

# Decarbonising homes:

## Consumer attitudes towards energy efficiency and green heating in the UK

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And so we draw on these rich resources by bringing together diverse teams. Data scientists, designers and behavioural scientists. Practitioners, academics, entrepreneurs and people with lived experience.

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# 1.0

## Introduction

**Over the past decade, UK greenhouse gas emissions have fallen substantially as the UK has invested heavily in producing low-carbon electricity. These big leaps forward have so far been made mainly without consumers noticing. But the next steps towards net zero will mean much bigger changes for consumers.**

Domestic energy use accounted for 21 per cent of UK greenhouse gas emissions in 2019, and around three quarters of this came from home heating. In the UK, most of us keep warm at home by burning fossil fuels, predominantly gas. In 2017, on average, each of the UK's homes produced 2,745kg of CO<sub>2</sub> per year from heating. To get to net zero by 2050 – the UK's legally binding target – each home will need to reduce its CO<sub>2</sub> emissions from heating to just 138kg per year.<sup>1</sup>

To do this, we will need to both reduce demand for heat, by making our homes more energy efficient, and decarbonise it, by switching to low-carbon heating systems, such as electric heat pumps and solar thermal panels. (In this report, we refer to low-carbon heating systems collectively as 'green heating'.)

Making this change is a big challenge, not least because the UK's homes are among the least energy efficient in Europe, so the vast majority of existing homes will need upgrading.<sup>2</sup> The Institute of Engineering and Technology (IET) estimates that meeting the UK's climate goals will require 1.5 homes to be upgraded every minute.<sup>3</sup>

At Nesta, tackling this challenge is the main focus of our mission to create a sustainable future.<sup>4</sup> Our aim is to help rapidly reduce household emissions by 2030. To do that, one of the avenues we're exploring is how to find, engage and convert more consumers to make these changes more quickly.

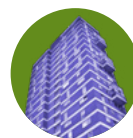
And to start this work, we need to build a more detailed understanding of where consumers are now on their journey to improving home energy efficiency and switching to green heating. This report is the first step in doing so. It aims to build on, and extend, existing research and consumer insights on this topic, such as the BEIS Public Attitudes Tracker.<sup>5</sup>



21%

**of UK greenhouse gas emissions come from energy use in the home, mainly for heating.**

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1.5

**homes will need upgrading every minute on average to reach net zero emissions in the UK by 2050.**

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**'The challenge of heating buildings is a really huge one. [...] you have to persuade us to put up with disruption when we have a level of comfort we're familiar with – and it's not clear from the personal point of view what the advantage of this new system is going to be.'**

**Professor Julia King,  
Climate Change Committee**



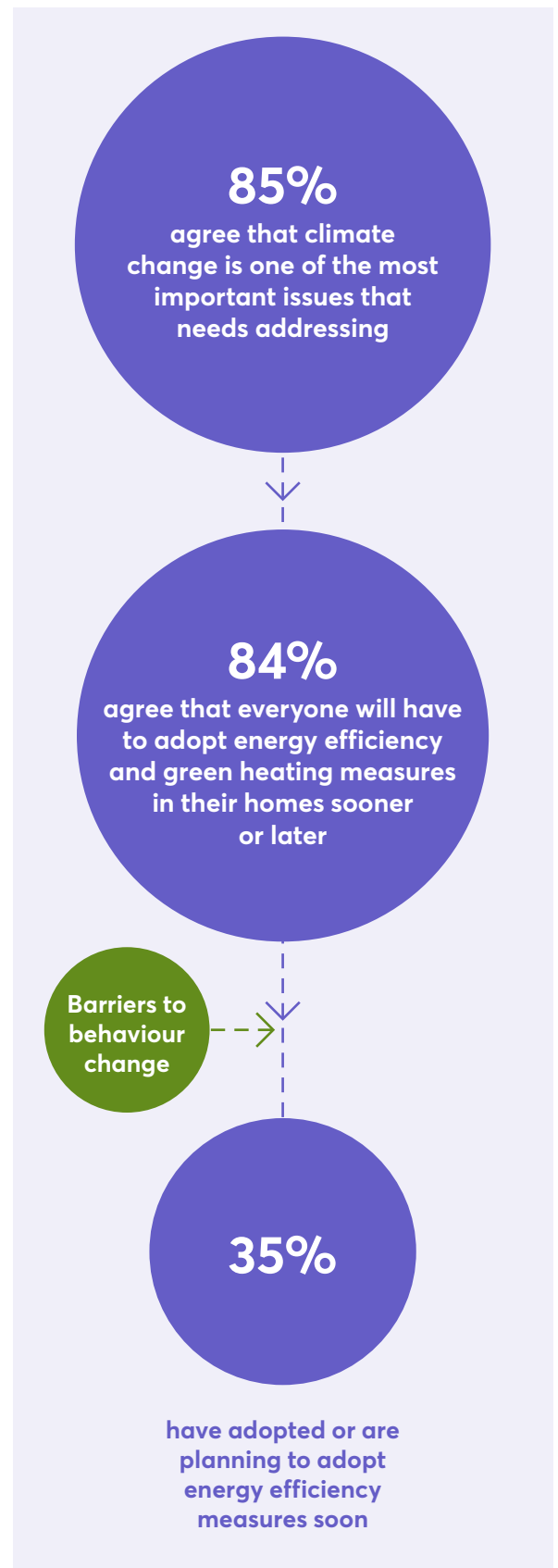
This report examines consumer attitudes about energy efficiency and green heating, exploring their barriers to adoption as well as possible incentives that could be tested and implemented to achieve a net-zero carbon emissions Britain. To develop this report, Nesta commissioned Savanta ComRes to conduct an online survey with a representative sample of 5,022 UK adults in February 2021.

We asked the UK public:

- 1. What are the main barriers to adoption of energy efficiency measures and green heating, and what is their relative importance?**
- 2. What might incentivise the adoption of energy efficiency and green heating? Which incentives are most likely to drive change?**

A significant majority of consumers told us that climate change is one of the most important issues that needs to be addressed and that everyone will need to adopt energy efficient and green heating measures sooner or later. However, our research reveals a major value-action gap where consumers say they care about the future of the planet but are still not doing enough to tackle the challenge through their behaviour at home.<sup>6</sup>

Figure 1. The value-action gap





## Key findings

### There is a huge 'value-action gap':

**85%** 

agree that climate change is one of the most important issues that needs addressing, and 84 per cent agree that everyone will have to adopt energy efficiency and green heating measures sooner or later. Yet, only 35 per cent say they have adopted or are planning to adopt energy efficiency and green heating measures soon.

### Consumers need more than financial incentives to make the switch:

**52%** 

While cost is consumers' biggest concern (52 per cent strongly agree that upfront costs would be too expensive), it is not the only barrier. For example, 32 per cent strongly agree that there is not enough clear evidence about which energy efficiency measures are right for them and the same proportion strongly agree that it's difficult to find the right tradespeople to complete the installation.

### Positive associations with gas may form a barrier to switching to green heating:

**56%** 

At least half of consumers associate gas with being easy to use (56 per cent), convenient (54 per cent) and reliable (50 per cent). Those aged 55+ are particularly likely to have positive perceptions of gas as a fuel.

### The vast majority of consumers say they're open to adopting energy efficiency measures:

**83%** 

In total 15 per cent say they have recently made energy efficiency measures, while 20 per cent say they are aware of the benefits and are considering doing so soon. Around half of consumers (47 per cent) say they would consider making (more) home energy efficiency measures at some point in the future. Only 17 per cent are not currently considering any home energy efficiency measures.



## 2.0

# The value-action gap

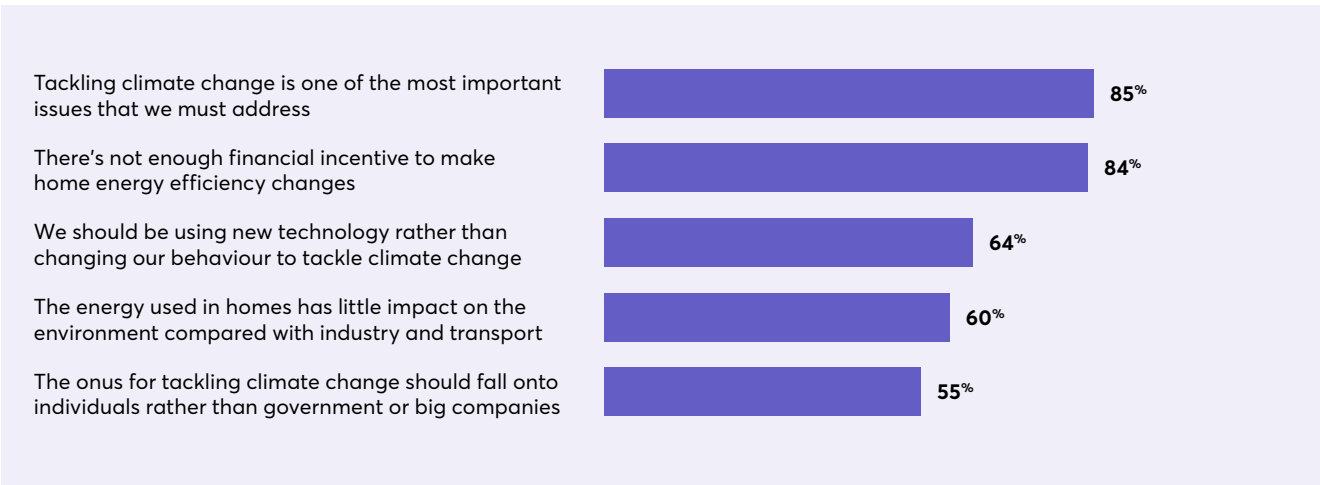
Many studies have found that consumers in the UK care about climate change.<sup>7</sup> Our research confirms this: 85 per cent of those we surveyed agree that climate change is one of the most important issues that needs addressing. Interestingly, given that previous surveys have found relatively low awareness of most green heating measures, 84 per cent agree that everyone will have to adopt energy efficiency and green heating measures sooner or later. This suggests at least some level of awareness that improvements to home energy performance are needed.

However, views on the role of consumers in tackling climate change are more mixed. While 55 per cent agree that the onus to tackle climate change should fall onto consumers rather than government or big companies, 64 per cent believe that we should be using new technology to do this, rather than changing our behaviour.

A similar proportion (60 per cent) agree that the energy used in homes has little impact on the environment compared with industry and transport. In fact, the most recent data on greenhouse gas emissions by end user type (2019) shows that the residential sector is the third-biggest emitter, accounting for 21 per cent of UK emissions.<sup>8</sup>

Transport and businesses contribute more – 30 per cent and 25 per cent of total territorial emissions, respectively – while industrial processes (like cement production) account for just over 2 per cent of total emissions. So, while it's true that home heating and energy use contributes less than transport, it's a major source of greenhouse emissions, on a par with emissions from businesses. Again, this confirms previous research suggesting that consumers aren't fully aware of the contribution their homes make to climate change.

Figure 2. Attitudes to climate change and energy efficiency

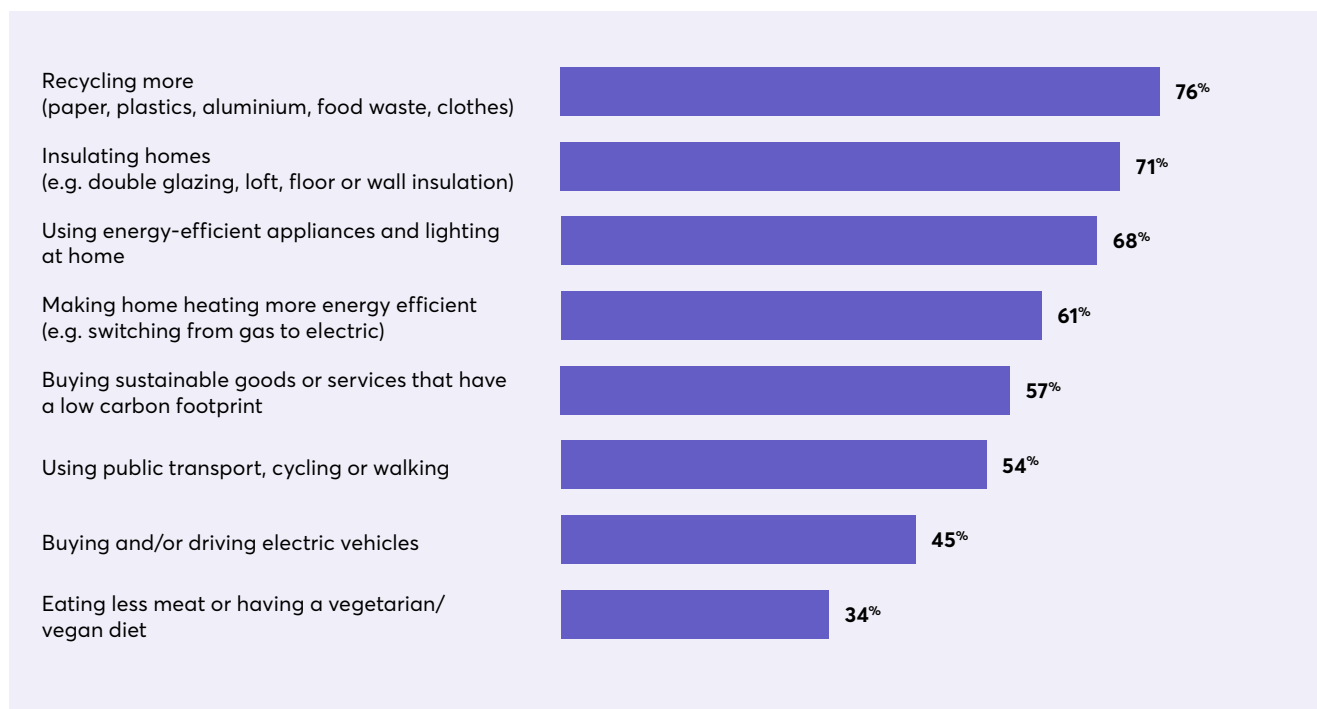


Q. On a scale of 1–10, to what extent do you agree with each of the following statements? Base: All respondents (n=5,022).  
Note: Share of consumers scoring each statement 6–10 on scale 1=completely disagree to 10=completely agree.



These mixed levels of awareness were also evident when people were asked which 'eco-friendly' behaviours were most important for tackling climate change. The vast majority (76 per cent) rate recycling as highly important, although of the actions listed, it's one of the least impactful in terms of reducing emissions. There is, however, also strong agreement that home insulation is important (71 per cent) as well as energy-efficient heating (61 per cent).

Figure 3. Perceived importance of 'eco-friendly' behaviours



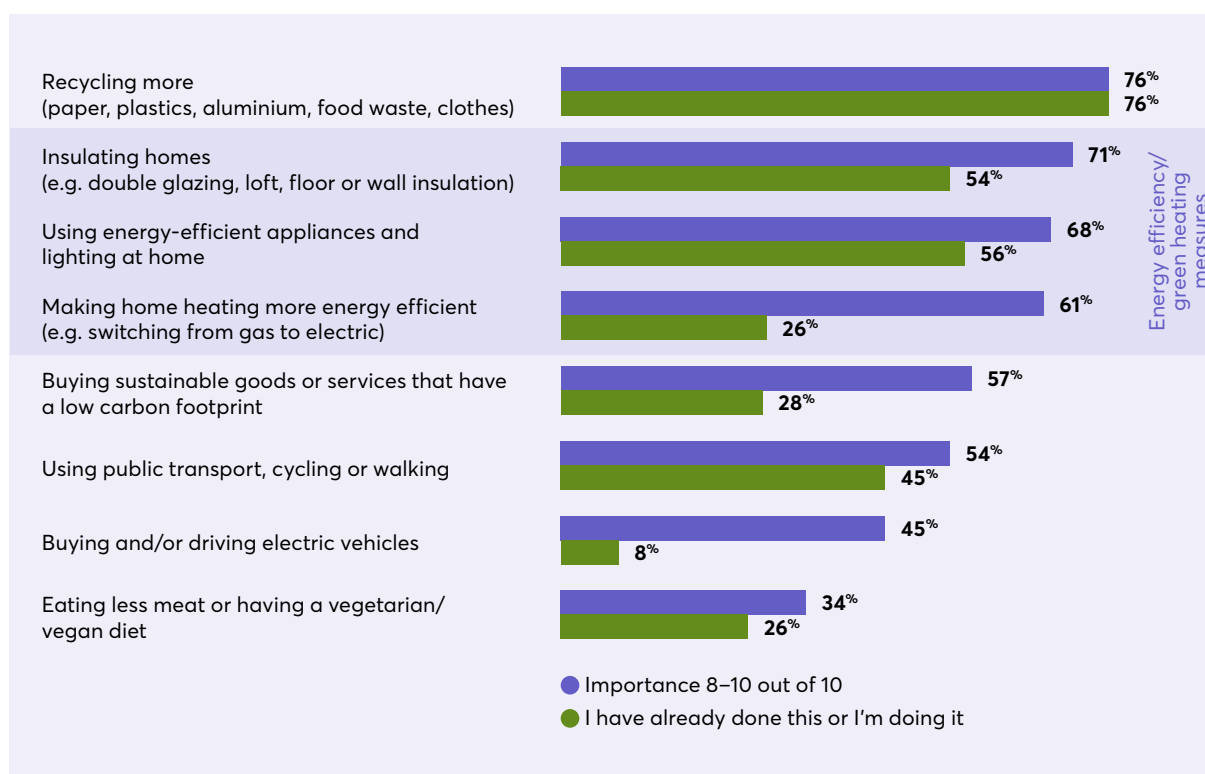
Q. On a scale of 1–10, how important do you think each of the following actions are for addressing climate change?

Base: All respondents (n=5,022). Note: Share of consumers scoring each statement 8–10 on scale 1=completely disagree to 10=completely agree.

On the whole, the actions that consumers report taking mirror the things they feel are important in addressing climate change. The vast majority (76 per cent) say they already recycle – the same proportion as believe this is an important step in addressing climate change. For most other actions, there's a 'value-action' gap of up to 37 per cent.

However, three areas stand out as having a large gap between perceived importance and current action. While 61 per cent believe that switching to more energy-efficient heating is important, only 26 per cent say they're doing this. The gap between importance and action is even bigger for electric vehicles – respondents are more than five times as likely to say that electric vehicles are important than to say that they own an electric vehicle, although fewer people overall think that electric vehicles are important for tackling climate change. There's also a big value-action gap when it comes to buying sustainable goods and services, suggesting that it's not only major purchases but also regular consumption choices that people believe are important, but for various reasons they find it difficult to do.

Figure 4. The value-action gap, by activity



Q. On a scale of 1–10, how important do you think each of the following actions are for addressing climate change?

Q. And are you currently planning to do any of these or not? Base: All respondents (n=5,022). Note: Share of consumers scoring each statement 8–10 on scale 1=completely disagree to 10=completely agree.

There's some indication that, even if they're not currently taking action, consumers are more open to doing so for energy efficiency and green heating measures than some other 'eco-friendly' actions. Only 7 per cent said they would 'never' make their home heating more energy efficient, and only 3 per cent said they would never insulate their homes. On the other hand, eating less meat is much more divisive – 28 per cent say they will never do it – while 17 per cent say they will never buy or drive an electric vehicle.

Thus, persuading consumers to change their diet is a greater policy challenge than persuading consumers to adopt energy efficiency and green heating measures. It also indicates that, while there are strong barriers to adoption, for most consumers these are not based on fundamental beliefs, but on other factors that may be easier to influence, for example through clearer information and communication.



**'Climate change has happened because of human behaviour, therefore it's only natural it should be us, human beings, to address this issue. It may not be too late if we take decisive actions today.'**

**Ban Ki-Moon, Former Secretary-General of the United Nations**



## 3.0

# How consumers manage their energy use at home

**Understanding how consumers behave in their homes is key to achieving an effective energy transition. Therefore, we asked consumers to tell us how they manage energy use at home. Most consumers report that they make small energy-efficient choices on a daily basis.**

The most common energy-efficient actions are turning off lights when not needed (81 per cent), not overfilling kettles with more water than needed (66 per cent) and using energy-efficient lighting (66 per cent). Quite a large proportion (58 per cent) delay turning on heating as much as possible even when the weather starts to get cold and 48 per cent then keep that heating at 20 degrees or lower. The least common action is using a draft excluder against external doors (32 per cent).

Age appears to be the most significant demographic predictor of whether someone undertakes the majority of these energy efficiency measures. For example, using draught excluders, buying energy-efficient appliances and using energy-efficient lighting are all around twice as prevalent among the over-55s as among 18–34-year-olds.



81%

**The most common energy-efficient actions are turning off lights when not needed.**



66%

**say they avoid overfilling kettles with more water than needed.**

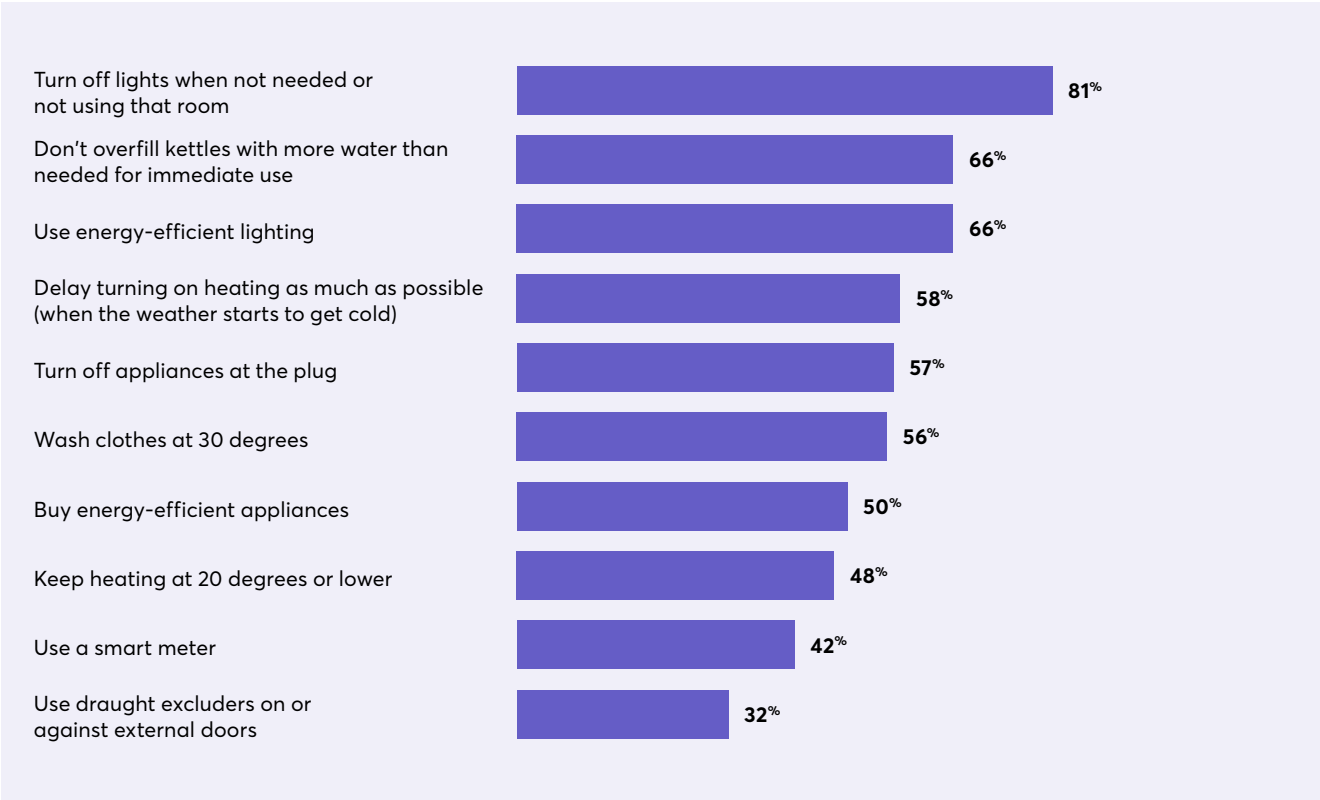


66%

**are using energy-efficient lighting.**



Figure 5. Energy saving behaviours



Q. Which of these, if any, do you usually do at home? Base: All consumers (n=5,022).



**'Climate change is a civilisational wake-up call, a powerful message delivered in the language of fires, floods, storms and droughts. Confronting it is no longer about changing the light bulbs. It's about changing the world – before the world changes so drastically that no one is safe.'**

**Naomi Klein, Journalist, Author, Filmmaker, Activist**





## 4.0

# Perceptions of gas and electricity

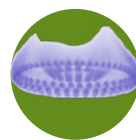
**Although many questions remain about how best to decarbonise home heating in the UK, electrification (for example, by switching from gas central heating to heat pumps powered by electricity) is likely to play a major role.**

To explore whether attitudes to gas and electricity might need to shift in order to support decarbonisation, we asked consumers which qualities they associate with each.

Consumers were most likely to associate gas with being easy to use (56 per cent), convenient (54 per cent) and reliable (50 per cent), ranking higher than electricity on each of these attributes. Gas is also more likely than electricity to be seen as easy to control (32 per cent), but less likely to be seen as good value (27 per cent).

Electricity produced from fossil fuels (e.g. burning oil, coal or gas) ranked second after gas for being easy to use (43 per cent), convenient (42 per cent) and reliable (35 per cent), although only 21 per cent associate it with being easy to control.

Meanwhile, the attribute most commonly associated with renewable electricity is being environmentally friendly (62 per cent). It is more likely to be seen as safe (36 per cent) and good value (34 per cent) than either gas or electricity from non-renewable sources.



56%

56% of consumers associate gas with being easy to use

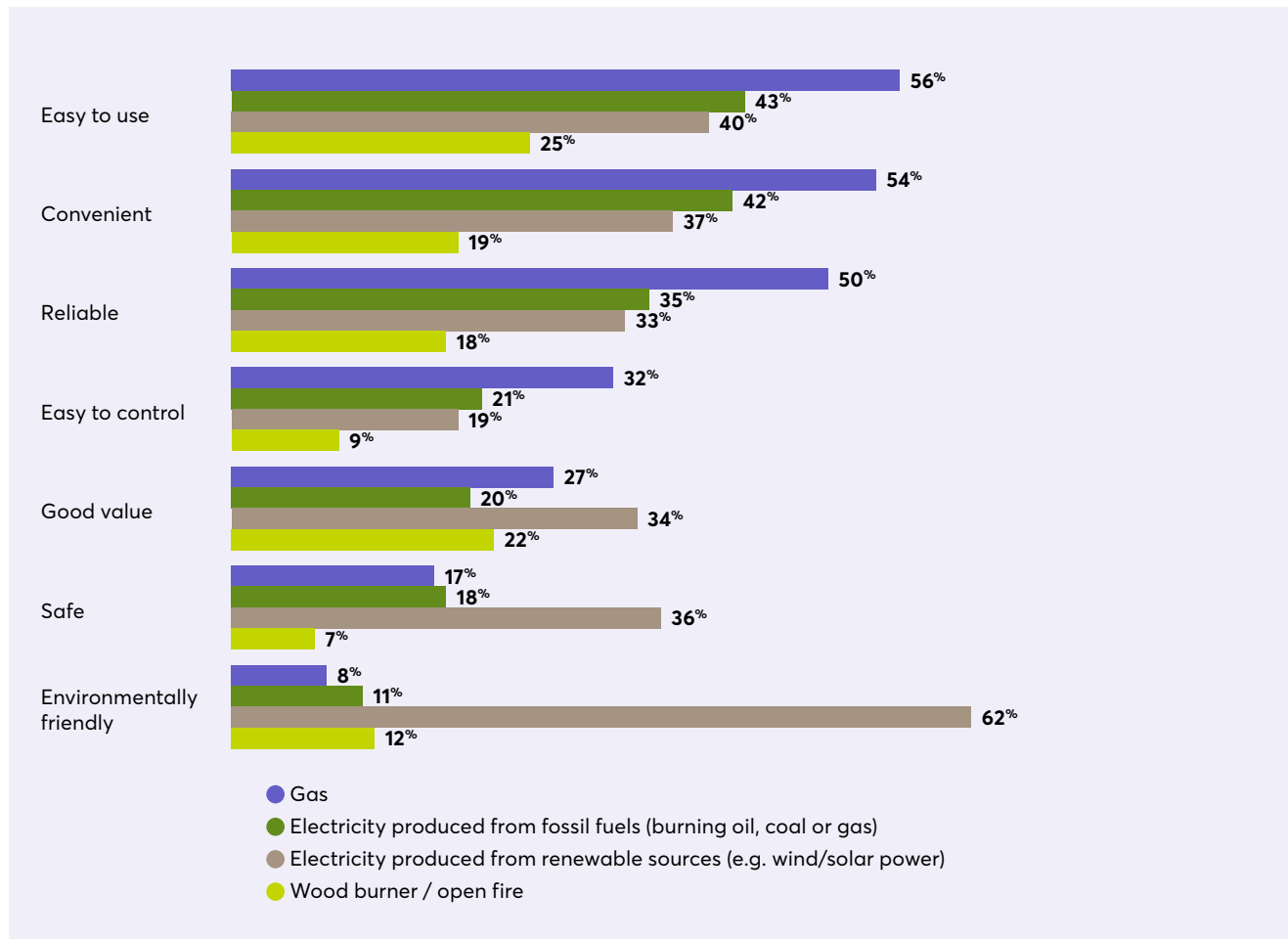


62%

62% of consumers associate renewable electricity with being environmentally friendly



Figure 6. Associations of energy sources with different attributes

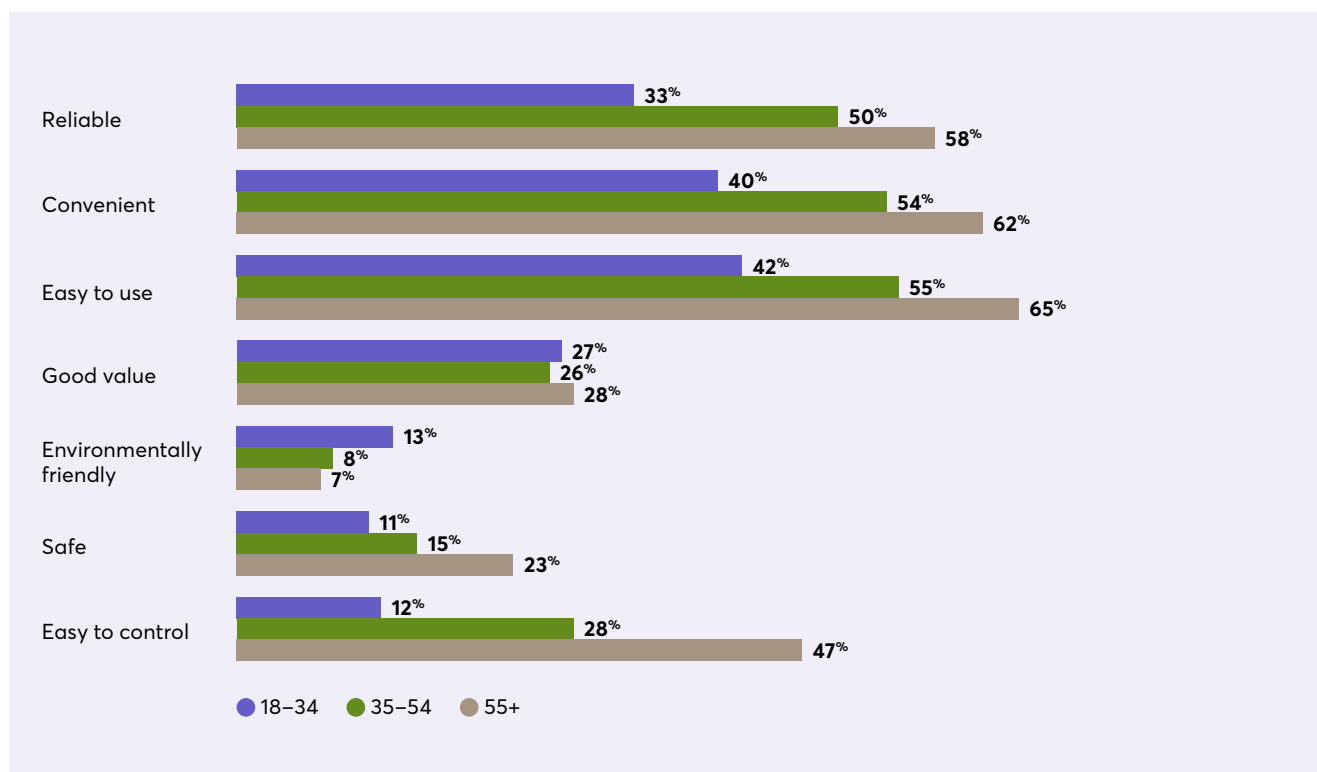


Q. We would now like you to think about different forms of energy you could use for cooking and/or heating your home. For each one, please choose the statements that you most associate with that form of energy. Base: All consumers (n=5,022).



Overall, older consumers are more positive about gas than younger consumers. For example, while 65 per cent of consumers aged 55+ associate gas with being easy to use, only 42 percent of consumers aged 18–34 say the same.

Figure 7. Perceptions of gas, by age group



Q. We would now like you to think about different forms of energy you could use for cooking and/or heating your home. For each one, please choose the statements that you most associate with that form of energy. Base: All consumers (n=5,022).

Overcoming the current perceived benefits of reliability, convenience and ease of use of gas as a source of energy will be important for convincing consumers to make the switch – by reassurance of the same or superior 'trusted' qualities and/or compelling financial and environmental benefits of renewable energy. This will be particularly necessary for older consumers, among whom positive perceptions of gas are particularly strong and may be acting as a significant barrier to adoption of green heating.

## 5.0

# Barriers to adopting energy efficiency and green heating measures at home

To understand the barriers to adoption, we asked consumers to indicate the extent to which they agree or disagree with a set of statements. Our findings show that cost is clearly a concern: 52 per cent are worried about the upfront cost of making changes to their homes, while 41 per cent strongly believe that the running costs of an electric heating system will be too great. Many consumers (45 per cent) say that the upfront cost is more important than the running costs when they're considering making changes to their home.

Consumers also cite 'hassle factors' as a barrier: 39 per cent want to avoid any renovations or alterations, while 34 per cent strongly agree that researching and managing the installation of new energy efficiency measures would take a lot of effort.

Decision-making information about the actual process of installing energy efficiency and green heating measures such as running costs, renovation requirements and identifying the right approach are also barriers. Our research suggests that the effort required to research energy efficiency and green heating measures is a significant barrier. Consumers strongly agree (32 per cent) that there's not enough clear evidence about which measures are right for them, it's difficult to find the right tradespeople to complete the installation (32 per cent) and they don't know where to start looking into energy efficiency measures (30 per cent).

Overall, while the end result is often desirable, it's the hurdles to getting there, starting with costs and then the process, that are the stumbling blocks to adopting energy efficiency and green heating measures.



52%

are worried about the upfront cost of making changes to their homes.



39%

of consumers want to avoid any renovations.

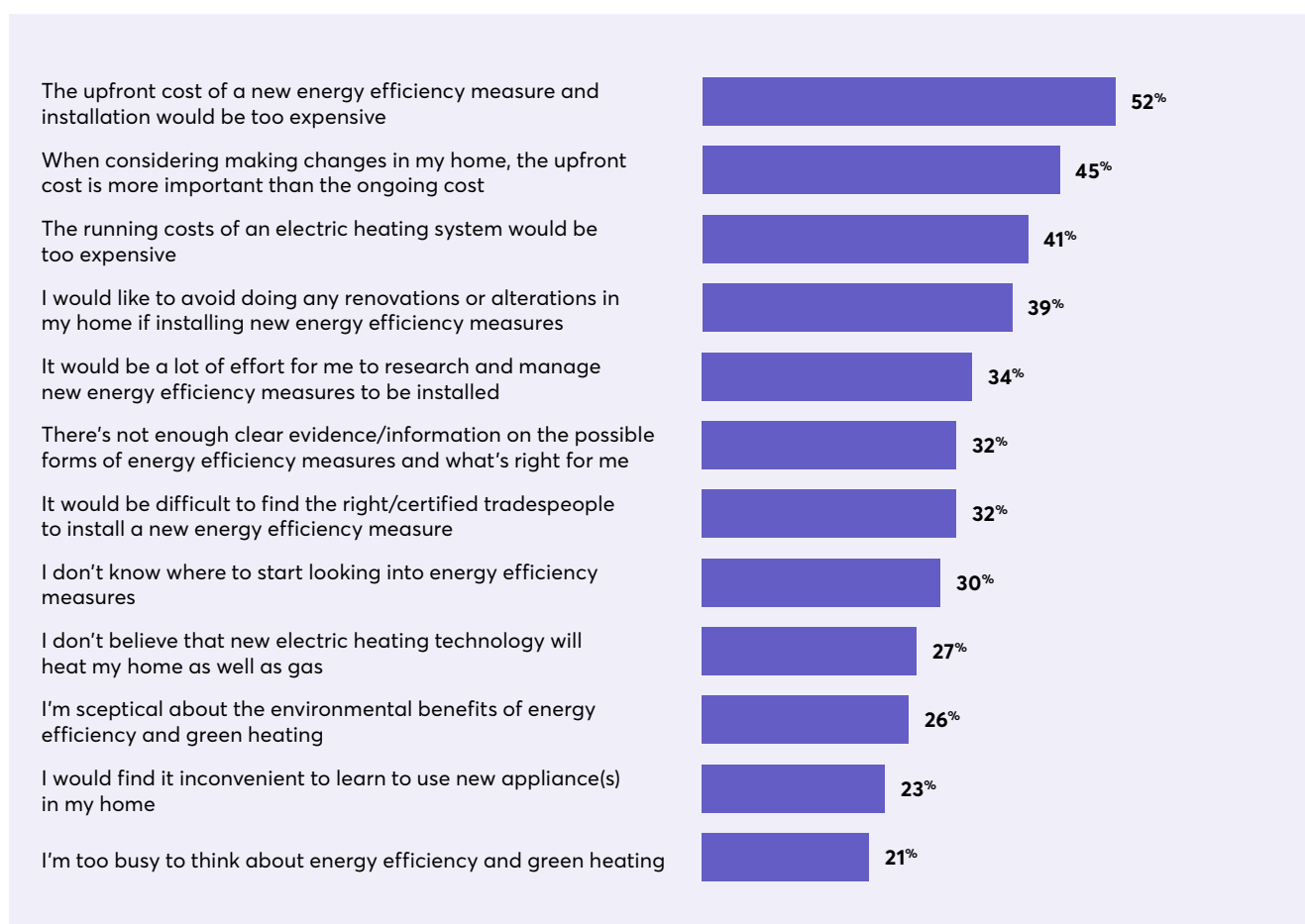


34%

strongly agree that researching and managing the installation of new energy efficiency measures would take a lot of effort.



Figure 8. Barriers to adopting energy efficiency and green heating measures at home



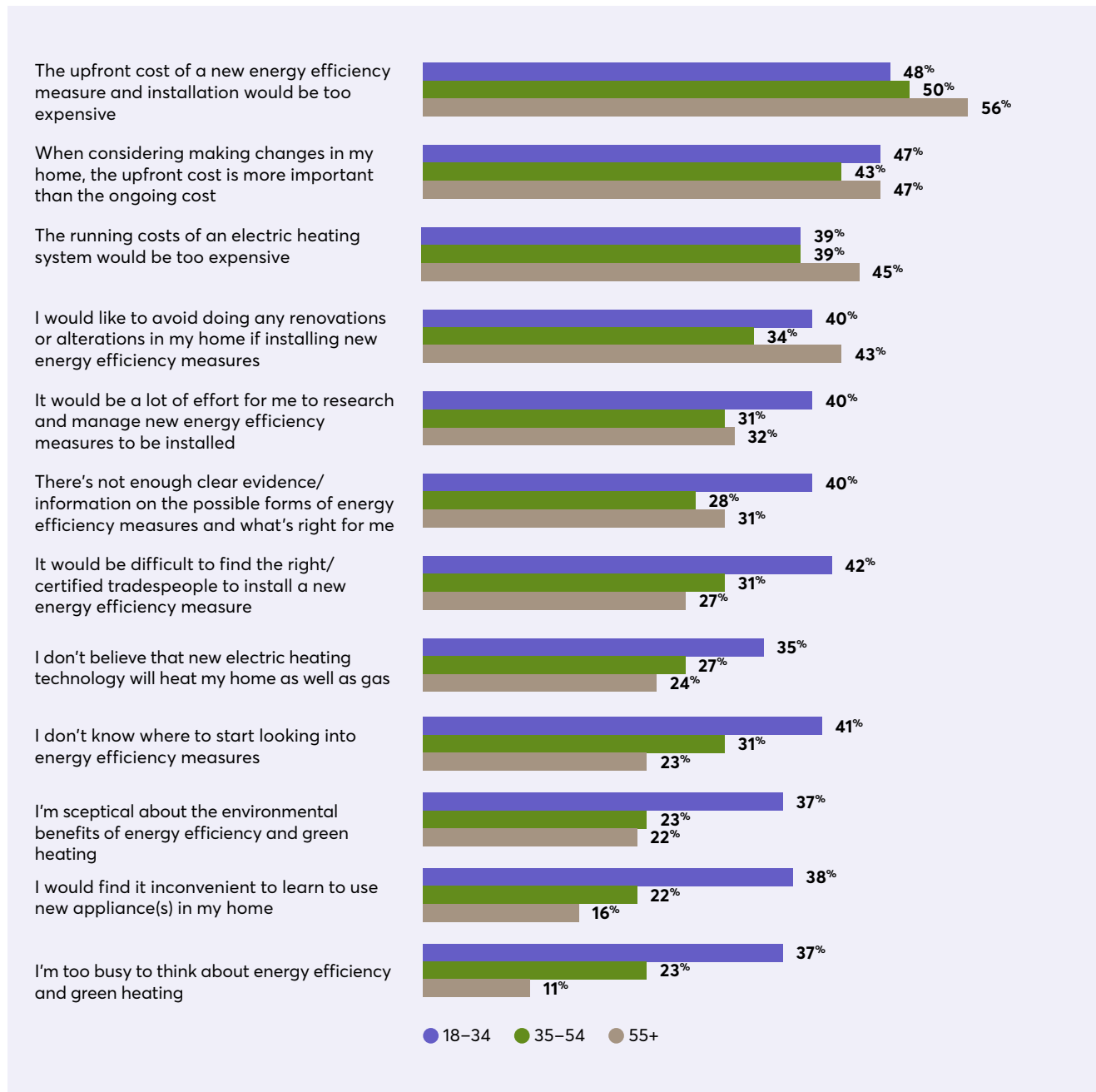
On a scale of 1–10, to what extent do you agree with each of the following statements? Base: All respondents (n=5,022).  
Note: Share of consumers scoring each statement 8–10 on scale 1=completely disagree to 10=completely agree.

Upfront and running costs are more important barriers for older age groups, with 56 per cent of consumers aged 55+ saying that the upfront cost of energy efficiency measures would be too expensive, compared with 48 per cent of consumers aged 18–34 and 50 per cent of those aged 35–44. Of people aged 55+, 45 per cent said that running costs would be too expensive, compared with 39 per cent of consumers aged 18–34.

Younger consumers, on the other hand, perceive the effort required to research energy efficiency and green heating measures as more significant barriers than older consumers. For example, 41 per cent of consumers aged 18–34 don't know where to start looking into energy efficiency measures, compared to 23 per cent of those aged 55+. 42 per cent of consumers aged 18–34 strongly agreed it would be difficult to find the right/certified tradespeople to install a new energy efficiency measure, compared with only 27 per cent of those aged 55+.

Perhaps counter-intuitively, younger consumers are also more likely to say they are sceptical about the environmental benefits of energy efficiency and green heating (37 per cent of consumers aged 18–34 agree with this statement, compared with 22 per cent aged 55+) and would find it inconvenient to learn to use new appliances at home (38 per cent versus 16 per cent).

Figure 9. Barriers to adopting energy efficiency and green heating measures at home, by age group



Q: On a scale of 1-10, to what extent do you agree with each of the following statements? Base: All respondents (n=5,022).

Note: Share of consumers scoring each statement 8-10 on scale 1=completely disagree to 10=completely agree.



## 6.0

# Incentivising the adoption of energy efficiency and green heating measures

To identify the most motivating incentives for the adoption of home energy efficiency measures, we conducted a MaxDiff exercise. Consumers were shown 13 sets of options, with five options per set. For each set, they were asked to choose a single option as 'most motivating' and a single option as 'least motivating' for each set. The resulting item scores were placed on a 0–100-point scale and summed up to 100. Our analysis enabled us to determine the hierarchy of possible incentives, from the most to least motivating option.

Cost is clearly a deciding factor for consumers when considering the installation of energy efficiency and green heating measures. Our MaxDiff analysis revealed that financial incentives could be the most effective in convincing consumers to adopt new measures. A grant which covers 100 per cent of costs, energy bills being reduced by 25 per cent and being paid by energy companies for electricity that's not used are considered to be the strongest incentives. The least motivating incentives are related to the duration of the building work needed, an increase in council tax and enhanced home attractiveness.

Having a warm home is ranked fifth and is nearly as important as grants and paybacks from energy companies. This suggests that consumers would respond positively to incentives that emphasise the benefits of installing any number of energy efficiency and green heating measures – such as draught proofing, insulation, thermostats and even air source heating systems – that help them to control heat, keep heat inside and tackle condensation and damp..

We observed that extrinsic incentives crowd out intrinsic motivation. Although about half of consumers want to make their home energy efficient, receiving a grant for 100 per cent of the costs is three times as incentivising as having a home that has a positive impact on the environment.

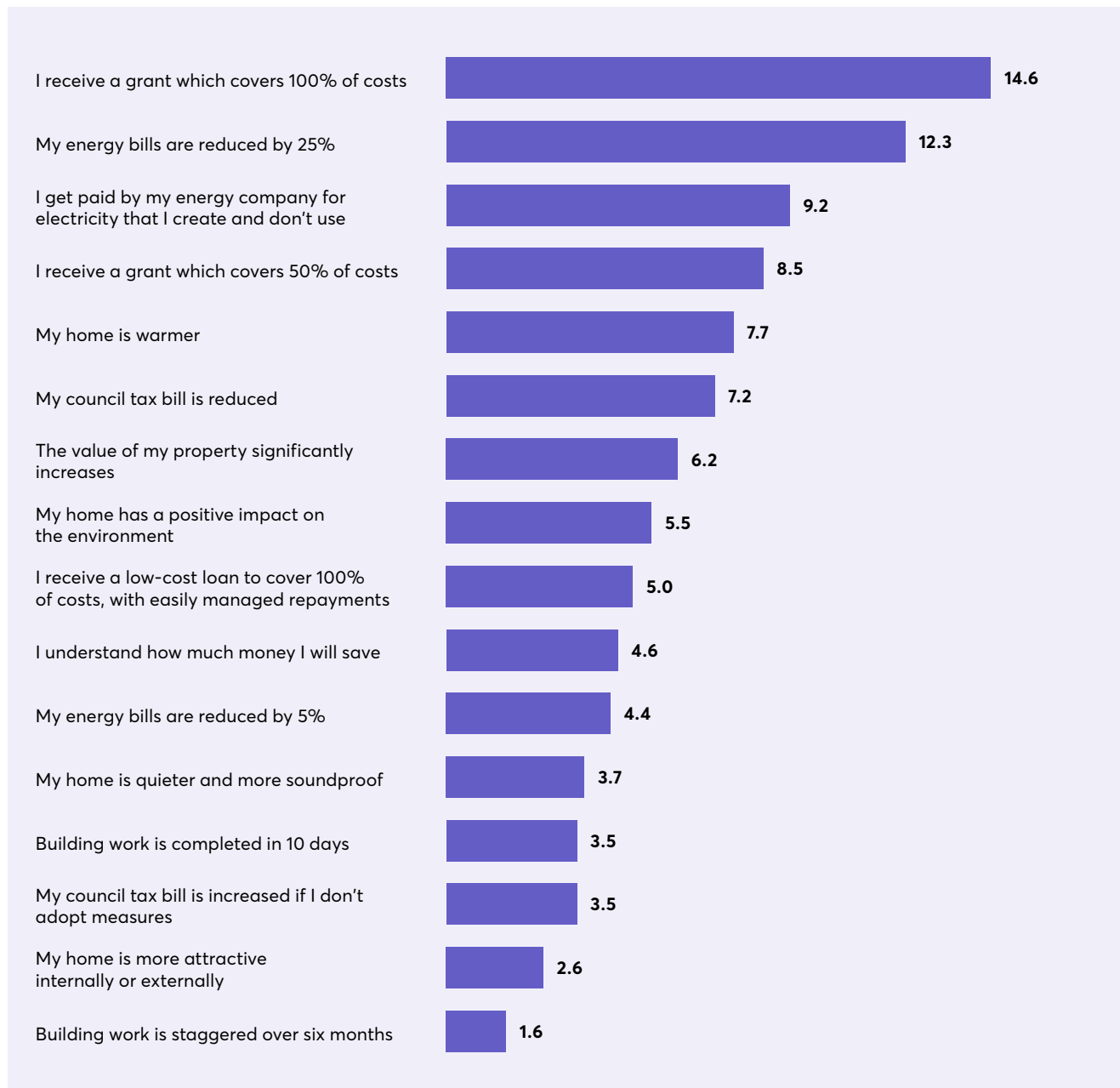


A grant which covers 100% of costs, energy bills being reduced by 25% and being paid by energy companies for electricity that's not used are considered to be the strongest incentives.



Having a warm home is ranked fifth and is nearly as important as grants and paybacks from energy companies.

Figure 10. How motivating are different incentives to adopt energy efficiency and green heating measures?



Q. Please indicate which of the following is most motivating, and which is least motivating to you as a reason to adopt new home energy efficiency measures and green heating. Base: All consumers (n=5,022). Note: Data sums to 100, with each score indicating the relative appeal of that option.

The most motivating incentives (100 per cent grant to cover costs and 25 per cent energy bill reduction) are consistent across all demographic subgroups, including age, social class, household size, and property tenure and type, though these are stronger motivators for those aged 55+.



## 7.0

# What might drive adoption of energy efficiency measures?

**A Key Drivers Analysis was conducted to provide more insight into the factors that influence consumers' likelihood to adopt energy efficiency measures. This analysis focused on consumers' likelihood to adopt (more) energy efficiency measures in the next two to three years as a key outcome variable.**

Consumers were asked to rate how likely or unlikely they think they are to make energy-efficient changes to their homes in the next two to three years on a Likert scale from not at all likely (1) to extremely likely (10). We also put around 40 statements to consumers about barriers, traits, behaviours and beliefs, which other research suggests may influence the likelihood of adoption of new measures. Consumers were also asked to indicate their level of agreement with each of these statements on a Likert scale from completely disagree (1) to completely agree (10). We then applied a linear regression to determine which behaviours and attitudes correlate most strongly with likelihood to adopt (or not).

The leading barriers to adoption identified through the Key Drivers Analysis are shown below. These are the statements for which an increase in agreement correlates most strongly with an increase in likelihood to consider energy efficiency changes. This means that the reverse is also true: greater disagreement with each statement contributes to lower likelihood to adopt energy efficiency measures.

While the top motivators relate to energy efficiency and the environment, a slightly less impactful, but still important, set of predictors relate to house value, home improvement and DIY.

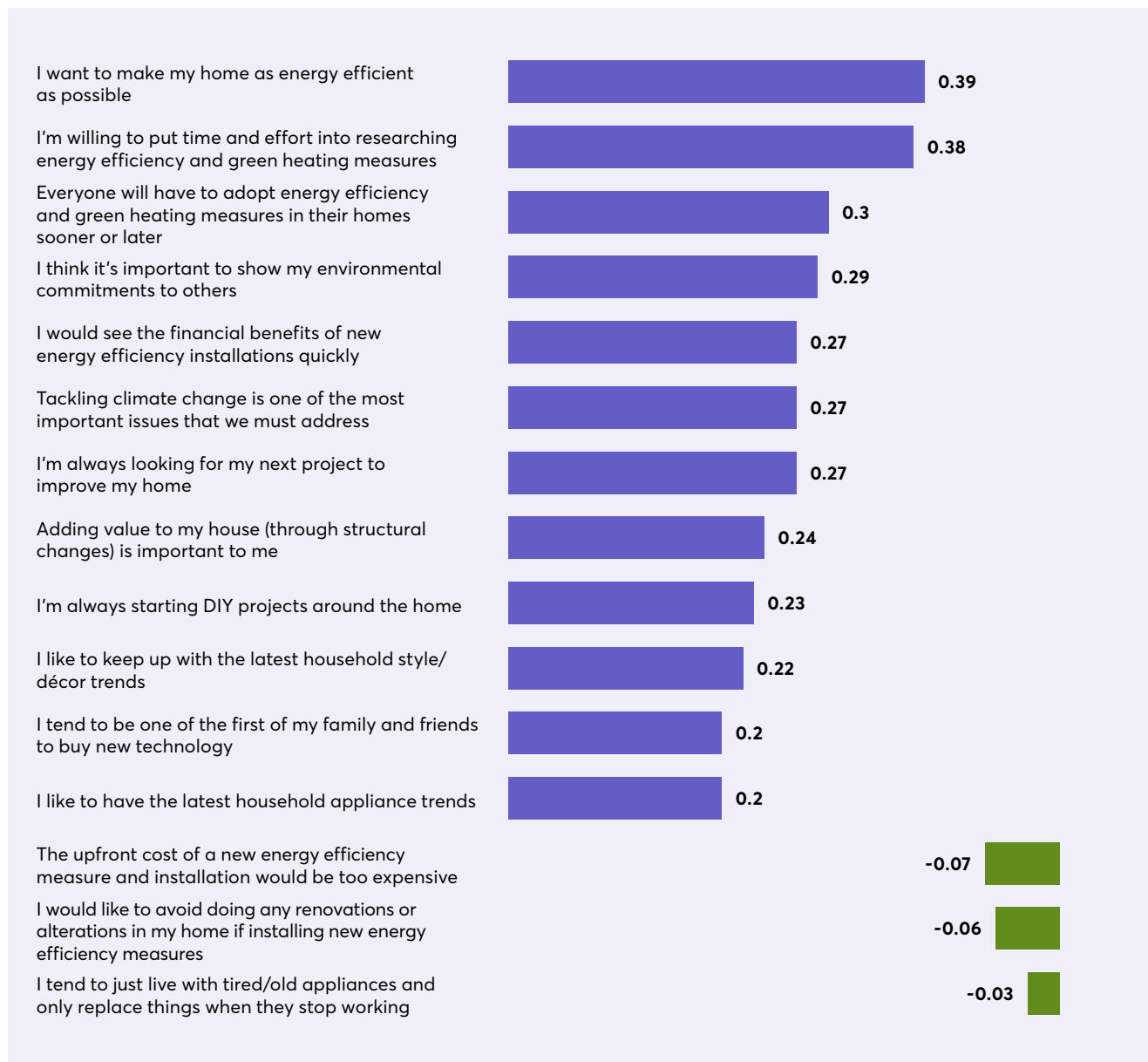
In contrast, the upfront cost, potential renovation work and the inclination to only replace items when they stop working prove to be the key barriers. An increase in agreement by 1 point on these statements will decrease the likelihood to adopt by 0.07, 0.06 and 0.03, respectively.

Although these factors have a significant negative impact on the likelihood of adoption, personal beliefs and behaviours have more influence on the decision of consumers to adopt (or not).

It's clear that both emotional and personal beliefs as well as external factors play a role in either motivating consumers to adopt energy efficiency and green heating changes in their home or discouraging them from doing so. Each of these motivating factors and their equivalent barriers will require different interventions to drive change. Looking at the top motivators, it seems that campaigns around the importance and desirability of energy-efficient homes will be effective in driving uptake, alongside measures to reduce the time and effort required. In addition, a second set of motivators related to house value, home improvement, DIY and social pressures may act as secondary motivators for those who are unlikely to be fully persuaded by the environmental benefits.



Figure 11. Largest drivers of likelihood to adopt energy efficiency measures



Q. On a scale of 1–10, to what extent do you agree with each of the following statements? and

Q. On a scale of 1–10, how likely or unlikely do you think you are to make energy-efficient changes to your home in the next two to three years? Base: All respondents (n=5,022).



## 8.0

# The journey to adopting energy efficiency measures and green heating

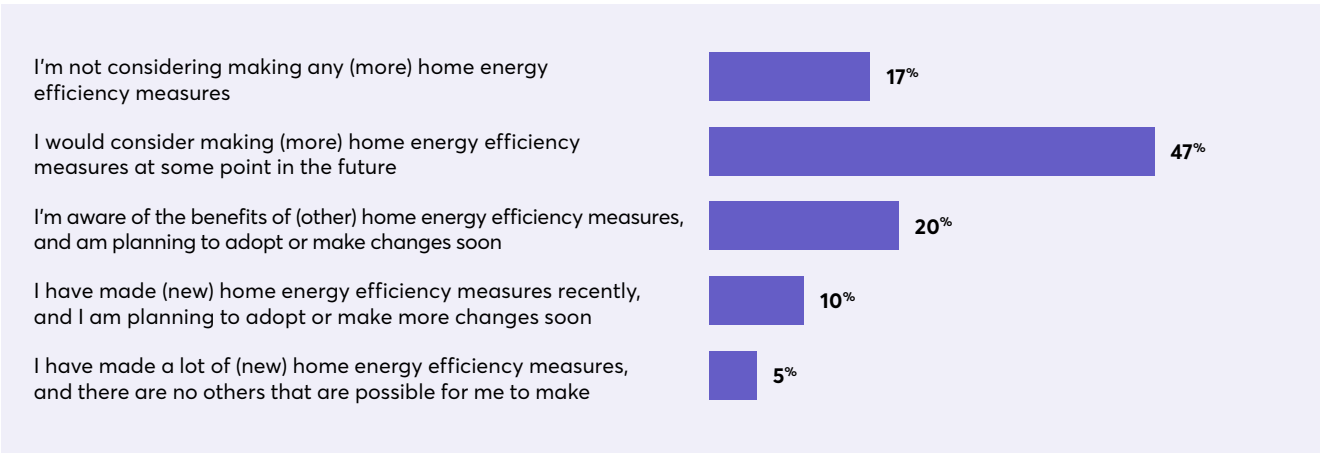
We asked consumers if they're considering making any (more) home energy efficiency measures in the future. In total 15 per cent say they have recently made energy efficiency measures, while 21 per cent say they are aware of the benefits and are considering doing so soon. Around half of consumers (47 per cent) say they would consider making (more) home energy efficiency measures at some point in the future. Only 17 per cent are not currently considering any home energy efficiency measures.

To understand whether consumers are considering making (more) home energy efficiency and green heating measures, we conducted further analysis. This included examining consumer demographics such as age, gender, socio-economic status, ethnicity and housing tenure. In addition, correlation analysis was conducted to test how each stage of adoption corresponds with the perceived barriers, attitudes, behaviours and traits of respondents.

Based on this information, we developed consumer profiles for four stages of adoption:

- **Not ready:** 17 per cent of consumers are not considering making any (more) home energy efficiency measures.
- **Getting ready:** 47 per cent of consumers are considering making (more) home energy efficiency measures at some point in the future.
- **Ready:** 20 per cent of consumers are aware of the benefits of (other) home energy efficiency measures and are planning to adopt or make changes soon.
- **Action:** 15 per cent of consumers have adopted energy efficiency measures recently, are planning to make more changes soon or have made a lot of changes already.

Figure 12. Journey to adopting energy efficiency measures



Q. Thinking about at-home energy efficiency measures, which of the following statements best applies to you?  
Base: All consumers (n=5,022). Note: Percentages do not add up to 100% because of rounding.

## Not ready

17%

of consumers are not ready.



### Who are they?

These consumers are significantly more likely than those in other groups to be aged 55+, white, retired or unemployed. They're significantly more likely to be renting a flat with 1–2 other people from the council or a housing association. They're not considering making any (more) home energy efficiency measures.

### What are their attitudes to climate change?

44 per cent strongly agree that climate change is one of the most important issues that need addressing, and 34 per cent strongly agree that everyone will have to adopt energy efficiency and green heating measures in their homes sooner or later.

### What do they think about green heating?

61 per cent of these consumers are not considering changing to green heating. However, 27 per cent are considering changing to green heating in the future and a small proportion (7 per cent) are planning to adopt green heating within the next two to three years.

### What are their attitudes and behaviours?

Consumers in this adoption group are significantly more likely than those in other groups to say they want to avoid doing any renovations or alterations in their home and that they tend to live with tired or old appliances and only replace things when they stop working. They are significantly less likely to say they put time and effort into researching energy efficiency and green heating measures. Compared to other adoption groups, they're significantly more sceptical about the environmental benefits of energy efficiency and green heating.

## Getting ready

47%

of consumers are getting ready.



### Who are they?

These consumers are significantly more likely to be women, and aged between 35–54. The majority own their home with a mortgage or outright. They're considering making (more) home energy efficiency measures at some point in the future.

### What are their attitudes to climate change?

59 per cent strongly agree that climate change is one of the most important issues that needs addressing, and 51 per cent strongly agree that everyone will have to adopt energy efficiency and green heating measures in their homes sooner or later.

### What do they think about green heating?

63 per cent are considering changing to green heating in the future and 14 per cent planning to adopt it within the next two to three years. Within this group, 20 per cent are not considering changing to green heating.

### What are their attitudes and behaviours?

Of all the groups, these consumers are the most likely to say they find it hard to find reliable, trusted tradespeople and don't know where to start looking into energy efficiency measures, although these differences are not statistically significant from those in the 'not ready' and 'ready' groups.

## Ready

**20%**

of consumers are ready.

### Who are they?

These consumers are significantly more likely than those in other adoption groups to be aged 18–34 and to be employed full-time. They're aware of the benefits of (other) home energy efficiency measures and are planning to adopt or make changes soon.

### What are their attitudes to climate change?

58 per cent strongly agree that climate change is one of the most important issues that needs addressing, and 55 per cent strongly agree that everyone will have to adopt energy efficiency and green heating measures in their homes sooner or later.

### What do they think about green heating?

51 per cent are considering changing to green heating in the future and 34 per cent are planning to adopt it within the next two to three years. Within this group, 2 per cent say they have changed to green heating, but 13 per cent are not considering making that change.

### What are their attitudes and behaviours?

These consumers are significantly more likely than those in other adoption groups to say they like to keep up with the latest household style and décor trends. They are significantly less likely to think that the upfront cost of new energy efficiency measures and installation would be too expensive.



## Action

**15%**

of consumers are in action.

### Who are they?

These consumers are significantly more likely to be men and own their own home. Two thirds of these consumers have made (new) home energy efficiency measures recently, and are planning to adopt or make more changes soon. The remainder say they have made a lot of (new) home energy efficiency measures, and say there are no others that are possible to make.

### What are their attitudes to climate change?

63 per cent strongly agree that climate change is one of the most important issues that needs addressing, and 58 per cent strongly agree that everyone will have to adopt energy efficiency and green heating measures in their homes sooner or later.

### What do they think about green heating?

40 per cent are considering changing to green heating in the future and 28 per cent are planning to adopt it within the next two to three years. Compared to other groups, significantly more (10 per cent) say they have changed to green heating. Of this group, 22 per cent are not considering changing to green heating.

### What are their attitudes and behaviours?

Consumers in this group are the most likely to want to make their homes as energy efficient as possible. The majority is willing to put time and effort into researching energy efficiency and green heating measures. They're typically always looking for their next project to improve their homes and are always starting DIY projects.

A third of consumers in this group say they have already installed many energy efficiency measures. Mainly retired homeowners, they're concerned about the running costs of electric heating and the upfront costs of energy efficiency and green heating measures.





These profiles provide valuable insights into where consumers are on the path to adoption. It's clear that each group has some awareness about the importance of tackling climate change and about the role energy efficiency and green heating measures play in reducing carbon emissions.

Still, in order for consumers to change their behaviour, interventions will need to be tailored to meet their individual needs and help consumers move past specific situational and psychological barriers. For example, consumers that are not ready will need to gain greater awareness to overcome their scepticism and might be more likely to respond to financial incentives, such as energy bill reductions. Meanwhile, there appears to be an opportunity to mobilise around half of consumers that are getting ready. These consumers are likely to respond to clearer information and messaging, and they would be motivated by knowing that their actions are shared by their peers and are an accepted social norm.

Compared to other consumers, those in both the ready and action groups are significantly more likely to agree that they're always starting DIY projects around the home and always looking for the next project to improve their home. The majority are also willing to put time and effort into researching energy efficiency and green heating measures, and they think it's important to show their environmental commitments to others. Harnessing this desire and motivation to take action could have a significant and long-lasting impact, and perhaps it could even motivate consumers in other groups to change their behaviours too.



## 9.0

# Conclusion

**If we are to reach net zero, nearly everyone will have to adopt energy efficiency and green heating measures in their homes sooner or later. The vast majority of consumers agree. However, behaviours that are absolutely necessary to reduce carbon emissions are not being adopted fast enough nor on the scale required to meet the UK's climate goals. Our research shows a major value-action gap where consumers care about the environment and want to make their homes energy efficient but something is preventing them from taking action.**

Many consumers want to see more evidence about the benefits of energy efficiency and green heating measures for the environment, their savings or house value. Others seem to lack knowledge about the specific measures needed, confidence in finding the right person to do the job and have a perception that it's all going to cost too much. Likewise, people still perceive gas to be reliable and easy to use compared to electricity, even though the great majority know that gas is not environmentally friendly. If the public are to become more engaged with the climate challenge and contribute to achieving net-zero emissions, the wider policy context will also need to be more supportive. New, compelling narratives will be needed to communicate with, influence and mobilise the public to adopt energy efficiency measures and green heating.

But developing a story that people can relate to is only one part of the challenge. As our research demonstrates, consumers have a number of complex situational and psychological barriers, attitudes and beliefs. These need to be considered in order to drive change at the required scale. The 'one size fits all', attempted through previous energy schemes is obviously not the way to do it. Moreover, many of these packages have only been aimed at addressing financial barriers.

Through our work at Nesta, we know that the solutions to society's biggest challenges must be human-centred and that people are only able to take concrete action when interventions meet their individual needs.

We're undoubtedly at one of the most critical turning points for humanity. Our research shows that consumers are up for the challenge and want to adopt more energy efficiency changes at home. We need to harness that willingness. By developing public trust and confidence, adoption of energy efficiency measures can become mainstream. Only then can the UK achieve its green transformation.



## Endnotes

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- 8 Department for Business, Energy and Industrial Strategy, *Annex: 2019 UK Greenhouse Gas Emissions, Final Figures by End User and Fuel Type*, 25 March 2021, [assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/972610/Annex\\_1990-2019\\_UK\\_GHG\\_Emissions\\_final\\_figures\\_by\\_end\\_user\\_sector\\_by\\_fuel\\_and\\_uncertainties\\_estimates.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/972610/Annex_1990-2019_UK_GHG_Emissions_final_figures_by_end_user_sector_by_fuel_and_uncertainties_estimates.pdf).





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