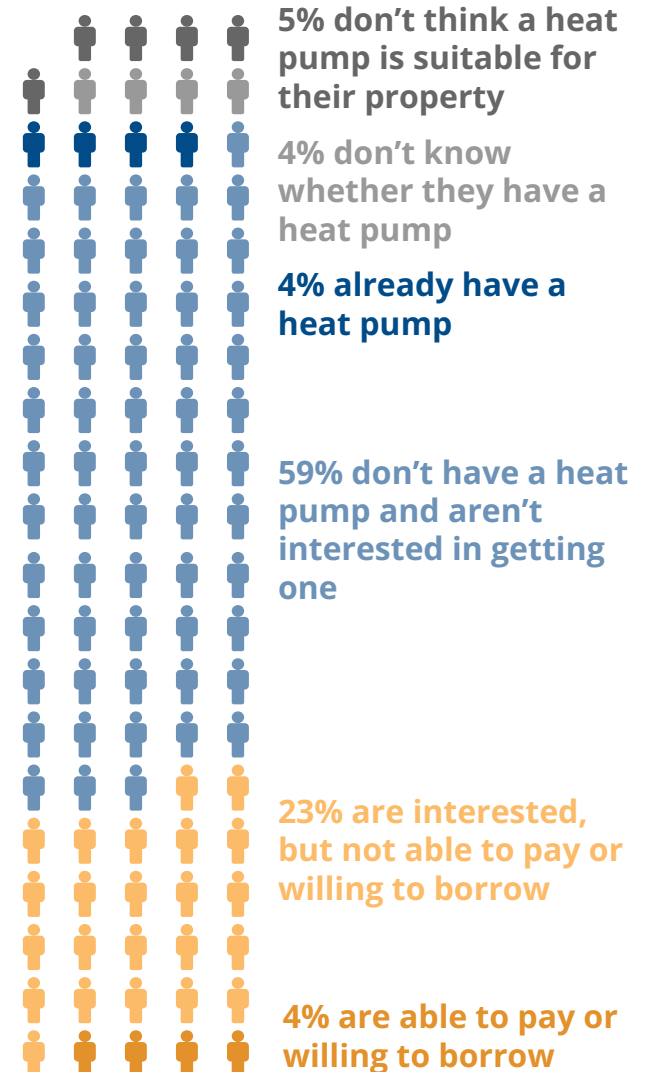
Almost 2 in 3 homeowners aren't interested in a heat pump, with 78% citing concerns about high costs, effectiveness of new technology and suitability for their properties as factors impacting their interest.

Those most likely to be interested and able to pay or willing to borrow have higher incomes and own their homes outright rather than with a mortgage.

Solid wall insulation:



Heat pump:



Note: rounding to the nearest whole number means in some cases the total does not equal 100

Clear incentives are likely to increase interest

Although energy efficiency improvements have the potential to save homeowners money on their annual energy bills, these benefits don't seem to be clearly understood.

When informed of the average energy cost savings associated with increased energy efficiency, over 1 in 3 of homeowners interested in at least one measure were more willing to fund improvements through savings or regular income.

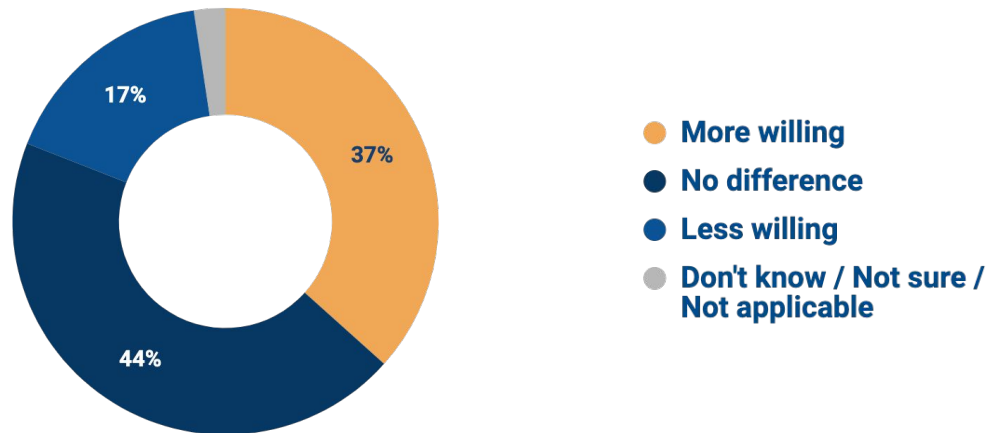
This aligns with recent research findings that subsidies are associated with an increase in likelihood of uptake of energy efficiency measures.⁵

When it comes to heat pumps, however, the picture is not so clear. With the current price of electricity, even in the best case scenario homeowners could only expect to save £80 annually on heating compared to someone with a gas boiler.⁶

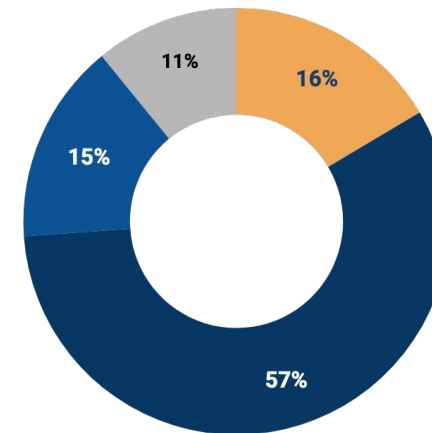
And when we asked homeowners whether a ban on gas boilers would increase their interest in a heat pump, fewer than 2 in 5 were more willing to fund these improvements.

This indicates that **lack of clear incentives** is a considerable barrier particularly to the adoption of low carbon heat.

Does knowing that the average household could save £300 per year on energy bills make you more or less willing to pay for energy efficiency measures?⁷



Does knowing fossil fuel boilers may soon be banned make you more or less willing to pay for a heat pump?





Barriers to participation: Lack of personalised advice

Interest in energy efficiency and low carbon heat is being hampered by lack of knowledge among homeowners about which measures are most appropriate for their particular circumstances.

Homeowners need advice that is tailored, action-oriented and specific to their homes to convince them of the suitability and effectiveness of recommended measures. Without this information, many will simply do nothing.

Fear of getting something wrong means that even those who may have the ability to fund retrofit works are not currently doing so. This is especially the case for heat pumps, with many homeowners saying they are waiting for prices to come down or for technology to improve before considering installing a new heating system.

Increasing demand in this market is vital if we are to sustainably reduce energy consumption and reduce emissions related to heating buildings. To do this homeowners will need holistic, personalised, and well-timed advice to allow them to make informed decisions about the energy efficiency and low carbon heating measures that are right for them.

We have made a number of recommendations in this area, which can be found in our reports [Tackling Gaps and Overlaps](#) and [Navigating Net Zero](#).

Policy recommendations

1

Awareness

Raise awareness of the benefits of energy efficiency and need for low carbon technology as well as signpost to further advice via a public awareness campaign.

2

Advice

Create and widely advertise a national advice service that is multitiered and multichannel to provide tailored and scalable advice. This service should be a one stop shop for pre-installation, installation and post-installation advice. It should support consumers to save money, and increase British energy security.

3

Identify trigger points

Identify moments of significance to raise awareness and enable greatest take up. Offer advice at multiple customer touch points, recognising people won't always find the process straightforward and may not take the most direct route through the customer journey.



Barriers to participation: Upfront cost

While lack of interest is currently the biggest barrier to widespread adoption of energy efficiency and low carbon heat, the upfront cost for households is also a significant issue.

The current system of government subsidies creates a sharp cliff-edge of support for those who are ineligible for fuel poverty schemes but are still not able to afford the upfront costs of the more expensive energy efficiency measures or low carbon heat.

Many of those who need to self-fund will still need help to meet the upfront cost. Any financial products designed to meet this need must be affordable, responsible and sustainable.

Currently not much attention has been given to the so-called 'able to pay' market. But it is clear that even those who aren't eligible for low-income schemes will struggle to meet upfront costs and may need a combination of government subsidies and financial products to meet the cost of home retrofits.

To accelerate the transition to Net Zero all consumers will need to feel supported, either through direct subsidies or a package of sustainable financial products to finance retrofit works.

Potential policy options:

1

Government funding:

Current government funding supports those on the lowest incomes and offers some subsidy through the Boiler Upgrade Scheme to those who can afford the upfront costs of a heat pump. However, this still leaves a large portion of the population unable to access any kind of government support. Tapering schemes could help spread funding to a wider proportion of households.

2

Finance options:

Private finance will inevitably play a significant role in funding home retrofit. Exploration of appropriate and sustainable products is needed to understand how best to fund these works. Government's role as a guarantor for those on lower incomes or who may not be able to access finance will also need to be considered.

3

Role for energy retailers:

Energy retailers have direct access to energy users, unlike many other actors in this market. Work is needed to understand how and whether this position could be used to incentivise home retrofit.



Barriers to participation: Lack of incentives

Whilst there are usually cost savings to be had by installing energy efficiency measures, the case for low carbon heat is a lot less straightforward. Heat pumps have a high upfront cost and even if homeowners save money on their energy bills, with current electricity prices the total costs are significantly higher than an equivalent fossil fuel system across its lifetime.

It's therefore likely that additional incentives will be needed to drive interest in, and demand for, low carbon heat. This could be done at various points across the market, either individually or together to provide compounding incentives.

And while this research indicates that 'pull type' incentives are more attractive than regulatory 'push type' incentives, regulation remains a powerful tool to make government priorities clear and provide confidence to both consumers and industry.

Homeowners will have many complex decisions to make about their homes in the next few years. Many are currently confused and lacking in confidence. A clear direction of travel over the future of home heating, matched by a package of incentives to help drive change, is needed to increase demand.

Potential policy options:

1

Financial incentives:

Green mortgages, Stamp Duty Land Tax reform and council tax reductions are all potential options for incentivising homeowners to improve the efficiency of their properties to access savings, cash back, or lower interest rates.

2

Regulatory mechanisms:

The Future Homes Standard for new builds and Minimum Energy Efficiency Standards for existing homes can send signals to the market as to direction of travel. Further regulatory signals could be sent through building regulations.

3


Structural incentives:

Heat pumps would be significantly more attractive if their running costs were brought down relative to gas boilers. This could be achieved through rebalancing levies, which are currently placed overwhelming on electricity bills. Deciding how best to do this would need careful consideration to minimise unintended consequences. Adapting flexibility and balancing markets could allow for consumers to be rewarded for flexible usage and bring down running costs. And developments like marketwide half-hourly settlement will also allow for new time-of-use tariffs that could better suit heat pump owners and bring down costs.


Conclusion

This research set out to better understand the 'able to pay' market and current barriers that exist to the uptake of home retrofit measures. But what we've found is that there is such a clear variance across different measures that the 'able to pay' as a unitary concept doesn't really exist.

The research has also uncovered that consumer finances are not the only, or even most important, determining factor when it comes to willingness to pay for home retrofit measures. It has highlighted three key barriers:

 **Lack of personalised advice** is dampening homeowner interest in retrofit.

 **Upfront costs** are an issue for measures over £1,000, coupled with a lack of interest in borrowing.

 **Lack of incentives** are further suppressing demand for these costly home improvements.

Multiple barriers need to be overcome before we can expect demand in this market to increase significantly.

For homeowners who aren't interested in home retrofit, finance is a secondary concern until the right advice and incentives are in place. And for homeowners already interested in these improvements, we need to ensure the right finance options are available to overcome the barrier of upfront cost.

It's important to recognise the multiple and compounding factors determining demand for home retrofit if we are to create an appropriate package of support.

Homeowners need wraparound support throughout the retrofit process. From realising they need upgrades, to deciding which measures to install, working out how to finance the works, getting the measures installed, and ongoing maintenance.

Tackling these challenges together, rather than attempting to address them in isolation, is more likely to deliver the right information, incentives and support for homeowners looking to decarbonise their homes.



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7. £300 saving based on average difference in energy consumption between properties at EPC C and EPC D. Unit rates calculated from Energy Price Guarantee level of £2,500.

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