Tomorrow's Homes

Facing up to the UK's energy efficient buildings challenge

April 2024

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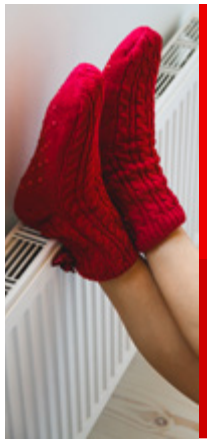

Foreword

Andrew Wilson, Director of Communications, Marketing and Responsible Banking at Santander UK

The housing sector in the UK is likely to be central to the next phase of public discourse on our economy, inequality and climate. A well supplied, high quality housing stock with ease of access across the country is a key to unlocking many seemingly intractable challenges facing the UK including productivity and significant inequalities. It is also a very important plank of the UK's transition to net zero.

When you picture a typical street in the UK, you might think of a row of terraced houses, perhaps Victorian or Georgian. These properties may be sturdily built, but with almost four in 10 homes built before 1946, our ageing stock of buildings tend to leak energy into the atmosphere.

Currently only around 40% of UK households have an EPC rating of C and above and just three per cent have a rating of A or B[1]. That means 19 million residential properties need retrofitting. In addition, 65 per cent of UK households do not have a mortgage, meaning 11 million do not have a relationship with a mortgage provider who can support them, albeit they are still likely to have a relationship with a bank or building society through their current account.

Almost all the buildings we will be occupying for the next decade (and beyond) already exist. Many people would like to make their homes more energy efficient to bring down their energy bills, have a more comfortable home, as well as to protect the environment. In fact, the impact to the environment can be dramatic; UK household emissions would be cut by six per cent if just the EPC band D rated properties were retrofitted to EPC band C.

However, with sustained high energy prices feeding through into households' monthly bills, reducing cash available for other purposes, many cite cost as an upfront barrier to making energy efficiency improvements. The average cost for retrofitting a home in the UK stands at £10,000. Many people are also unclear about exactly what they need to do to make the right improvements or where they can find this information. Like households, cost is also a key barrier to SME and commercial property owners undertaking work to improve energy efficiency, with information on accurate and cost-effective ways to do this not always easily accessible to time-short business owners.

The recent decision by government to drop targets for minimum energy efficient standards in the private rented sector and for the phase out of gas boilers means there is no clear policy led direction for households in the UK. While we support the Government's recent *Energy Efficient Home*[2] campaign, it is vital that a medium and long-term strategy for decarbonising the UK housing stock is developed, which supports people to retrofit for long term sustainability and to reduce monthly energy bills. Energy efficient properties have running costs around half those of a less efficient property[3].

Continued over

[1] Energy efficiency rating of UK housing | Statista
[2] Energy Efficient Home – Invest To Save On Your Energy Bills
[3] New-build properties to save homeowners more than £3,000 a year on energy bills – Zoopla

Foreword continued

The present situation also has significant implications for the UK's climate ambitions. If action is not taken soon, the UK may fail to meet its targets. The Energy Savings Trust has estimated that residential properties in the UK contribute 26 per cent of energy-related carbon emissions to the UK total and the National Housing Federation (NHF) estimates that England's 25 million homes produce more CO2 every year than that emitted by the nation's internal combustion engine cars.

While we recognise the key role banks can play in this area, providing information and funding options, we cannot solve this problem alone. We can only provide funding if consumers are willing to take it and that will almost certainly need specific policy intervention by government. As Chris Stark once said, "The next phase of climate policymaking involves people having to change what they do, which the last phase did not – such as how people travel, how they heat their homes, and what they consume... These new challenges are often framed as being difficult, but they needn't be if we construct policy in the right way." A stable, long-lived policy and incentivisation framework needs to be reintroduced, supporting customers and those who fund them, and guidance needs to be improved – investment now will help the UK meet its climate targets and deliver savings for families across the UK in the longer-term.

By working with the Government, the financial services sector, the construction industry, and green technology industries, collectively we can enable households and businesses across the UK to make the crucial and much needed transition to more energy efficient buildings.

At Santander we will play a full an active part in helping our customers get the quality of home they deserve. Our history stretches back 175 years in the UK to the building society movement that literally democratised home ownership. When Santander invested in the UK to strengthen the historic Abbey National, Bradford and Bingley and Alliance and Leicester building societies it brought the same heritage but now global strength to our customers.

This report is part of our strategy to encourage policy innovation, product innovation and to encourage the transition we would wish to be part of funding. We remain optimistic about the potential to make a real difference to the future of the UK's homes just as our predecessors transformed access to homes all those years ago.

Executive summary

Retrofitting the UK's estimated 28 million houses and flats to make them cheaper and more sustainable to heat is an infrastructure challenge of the first order. Without such a nationwide retrofitting campaign, the UK will not meet its decarbonisation targets and will remain highly exposed to volatile energy prices for home heating. It is doubly challenging because ownership of that infrastructure is spread across millions of owners and renters, each of whom need to have the right incentives to retrofit. Demand for retrofitting will need to increase by an order of magnitude, and supply will need to expand to meet it.

For this report, we surveyed a representative sample of UK homeowners and renters to explore their views on retrofitting. There is little doubt that there is wide public appreciation of the potential benefits of home energy efficiency, especially in reducing home running costs and the cost of living. However, this awareness does not generally translate into an intention to act.

- There are important knowledge gaps around energy efficiency. Most people are unaware of the energy efficiency performance of their own home; most struggle when asked to estimate the costs of energy efficiency measures and large majorities feel uninformed on both local sources of reliable advice, and forms of government support.

- Upfront costs are clearly a major obstacle, along with a lack of authority to undertake measures for many renters. Most people feel that even relatively-low-cost measures such as loft insulation are beyond their current means. This is not surprising, as a full retrofit programme would exhaust the savings of most UK households.

- Even where measures are seen as affordable, or could be funded through borrowing, many people would not prioritise them. Behind this reluctance appear to be judgements that costs may not be recouped quickly enough through running costs or will not add more to the value of a property than they cost

Continued over

Executive summary continued

These results point to some important conclusions if the UK is to develop the necessary momentum behind its crucial retrofitting agenda. Developing a robust market for retrofitting will require a mix of consumer awareness-raising, product and service innovation and creative public policymaking. The UK market for retrofitting will not develop until it is supported by long-term stable and consistent policy frameworks and sustained consumer demand. In particular:

- There is a need to significantly elevate the level of understanding of energy efficiency benefits and costs – as well as knowledge of how to find reliable tradespeople. There is a role for both local and national government in helping develop energy efficiency education and credentialling both information services and suppliers.

- Current grant schemes for retrofitting properties need to be expanded, especially for less affluent households. They could in principle be repaid in part or full through any increase in property value in a future sale. Government should also consider a wider range of incentives, including stamp duty rebates for individuals who meet defined retrofitting targets for newly-purchased homes and subsidised bank loans for energy efficiency upgrades. Banks also need to be supported in developing a new suite of products and services designed to support retrofitting.

- There is a need for sustained focus on the development of the retrofitting supply chain. This would include an expansion of the skills provision funded through the Heat Training Grant and the development of robust accreditation systems.

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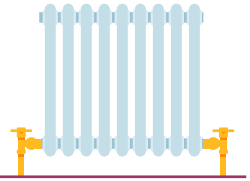
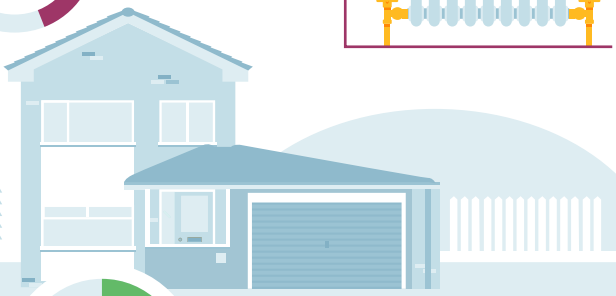
UK homeowners
Views on retrofitting

55% Of UK homes were built before the introduction of heat energy efficiency standards in 1965

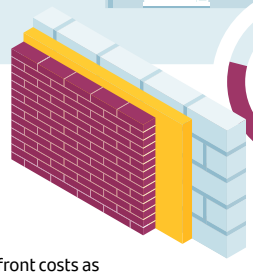
44% Of UK households rationed heating in 2023, in response to high prices



40% Of UK homes with an EPC rating are rated C or above



67% Of UK adults say they do not know the EPC rating of their home

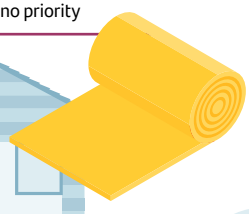


79% Of homeowners who have not installed cavity insulation are unlikely to / definitely will not install it in the next two years

48% Of UK adults say improved home energy efficiency would have a significant impact on their life

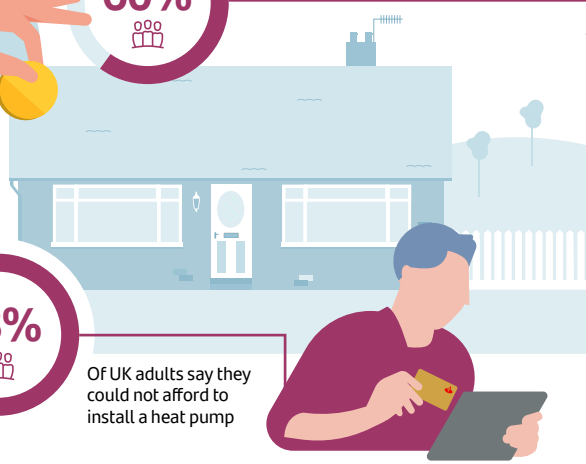
60% Of homeowners identify upfront costs as one of the two most important obstacles to retrofitting their home for energy efficiency

49% Of UK adults could afford a £755 loft insulation, but this would be a low or no priority



Of UK adults say they know 'a lot' about the costs of energy efficiency measures (16% say they know a lot about their potential benefits)

7%



73% Of UK adults say they could not afford to install a heat pump

£1,461 Average amount allocated by UK adults to home energy efficiency from a hypothetical £10,000 grant for home improvements

£13,264 Average amount homebuyers would be willing to pay for the same property if upgraded from EPC F to EPC B

Survey finding | Secondary data | Positive view | Negative view

The policy toolkit

Across Europe, and around the world, there is an emerging toolkit of mutually-reinforcing policy incentives designed to advance retrofitting and greater energy efficiency. The UK operates most of these incentives in some way. These need to be scaled up and cemented by long-term policy commitment, to prompt the market to adapt and respond.

Building energy efficiency targets and standards	The UK Future Homes Standard will implement home energy efficiency requirements. Starting from 2025 measures will include restrictions on the letting of properties with EPC ratings below E. Requirements will tighten over time.
Supply chain support	The Heat Training Grant provides some support to tradespeople in learning retrofitting skills.
Grants	Grants can be used to permanently defray upfront costs for consumers. The UK currently provides support through the Great British Insulation Scheme and the Renewable Heat Incentive.
Tax reliefs	The UK currently provides no tax reliefs for retrofitting. UK Finance has proposed stamp duty relief for property buyers that undertake defined measures after purchase.
Information tools	Some UK authorities provide retrofitting advice, and information tools are available for Great British Insulation Scheme and Renewable Heat Incentive users.

It is important to reinforce that no large-scale shift in the UK private market for retrofitting will be successful without long-term policy certainty. New skills and the economies of scale to reduce installation costs both need sustained demand to trigger the development of supply. Helping consumers understand the value and need for energy efficiency, and ensuring they have the financial capability to seek it are key. The UK has experimented at a small scale with such incentives. Now a bold new approach is needed to produce tomorrow's homes.

01

The home energy efficiency challenge

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The home energy efficiency challenge

Britain has around 28 million homes[4]. Around two thirds of these are owner occupied, just 20% are privately rented, and the remainder are public-sector housing (see Fig 1)[5]. According to the latest Census data for England and Wales (2021), around 8 in 10 of dwellings are houses: a mix of detached (23%), semi-detached (32%) and terraced (23%). The remaining 2 in 10 are flats[6].

This housing stock is notably old and inefficient to heat and cool. Around half of it was built before the UK's first regulatory framework for thermal insulation was introduced in the 1965 Building Regulations[7]. Only around 60% of the current housing stock has an Energy Performance Certificate (EPC)[8], and only 40% of properties with an EPC have a rating of C or higher[9]. This is an important benchmark because it represents the point at which a home can be said to be making efficient use of the energy used to heat it. The vast majority of homes (88%) have gas fuelled space heating, with under 1 in 10 fuelled by an electric source[10].

Fig 1:
Housing stock by tenure
2021 (tenure and %)

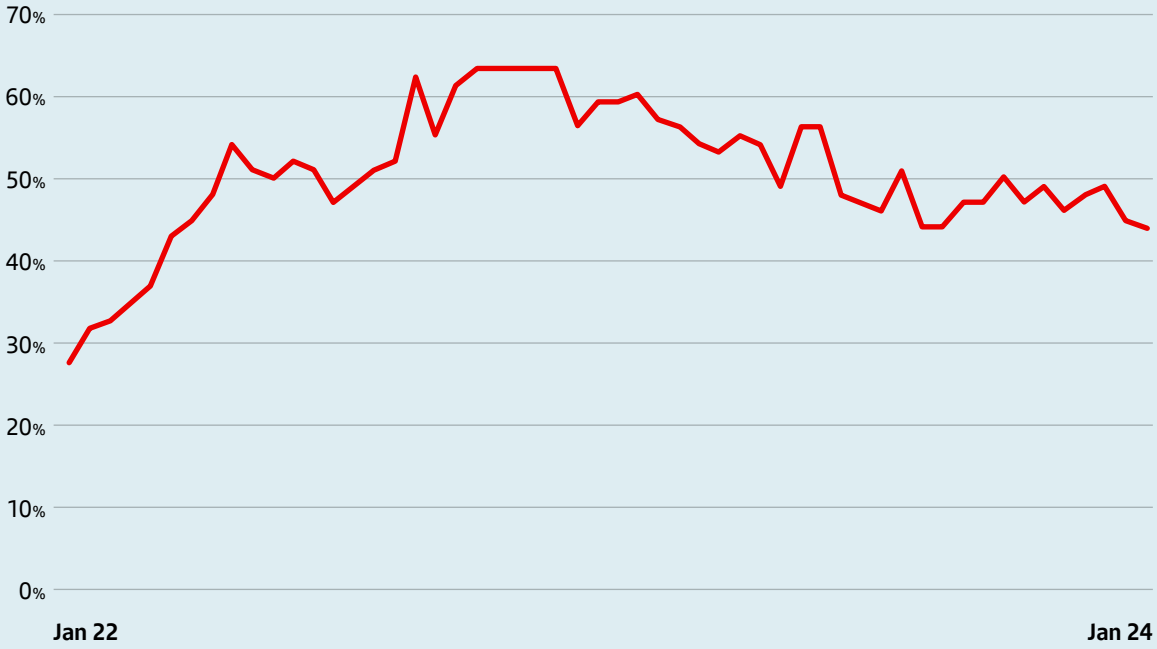
Housing stock by type*

Housing stock by heat system**

* UK ONS. 2021 Census data available for England and Wales only
** Space Heating. Dept. for Levelling Up, Housing and Communities 2020 data available for England only

[4] 2021 Census data (ONS)
[5] 2021 Census data (ONS, England and Wales only)
[6] 2021 Census data (ONS, England and Wales only)
[7] www.legislation.gov.uk
[8] ONS exploratory analysis comparing EPC data with Valuation Office Agency council tax data for England and Wales
[9] ONS Analysis based on census data 2021 for England and Wales
[10] English Housing Survey, Energy Report 2020-21. England-only data

Fig 2:
Heat rationing in UK homes
% of UK households that said they had been forced to ration heat by high energy prices



The costs of energy inefficiency

There are two huge problems with this inefficiency. First, it makes life in a relatively cold country more expensive than it needs to be for most people. In a world of volatile energy prices, where the UK is dependent on imported sources of carbon-based energy for over a third of its energy supply[11], poor energy efficiency is one of the main ways in which that volatility is passed on to ordinary families via their cost of living. When the Office for National Statistics surveyed households over winter 2023/24, it noted that 4 in 10 people found it hard or very hard to meet the cost of their energy use. One in five reported struggling to stay comfortably warm in their house[12]. An increasing number of homes are similarly inefficient to keep cool in the summer, a growing issue as the UK continues to experience a growing number of extreme heat events.

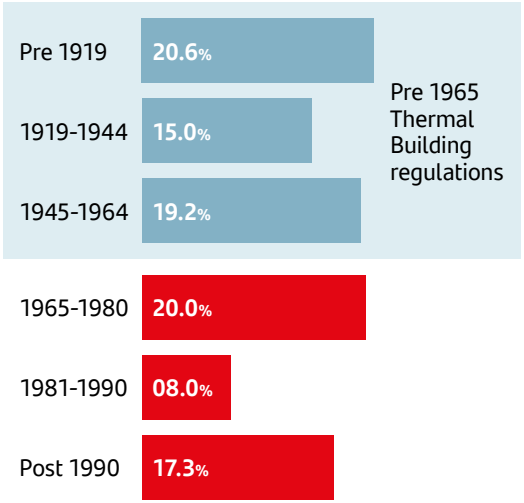
Second, it is a fundamental obstacle to the UK achieving its targets for decarbonisation. In a 2019 report, the Climate Change Committee noted that the decarbonisation of the housing stock is a precondition to the UK meeting its long-term targets for carbon-emissions reduction. Heating emissions from UK homes are comparable to the carbon footprint contribution of all petrol and diesel cars in the country[13]. Improve the energy efficiency of that housing stock and you unlock a credible path to decarbonisation in the UK.

[11] In 2022, 37% of energy used in the UK was imported: Department for Energy Security and Net Zero
[12] www.ons.gov.uk
[13] BEIS Strategy Committee: Decarbonising Heat in Homes (2021-22)

Today's homes are tomorrow's homes

As a practical matter, the housing stock the UK already has will largely have to be the housing stock it is living in when it reduces its exposure to volatile energy prices and meets its decarbonisation targets. This is why the core of the challenge is retrofitting the existing stock for energy efficiency (see Box 1). The Climate Change Committee has concluded that much of this work will need to be undertaken between now and the middle of the next decade if the UK is to meet its net-zero targets. From a cost-of-living perspective, improved energy efficiency is a necessity today.

Fig 3:
Old and cold
UK housing stock by age (%)



BRE Trust 2017

Box 1:
What is retrofitting?

Retrofitting means upgrading an existing property to new specifications that were not applied at the time of its construction. In energy efficiency terms, this will involve a mix of improving its capacity to retain heat as required and changing its heat-generation source to maximise the scope to generate heat cheaply and sustainably. The government has taken a 'fabric first' approach to retrofitting that focuses first on improving heat retention.

Retrofitting is key to greater energy efficiency and decarbonisation in the UK because it is the precondition for effective rollout of new renewable heating technologies such as heat pumps and solar water heating. Because these technologies work best – or only work effectively at all – in heat-efficient homes, their deployment needs to be preceded by retrofitting in most cases. Valuable policy initiatives, like the Renewable Heat Incentive, that support homeowners in adopting these technologies need to be complemented by measures to encourage consumers to achieve energy efficiency as the first step to renewable usage.

Retrofitting has to be customised to a specific property to reflect its age, size and design. Retrofitting could involve a mix of:

- *double – or triple – glazing windows;*
- *draft proofing or similar measures;*
- *improved wall, ceiling or floor insulation;*
- *new controls for central-heating systems that improve targeted heating of a property;*
- *new sources of energy supply, such as solar panels or a heat pump, that lower the cost or carbon intensity of each unit of energy used to heat a property. However, as noted above, these changes have to be preceded by measures to reduce the energy demand of a property before they can have maximum benefits.*

02

Consumer attitudes to energy efficiency in homes

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To help inform a debate about what it will take for the UK to achieve true energy efficiency, we conducted a large-scale national survey and extensive one-on-one interviews among consumers. This allows us to produce a holistic picture of consumers' attitudes to retrofitting and energy efficiency in their home. The methodology for these surveys is described in the annex.

Fig 4:
Perceived benefits of energy efficiency
% of UK adults selecting each benefit as one of two most important

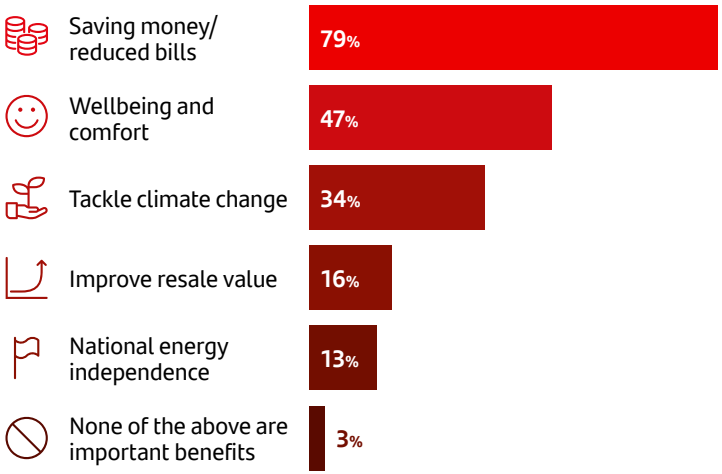
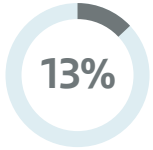


Fig 5:
Life impact of energy efficiency
Paired options, % selecting each

"My home being energy efficient..."

*"...**would** have a significant impact on my life"*

*"...**would not** have a significant impact on my life"*



"Don't know"

Owners and renters

Tenure is central to views on retrofitting. Homeowners have not only greater freedom to make retrofitting choices but also an incentive to do so if they believe that retrofitting will improve the value of their property. This was reflected clearly in our survey data. Whereas owners cited a range of barriers to retrofitting (see page 21), the single most important barrier for non-owners was the lack of authority to make energy efficiency choices such as insulation or other changes to the fabric of their home.

For these renters, home-energy efficiency depends heavily on the obligations and commitments of both private and public sector landlords. This is cited by 58% of council renters, 51% of housing-association renters and 57% of private renters as the main barrier to improving energy efficiency performance. For this reason, when asked to allocate funds to home changes, these individuals tend to choose areas, such as furnishings, which are within their control. Social-housing tenants on the whole experience the best energy efficiency performance of any part of the housing stock: For example, In England, 70% of Housing Association and 67% of Local Authority tenured households have an energy-performance certificate (EPC) rating of A to C. This falls to 43% of owner-occupied households[14]. This will, in part, reflect the more recent construction of this housing stock and the role of councils in funding its upgrading.

However, this data suggests that even among renters, there are a significant number of individuals who feel that their status does not necessarily prevent them investing in energy efficiency alongside or with the permission of landlords. For this group, the biggest hindrance is upfront costs, which is also the main obstacle for owner occupiers. The fact that non-owners will not see the benefit of their action in the value of the property does not appear to be a major disincentive. Interestingly, this is not a major incentive for those who own their property, only 18% of whom cite improving resale value as a benefit of a more energy-efficient home.

[14] DLUHC figures (2023, England only)

Case study
Raj

Raj is a 40-year-old Mental Health Nurse living in a suburban area. He owns his house with a mortgage but is now looking to move home.

Currently living with his wife and children in the second property that the couple has owned, Raj is looking to upsize for more space. He is debating whether to extend his current home, or to move elsewhere.

Location is the most important factor for Raj and his wife when considering moving, followed by size, having off road parking and a garden. When they browse for properties, they mostly do not notice the energy efficiency rating – and if they do, it has no bearing on whether they would shortlist a home; however, he thinks energy efficiency might become more important once settled into a new home. Making improvements here wouldn't be a top priority, but he can envision doing this if the family stays a while.

Having insulated the loft in their current home, Raj feels somewhat informed about energy efficiency measures he might be able to take. He also tries in general to purchase energy-efficient appliances. He has friends who have insulated walls, replaced boilers and installed solar panels, but they tell him these measures can be expensive – dampening his general sense he might invest in energy efficiency measures once the family has moved in.

Raj's views are representative of others looking to move home, for whom EPC ratings and energy efficiency are a secondary consideration. This is both on the sell-side (they see it as unlikely to add value) and buy-side (where making such improvements are likely to be a secondary consideration after moving).

Awareness of energy efficiency

For both owners and renters, the idea of home energy efficiency is seen in a largely positive light. Just under half (48%) of UK adults believe that greater energy efficiency in their home would have a significant impact on their life. A striking 4 in 10 four in ten (40%, rising to 45% amongst those aged 55 and over) say it would not, suggesting a considerable gap in public appreciation of both the cost and comfort benefits of more efficient energy use. Asked separately what they see as the top-two key benefits of improving energy efficiency, 79% identified saving money, while 47% identified having a more comfortable home. 34% identified addressing climate change, a reminder that while most consumers may be generally supportive of decarbonisation, the immediate drivers for action in improving the energy efficiency of their home are more likely to be practical questions of cost and comfort.

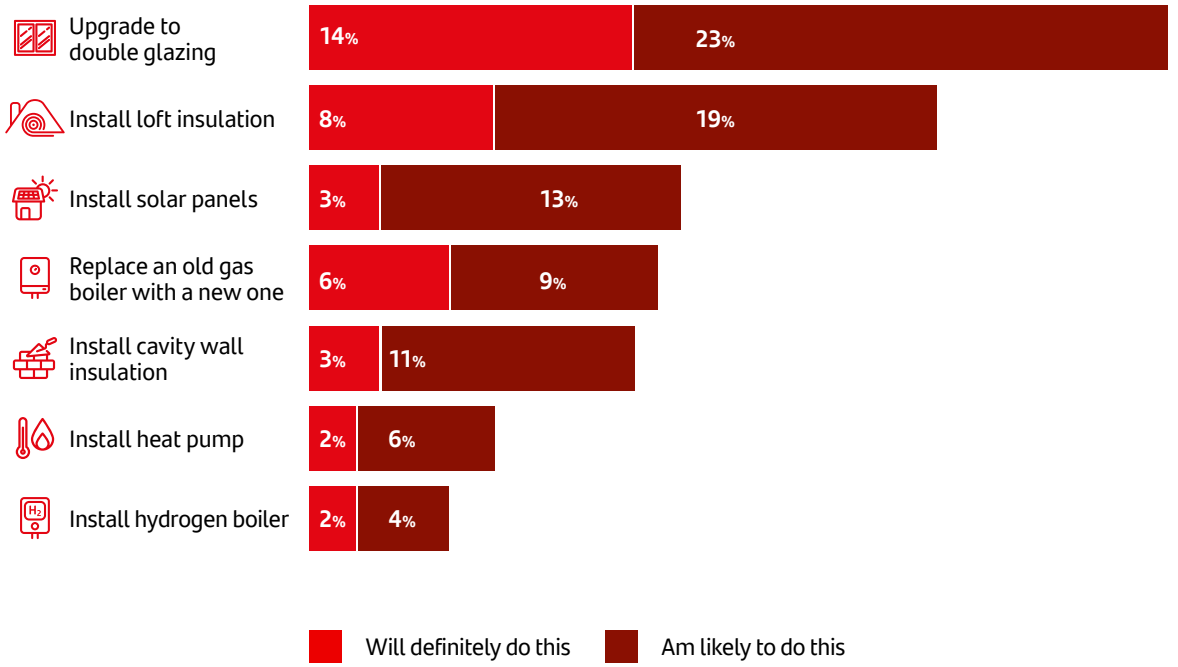
Intention to take action

However, across all individuals who feel they have the authority to make changes to their home, awareness of the potential benefits does not necessarily translate into an intention to take action. Only 37% of all homeowners say making their home more energy efficient is a big priority for them (the same figures as seen amongst the wider public). After ascertaining what improvements had already been made, our survey asked homeowners about their intent to make others over the next two years: 36% of said they were definitely going to or were likely to upgrade their windows from single glazing to double glazing. 27% also said they intended to install or were likely to upgrade their loft insulation. Definite or likely intention was lower for all other possible measures. These numbers probably overstate the number of households that will actually take action.

Fig 6:

Limited intention to act

% of homeowners saying that they are likely to or will definitely make each improvement in the next 2 years



Box 2:
Knowledge gaps

This research suggests that, alongside obvious concerns about upfront costs, knowledge gaps are an important headwind for improved consumer uptake of retrofitting measures. It is useful to think of these in terms of a number of different 'gaps' rather than a single information problem because they involve a range of different kinds of information that consumers need to source from a number of different places.

- *General understanding of energy efficiency and the key ways of improving energy efficiency is relatively strong, although only 10% of UK adults said that felt they knew a lot about ways of improving energy efficiency. Only 9% of people say they have a strong understanding of energy rating systems such as EPCs.*
- *Knowledge of an individual's own home's energy performance is much weaker, with 64% of UK adults saying they are unaware of their home's EPC rating[15]. While people almost certainly have a general sense from experience of how well their home retains energy, they may not have a clear sense of the best ways to improve it.*
- *Understanding of the actual costs of energy efficiency measures is patchy. Only 7% of UK adults say they know a lot about these costs, and when asked to estimate the cost of a range of measures, responses on average overstated the cost of some measures (loft insulation, hydrogen boilers, gas boiler upgrades and installation of solar panels) and understated others (glazing and cavity wall insulation). In almost all cases, at least a third of individuals did not feel able to make an estimate of costs.*
- *Concerns about reliable sources of advice and finding trusted tradespeople and suppliers are also widespread. In both cases, fewer than 40% of individuals said they knew a lot or a moderate amount about how to find both.*
- *Knowledge of sources of government and other support for retrofitting is even weaker. Less than a third of UK adults say they know a lot or a moderate amount about these sources of support.*

The diversity of these knowledge gaps is important. Some require general forms of information about measures and their average cost. Others require specific knowledge of a consumer's home or their local supplier market. Closing all these knowledge gaps as part of a single push for greater energy efficiency will require a mix of different tools packaged to help consumers raise their understanding and confidence as simply as possible.

[15] EPC ratings can be checked here

Fig 7:
Estimated and actual costs of various measures

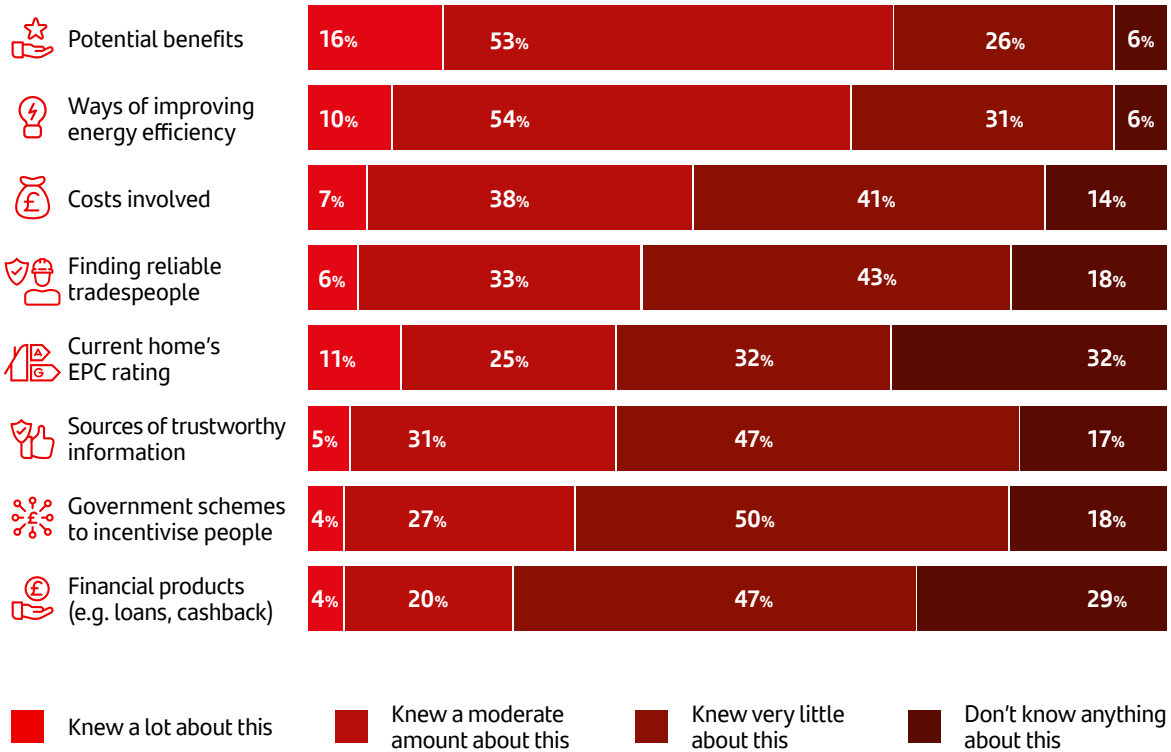
	Average estimated cost by respondent (all respondents)	Actual cost
Installing a heat pump	£9,472	**£13,000**
Installing solar panels	£9,856	**£7,000**
Replacing an old gas boiler with a new gas boiler	£4,769	**£3,000**
Installing a hydrogen boiler	£8,057	**£2,900**
Installing cavity wall insulation	£5,217	**£2,700 per wall**
Upgrading windows from single glazing to double glazing	£7,394	**£1,200 per window**
Upgrading windows from single or double glazing to triple glazing	£8,509	**£1,200 per window**
Installing loft insulation	£3,814	**£755**

I am very surprised by the cost of heat pumps. The idea is very sound, but how can people be expected to afford this?
Homeowner

I am open to understanding the cost/benefit of energy efficiency measures, but I don't currently feel well informed enough to state whether it is a priority for me or not?

Prospective buyer

Fig 8:
Knowledge gaps
% of UK adults claiming to be familiar



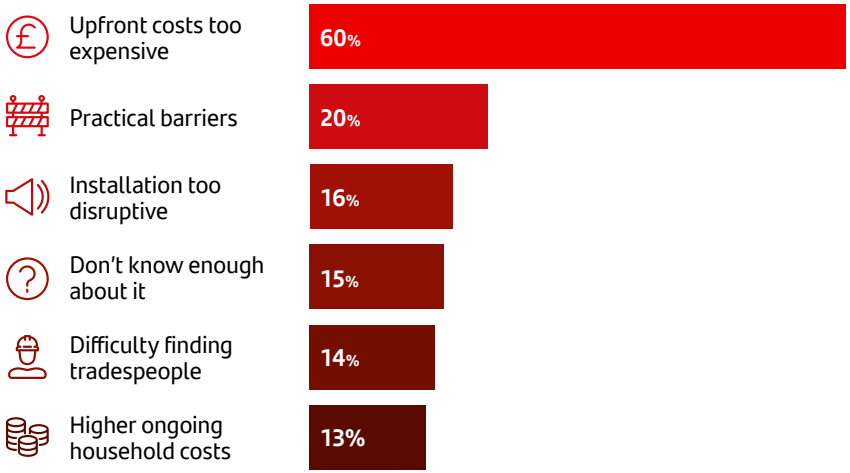
Cost and prioritisation are key to action

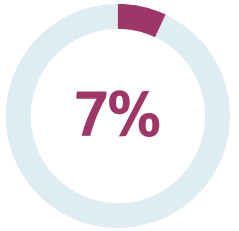
Perceived cost is by far the single biggest factor in the calculation of whether to invest in energy efficiency improvements, not least when proposed over the immediate future when many consumers may be anticipating a continued challenge on the cost of living. 60% of homeowners cited upfront costs as a barrier to taking action on energy efficiency in their home over the next six months. When told the average costs of a set of standard housing retrofitting measures, majorities ruled out any measures over £3,000. Only very small minorities said they could both afford and would prioritise even relatively low-cost measures such as loft insulation.

Fig 9:

Cost is by far the main barrier to action

% of homeowners selecting each barrier as one of the two most signifiicant



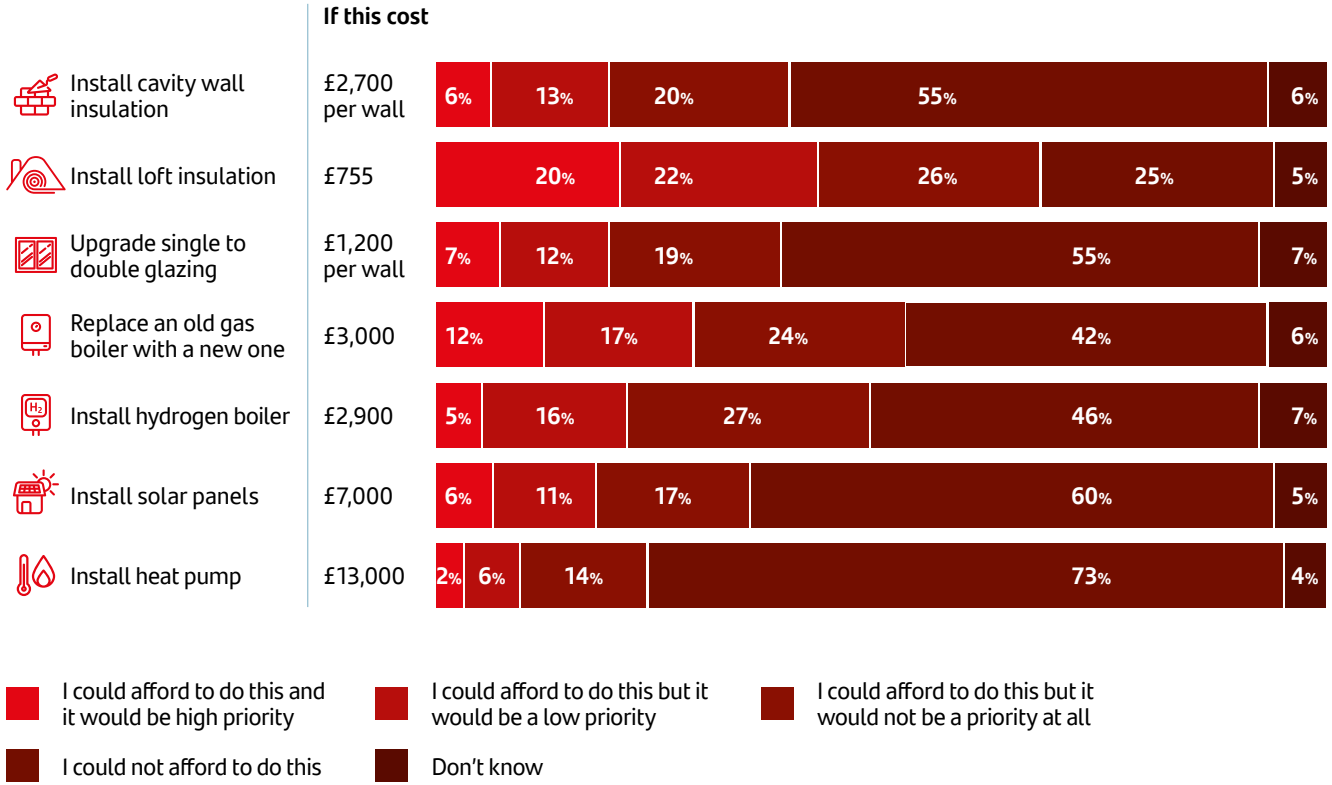


*Said there were **no** significant barriers*

Fig 10:

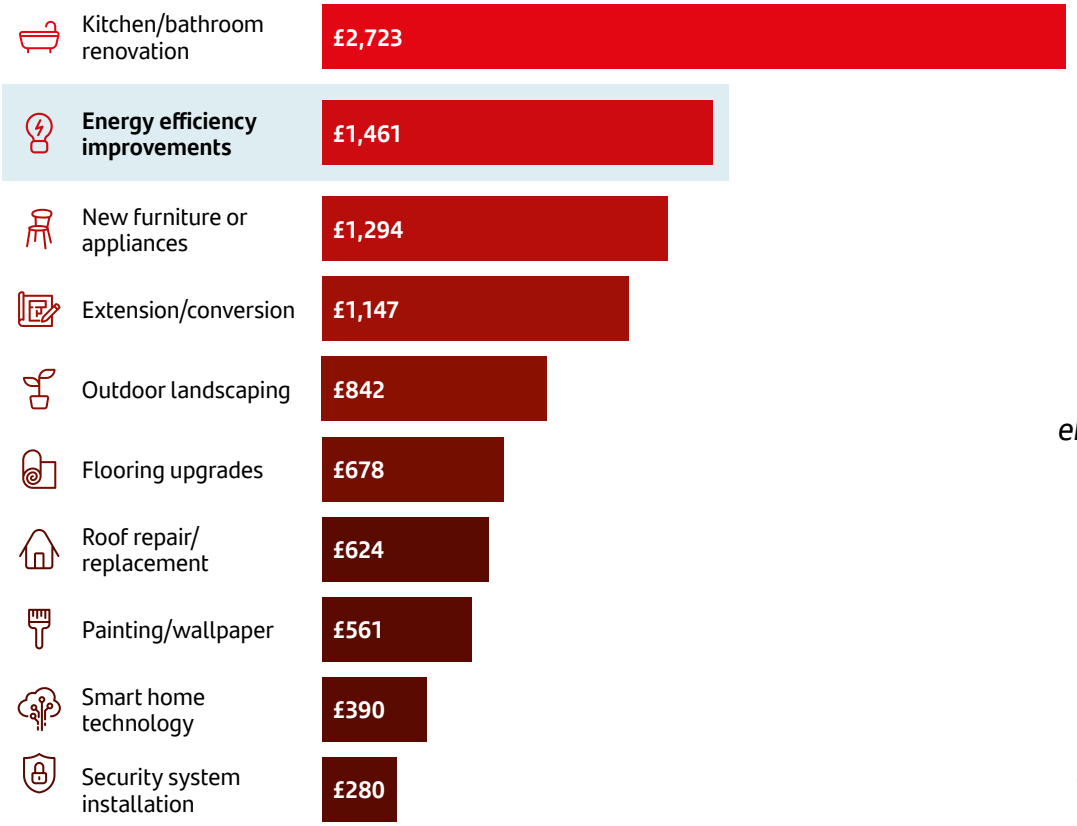
Cost as an issue

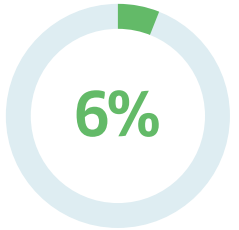
% of UK adults saying they could afford an action and if they would prioritise it



The importance of prioritisation can be drawn out by removing the upfront-cost problem. This was done by offering survey respondents a hypothetical £10,000 windfall to spend on home improvements and asking how they would spend it across a variety of options. Across the whole sample, respondents allocated most to kitchen and bathroom renovations, with only an average £1,461 to energy efficiency improvements. As noted above, this figure is lower for council (£1,113) and housing-association (£1,058) tenants, who would allocate much more to furniture and appliances. 40% of UK adults said they would not allocate any of the windfall to energy efficiency improvements.

Fig 11:
Energy efficiency within wider home improvements
Average allocation by all UK adults of £10,000 across selected home improvements (excluding don't knows)





*Allocated more than **£5,000** to energy efficiency improvements*

*Allocated **no** funds to energy efficiency*

Moving home is an important point in an individual's life and a moment when they have to make important judgements about a property's material quality and suitability. However, few appear to be putting energy efficiency front of mind when buying. Among UK adults looking to move, only 17% cited energy efficiency as one of their top-three factors in selecting a property. This was far behind factors such as location, size and cost. Notably, on most property websites in the UK, it is possible to search by multiple property criteria but not by EPC rating.

Those looking to move said they would be willing to pay around £13,000 more for a property rated EPC B over the same property with an EPC rating of F. This might seem like a material sum, but it is notable that this is likely to be less than the investment required to retrofit a property to achieve this performance change. Perhaps reflecting this, while 46% of UK adults cited energy efficiency improvements as one of the three most effective ways to add the most value to a property, this was far behind kitchen and bathroom renovations and the creation of larger floorspace through extensions or conversions. In our interviews, it was striking that estate agents believed most actual buyers were reluctant to value energy efficiency improvements in determining the price they pay for a property.

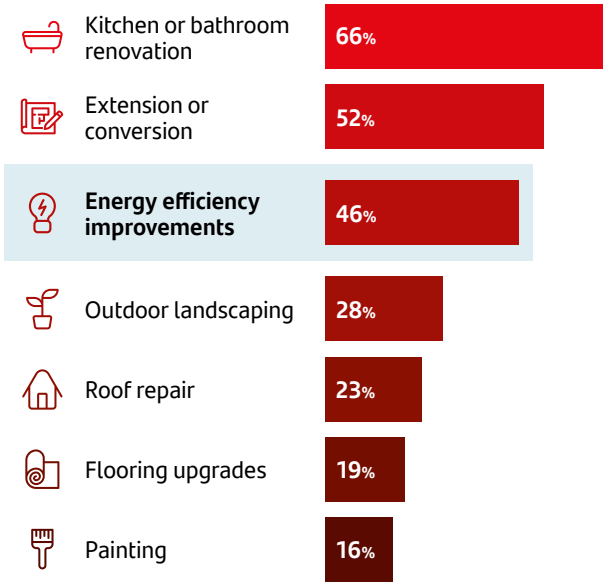
Fig 12:
Homebuyer premium for energy efficiency
Average premium (£), prospective homebuyers, B-rated property vs F-rated

Prospective buyers were asked to consider two homes – identical except having very high (B) and very low (F) energy efficiency ratings

Average premium prepared to pay for B-rated vs F-rated	**↑£13,268**
This represents an increase on the average selling price* of	**↑4.6%**

* ONS Estimate December 2023: £285,000

Fig 13:
Perception on value-add
% of UK adults selecting option from list as one or three most likely to add value



It's not a main priority, but I would put it in my top five. I'm not thinking about energy at the get-go, but I am thinking about it in the long run once I've lived somewhere. You notice a few years in once you get into swing of paying your bills. It's not your priority when you first move in.

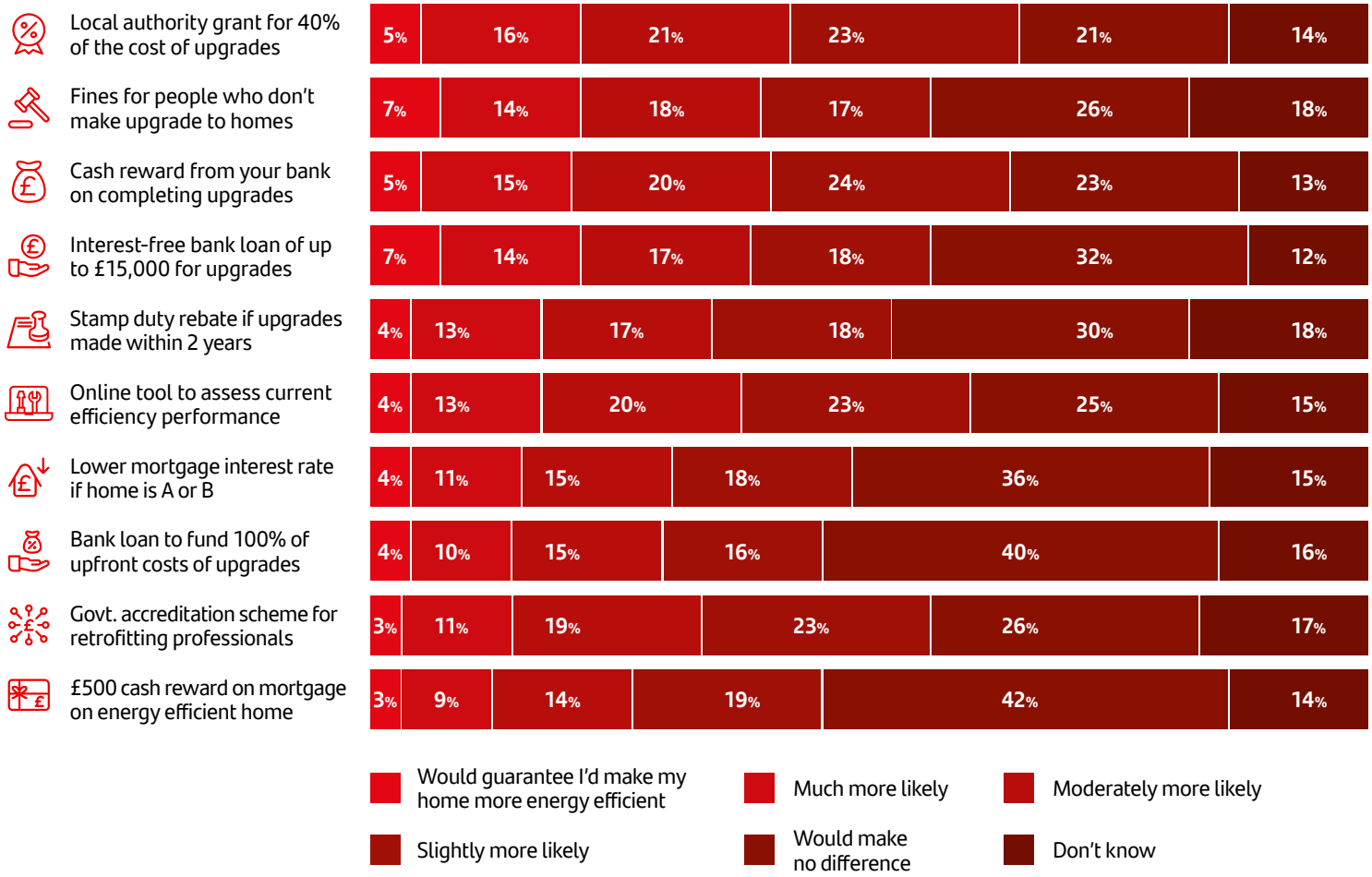
Homeowner

Reducing upfront costs is key

When asked to rate the impact of measures on the likelihood of making energy efficiency improvements, just over 40% of UK adults said that a local-authority grant would make it certain, much more likely or moderately more likely that they would make changes. Similar percentages said the same for cash rewards (40%) and interest-free loans from banks (38%). The only other measure judged to have this level of incentive effect was the prospect of fines for households that do not make upgrades (39%).

However, when asked to pick from the same list of measures which would be most effective in encouraging energy efficiency improvements, a quarter (24%) of UK adults said that none of the proposed incentives would be effective.

Fig 14:
Effectiveness of incentives
% of UK adults selecting each option



Case study
Serena

Serena is a 21-year-old combining work and study, who has made considerable efforts to be able to get on the housing ladder early.

Serena lives in the town where she grew up, where she both works a full-time job and studies part time around this. She currently lives at home with her parents, which was a conscious choice to help build a deposit as quickly as possible – she and her partner plan to buy a place together once Serena has finished studying.

Serena wants to live somewhere near her hometown, but a little more rural – which means she tends to be looking at older housing stock. She sees their first home as very much a 'step on the ladder' and is thinking as much about resale value as what the home will be like to live in.

Serena's parents have solar panels and loft insulation, which make her familiar with some potential energy efficiency options. However, she will not have a large pot of money for improvements and would first consider smaller projects that would make the home feel less dated.

Serena is very cost-conscious. Although her parents have got by well over the last few years, several of her friends have responded to cost-of-living pressures by turning the heating down, or off completely. She is therefore interested in measures that would help both save money and keep the home comfortable. However, the initial cost puts her off: she hopes to move into a more expensive home with her partner in around five years– and would want improvements to both 'pay their way' over this period and add resale value.

Serena's thinking around potential home improvements illustrates a segment of first-time buyers who are already 'thinking ahead' to their next move. Installation costs can be particularly off-putting to such owners, given a limited window in which the 'payback' of the investment could be felt.

Box 3:

What about small businesses?

As part of this research, we asked trade associations representing small and medium-sized enterprises (SMEs) and commercial property owners about their members' experiences of improving energy efficiency.

Like homeowners, SMEs are primarily concerned about costs. For SMEs, these are the costs of running their business. The broader operating environment (including business rates, the cost of finance and the impact of the macroeconomic situation on their business) is already challenging. With cash reserves still depleted by the Covid-19 pandemic, net zero is not a top priority for many SMEs.

The types of building in which SMEs may operate, such as retail parks or rows of high-street shops, and their landlord-tenant relationship may pose unique challenges for coordinated efforts to decarbonise a property, as well as basic logistics (e.g. room to install a heat pump). The business-rates valuation process, with property improvements leading to higher taxes, has historically disincentivised retrofitting. While the Green Reliefs to Business Rates introduced in 2020 are welcome, many SMEs remain unaware that help is available.

Key SME requests include:

- *Greater clarity on the government's direction of travel in key areas, such as minimum energy efficiency standards and the impact of business-rates valuations on investment in energy efficiency;*
- *The availability of accurate and cost-effective ways to measure their baseline emissions performance, including in areas such as energy efficiency. Many SMEs are not able to measure and report their emissions at-scale or to the level of detail required to set targets. November 2021 research by the Federation of Small Businesses found that 69% of small businesses did not "know how to measure how much carbon emissions their business produces." For example, smart-meter rollout for SMEs has not kept pace with rollout for domestic properties; and*
- *the availability of targeted grants and lending products for SMEs looking to improve the energy efficiency of premises, backed by high-quality business advice for firms that want to undertake investments.*

A key ask from SMEs is that government policy is ambitious, clear and consistent in its approach to commercial-property retrofitting to ensure that businesses can plan and services emerge from the market to support them.

There's a lot of focus on social housing and homeowners with the subsidy and grant regime, but when it comes to commercial buildings, there really isn't a plan... We recognise that we'll have to pay (to decarbonise), but a range of measures could incentivise this.

Trade Association

03

Can government policy help?

03
Can government policy help?

If we think of the housing stock as a form of national infrastructure, the challenge ahead comes into stark focus. Most national infrastructure is owned by a limited number of actors able to coordinate and fund its maintenance. The housing stock is spread over millions of separate owners all with very different financial capabilities. One of the reasons it has proven simpler to coordinate retrofitting in social housing is the more centralised role of Local Authorities as landlords.

Upgrading our housing stock will mean both raising awareness of the benefits of retrofitting and creating adequate incentives for individual householders to prioritise spending on changes to their property. The key driver of that prioritisation will be a clear sense of the economic value of retrofitting in terms of homes that are cheaper to run and which maintain a high level of comfort. The crucial incentives will be ones that lower the upfront costs of such investments, which are widely seen as prohibitive, even if consumers believe they would yield savings once made.

The picture of consumer views captured by this survey suggests three categories of government support that are likely to be useful and might form the basis of a policy toolkit (see Box 5).

Information

Why does it matter?
There are clear knowledge gaps for consumers around retrofitting (see Box 2).

What is the UK already doing?
The UK has developed a number of both market and government-led information schemes about retrofitting. Some local authorities provide similar resources. Similar tools were part of the 2013 Green Deal loan programme.

Our recommendations
There is a role for government in supporting the aggregation of these forms of information into a single place or online tool that can help consumers close each of these knowledge gaps in turn in the simplest possible way.

While many consumers have a broad understanding of what energy efficiency means in a home and how to achieve it in general terms, that knowledge is more patchy in some specific areas than in others. In particular, consumers appear to be uncertain about judging the technical energy efficiency of their own home, pricing different forms of energy efficiency measures, and sourcing high-quality advice on measures and the suppliers that can install them.

Some of these knowledge gaps can be filled with general information. Others require helping consumers identify ways to audit their own properties, generally with professional support. Still others require ways of ensuring that consumers can identify reputable local tradespeople to propose, price and implement retrofitting measures, including knowledge of the kinds of financial support that may be available to them.

Arguably the key informational challenge is the problem of convincing consumers that investment in retrofitting will deliver lower running costs immediately. Uptake of the UK Green Deal was in part weakened by consumer perceptions that the upfront costs of borrowing would not be offset by savings and by the complexity of accessing information[16]. This perception is also identified in this research. Unless it changes, consumer inertia will remain a major obstacle.

While many consumers understand this in general terms, the depth of the problem is illustrated by the fact that they still do not prioritise energy efficiency measures even when the issue of upfront cost is removed. Although the imperative of meeting the UK's decarbonisation targets is often the starting point for political debates about retrofitting, emphasising the immediate cost-of-living dividend from energy efficiency is key.

[16] See National Audit Office report on the failure of the Green Deal

Funding

Why does it matter?

The cost of retrofitting is clearly a key factor in mobilising homeowners to improve the energy efficiency of their homes (see Section 02).

What is the UK already doing?

The UK's current Great British Insulation Scheme (formerly ECO+) provides targeted retrofitting grants for low-income homes. Past interventions include the Green Home Grant and the Green Deal, both of which have been discontinued.

Our recommendations

- More upfront grant support is needed, means-tested for poorer households and delivered through local government.
- Rebates on stamp duty should be provided for home buyers who make defined investments.
- Where industry can demonstrate demand, government should support the provision of loans for defined retrofitting measures. This could be done in a range of ways, including forms of government guarantee, or reduction of capital costs for qualifying loans.
- Provide scale-up support where necessary for the best ideas to emerge from the current Green Homes Finance Accelerator (GHFA) when its pilot phase ends in 2025.

Government clearly cannot foot the bill for retrofitting the entire housing stock. However, any solution will need to confront the fact that upfront cost is the primary concern for most people considering retrofitting their home for energy. The reason the UK has made relatively good progress in improving the energy efficiency of its social housing stock is because this can be coordinated and funded "from above" by government.

Schemes like the Great British Insulation Scheme are currently the most ambitious element of the UK's approach to defraying upfront costs for insulation. However, these schemes are targeted at low-income households and are still operating at a scale that means they will not drive retrofitting uptake at anything like the necessary rate. Their delivery through energy companies also adds a layer of administration that may detract from their effectiveness. Ultimately the ambition will need to be much greater. The 300,000 homes targeted by the Great British Insulation Scheme is just under 2% of UK homes.

Better consumer understanding of the way that investment is likely to be recouped through energy savings over time may address some of the reluctance to undertake it. But one of the clear messages from our survey is that even if consumers understood and were convinced by the return on investment from retrofitting, they do not have the resources to make those investments. A relatively modest programme of retrofitting on an average home[17] would consume a significant portion of the non-pensions savings a typical household has accumulated[18]). The fact that the 2020 Green Home Grants scheme received more than 70,000 applications for just over 22,000 vouchers provided indicates that demand is potentially high if it can be unlocked[19].

[17] Installing one wall of Double Glazing, insulating four walls and a loft cost on average £11,500
[18] For example, the average UK non-ISA, non-pension savings are £17,000
[19] questions-statements.parliament.uk

This means that finding further ways to reduce the immediate costs of retrofitting will be key. Approaches might include:

- Expanded forms of government grants that can defray upfront costs with some form of means testing and delivered as close to the ground as possible through local government. While the fiscal implications of grant support are clearly important, the advantage of a system of grants is that it ensures support is potentially available at the lower part of the income scale, where retrofitting may not otherwise occur. Using the tax system to redistribute resources for retrofitting would in effect help ensure retrofitting and its benefits were not just the preserve of households with larger cash reserves, leaving poorer households paying an energy inefficiency premium through no fault of their own. An element of grant could be repayable in future in certain cases (e.g. as a surcharge on the capital gain from a property's sale);

- Forms of non-grant support for consumer investments in energy efficiency. This could be in the form of tax relief (e.g. rebates on stamp duty paid if defined energy efficiency measures were taken within a defined time after purchase); and

- If full grant support is not available, forms of support for targeted loans for retrofitting, including subsidies to reduce or eliminate the interest on loans for upgrades. One of the key issues with the Green Deal was that the interest rates for loans were judged prohibitively high for borrowers, resulting in very low uptake. Just 0.6% of households formally assessed for a loan ultimately borrowed money for improvements[20].

Other states have recognised the necessity of grant support at scale. For example, Portugal's Sustainable Buildings Programme provides grants for up to 85% of renovation work, depending on their income. Spain offers similar subsidies for up to 40% of retrofitting work, capped at €3,000. Householders must produce technical evidence of energy efficiency improvements for the subsidy to be paid.

Support for the supply chain

Why does it matter?
The scale of retrofitting required in the UK implies a massive scaling-up of the retrofitting supply chain.

What is the UK already doing?
The Heat Training Grant provides some support to tradespeople in learning retrofitting skills.

Our recommendations
- Clear, long-term commitments to retrofitting demand to prompt the necessary growth in supply.
- A retargeted apprenticeship system building on the Heat Training Grant.
- A robust accreditation and guarantees system that does not unintentionally exclude smaller suppliers.

The scale of retrofitting required in the UK to make its housing stock energy efficient is formidable. Retrofitting just half the current housing stock between now and 2035 implies more than a million conversions a year, from a sector that is currently undertaking only a fraction of this. In its 2023 progress report to Parliament, the Climate Change Committee suggested that installation rates for fuel-poor homes alone would have to rise fivefold by 2025 to be on track to meet targets[21].

[20] Green Deal and Energy Company Obligation - National Audit Office (NAO) press release (2016)
[21] www.theccc.org.uk

The key to developing this market will be sustained demand for retrofitting. Past interventions such as the 2020 Green Homes Grant have been time limited and, while well intentioned, have provided little incentive for the market and supply chain to adapt to deliver retrofitting over a sustained period. Only clear, long-term commitments can do this.

However, it needs to be recognised that it will inevitably take time for the training system to produce a larger volume of professionals. Government needs to work actively with further education providers to signal the direction of policy and the skills that will be required. Existing skills support, including the apprenticeship system, should be reviewed to ensure it is well targeted. Models like the current Heat Training Grant are important but may need to be expanded to address a wider set of green and retrofitting skills.

Forms of accreditation are also important for consumers seeking reliable information in the retrofitting journey, in both auditing their property and undertaking work. As with any rapidly expanding market, it is critical that consumers can identify competent, properly trained professionals. There is a role for government in ensuring that the existing qualification system provides useful guidance for consumers, encouraging the industry to convene around robust professional standards and promoting the best.

However, it is important that accreditation measures do not have the unintended effect of excluding smaller traders or making it hard for consumers to use tradespeople they already know and trust. One of the common observations on the Green Deal was the fact that measures could only be delivered by tradespeople from a pre-approved government register, which worked in favour of larger providers and prevented many consumers from using existing suppliers they trusted.

Certainty

It is important to reinforce that no large-scale shift in the UK private market for retrofitting will be successful without long-term policy certainty. Both new skills, and the economies of scale to reduce installation costs need sustained demand to trigger the development of supply. Helping consumers understand the value and need for energy efficiency, and ensuring they have the financial capability to seek it are key. The UK has experimented at a small scale with such incentives. Now a bold new approach is needed to produce tomorrow's homes.

Box 4:

The Green Homes Finance Accelerator

The GHFA is a government-funded competition for grants to develop new green finance products to support retrofitting. It moved into its pilot phase in late 2023 and is currently testing a range of solutions with consumers, including subscription-style funding for solar-panel installation, fixed-rate green mortgage products and a bank-provided one-stop information service for energy-use and practical retrofit advice. When testing ends in February 2025, the government should work with the sector to consider ways in which policy could support the wider rollout of the most effective tools.

Santander UK are supporting a GHFA bid lead by Parity Projects, a cross-industry consortium looking to create a proof of concept for a one-stop-shop retrofit coordination service. This offers free retrofit advice and national coverage for owner-occupied and rental properties. The discovery phase was completed in September 2023 and Parity have been successful in securing development funding which will take the discovery phase concept from drawing board to pilot.

Box 5:

The policy toolkit

Around the world there is an identifiable 'toolkit' of public policy supports that have emerged to boost demand for retrofitting. Interventions generally fall into four mutually-reinforcing categories. Broadly, the toolkit aims to set minimum standards and then support occupiers in achieving them. The UK currently has elements of most of these approaches, but now needs to scale up these approaches. Examples from Santander markets across the European region are noted below.

Type of Incentive	Building energy efficiency targets and standards	What have others done?
Building energy efficiency targets and standards	The UK Future Homes Standard will implement home energy efficiency requirements. Starting from 2025 measures will include restrictions on the letting of properties with EPC ratings below E. Requirements will tighten over time.	Many European states have such targets, often focusing on public buildings in the first instance where government has responsibility for retrofitting.
Supply chain support	The Heat Training Grant provides some support to tradespeople in learning retrofitting skills.	Many EU states provide a range of supports for skills upgrades related to green technologies.
Grants	Grants can be used to permanently defray upfront costs for consumers. The UK currently provides support through the Great British Insulation Scheme and the Renewable Heat Incentive.	Portugal's Sustainable Buildings Programme provides grants for up to 85% of renovation work, depending on their income. Spain offers similar subsidies for up to 40% of retrofitting work, capped at €3,000. Householders must produce technical evidence of energy efficiency improvements for the subsidy to be paid.
Tax reliefs	The UK currently provides no tax reliefs for retrofitting. UK Finance has proposed stamp duty relief for property buyers that undertake defined measures after purchase.	Poland's Thermo-modernisation tax relief programme allows consumers to claim tax relief on certain defined retrofitting measures up to a ceiling of around €12,000.
Information tools	Some UK authorities provide retrofitting advice, and information tools are available for Great British Insulation Scheme and Renewable Heat Incentive users.	Many states provide information tools for consumers to help them understand retrofitting needs. These will often be linked to other support programmes.

Santander
How we can help

At Santander we recognise how daunting it can be preparing to embark on the journey of either retrofitting an existing home or buying a property which needs work to make it more energy efficient. We have some exciting new partnership propositions and associated financial products arriving soon that are designed to meet our customers' needs and help address the barriers to retrofitting that this research has highlighted.

We also offer support for homeowners through our:

- My Home Manager app, where customers can access their home's EPC rating (where available) and recommendations on how to improve their energy rating, alongside estimated cost and funding options for improvements. The App is available to download here.
- Greener Homes Hub, on the Santander website, which provides a wealth of information on improving energy efficiency, education tools and tips on greener and more sustainable living.

Annex
Research methodology

To explore attitudes to retrofitting and understand the key barriers, Global Counsel carried out a programme of primary research incorporating qualitative and quantitative methodologies. All fieldwork was conducted between October and December 2023.

In-depth interviews

Interviews with consumers, housing associations, estate agents and trade associations to explore awareness and attitudes to retrofitting and to understand the key barriers.

45-60-minute interviews conducted online (Zoom).

10 consumers were recruited to reflect a spread of ages, gender, ethnicity, socioeconomic group, area of residence (including urban, suburban, rural), homeownership status, and awareness of retrofitting options. No-one interviewed lived in a property with an EPC rating of C or above.

Interviews with estate agents (n=5), trade associations (n=4) and housing associations (n=2) were conducted to provide complementary insight.

Survey

Quantitative survey to understand familiarity, behaviours, intent and barriers among the wider public and to enable robust subgroup comparison across people in different situations, including homeowners and non-homeowners.

Online survey up to 15 minutes. Fieldwork conducted between 20 and 29 December 2023.

Survey fielded online among nationally representative sample of n=4,014. Quotas applied to gender, age, region and other demographic variables.

Policy analysis

Desk-based research to understand existing and proposed policy interventions for domestic retrofitting in the UK, United States, Brazil, Spain, Portugal and Poland, and of existing and proposed policy interventions for retrofitting of non-domestic properties in the UK.

In the interests of brevity, charts in this report occasionally feature abbreviated versions of the questions and answer options shown to respondents in the survey. Full data tables are available on request. Note that percentage figures based on public-survey data may not always add to 100% due to rounding.