

HOME IS WHERE THE HEAT IS

PUTTING CONSUMERS AT THE HEART OF THE
TRANSITION TO GREEN HOMES AND BUILDINGS

15 October 2021



THE SUSTAINABLE HOMES AND BUILDINGS COALITION

FOREWORD

As the UK Government prepares to host COP26 in November on home turf, a consensus is emerging – the hard work starts now. From the relative ease of building big things with large contractors and financiers, we now have to shift our focus to the micro interventions that start to encroach on consumers, their lives, preferences and experiences.

This is never more the case than when we start to address heat in our homes and buildings that represents 14% of our emissions. This is the moment the rubber hits the road, and the energy transition becomes personal.

Building emissions have been stubbornly hard to reduce, and no policy to date has managed to move the dial. As this report suggests, it is because policies have not placed the consumer at the heart of the process. Consumers have not had to be actors in the system design – just passive recipients of decisions taken for them in a centrally designed energy sector.

That is why expectations on the incoming Heat and Buildings Strategy are higher than they have ever been and are now being driven by actors from outside the energy sector. The formation of the Sustainable Homes and Buildings Coalition is a case in point and a welcome contribution with this timely report.

The challenge of decarbonising homes cannot be underestimated. We need to be retrofitting a home every minute between now and 2050 if we are to meet our target. This is a daunting task, but by successfully engaging consumers on this transition we can achieve our goal and allow them to become the real decarbonisation heroes, giving them a key role in the design of our future energy market. However, we have to design an easy journey that takes away complexity, project management, design decisions at the same time as offering people meaningful choices and options for their lives. That is why, in Northern Ireland, the Government is proposing a 'one stop shop' in every town to advise people on how to transition their homes.

This report stresses the importance of understanding difference and similarities across different consumer segments and looks at scenarios where energy and the energy transition are "turn-key" services, and where every one of us, whether we share a flat in inner city Glasgow, rent a terraced house in Manchester, or own a cottage in the Cotswolds, has a role to play. The six consumer journeys laid out in this report are crucial pieces of the puzzle helping

people and policymakers alike better visualise the journey for our building transition.

There is a real sense that we are about to enter a new era of 'prosumers', where one is rewarded for the energy they save as much as the energy they produce. Also, our appreciation of energy as a service, delivered through an on-demand model is beginning to take shape. An 'Energy Netflix', framed around outcomes, people's desires, comfort, warmth and affordability is possible. This is no longer a futuristic idea.

This is an exciting report that contributes much needed insight to the "how" we address energy efficiency and home upgrades as a national infrastructure priority. The recommendations made to Government echo those made by many voices in this space, but by anchoring them around a consumercentric argument, the Coalition strikes a unique and new chord that should resonate in Whitehall and beyond.

I look forward to working with NatWest, Worcester Bosch, British Gas and Shelter over the coming years, as our journey to net zero begins to take shape.

LAURA SANDYS CBE

Non-Executive Director SGN, Aquila Energy Efficiency Trust & Energy System Catapult
Chair of the Energy Digitalisation Taskforce



EXECUTIVE SUMMARY



REDUCING CARBON EMISSIONS FROM HOMES AND BUILDINGS IS ONE OF THE BIGGEST CHALLENGES TO ACHIEVING NET-ZERO BY 2050

Making the country's homes and buildings greener can bring a number of personal and economic benefits beyond reducing energy consumption and lowering emissions. These include warmer, less draughty homes and the green jobs and investment that can be created.

However, to achieve net-zero-carbon in the UK, the majority of existing heating sources will need to be replaced in the next 10-15 years with low-carbon alternatives. The Committee on Climate Change has outlined that 29 million homes will need to change¹. To date, this has proved very difficult to solve, particularly since the UK building stock is one of the oldest in Europe.

Today, many catalysts are coming together to make this the right time to get started. Notably, high gas prices and increasing consumer awareness of the need to take action regarding climate change.



WORKING TOGETHER TO SOLVE CONSUMER CHALLENGES, IS KEY TO A SUCCESSFUL TRANSITION

To embark on this journey, we need trusted advisors to share a clear and consistent story about the job to be done. We need a clear strategy on how to get there. We need financial support and investment in our supply chain. And we must make it easy for consumers.

No one party can do this alone. Suppliers, Government and other stakeholders must work together and engage UK consumers from the outset. We need to enable consumers to feel in control and to take individual action.



CONSUMERS WANT A FRICTIONLESS JOURNEY IRRESPECTIVE OF BUILDING TYPE OR MINDSET

To bring this to life, we have examined six building types, which illustrate the variation in building characteristics across the UK and the combination of technologies and approaches that may be required to decarbonise them. And we have matched the buildings up with six different persona mindsets, considering the people who own, occupy and use them.

We have documented six greening journeys based on these property types and personas to highlight the variety of circumstances and call out the challenges.

OUR ILLUSTRATIVE JOURNEYS HIGHLIGHT A NUMBER OF CHANGES WE NEED TO MAKE, TO ENABLE THE GREEN TRANSITION OF OUR HOMES AND BUILDINGS:

- Increasing consumer awareness
- Offering clear and personal advice
- Ensuring affordable upgrades
- Making the process easy
- Scaling the supply chain
- Building certainty and trust

Our report concludes with a set of recommendations and actions for all parties involved in this transition, including Government, around which we look forward to ongoing discussion.

EVERYBODY INVOLVED IN HOMES AND BUILDINGS NEEDS TO COME TOGETHER TO PUT THE CONSUMER AT THE HEART OF THE TRANSITION TO GREEN HOMES AND BUILDINGS.

THIS JOURNEY STARTS NOW.

Sources:

¹ UK housing: Fit for the future? The Committee on Climate Change

ACHIEVING NET-ZERO WILL REQUIRE RADICAL CHANGES IN OUR HOMES AND BUILDINGS

Improving energy efficiency of homes and buildings is one of the biggest challenges to achieving net-zero by 2050. Residential heating and hot water accounted for 14% of all UK emissions in 2019¹.



Sources:

¹ BBC News, Central heating boilers 'put climate change goals at risk'

THE OPPORTUNITY TO IMPROVE OUR HOMES AND BUILDINGS WILL BENEFIT US ALL

BENEFITS IN THE HOME AND WALLET

WARMER HOMES AND BUILDINGS

Improving the energy efficiency of homes and buildings will make them warmer and easier to heat. An average 9,000 excess winter deaths each year in England and Wales are attributable to cold homes and there is evidence of the health and well-being benefits of improved heating and energy efficiency, including reduced hospital emergency admissions for cardiovascular and respiratory conditions. A warmer home leads to improved health and more comfort for the residents and has greater benefits to society as a whole.

SMARTER HOMES AND BUILDINGS

As heating systems get replaced, so will heating controls. The move to connected homes is already seeing consumers using smart thermostats alongside other smart devices, and this trend will only continue with the rise of greener homes and the increased uptake of electric vehicles. Smart homes can improve the comfort within the building whilst reducing energy bills as heating becomes more responsive to the occupants needs.

Home owners and occupiers may also see the growth of 'Demand Side Management' schemes, which allow homes to participate in the balancing of the country's energy systems, in return for money off their bills, all without lifting a finger. In homes with heat pumps and water cylinders or thermal stores, water can be pre-heated at times associated with low energy demand and stored for later use when energy prices might be higher. Consumers can also sell energy back to the grid, although this is dependent on the presence of, and access to, a smarter grid.

FUTURE-PROOFED VALUE AND CHEAPER RUN-COSTS

Green upgrades to property have an additional benefit for owners – this will future-proof against compliance to Future Homes Standard and is likely to mean property value is retained. According to a recent study, homes with the highest energy ratings are already worth up to £40,000 more on average compared with less sustainable properties¹. For occupiers, low-carbon heating should also be cheaper to run.

	Change in EPC rating					
	G to F	F to E	E to D	D to C	C to B	B to A
Average difference in price (% increase on average house price)	£9,954 (3.8%)	£7,584 (2.9%)	£6,162 (2.4%)	£5,214 (2.0%)	£5,214 (2.0%)	£4,740 (1.8%)
G to A increase	£38,868					

BENEFITS FOR THE COUNTRY AND ECONOMY

NATIONAL ENERGY SECURITY

Our natural gas supply is heavily reliant on the global market and international imports. Shifting to electricity, hydrogen and biofuels based heating will make the country much more self reliant.

The UK has a wealth of offshore wind resource and, if harnessed well, will be the driving force behind our heating fuels of the future. Whether homes and buildings are heated directly through electricity (through heat pumps) or indirectly through electricity being converted to hydrogen, the UK homes and buildings of the future have the potential to be heated by nationally and locally produced energy.

The UK's supply and prices will therefore be increasingly decoupled from volatile global energy markets.

INCREASED SKILLS AND JOBS

Tackling the challenge of changing the heating solutions for 29 million homes, will bring with it a notable opportunity to create a wealth of jobs. With the right policy certainty and framework in place, we can provide the right investment signals to realise the huge opportunity for green jobs. These jobs will vary in skills and location, from installing heat pumps in homes and buildings, to significant infrastructure programmes to convert current natural gas networks into hydrogen networks. Investment in local and national supply chains will be felt across the country.

Sources:

¹ Halifax Green Homes Premium Press Release, 2021

THERE IS NO ONE-SIZE-FITS-ALL SOLUTION

DIVERSITY IN BUILDING CHARACTERISTICS AND CONSUMER PREFERENCES REQUIRES A MIX OF HEATING SOLUTIONS

In order to achieve net-zero-carbon in the UK, the majority of existing heating sources will need to be replaced with low-carbon alternatives. However as the UK building stock is one of the oldest in Europe, this is a challenging task.

Electric heating and green gas are the two main low-carbon options being explored by Government for residential heating and most consumers will likely transition to one of these two solutions. In some cases, connection to a district heat network may also be an option, however this will depend on proximity of the building to the communal district network system. Other alternatives, such as biofuel powered heating systems, could be a suitable alternative to current LPG or oil systems .

The consumer choice of heating technology and ability to pay will depend on a number of factors including access to finance, space constraints of the property, availability of energy infrastructure and personal preferences.



The fabric and energy efficiency of each building will also impact the suitability of low-carbon heating solutions to different properties:

- Electric heat pumps are a highly efficient solution that due to the space and thermal efficiency requirements are likely to be more suited to homes and buildings with space to locate the equipment and homes that are also well insulated
- Green gas boilers can be installed as a like-for-like replacement of a natural gas boiler and as such are likely to be a good solution (when green gas becomes more readily available) for properties where space-constraints and poor energy efficiency might limit the potential for a heat pump
- District heat networks are an attractive solution to serve multiple buildings in densely populated areas such as cities, where connection costs can be spread across a large number of consumers and particularly in high rise buildings. Some local councils have already started this process

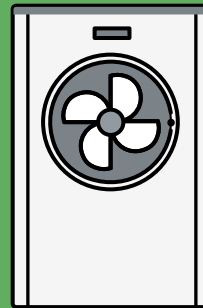
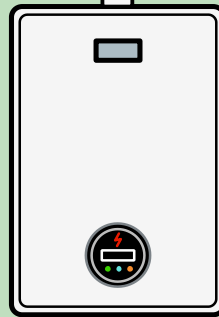
We will need all of these low-carbon technologies, plus a step change in energy efficiency, in order to get to net-zero. Electric heat pumps, green gas and district heat networks are all expected to form part of the mosaic of solutions needed to deliver low-carbon heat.

THERE ARE MANY POTENTIAL ROUTES TO GREENER HOMES AND BUILDINGS

ENERGY EFFICIENCY measures play a vital part in greener homes and buildings. They will reduce underlying energy demand and are a prerequisite for installing some of these heating solutions such as heat pumps. Potential efficiency measures are detailed later in this report in the appendix.

HEAT PUMPS are an established technology that can immediately and substantially reduce emissions from heating your home. A heat pump uses the heat in the air or the ground as the main source of energy and requires electricity to operate. Some systems have high temperatures, although the current standard is to install low temperature systems. For every unit of electricity that is put in, the technology has the potential to produce 3 to 4 units of heat, depending on the type of heat pump and the external air temperature meaning they are more than 100% efficient. Heat pumps have been mass-deployed in other countries, including the Nordics and can deliver consistent comfort through cold winters

HYDROGEN BOILERS can replace conventional gas boilers on a like-for-like basis, with hydrogen-ready boilers being developed by leading UK boiler manufacturers in the UK, and have lower requirements on space and thermal efficiency compared to heat pumps. They produce no carbon monoxide or carbon dioxide with water vapour being the main by-product. Hydrogen is not currently available for domestic users. A decision is expected to be made by Government in 2026, following the ongoing work on trials and pilot projects to test the feasibility and safety of the conversion. Sufficient supply of hydrogen is also a prerequisite for the use in building heating and other end uses.



HYBRID HEAT PUMP systems combine a boiler and a heat pump to meet a building's heating and hot water requirements. They are likely to be important for properties where space is a constraint and are particularly suitable for low efficiency properties that are off the gas grid. They can also help transition homes on the gas grid and in some cases off-gas grid, particularly in rural areas.

BIOMETHANE is a green gas chemically identical to methane that can be injected into the gas grid and deliver immediate carbon emission savings, without the requirement from consumers to change existing appliances.

A DISTRICT HEAT NETWORK is a distribution system of insulated pipes that takes heat from a central source and delivers it to a number of domestic or non-domestic buildings. The heat source might be a facility that provides a dedicated supply to the heat network, such as a combined heat and power plant; or heat recovered from industry infrastructure, canals and rivers, or energy from waste plants.



THE HEATING CHOICE WILL DEPEND ON BUILDING CHARACTERISTICS

Each building in the UK differs by type, size, construction age and thermal efficiency and will require a tailored approach to reducing the emissions from heating. From the potential hundreds of examples possible, we have examined six building types, which illustrate the broad spectrum of variation in building characteristics across the UK and the different combinations of technologies and approaches that may be required.

THERE IS NO TYPICAL UK HOME

The below table shows the latest Government statistics on housing age and type, where data is available across Scotland, Wales and England¹. The data set covers nearly 23 million homes and shows us the huge variety that exists. Data on commercial properties is less readily available but there is also huge variety across this building stock.

Housing stock analysis - Scotland, Wales and England (% of total 22,646,450 buildings analysed)					
	Terraced	Flat	Detached	Semi-detached	Total
pre 1919	10%	4%	2%	3%	18%
1920-1945	4%	3%	3%	8%	18%
1946-1954	4%	4%	5%	7%	19%
1955-1979	5%	3%	8%	5%	20%
Post 1980	5%	6%	9%	4%	24%
Total	27%	20%	26%	26%	100%
Home types examined:	Type 1 (page 9) Type 5 (page 11)	Type 2 (page 9)	Type 3 (page 10)	Type 4 (page 10)	

Throughout the different building types, there are various characteristics that need to be considered when assessing green heating solutions. These characteristics will play an important part of consumer journey, as they feed in to determining what will be the most appropriate heating choice. The space constraints both internally and externally as well as lower energy efficiency can add significant challenges to transitioning to heat pumps which typically require more space and higher thermal efficiency². These characteristics include, but are not limited to:

- Wall type – affects the appropriate insulation that can be used throughout the home
- Insulation – the presence and type of insulation will have an impact on the energy efficiency of the home
- Glazing – the thickness and material used will determine the thermal efficiency of the properties
- Exterior space – affects what technology can fit outside of the home if required
- Interior space – affects what technology can fit inside the home if required (particularly limited upstairs access via tight stairways)
- Water tanks – affects interior space and the potential heating technology choice
- Size of radiators - affects thermal efficiency, as well as the interior space required

The typical characteristics associated with our six chosen building types are explored further throughout the next few pages.

Sources:
 1 National Energy Efficiency Data-Framework (NEED): consumption data tables 2020
 2 EUA: Decarbonising Heat in Buildings

1) PRE-1919 VICTORIAN MID-TERRACE

Mid-terrace houses in the UK that were built pre-1919 predominantly use solid walls with no cavity, the majority of which remain uninsulated. Most Victorian mid-terrace properties are in inner city, high population density areas, with little exterior space and many period features.

SOLID WALLS:

Typically solid brick walls, many of these properties remain uninsulated.

VARIED INSULATION:

These properties were not built with insulation in floors, walls or roofs and many remain this way although there is some insulation advantage to being a terrace.

SINGLE GLAZING:

Double glazing remains uncommon in Victorian properties due to the prevalence of sash windows.

LIMITED ACCESS:

Access to the back of a Victorian terrace is likely to be through multiple neighbours' gardens. Inner city roads can be difficult to access.

SMALL GARDENS:

Terraces tend to be located in inner cities and therefore have small outdoor spaces only at the back. Where houses have been converted to flats, often only the ground floor has garden access.

WATER TANKS:

These properties often have separate hot and cold water tanks, which are typically present within loft space.

THIN RADIATORS:

Many Victorian terrace homes had traditional cast-iron radiators stripped out and changed to a thin style in the 1980s.

TIGHT INTERIORS:

Narrow halls and stairwells and small room sizes can make installations difficult in Victorian terraces.



2) 1920-1945 CONVERTED FLAT

The majority of converted flats in buildings built before 1945 within the UK, were built with uninsulated solid walls. They are often situated within inner city, high population density areas with little exterior space. These properties are usually grid-connected.

SOLID WALLS:

Older buildings converted to residential use often still have uninsulated solid walls.

POOR INSULATION:

These properties were not built with insulation in floors, walls or roofs and many remain this way.

SINGLE GLAZING:

Many converted warehouses, factories and public buildings have large single glazed windows.

LIMITED PRIVATE ACCESS:

Converted flats will need to be accessed via shared spaces and noise impact considered for close neighbours.

LIMITED EXTERIOR SPACE:

Converted flats often have no private or shared exterior space as they exist in high-density, formerly industrial areas.

VARIED PRESENCE OF WATER TANKS:

Older properties will typically have a water tank present, however many are removed during the conversion process.

ELECTRIC RADIATORS:

Some buildings converted into flats do not have central heating and rely on electric radiators.

VARIED INTERIOR SPACE:

Interiors are hugely varied for converted flats. Spaces can often be unusual shapes and sizes as they were not designed for current purpose.



3) MID-CENTURY DETACHED

Detached properties built between 1955 and 1979 were predominantly built with filled cavity walls, although many still have uninsulated cavities. Typically, there is significant exterior space associated with these properties, which can be found in suburban and rural areas. Rural properties are typically off-grid and are potentially a good option for hybrid solutions, with the use of non-piped green gases.

CAVITY WALLS:

These homes were typically built with filled cavity walls although many still have some uninsulated cavities.

GOOD ACCESS:

Detached properties likely have the best access as all sides of the building are external.

LOFT WATER TANK:

Typical mid-century detached homes will have been built with a stored water tank in the loft although many properties may have had this removed.

SOME INSULATION:

Cavity walls are likely to be insulated, however roofs and floors will have limited insulation.

STEEL WINDOWS:

Traditional 1960s windows would have thin, steel frames and single glazed panes. Some properties may have already upgraded to modern double glazing.

FRONT, SIDE AND BACK GARDENS:

Detached homes are more common in suburban and rural areas where there is much more room for gardens, driveways and other exterior space.

THICK RADIATORS:

Many mid-century homes still have traditional thick-fin radiators.

MODEST INTERIORS:

Mid-century homes were often mass-built as modest sized family homes.



4) MODERN SEMI-DETACHED

With the tightening of building regulations, the majority of homes built after 1980 are assumed to have filled cavity walls and double glazed windows. These properties are typically grid-connected, are generally well insulated and have some exterior space.

FILLED CAVITY WALLS:

Typically modern builds will have filled cavity walls.

GOOD ACCESS:

Semi-detached homes are likely to be in housing estates with quieter roads for access.

NO WATER TANK:

Taps and appliances are fed directly from the mains. There is therefore strong water pressure but typically no water storage or tanks present.

WELL INSULATED:

Most modern homes will have been fitted with well-insulated floors, walls and roofs.

DOUBLE GLAZING:

Most homes built after 1996 will have been fitted with double glazing throughout.

GARDEN SPACE:

Modern semi-detached homes will likely have outdoor space at the front, side and back.

THIN RADIATORS:

Modern thin radiators are typical.

GOOD-SIZED INTERIORS:

Modern homes are often built with a more open-plan layout but may lack storage space for water cylinders as developers looked to maximise the 'living area'.



5) 1946-1954 TERRACE

The older post-war mid-terraced properties will typically be made of brick often suffering from poor insulation. Some of these properties can be found on high streets across the country, housing both small shops and residential units above them. There is evidence of insulation in the majority of these buildings, although space can be fairly limited due to the nature of the building.

SOLID WALLS:

Typical British high street terraces are made of brick with solid walls that remain uninsulated.

GOOD ACCESS:

Commercial properties often require vehicle access to the back for deliveries.

WATER TANKS:

These properties often have separate hot and cold water tanks, which are typically present within loft space.

SOME INSULATION:

Typically older brick terraced properties will have poor insulation in floors and some insulation in walls and roofs.

DOUBLE GLAZING:

Many terraced commercial properties will have large double glazed shop-front windows with poor insulation.

SMALL BACK GARDENS:

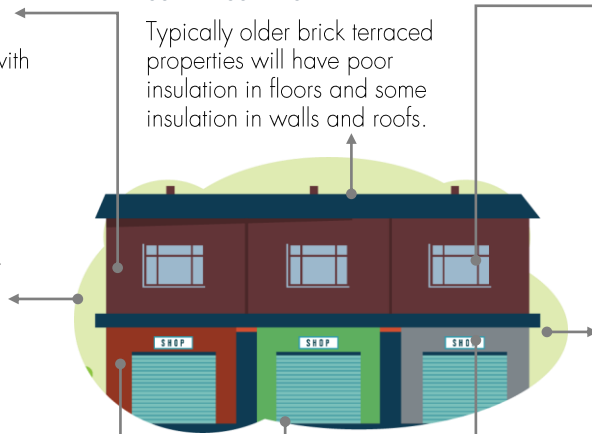
High-street terraces will often have limited or no exterior space with the back of the shop opening into a small paved yard or directly onto a back street.

LIMITED SPACE:

These often multi-use properties can have space constraints from fitting homes and businesses in the same building.

VARIED RADIATORS:

Radiator styles can vary widely in this age of property depending on if / when central heating was upgraded.



6) OFFICE BLOCK

These properties are often grid-connected and have a central heating system for the whole property. They are typically found in inner city, high population density areas and built with solid walls, although the majority are unlikely to be well insulated. These properties tend to be owned and occupied by different businesses which adds additional complexity when finding a heating solution.

SOLID WALLS:

Office blocks are typically solid wall construction.

LIMITED ACCESS:

Office blocks tend to exist in high population density areas with access via busy and congested roads.

ZONED WATER SUPPLY:

Multi-story office blocks will typically have water control zones with lower levels supplied from the mains and higher levels needing tanks and pressure-boosters.

POOR INSULATION:

Typically, mid-rise office block buildings will be poorly insulated.

DOUBLE GLAZING:

Most office blocks will have double glazed windows due to strength requirements against wind for high levels.

LIMITED EXTERIOR SPACE:

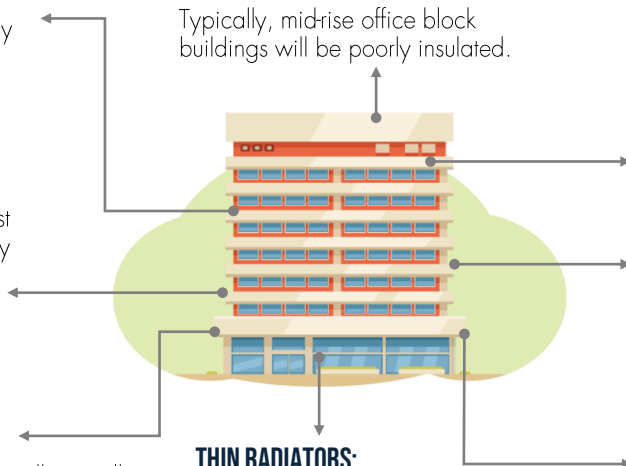
Inner city office block users will typically rely on public spaces such as parks as individual buildings will not have outdoor space.

LIMITED WIDE ACCESS:

Most multi-story commercial buildings will have a single service elevator for larger access however most lifts and stairwells will be tight.

THIN RADIATORS:

Thin radiators will typically be linked to a single central heating system for the whole commercial property.



SOLVING CONSUMER CHALLENGES IS KEY TO THE TRANSITION TO ENERGY EFFICIENT HOMES AND BUILDINGS

Unlike carbon reduction of the power sector, reducing emissions from buildings requires consumer buyin to help push change, share the cost, bear the inevitable disruption and finally enjoy the benefits.

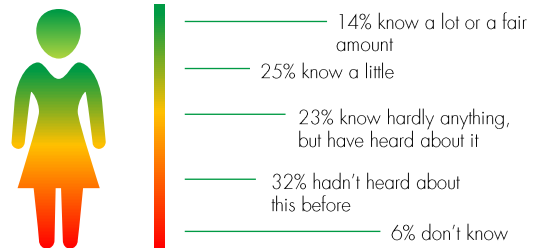


THERE IS A SIGNIFICANT OPPORTUNITY TO EDUCATE AND ENGAGE CONSUMERS

Not only are the UK's homes and buildings highly varied, but so are the people that live and work in them. Indeed that variety is a defining feature of our nation.

Overall, consumers are aware of the netzero concept, however, according to the BEIS Public Attitudes Tracker, there is a low level of understanding about what netzero involves and how it links with the conversation about climate change.

There is willingness to get involved, with 71%¹ of consumers believing that they have the ability to make changes in their life that could help reduce climate change. 80%¹ of us agree that if everyone is involved and does their bit, we can make a difference, together.



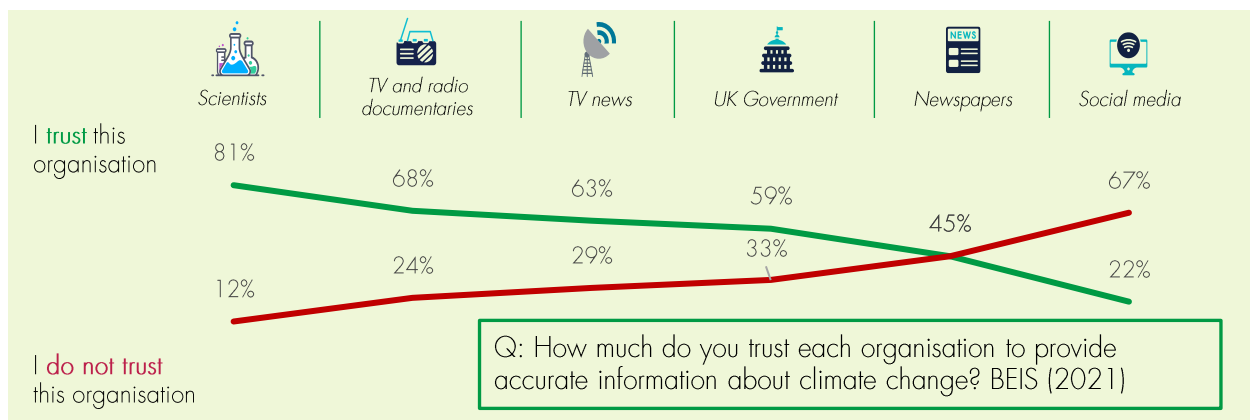
Q: The Government promotes the concept of 'Net Zero'. Before today, how much, if anything, did you know about this concept?¹

However, the lack of clear information on what climate change entails and its impact, is a key problem. Half of us (52%¹) agree that there is too much conflicting information about climate change, which makes it difficult to know what to believe.

TRUSTED INFORMATION SOURCES ARE REQUIRED TO SHARE ACCURATE AND SIMPLE DATA

We, as consumers, hear about climate change and our role in it, from many different people and channels. However, the below chart shows that many of these sources are mistrusted.

There is therefore an opportunity for trusted brands to step in and fill this gap. Coalition members and other trusted brands, have the right to educate consumers directly, as well as the responsibility to improve the credibility of existing sources. This report starts to do exactly that.



Q: How much do you trust each organisation to provide accurate information about climate change? BEIS (2021)

Organisations should consider the following to create a buzz and build engagement²:

- Take advantage of moments where consumers are seeking change e.g. renovation
- Create bespoke financial packages to make the buying process easy
- Use simple messaging, avoiding technical language and clearly highlighting the benefits

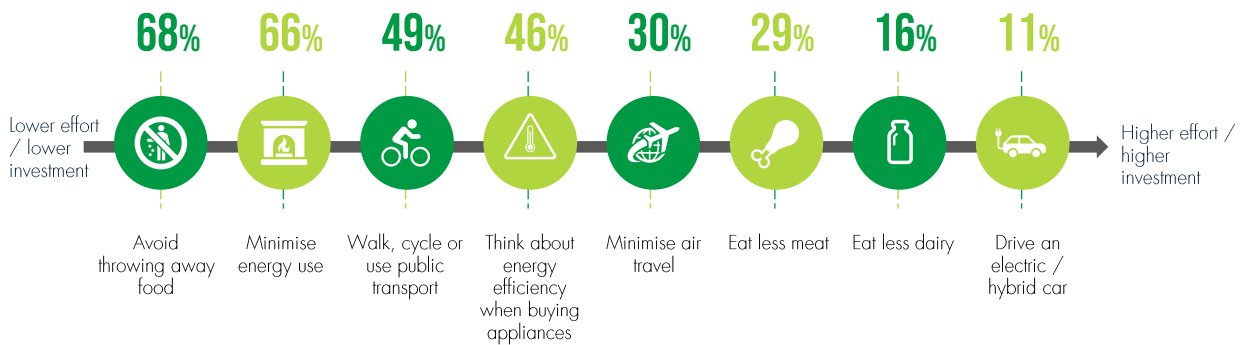
There is an opportunity for trusted brands to step up, educate, reassure and motivate the UK's consumers to take action.

Sources:
 1 BEIS (2021), BEIS Public Attitudes Tracker
 2 Centrica, The Upside (2020)

CHANGING CONSUMER BEHAVIOURS AND MINDSETS IS A COMPLEX CHALLENGE

Almost half of us feel that we are currently doing enough to help tackle the effect of climate change, with actions such as saving energy at home, improving our home's energy consumption, driving less and reducing the use of flights.

WE HAVE STARTED TO MAKE LIFESTYLE CHANGES, BUT MUCH MORE IS NEEDED



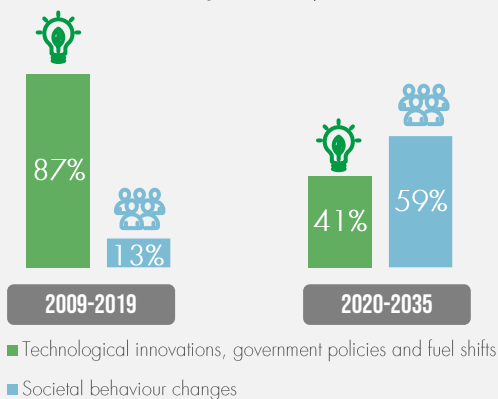
Q: Thinking now about your everyday life, do you do any of these things?¹

In the UK, 14%² of greenhouse gas emissions are attributed to expenditure at home, mainly to conventional gas boilers. However only 52%³ of consumers are aware of renewable heating systems and awareness that heating and cooling in homes and buildings is a key contributor to an increase in emissions remains much lower than other activities.

On the more positive side, when prompted, 59% of us support the banning of gas boilers by 2030⁴.

SIGNIFICANT SOCIETAL AND BEHAVIOURAL CHANGES IN CONSUMER MINDSETS ARE NEEDED FOR A SUCCESSFUL NET-ZERO PATHWAY

Future emission savings will require behavioural change



Pathway to net-zero⁴

Continued emission savings now require large societal and behavioural changes from us all. We have gone from a period where key emission reductions were achieved through Government policy, technological innovations and fuel shifts, to a new era where a change in consumer behaviour is required to achieve net-zero⁵.

Education is key to help consumers understand concepts such as 'net-zero' and 'decarbonisation' and the importance of replacing conventional gas boilers. But more importantly, the UK needs widespread buy-in to the long-term benefits of making a change, despite the inevitable disruption.

It will take a concerted effort from a strong coalition of players to win hearts and minds and meet this key target together by 2050.

Sources:

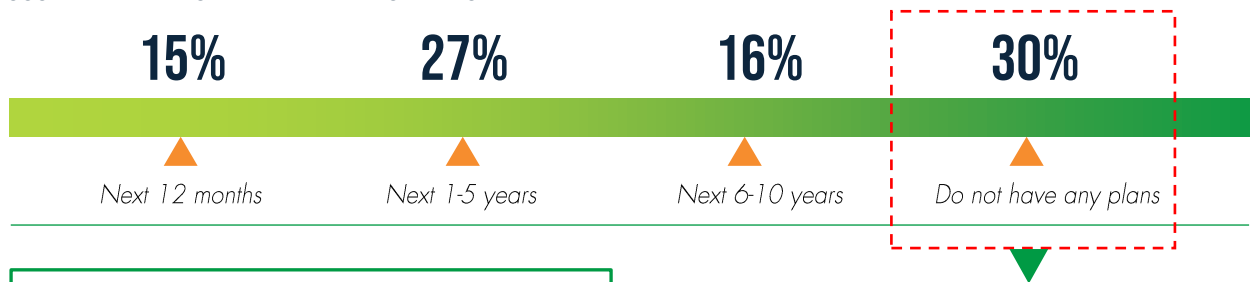
- 1 BEIS Public Attitudes Tracker (March 2021, Wave 37, UK)
- 2 BBC News. Central heating boilers 'put climate change goals at risk' - BBC News
- 3 BEIS (2020) Transforming Heat Public Attitudes Research Report
- 4 Public First poll, October 2021
- 5 Tony Blair Institute for Global Change, Planes, Homes and Automobiles: The Role of Behaviour Change in Delivering NetZero, August 2021

THERE IS MOMENTUM BEHIND HOME IMPROVEMENTS

HOMES AND BUILDINGS COULD BE WARMER AND GREENER, HOWEVER, THIS CAN BE A DISRUPTIVE AND EXPENSIVE JOURNEY. CONSUMERS WILL NEED A REASON TO BELIEVE.

With more of us spending more time at home during the pandemic, there is real momentum for home improvements. However, we must acknowledge this will be a disruptive and expensive journey for owners and occupiers. It is also vital to note the importance of local infrastructure and that some consumers may not have a choice in the solutions they adopt.

ENCOURAGINGLY, MORE THAN ONE IN TWO HOMEOWNERS PLAN TO ENHANCE THEIR PROPERTY'S SUSTAINABILITY OVER THE NEXT 10 YEARS¹



Q: Which of the following apply to your main property? Planning to make improvements to the environmental sustainability of the property¹....

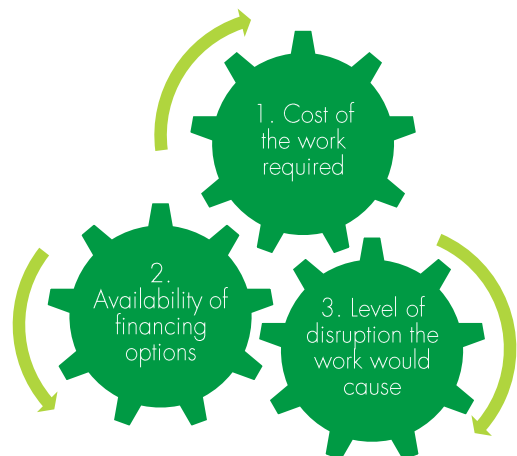
Among those homeowners who own a gas boiler, one in ten (12%)¹ said they were 'very confident' of being able to afford to replace their gas boiler with a greener alternative, and a further 26%¹ stated they were 'fairly confident'. This highlights an opportunity to proactively engage with those early adopters on the best options available to them.

HOWEVER, MANY HOME OWNERS WILL NEED FINANCIAL SUPPORT TO CONSIDER MAKING IMPROVEMENTS TO THEIR HOME

A third of homeowners (30%)¹ do not have any plans to make improvements to the environmental sustainability of their home during the next decade. For many homeowners, sustainability remains a relatively low priority or is unaffordable.

Amongst those who own a gas boiler, a quarter will need further persuasion whilst a third will need extra support to finance these changes.

TOP THREE BARRIERS



Cost remains a key pain point for consumers, underlining the need for subsidies to stimulate this step to net-zero.

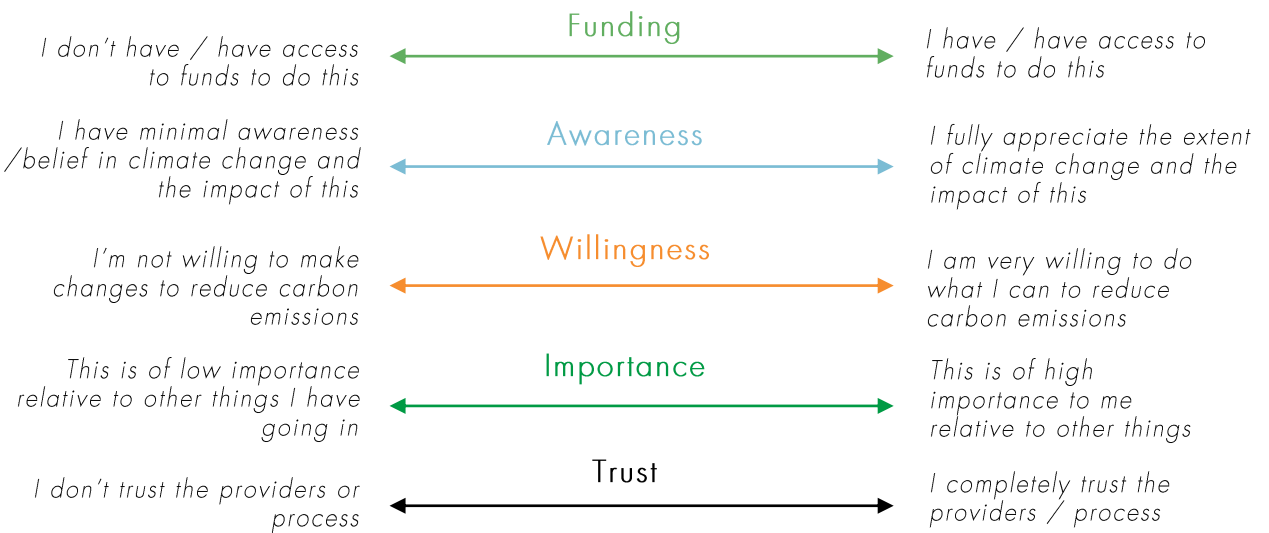
Sources:

1 NatWest (2021) Greener Homes Attitude Tracker

HOW CONSUMERS ACT IS DETERMINED BY THEIR INDIVIDUAL MINDSET, NOT THEIR DEMOGRAPHICS

A common misconception is that we can determine consumer behaviour based on simple demographics: marital status, income etc.. When it comes to improving our energy efficiency, we need to go deeper; understanding the primary factors that contribute to how consumers think based on their mindset, and the influence this has on how they behave through greening journeys.

Through analysis of secondary consumer research we have identified five primary mindset factors, underpinned by a series of secondary factors, these are:



SECONDARY FACTORS THAT INFLUENCE PRIMARY SCALES (NOT EXHAUSTIVE)

- Education
- Exposure
- Health (mental, physical)
- Tenure in property
- Habitant status (tenant, owner, landlord)
- Living situation (alone, with family, with others)
- Socio-economic influences (what my friends / family / colleagues are doing)
- Employment status
- Expected Tenure
- Location
- Property status (e.g. undergoing renovations)

MINDSET FACTORS CAN BE DIRECTLY ASSOCIATED WITH NEEDS AND REQUIRED NUDGES

Where a consumer is 'low' on a primary scale, this indicates a need from providers or the Government to change the mindset in order to trigger consumers to want to undertake the journey or enhance the injourney experience. Consumers with 'low' scores across multiple factors may simply be unattainable for a period of time.

Factor	Need
Low Funding	Access to funds or support in acquiring funds
Low Awareness	Increased education and exposure to climate change and decarbonisation
Low Willingness	Clarity and confidence in disruption levels, incentivisation to go green
Low Importance	Contextualising the overall relative importance of low-carbon options vs. other life choices
Low Trust	Confidence building in providers and the process

CHANGING CONSUMER MINDSETS HAS BEEN DONE BEFORE

The UK has done this before, both in our journey to netzero and in other areas of life. Think about the rapid change in mindsets and behaviours with regard to re-usable shopping bags, plastic straws, recycling, drink driving and use of seat belts. Or the unprecedented shift to digital, accelerated by the pandemic - online banking, online shopping and even socialising on zoom! And there are more gradual, but still material, shifts in behaviour such as the increasing popularity of electric vehicles. The take up of EVs even offers an opportunity to engage with consumers of energy in a different way – some companies are already offering agile tariffs as a side purchase of EV lease / purchase agreements.

There is appetite for change. Climate is high on our agendas. But this will be difficult.

CASE STUDY

USING NUDGE THEORY TO CREATE BEHAVIOURAL CHANGE AND INCENTIVISE THE WORKFORCE TO DO THE RIGHT THING

With people living longer, the Government identified that a lack of contributions towards retirement would lead to struggles later in life to live comfortably on the state pension. As a consequence, in 2012 the Government introduced a law to automatically enrol people into a pension, arranged by employers, to ensure workers saved for their retirement. This became an 'opt-out' as opposed to an 'opt-in' solution. By 2013, approximately seven million people were saving money towards their retirement¹.

HOW DID SUCH A POLICY SUCCEED?

Using 'nudge theory', the Government was able to change mindsets and persuade workers to act in their own best interest²:

- The default option to save is **simple and straightforward**
- The default option has a **positive outcome** for individuals
- Any **active decision to opt-out** would go against your personal welfare
- The process uses **simple and familiar language** e.g. replacing 'pensions' with 'savings'
- It provides an **appealing financial offer**, with the employer and Government matching any contribution

By providing clear and simple guidance and support, we can reward those who do the right thing.



Source:

1 What is Auto Enrolment and When Did it Start?, Itas Solutions

2 How can we incentivise pension saving? A behavioural perspective, 2012


REGARDLESS OF THE MINDSET, CONSUMERS WANT A FRICTIONLESS JOURNEY

To bring the mindsets to life we have documented greening journeys based on different property types matched to our mindset personas. For each illustrative archetype, the journeys show the steps, pain and gain points consumers would experience based on the current barriers that exist.




OUR CONSUMER PERSONAS AND THEIR JOURNEYS

To bring the mindsets to life we have documented greening journeys based on different property types matched to our mindset personas. For each illustrative archetype, the journeys show the steps, pain and gain points consumers would experience based on the current barriers that exist.



The Shahs
Family of 4, Pre-1919 Victorian mid-terrace home owners
Pro-actively considering a hydrogen boiler




See pg. 20 for the journey




David
1920-1945 converted flat private rental landlord
Boiler has broken down



See pg. 22 for the journey



Mr and Mrs Maguire
Mid-century detached home owners
Looking to install a new heating system



See pg. 23 for the journey



The Williams
Modern semi-detached social tenants
Council instigates heating system change




See pg. 26 for the journey



Hillsey Grocers
Owner living above her shop in 1946-1954 terrace
Community focused on greening, biofuel installation



See pg. 27 for the journey



Horizon Ltd
Office block commercial property owner
Exploring options to decrease carbon footprint



See pg. 29 for the journey

THE SHAHS, PRE-1919 VICTORIAN MID-TERRACE HOME OWNERS



” We live in South London along with our two children. Our property’s EPC rating really wasn’t something we considered when choosing our home, but we want to do our bit to protect the environment if we can”



TRIGGER: GAS BOILER COMING TO END OF LIFE, PLANNED REFURBISHMENT, WANT TO KNOW MORE ABOUT GREENER HEATING SYSTEM

Looking

Search online for heating options

1.0



- ☹ Different sources of the truth
- 😊 Hydrogen options sound exciting



1.1

Speak to friends / family



1.3

Speak to a specialist

- ☹ Feels like I’m entering a sales process
- ☹ Find out hydrogen is not available to us yet
- 😊 We’re interested in a heat pump

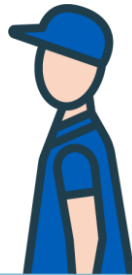


1.2

Request a brochure / information

- ☹️ The information is generic, difficult to know what suits
- 😊 The grants sound great

Recommendations



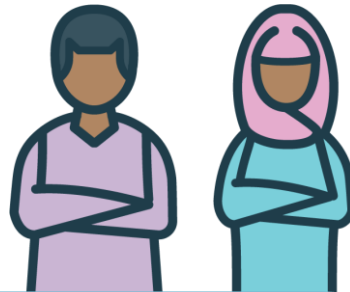
Arrange a visit from a local installer

2.0

2.1

Get Recommendations

- ☹️ More expensive than expected
- ☹️ This process is going to be really disruptive
- ☹️ We will have to manage different suppliers



2.2

Make a decision to wait

- ☹️ Too expensive and complicated for us right now

WHAT WOULD HAVE MADE THIS BETTER



Increased awareness



Easier process



Clear, personalised advice



Scaled up supply chain

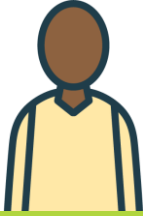


More affordable upgrades



Greater certainty and trust

DAVID, 1920-1945 CONVERTED FLAT, PRIVATE RENTAL LANDLORD

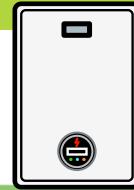


I'm very aware of climate change, but it's hard to balance making an environmental decision with making a profit. I don't make much margin on renting out my flat as it is"



TRIGGER: BOILER BREAKS DOWN

Replacing



1.0

Hear from tenants about broken boiler



1.2

Speak with other landlords in the complex

☹️ Building level heating solution is not possible

1.1

Explore green options

☹️ Heat pumps take too long, hydrogen not ready

☹️ Property characteristic does not allow for biofuel

☹️ Process is complex and difficult

1.3

Make a decision to install gas boiler

☹️ Concerned that a clean energy solution will need to be installed if it does not meet regulation



1.4

Get quotes for gas boiler

😊 Various boiler providers to choose from

WHAT WOULD HAVE MADE THIS BETTER



Increased awareness



Easier process



Clear, personalised advice



Scaled up supply chain



More affordable upgrades



Greater certainty and trust

MR AND MRS MAGUIRE, MID-CENTURY DETACHED HOME OWNERS



This home has tremendous sentimental value to us and we have the means and desire to invest in this home for future generations. We just hope we can afford to cover a new heating system in our renovation”



TRIGGER: PLANNING HOME RENOVATIONS

Exploring

See low-carbon heating system on news

1.0



1.2

Look at forums / reviews

☹️ Different, conflicting opinions



1.1

Look at options online

☹️ Complex and confusing information

☹️ No guide to make a decision

😊 Found an energy efficient solution that suits our home and needs – a heat pump



1.3

Contact energy supplier

☹️ Limited local providers

1.4

Get home assessment done

☹️ Windows and radiators need changing as well

😊 Assumption on heat pump was right

1.6

Get quotes for everything (HP, windows, radiators)

- ☹ Takes time and effort
- ☹ Cost far exceed budgeted funds

1.5

Find accredited suppliers

- ☹ Very few accredited suppliers
- ☹ Different accreditations are confusing

Looking



2.0

Look online for funding options

- ☹ Have to go to multiple sites to get options
- 😊 Found a grant we are entitled to
- 😊 A relief we are eligible for funding because we want to keep some savings to support our family

Getting

2.1

Apply for funding

- ☹ A lot of paperwork to be done
- ☹ More time consuming than expected



3.0

Commission work to start

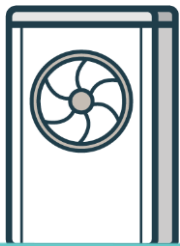
- ☹ Have to manage and pay multiple providers
- ☹ Delays to work starting
- 😊 Great to have the green light

3.1

Work underway (2-4 weeks)

- ☹ Some unexpected disruptions e.g. water turned off
- ☹ Overwhelming to manage the project
- 😊 Satisfying to see everything happening at once

3.2



Work finishes

😊 Relieved it's all done and we can start using it

Using

4.0

Manage the temperature

- 😞 A bit challenging getting used to the difference from a boiler
- 😊 We have more control over the temperature in every room

4.1

See the benefits

- 😊 We can see real efficiency benefits
- 😊 Relieved to know this was worthwhile doing



4.2

Talk to friends and family

😊 Proud to talk to others about our heat pump and see their interest in taking the same step

WHAT WOULD HAVE MADE THIS BETTER

- | | |
|----------------------------|-----------------------------|
| Increased awareness | Easier process |
| Clear, personalised advice | Scaled up supply chain |
| More affordable upgrades | Greater certainty and trust |

THE WILLIAMS, MODERN SEMI-DETACHED, SOCIAL TENANTS



“We are focused on getting by day-to-day, I’ve heard about climate change but it’s not a priority for us. Looking after our family and an elderly parent in social housing doesn’t leave much time for anything else”



TRIGGER: COUNCIL COMMISSIONS HEATING SYSTEM CHANGE

Finding

1.0

Informed by the council of options

- ☹️ Can't find reliable information on what this means for us
- ☹️ Worried we are going to lose space



1.1

Receive letter from delivery provider

- 😊 We can negotiate on when this will happen



Installing

2.0

Local authority commission installation

- ☹️ We've had to plan for my Mum to stay elsewhere when this happens

1.2

House inspected

- ☹️ Inconvenient given Mum's ill health

2.1

Post-installing

Installation work undertaken

- ☹️ Heating's been affected, not ideal coming into the winter months



3.0

Pay my bills

- ☹️ Worried about rising energy costs
- 😊 We can better manage our heating

WHAT WOULD HAVE MADE THIS BETTER



Increased awareness



Easier process



Clear, personalised advice



Scaled up supply chain



More affordable upgrades



Greater certainty and trust

HILLSEY GROCERS, 1946-1954 MID-TERRACE SHOP AND RESIDENCE



Climate change is important to our community, especially with local farmers feeling the effects. As a business owner I feel a level of responsibility to make a difference. I want my shop to be comfortable, especially as I live above it



TRIGGER: COMMUNITY MOVEMENT TO GREENING THE VILLAGE

Exploring



Looking



2.1

Assess eligibility

☹ Eligibility issues for green

2.0

Look online for funding options

😊 Government support and schemes are helpful



3.0

Commission work to start

Installing

Work

😊 Relieved it's all done and can start using it

3.1



Post-installing

4.0

Using the bio-mass boiler

WHAT WOULD HAVE MADE THIS BETTER



Increased awareness



Easier process



Clear, personalised advice



Scaled up supply chain



More affordable upgrades



Greater certainty and trust

HORIZON LTD, OFFICE BLOCK, COMMERCIAL PROPERTY OWNER



” We understand businesses must step up to the plate when it comes to corporate responsibility in order not to fall foul of incoming regulatory changes. We intend to take steps to reduce our emissions



TRIGGER: MUST REDUCE SCOPE 1,2 EMISSIONS IN LINE WITH ESG REPORTING

Evaluating

List emission sources and evaluate

1.0

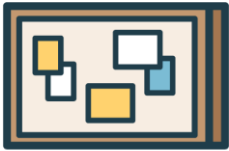


1.2

Decide to reduce heating emissions

1.1

Realise emissions are from heating buildings



Exporting

See a district heating solution currently exists in my area

2.0

😊 Great option for my property



2.1

Contact local authority for info



2.2

Discover need for planning and approvals

- ☹️ Out of our control, especially in the case of delays
- ☹️ Can't reduce emissions in the meantime
- ☹️ Have to connect to district heating
- 😊 Low upfront capital expense

Plan for future infrastructure requirements

2.3



Waiting

3.0

Wait until the district heating solution is available

WHAT WOULD HAVE MADE THIS BETTER



Increased awareness



Easier process



Clear, personalised advice



Scaled up supply chain



More affordable upgrades



Greater certainty and trust

WE NEED TO MAKE SOME CHANGES TO SUCCESSFULLY TRANSITION

The analysis of consumer journeys illustrates that there are a number of barriers to improving the energy efficiency of homes and buildings. We need to act across six key themes in order to address these barriers and successfully transition to the homes and buildings of the future.



WE NEED TO INCREASE CONSUMER AWARENESS

There is currently conflicting and lack of clear information on low-carbon heating options and property upgrades available to consumers. And the relative importance of green options is low for many consumers, particularly where there isn't a fundamental need to change or a significant perceived benefit to their day-to-day lives.

WE NEED TO OFFER CLEAR AND IMPARTIAL PERSONAL ADVICE

There is no one-size fits all – consumers need to know the right options for their particular building types, location and need. We need to remember that there are varying dynamics of control across ownership, co-ownership, renting, social tenant etc. It's important to empower all occupancy groups by clearly stating what they can and can't do.

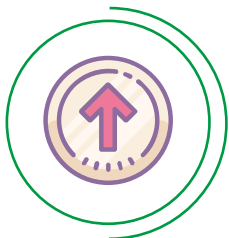


WE NEED TO MAKE UPGRADES AFFORDABLE

Many low-carbon heating solutions and home upgrades can be expensive which may discourage or delay uptake. We need to make sure consumers can access the grants, subsidies and financial products they need. We must also consider what financial support is available for landlords and whether obligations should be placed upon them to complete energy efficiency actions.

WE NEED TO MAKE THE PROCESS EASY

Consumers may be discouraged by the retrofit process if it demands significant time and effort i.e. applicants are required to complete different forms for different aspects of the technology installation (technical installation, financing, incentive application, etc.) as well as needing to project manage the physical installation and associated disruption.



WE NEED TO SCALE THE SUPPLY CHAIN

Consumers need the right skilled tradespeople to install and service their new technology. They need to be able to access services in a timely manner from organisations and individuals they trust. This can be further supported by potential installation accreditations, which the Government has already started to consider. This will help to help cultivate trust in the supply chain among consumers.

WE NEED TO BUILD CERTAINTY AND TRUST

Some routes likely to make up a big part of greening homes and buildings (mainly hydrogen being piped to homes) are not available right now and there is no clarity on the future plans or timings of any nation-wide changes. Consumers may also be worried about service delivery and unfamiliar technology. High-quality installation frameworks and good standards are vital in order to help instil and maintain consumer confidence in products. Scepticism may be compounded by the current hike in energy costs alongside increasing pressures from electrification (of heating and transport), resulting in a lack of confidence in the stability of the industry and providers within it.



EVERYBODY INVOLVED IN HOMES AND BUILDINGS NEEDS TO COME TOGETHER, ALONGSIDE GOVERNMENT

We have identified a number of actions and recommendations across finance, energy, industry and Government which will help us make the changes we need. We encourage all stakeholders involved in the journey to consider how they can support consumers in the drive to net-zero.



HOW CAN WE MAKE THE CHANGES WE NEED?

To improve the experience of consumers and unlock the potential for green homes and buildings, we have suggested the following primary actions for both the coalition and Government (more detailed actions are included in the following pages).



INCREASE CONSUMER AWARENESS

Coalition and industry: Drive education and awareness and offer educational material to improve the user experience.

Government: Lead a comprehensive national consumer awareness and engagement process with the public to inform them of the changes that need to be made, the benefits these changes can bring in terms of lower bills and lower emissions and how the costs will be paid for.

OFFER CLEAR AND PERSONAL ADVICE

Coalition and industry: Provide an educational platform on reducing energy consumption and improving home efficiency and leverage technology to offer personalised suggestions (e.g. app-based decision tool).

Government: Encourage the development of Local Area Energy Plans (LAEPs), led by local authorities / metro and city mayors. Involve local stakeholders to determine the appropriate tech and most cost-effective solutions for their local area, taking account of the building stock in that area and gas/electricity connections.



MAKE UPGRADES AFFORDABLE

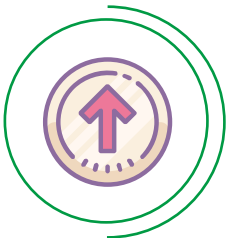
Coalition and industry: Provide easy access to financial products that incentivise consumers to do the right thing from the perspective of the property as well as for the people within them.

Government: Replace the Renewable Heat Incentive and Green Homes Grant with a new low-carbon heat incentive, which offers help towards upfront systems cost and improved energy efficiency, reduces long payback periods and applies to a broader range of technologies, especially for those less able to pay.

MAKE THE PROCESS EASY

Coalition and industry: Provide more integrated product offerings whereby potential mortgages, heating solutions and installation can be found in one package.

Government: Create clear time bound signals and roadmaps around the future of boilers in homes and buildings for infrastructure providers and networks. This will allow them to appropriately invest in net-zero preparations and pathways to decarbonise off-grid properties.



SCALE THE SUPPLY CHAIN

Coalition and industry: Develop the workforce of the future, finding the relevant skills, identifying gaps and implement upskill programmes for installation and maintenance.

Government: Implement clear long-term signals for supply chain to allow suppliers to maximise the job and investment benefits of this transition.

BUILD CERTAINTY AND TRUST

Coalition and industry: Support establishment of a quality, independent and trusted advisor to support consumers to understand which heating technology is right for them and their home.

Government: Introduce clear and simple consumer protection standards for low-carbon heating solutions and energy efficiency measures and financial products which allow scope for financial innovation whilst safeguarding consumers.






WE CAN SUPPORT CONSUMERS THROUGH THIS JOURNEY. INDUSTRY HAS A CRUCIAL ROLE TO PLAY

This report takes a different perspective on the decarbonisation of heat and hot water, putting consumers at the heart of buildings' decarbonisation. As Sustainable Homes and Buildings Coalition members, individually or collectively, we will be proactively seeking to overcome barriers to uptake and there is much that we can commit to. We must remove real and perceived pain points from consumers and make the process of transition as frictionless as possible. And we must do this quickly if we are to achieve our netzero objectives.

We have identified the below actions and encourage all stakeholders in this journey to consider how they can support consumers throughout.

Stakeholders	Short-Term Actions (<1 year)	Medium-Term Actions (1-3 years)	Long-Term Actions (<5 years)
 <p>SUSTAINABLE HOMES AND BUILDINGS COALITION MEMBERS</p>	<ul style="list-style-type: none"> Provide a forum for conversation and action across the value chain in order to drive awareness and instigate change Create a regulatory-focused discussion space to allow consumers to air their perspective in this debate 	<ul style="list-style-type: none"> Expand along the value chain to drive collaboration and share insights on the best common responses to the green transition challenge Provide ongoing educational resources and campaigns on changes consumers can make to green their homes and reduce their carbon footprint more widely Lobby for the establishment of a quality, independent and trusted advisor to support consumers to green their homes and buildings Join forces with other cross-industry initiatives, such as the GFI CEEB and UKGBC through project-based collaboration and knowledge sharing 	<ul style="list-style-type: none"> Contribute thought leadership on the decarbonisation strategy and transition plans Facilitate collaboration between business on best practises for climate neutrality Lobby for creation of a standardised methodology and framework for Building Renovation Passports (collating data in a central location relating to energy efficiency, carbon and resilience)
 <p>FINANCE</p>	<ul style="list-style-type: none"> Provide easy access to financial products that incentivise consumers to do the right thing from the perspective of the property as well as for the people within them (e.g. green loans and mortgages) Support local authorities to develop zero-carbon roadmaps and mobilise private capital towards net zero social housing development and retrofit Participate in efforts to address the challenge of financing UK retrofit Sign up to the Green Home Finance Principles (HFPs) and ensure all relevant home finance products adhere to this standard Support homeowners and occupiers to understand and access EPC ratings, the regulatory landscape and retrofit financing options 	<ul style="list-style-type: none"> Contribute thought leadership on standardising ESG disclosures for the housing association sector Launch climate accelerators to support entrepreneurs with cutting-edge climate initiatives tied to the decarbonisation of buildings Launch attitude surveys to monitor development in consumer attitudes to greening their homes and buildings Leverage technology to offer personalised suggestions on improving home energy efficiency (e.g. app-based decision tool) Innovate around green financial products (e.g. linking home upgrade loans to property not person) Sign up to international initiatives with financial institutions worldwide to ensure harmonised disclosures and collaboration to achieve the Paris Agreement, such as Partnership for Carbon Accounting Financials (PCAF) and the Net Zero Banking Alliance 	<ul style="list-style-type: none"> Unlock the synergies between different market stakeholders by offering a portfolio of integrated financial solutions that are commercial, scalable and incentivise the mobilisation of capital towards the greening of UK homes and buildings Partner with carbon tracking platforms to enact 'nudges' on how to reduce carbon footprint via everyday consumption choices Partner with firms in other industries to offer integrated products and advantageous rates if consumers adopt a range of climate friendly consumption choices

Stakeholders	Short-Term Actions (< 1 year)	Medium-Term Actions (1-3 years)	Long-Term Actions (<5 years)
 ENERGY SUPPLIERS	<ul style="list-style-type: none"> Offer products which allow consumer choice on renewable and low-carbon energy sourcing Offer 'green tariffs' where proceeds are invested in carbon offsetting projects Provide an educational platform on reducing energy consumption and improving home efficiency 	<ul style="list-style-type: none"> Offer consumers cheaper tariffs rewarding green behaviours (e.g. owning EV) Upskill staff to meet the resourcing challenges and revolutionising of the UK building stock (noting that the majority of training and upskilling of engineers is undertaken by appliance manufacturers) Leverage technology to offer personalised suggestions on improving home energy efficiency 	<ul style="list-style-type: none"> Commit to 100% low-carbon electricity and gas (assuming appropriate rise in consumer demand) Work with local Government to ensure local heat networks are fit for a low-carbon built environment Offer integrated offerings with other relevant industries
 SUPPLY CHAIN	<ul style="list-style-type: none"> Continue to raise awareness of the transition to greener heating/cooling technology through educational campaigns Understand consumer pain points and ways to address these (e.g. designing heating systems and equipment sized to building space constraints) Hold the consumer's hand through the transition with technical advice on the suitability and operation of low-carbon heating technologies Demonstrate green commitment through carbon offsetting schemes, independently verified net-zero pledges, ecofriendly packaging and circular economy compliant product design Continue to work with Government to ensure the right mix of technology for UK households/businesses 	<ul style="list-style-type: none"> Liaise with Government to ensure technology offerings are compliant with long-term regulatory landscapes and are fit to achieve net-zero agenda Develop further ways to bring social and environmental benefit to communities served Engage with local communities through inclusive campaigns and activities (e.g. art competitions) Upskill current engineers on greener heating/cooling technology 	<ul style="list-style-type: none"> Attract and support new engineers into the market to close future skills gap Investigate ways to make the transition more affordable for the consumer Offer integrated offerings with other relevant industries
 WIDER ENERGY SECTOR	<ul style="list-style-type: none"> Develop potential solutions through engagement across the sector and with Government on the back of the Heat and Buildings Strategy' 	<ul style="list-style-type: none"> Enable the potential for smart homes and buildings in the energy sector, including the use of heating systems for flexible services 	<ul style="list-style-type: none"> Enable the potential to transition from natural gas to low-carbon alternatives with minimal disruption for consumers



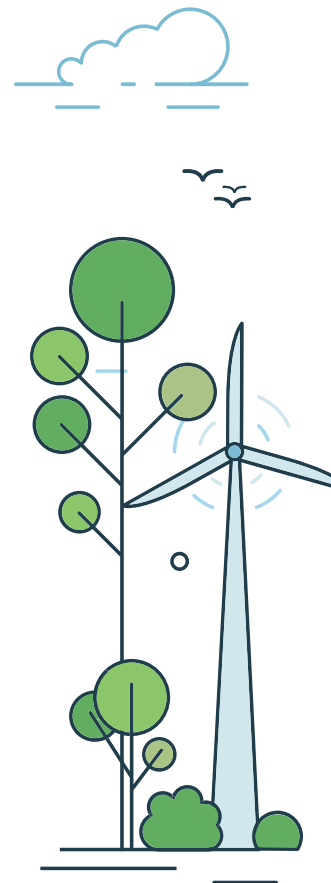
THE GOVERNMENT AND OTHER MEMBERS OF THE VALUE CHAIN NEED TO PLAY THEIR PART

The Sustainable Homes and Buildings Coalition and existing stakeholders can implement a wide range of actions in order to make the carbon reduction journey as smooth as possible for consumers, however, the Government also has a vital role to play in ensuring this journey is successful. Government need to provide the right policy framework and strategic campaigns to help engage the public and provide the best possible platform for low-carbon heat and hot water to become a reality. The Government recently published their Hydrogen Strategy and needs to use the forthcoming Heat and Buildings Strategy to provide real clarity on the transition to low-carbon buildings, in particular on the timetable for the phase out of gas boilers.

1. PROVIDE CLEARER LONG-TERM SIGNALS :

The Government has used clear long-term regulatory signals to drive change and instil certainty in other sectors, like the ban on petrol and diesel car sales from 2030. Similarly, we are calling on the Government to provide a clear regulatory backstop to drive improvements in the buildings sector. This could include:

- **Keep sufficient consumer choice** – Clearly acknowledge the need for multiple heating solutions which reflect the needs of different local areas and do not hang hopes on a “silver bullet” solution. We need to keep sufficient choice available to consumers whilst ensuring the ‘right’ technologies for the consumers, buildings and energy systems are recommended.
- **Encourage Local Area Energy Planning** – Encourage the development of Local Area Energy Plans (LAEPs), led by local authorities / metro and city mayors, and involving local stakeholders to determine the appropriate tech and most cost-effective solutions for their local area, taking account of the building stock in that area and gas/electricity connections. This should be supported by a central independent expert body.
- **Drive increased energy efficiency uptake** – Provide the right incentives for improving the energy efficiency of the country’s existing housing stock and ensuring new properties are built netzero.
 - Introduce a requirement, that in order to sell or rent a property, they must reach EPC Band C by a certain date. Incentives for low-carbon heat and energy efficiency will be critical to encourage consumers reach the EPC C target. Furthermore, to protect homeowners and landlords at risk from being ‘chained’ to inefficient/low-value properties (similarly to the issues with cladding) provide flexibility and choice on how they achieve this and financial support where needed - see next page.
 - Support large-scale retrofit programmes for social housing. This will also drive the scaling of the supply chain and economies of scale.
 - Require all new social housing schemes to be netzero by 2030. Commit to additional funding for netzero social housing pilots in the shortterm. Funding for social homes is already under-resourced so additional funding will be required to push this forward.
 - Ensure the Future Homes Standard is implemented on time in 2025 to avoid costly retrofits and integrate the cost of low-carbon heat technologies into the cost of a new home whilst locking-in carbon savings with immediate effect.
- **Move from regressive cost recovery to progressive cost recovery** - Ensure the ‘Review of Costs of Net Zero’ assesses the appropriate balance between levies sitting on energy bills verses general taxation to ensure it is equitable, with a shift to general taxation offering a more progressive approach.



1. PROVIDE CLEARER LONG-TERM SIGNALS

(CONT.):

- **Create clear signals for the future of boilers in homes and buildings** – Create clear time bound signals for the future of boilers. This is critical for investor confidence and to grow a sustainable supply chain to meet future demand:
 - Set a date for the phase out of the sale of new gas boilers by mid 2030s (as has been seen with the ban on petrol and diesel car sales).
 - Mandate hydrogen-ready boilers to be installed from 2026.
 - Ensure scrappage schemes for the most carbon intensive oil-fired and old gas back boilers by 2035 (working in partnership with schemes to incentivise heat pumps and other low-carbon heating solutions).
- **Support infrastructure providers to prepare for a net-zero future** - Create clear signals for infrastructure and networks to allow them to appropriately invest in net-zero preparations.
 - Complete whole systems planning to outline future needs on gas, electricity and heat networks to deliver the country's future infrastructure needs.
 - Work with the gas networks and HSE to prepare the gas networks to deliver 100% low-carbon gas (e.g. biomethane and hydrogen), ensuring timely completion of planned and future trials and a clear implementation to 100% hydrogen and biogas conversion. It is critical to consider how to ensure sufficient supply and drive consumer demand in order to achieve these targets.
- **Create clear pathways to decarbonise off-grid properties** - Introduce requirements to low-carbon alternatives for off-grid building including the use of HVO oil as the only heating oil and Bio-LPG as the only propane gas that can be used by 2040.

2. GREATER ENGAGEMENT WITH THE PUBLIC TO BUILD TRUST:

The Government has just signed the UK up to the most stretching emissions targets of any major economy in the world, however, according to the BEIS Public Attitudes Tracker, there is a low level of understanding about what netzero involves. The UK Government should therefore complete the following actions:

- **Lead on engagement** - Lead a comprehensive national consumer awareness and engagement process with the public to inform them of the changes that need to be made, the benefits these changes can bring in terms of lower bills and lower emissions and how the costs will be paid for. Some of this will need to be led at a local level given that the solutions for decarbonisation of heat and hot water will be local in nature.
- **Put in place better consumer protections** - Introduce clear and simple consumer protection standards for low-carbon heating solutions and energy efficiency measures and financial products which allow scope for financial innovation whilst safeguarding consumers.
- **Lead by example** – Develop plans to decarbonise public buildings by 2040 and publish public route maps to signal Government are leading the way.
- **Embrace data to support informed decision making** - Create a standardised methodology and framework for Building Renovation Passports which would collate all data in a central location relating to energy efficiency, carbon and resilience, with a long-term roadmap for improvements to make the home net-zero and resilient in its environment by 2050.



3. PROVIDE STRONGER FISCAL INCENTIVES:

Up-front capital costs for energy efficiency improvements and low-carbon heating upgrades remain high and payback periods are often longer than the average tenure of property ownership in the UK. The development of energy efficiency and low-carbon heating should be underpinned by the Government's aim for a Just Transition. A Just Transition might mean the investment case may never make economic sense, but we need to ensure everyone can level up, regardless of their circumstances. We therefore call for the following action to be taken:

- **Support consumers with up-front costs** – Replace the Renewable Heat Incentive and Green Homes Grant with a new low-carbon heat incentive, which offers help towards upfront systems cost and improved energy efficiency, reduces long payback periods and applies to a broader range of technologies, especially for those less able to pay.
- **Reduce costs to consumers** - Reduce VAT on services and goods for energy efficiency improvements and low-carbon heating solution to incentivise industry to be proactive and ultimately reduce costs for the consumer.
- **Reward consumers for doing the right thing** - Consider wider financial incentives that enable all consumers and businesses to invest to maximise their energy efficiency and lower their energy bills and carbon emissions. These fiscal incentives could take several forms, including lower rates of stamp duty to reduce consumer outlay or a reduction in council tax for more efficient buildings.
- **Fund local authorities to drive local solutions** - Provide funding for local authorities and housing associations to have access to specialist retrofit agencies.

4. STRENGTHEN THE SUPPLY CHAIN:

Short-termism in policy design, such as with the Green Homes Grant, has inhibited supply chains to make the necessary investment in manufacturing, training, and reskilling. Building up a supply chain takes time. Long-term Government policy and support is needed to scale the supply chain to deliver high-quality upgrades to buildings across the UK by 2050. We are therefore recommending the following action:

- **Signal long-term strategy to supply chain** - Implement the clear long-term signals outlined on pages 36 and 37 to allow the supply chain to maximise the job and investment benefits of this transition.
- **Work collaboratively with the sector** - Develop 'sector deals' with the low-carbon heating sectors to scale up supply chain, bring down costs and improve the talent pool.



CONCLUSION

REDUCING CARBON EMISSIONS FROM OUR HOMES AND BUILDINGS PRESENTS A ONCE-IN-A-LIFETIME OPPORTUNITY TO FUNDAMENTALLY REIMAGINE OUR BUILT ENVIRONMENT

If we are to succeed in our ambition to achieve net-zero by 2050, we need to act now.

Yet the consumer journey to greening their home or building is about more than reducing emissions. It is about upgrading properties to the light and warm buildings of the future. The recent gas crisis, with soaring prices amidst rising levels of fuel poverty, shows that 'business as usual' simply cannot go on.

We all want an economy which creates the personal and financial benefits and green job opportunities associated with a net-zero future. If this looks like a no-brainer, that's because it is.

LIKE ALL THINGS IN LIFE WORTH DOING, THE ROAD TO GREEN WILL BE TOUGH

We need to change mindsets and behaviours to make green homes and buildings a reality. There is no single solution – each property will have its unique set of characteristics and each property, an owner or occupier with different circumstances. Financial support and incentives are a must.

CONSUMERS NEED HELP TO NAVIGATE THE TRANSITION JOURNEY, OR WE WILL NOT SUCCEED

A key reason why past green building initiatives have failed, is that the consumer journey has not been considered end-to-end. Our illustrative journeys show that there are a number of things we need to make happen to achieve a successful green transition of our homes and buildings:

- Increase consumer awareness
- Offer clear and personal advice
- Make upgrades affordable
- Make the process easy
- Scale the supply chain
- Build certainty and trust

ALL OF US INVOLVED IN HOMES AND BUILDINGS MUST WORK TOGETHER

The Sustainable Homes and Buildings Coalition sees this report as the start of an exciting journey of collaboration, to drive the transition to sustainable homes and buildings in the UK.

We are starting the coming together of the buildings sector to overcome financial, logistical and technological barriers and offer consumers the tools they need.

The banks, energy providers and heating supply chain need to develop integrated offerings with other relevant industries. And alongside Government we need to:

- Provide clear long-term signals
- Engage with the public
- Provide fiscal incentives
- Strengthen the supply chain

This is a difficult challenge and one we can only solve together. We encourage all members to put the consumer at the heart of the transition to green homes and buildings.



APPENDIX



WHO ARE THE SUSTAINABLE HOMES AND BUILDINGS COALITION? AND WHAT ARE WE TRYING TO ACHIEVE TOGETHER?

THE SUSTAINABLE HOMES AND BUILDINGS COALITION:

The Sustainable Homes and Buildings Coalition was set up by NatWest, Worcester Bosch, British Gas and Shelter with the support of Citizens Advice to help put the consumer at the heart of the transition and to drive the important agenda of heat and building decarbonisation.

Improving energy efficiency and lowering carbon emissions from homes and buildings requires a novel approach and new ways of thinking, with no single organisation holding all of the answers. The coalition is focused on seeking to help consumers through greater collaboration across all parties involved in tackling this issue.



British Gas is Britain's leading supplier of energy and services and the country's biggest retailer of zero-carbon electricity. We are part of Centrica, a company founded on a 200-year heritage of serving people. We provide energy and services to over 7 million UK homes and businesses, supported by around 7,500 highly trained engineers and technicians.

We also offer a range of innovative products and services, including Hive and our on-demand digital trades service, Local Heroes. Our purpose of helping customers live sustainably, simply and affordably drives our strategy and our People and Planet Plan.

The Sustainable Homes and Buildings Coalition is an important step in working together to make the transition to sustainable living fair and achievable for all.



Our purpose at NatWest is to champion the potential of people, families, and businesses. Tackling climate change is one of the biggest challenges of our time and it's central to our purpose. As a leading UK bank, we recognise that we have a significant responsibility, and the ability, to support our customers in helping the UK to transition to a net-zero-carbon economy.

We know we must act now if we are to build a resilient economy for the future. This means not just preparing ourselves and our customers for change but also looking at how we can help all consumers to take advantage of the many opportunities in transitioning to a green economy. Taking the necessary actions to address climate change has the potential to create jobs, transform communities and touch every family in the country. With buildings generating around 14% of UK carbon emissions, there is a pressing need to act to create a fair and sustainable transition so that we can cut emissions from our homes and places of work. To rise to this sizable challenge, we must think long-term and act quickly, working in partnership with others to achieve together what cannot be achieved alone. The size of the challenge requires cross sector collaboration, which is why we are proud to be part of The Sustainable Homes and Buildings Coalition. We hope this report can be a catalyst in bringing consumer along with us on this exciting journey.



Shelter exist to defend the right to a safe home and fight the devastating impact the housing emergency has on people and society. We are excited to be part of the Sustainable Homes and Buildings Coalition and look forward to ensuring that a voice that is all-too-often overlooked in the green buildings discussion is heard – that of tenants and those without a permanent home who did the least to create the climate crisis but who are least able to keep their home safe in extreme weather.



Sustainability is at the core of our business. At Worcester Bosch we strive to protect our planet for future generations, in the products we manufacture, the way we package and distribute them, and through the processes we use at our manufacturing plants.



By acting in an economically, environmentally and socially responsible manner, we want to improve people's quality of life and safeguard the livelihoods of present and future generations. This is backed up by our purpose 'Warming Lives and Protecting our Future' which runs through the heart of our entire business.

We are delighted to play our part in the Sustainable Homes and Buildings Coalition and are committed to working with homeowners, industry and the Government to ensure net-zero targets are reached. We believe this will help us to continue leading the way for the development of future heating technologies, such as hydrogen, while maintaining the use of alternative solutions such as heat pumps and hybrids in the relevant settings. The Sustainable Homes and Buildings Coalition continues the work we have been doing to ensure we hold our current and future consumers' hands in the selection of greener products and services they will need to heat their buildings and water in the future. Netzero 2050 approaches quickly, however we are confident this report and the subsequent actions can instigate the step change needed towards a greener and brighter future.



THE TECHNICAL LANGUAGE

SCIENTIFIC TERMS:

CARBON DIOXIDE – Greenhouse gas released into the atmosphere when burning fossil fuels, contributes to global warming and climate change

CLIMATE CHANGE – The change in climate patterns, most commonly manifested as extreme weather events, increasing temperatures and rising sea levels

DECARBONISATION – The act of reducing carbon emissions through changes in human activity related to heat and energy creation, transport and resource usage

FOSSIL FUELS – Organic matter which when burned produces energy and releases harmful gas emissions

GREEN GAS – Otherwise known as Biomethane, a gas produced from organic matter which can be used in the same way as natural gas but produces far lower levels of harmful emissions

GREENHOUSE GASES – Gases in the Earth's atmosphere that trap heat

NATURAL GAS – Also called fossil fuel gas, which when burnt, releases energy but also harmful gases into the atmosphere

NET-ZERO – Achieving a state in which activities which emit carbon are offset by those which eliminate it, resulting in no new net emissions

HEATING TECHNOLOGIES:

DISTRICT HEATING – The supply of heat and hot water from one source distributed to district or group of buildings

DOUBLE GLAZING – Adding an additional layer of glass such that windows keep in significantly more heat

GAS BOILER – A device which burns natural gas in order to provide hot water for heating a home or building

HEAT PUMP – A device which works in a similar but opposite way to air conditioning, using electricity to transfer heat from a colder to a hotter area

HYBRID - A hybrid is a combination of a gas or oil fired boiler and a heat pump

HYDROGEN HEATING – Low-carbon heating alternative to natural gas which can be used via the familiarity of a boiler. 100% hydrogen is a zero-carbon gas when burnt

HYDROGEN-READY BOILER - A gas-fired heating boiler which is capable of burning either natural gas or pure (100%) hydrogen.

SOLAR PANELS – Panels which convert heat from the Sun into clean energy for your home

OTHER HEATING-RELATED TERMS:

ENERGY EFFICIENCY – Using less energy to provide the same amount of useful output from a service (such as heating water, lighting, or cooling a fridge)

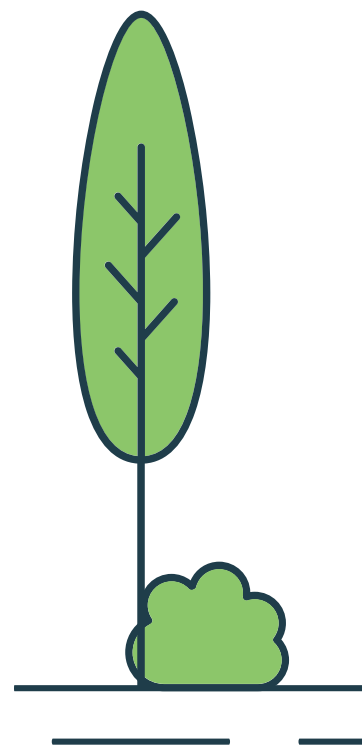
EPC – Energy Performance Certificate, which attributes a rating between A and E based on a property energy efficiency. All properties in the UK require an EPC in order to be sold

FUTURE HOMES STANDARD – All new homes from 2025 onwards will need to be highly energy efficient and zero-carbon

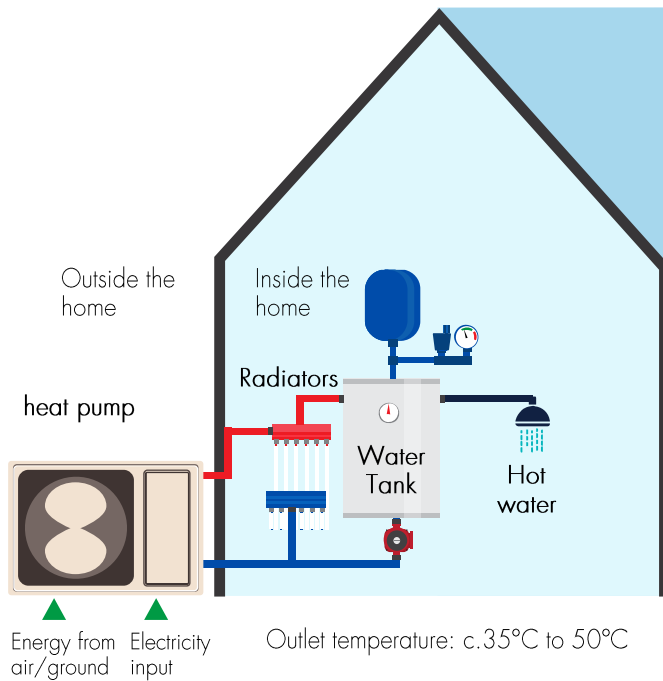
INSULATION – Prevents heat flowing through your floor, roof, loft or walls. Better insulation reduces the need for heating, thereby lowering your energy bill

(JUST) TRANSITION – A framework designed to transition away from a resource-intensive, extractive mode of production to a regenerative economy which prioritises social and environmental outcomes

OFF-GRID – Not connected or served by public or private utilities, such as gas, electricity and water



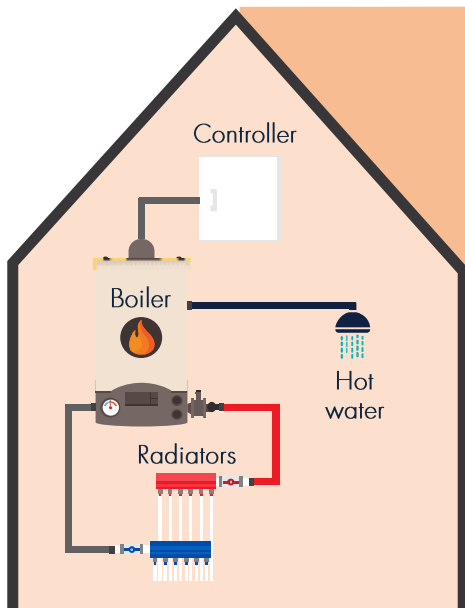
HEATING SOLUTIONS EXPLAINED



HEAT PUMPS

A heat pump takes energy from outside and transfers it into heat to be circulated around a heating and hot water system. A heat pump is highly efficient and uses electricity to run its components, principally a fan, compressor and circulating pumps to transfer the energy from the heat source into the heat sink or heating system.

For electric heat pumps to work effectively as the sole heating source, the building needs to be thermally efficient. Heat pumps typically require both internal and external space as well as changes to internal systems such as radiators which can cause disruption for consumers.



HYDROGEN / H2 BOILER

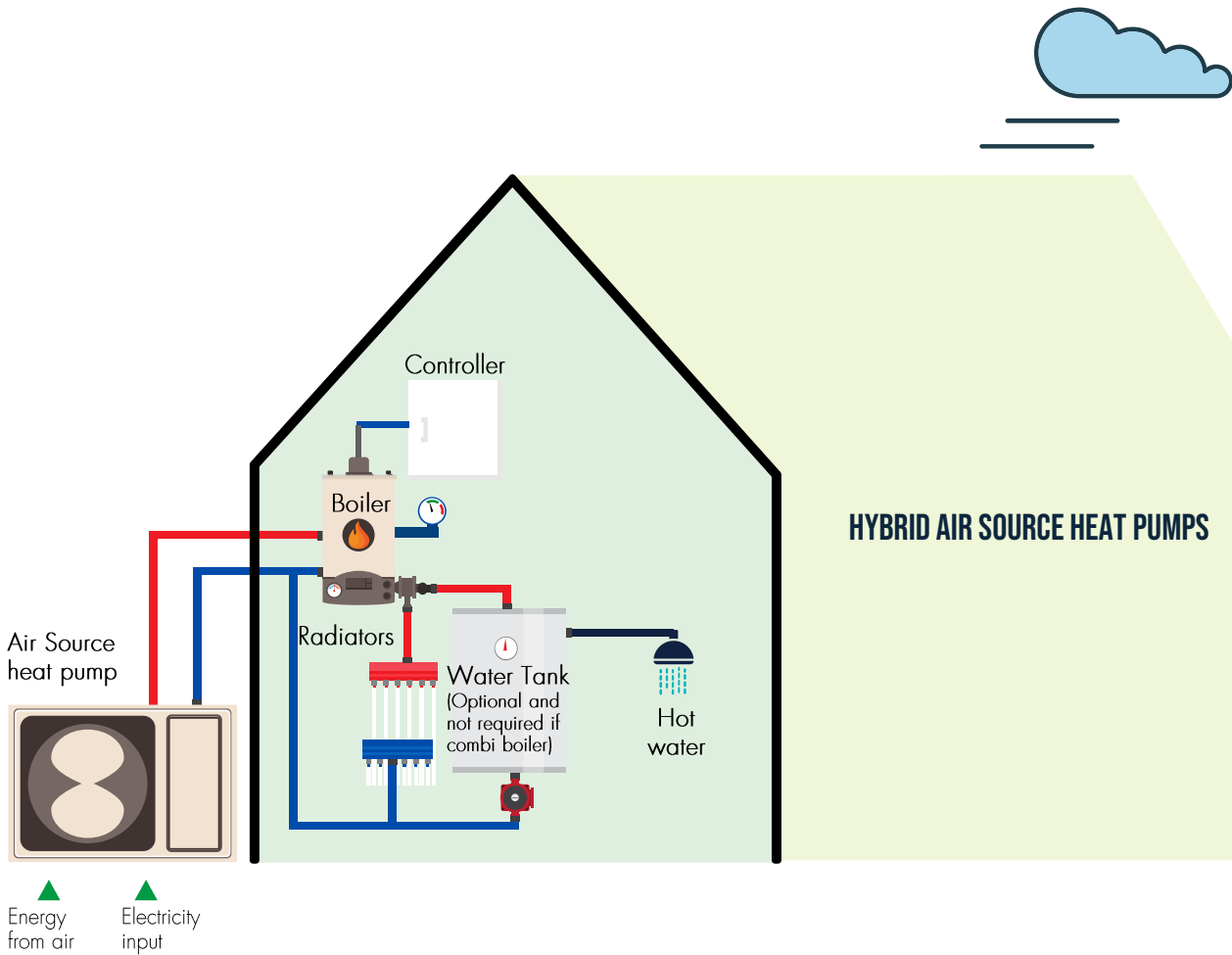
The installation of a hydrogen boiler and the use of green gas is a like-for-like replacement for a conventional heating system which does not need to be supported by the interventions required to fit a heat pump in a home.

There is also no requirement for exterior or additional interior space in the home. This can also be the case for some compact hybrid systems that combine a hydrogen boiler with an electrically driven heat pump, to meet seasonal variations in demand. Hydrogen is not currently available in the UK for domestic users.

Outlet temperature: c.70°C

Controller will switch between heat pump and boiler to optimise for either running cost or efficiency

HEATING SOLUTIONS EXPLAINED (CONT.)



Outlet temperature: c.70°C

Controller will switch between heat pump and boiler to optimise for either running cost or efficiency

Hybrids can be run such that the boiler meets the entire heat demand at times when the heat pump is unable to operate ('switch' mode) or such that the heat pump contributes to meeting the space heating demand and the boiler provides the remaining heat required for the water to reach the right temperature at all times ('parallel' mode).

Hybrid heat pumps can either be installed alongside existing high temperature radiators or with low temperature radiators. In contrast to electric heat pumps, relying on high temperature radiators is possible because the boiler component is capable of meeting the peak heat demand with higher flow temperatures, ensuring comfort can be achieved. Costs for installation are similar to heat pump only systems, on a £/kW basis though the heat pump size will be lower due to the hybrid nature of the system.

ENERGY EFFICIENCY MEASURES AND HEAT DISTRIBUTION EXPLAINED¹

Reducing underlying energy demand through increasing energy efficiency will be critical in achieving netzero targets. Installing energy efficiency measures in homes and buildings has an up-front cost but reduces energy demand and carbon emissions. Some energy efficiency measures are simple to install and pay for themselves quickly, these should be installed in combination with any heating system replacement. For example, thermostatic radiator valves, smart thermostats and draught-proofing interventions fall into this category.

The diagram and below text outlines some of the key measures and solutions that can be installed or improved within a home in order to provide better energy efficiency. Whilst not all solutions highlighted will be an appropriate or achievable solution for all properties, they demonstrate the range of measures that can be taken.



- 1. Draught-proofing** – Draught-proofing is one of the cheapest and most effective ways to save energy – and money – in any type of building. Draughts are uncontrolled and let in too much cold air and waste too much heat. Saving warm air means less energy required to heat a home, so draughtproofing will save money and ensure greater energy efficiency.
- 2. Roof/loft insulation** – A quarter of heat is lost through the roof in an uninsulated home. Insulating the loft, attic or flat roof is an effective way to reduce heat loss and reduce heating bills. Installed correctly, loft insulation should pay for itself many times over in its 40 year lifetime.
- 3. Solid wall insulation** – Nearly one third of homes in the UK were built with brick and stone solid walls, most of which remain uninsulated due to the costs and disruption caused by the installation of solid wall insulation. This typically involves installing cladding on the exterior of the building, which fundamentally changes the aesthetic of the property and may require planning permission. It may also require installing insulation on the interior face of the walls which can be disruptive, but could also help to prevent damp, increase sound resistance and improve weatherproofing. Disruption can also be minimised if installation is done in conjunction with other measures.
- 4. Cavity wall insulation** – Insulation of cavity walls is a non-intrusive measure which has a major impact on heat lost through the walls. Over two-third of homes in the UK were built with cavity walls, and in nearly 35% of these, there is no evidence of insulation being installed.
- 5. Insulating tanks and pipes** – Insulating water tanks, pipes and radiators is a quick and easy way to save money on bills. Lagging water tanks and pipes and insulating behind radiators reduces the amount of heat lost, so less money is spent heating water up, and hot water stays hotter for longer.
- 6. Double glazing** – Energy efficient glazing covers both double and triple glazing. These are windows with two or more glass panes in a sealed unit. Energy efficiency of a home can be improved by installing secondary glazing, or even by using heavy curtains. Having energy efficient windows could help to reduce carbon footprints and energy bills.
- 7. Radiators** – To accommodate the lower temperature from a heat pump more radiators or radiators with larger surface areas will be needed to produce the same level of comfort.
- 8. Underfloor heating** – As an alternative to increasing the surface area of wall mounted radiators, underfloor heating can be used. This involves underlaying the floor with a hot element or tubing that transfers heat into the room.

Source:

¹ Reducing home heat loss, Energy Saving Trust

BRINGING THE MINDSETS TO LIFE: CONSUMER PERSONAS

To bring the mindsets to life we have created six personas demonstrating variations in mindset.

Meet the

Shah Household



“

We live in South London along with our two children. Our property's EPC rating really wasn't something we considered when choosing our home, but we want to do our bit to protect the environment if we can

Funding

'We have limited funds to change our heating system and are not currently eligible for Government schemes'

Awareness

'We are aware of the climate crisis and have heard how much of an impact reducing emissions from heating homes can have.'

Willingness

'We want to do our bit but have young children and as such need assurances the technology won't let us down when we need it'

Importance

'We have researched the topic extensively and realise the complexity, if we can make it work we would still be willing to go on this journey'

Trust

'We have previously had negative experiences when undergoing renovations on our home and are apprehensive of a repeat'

Meet

David



“

I'm very aware of climate change, but its hard to balance making an environmental decision with making a profit. I don't make much margin on renting out my flat as it is

Funding

'I need to make a profit from renting out my flat. New green heating systems are expensive but I can't charge any more rent'

Awareness

'I have a sophisticated understanding of the link between climate change and carbon emissions from heating our homes'

Willingness

'I'd love to go green but the upgrades are expensive and disruptive and my tenants would have to move out'

Importance

'My tenants need heat and hot water back fast, they can't wait for months while I find and install a low-carbon option'

Trust

'I don't really understand the process, or the providers. I've spoken to the other landlords in my building and they don't either'

Meet

Mr and Mrs Maguire



“

This home has tremendous sentimental value to us and we have the means and desire to invest in this home for future generations. We just hope we can afford to cover a new heating system in our renovation

Funding

'We have savings that we want to put into this home for future generations'

Awareness

'It's hard to know what impact our heating system has in the bigger picture'

Willingness

'We would be willing to carry out work if it reduces our energy bills and keeps us warmer in winter'

Importance

'We think climate action is a key factor in making this home sustainable for the future, we want to pass this house on'

Trust

'We are sceptical about providers doing what we need in the timelines we have for renovations'

BRINGING THE MINDSETS TO LIFE: CONSUMER PERSONAS (CONT.)

To bring the mindsets to life we have created six personas demonstrating variations in mindset.

Meet

The Williams



“ We are focused on getting by day-to-day, I've heard about climate change but its not a priority for us. Looking after our family and an elderly parent in social housing doesn't leave much time for anything else

Funding

'Paying our monthly bills is a challenge, we don't have anything spare for things we don't need'

Awareness

'We've heard about it, but that's as far as it goes'

Willingness

'Looking after an elderly parent is challenging enough, we don't need any more hassle'

Importance

'In the grand scheme of things this is bottom of the list for us'

Trust

'I don't have any reason not to trust these providers, but we don't want them intruding on our home'

Meet

Hillsey Grocer's



“ Climate change is important to our community, especially with local farmers feeling the affects. As a business owner I feel a level of responsibility to make a difference. I want my shop to be comfortable, especially as I live above it

Funding

'I run my business on small margins and reinvest all profits - I could potentially fund the work if it really will have an impact'

Awareness

'I have a basic understanding of climate change and its effect, but as a small business feel relatively powerless to make a difference'

Willingness

'My business is already on the brink - closing again could be damaging'

Importance

'It's important to my community which means its important to me'

Trust

'I would be willing to sanction the work if I can speak to an advisor before hand and gauge the reliability for myself'

Meet

Horizon Ltd



“ We understand businesses must step up to the plate when it comes to corporate responsibility in order not to fall foul of incoming regulatory changes. We intend to take steps to reduce our emissions

Funding

'the current trend towards remote working is squeezing margins making eco improvements a tough business case'

Awareness

'We have noticed how the business paradigm has shifted over recent years creating an imperative to act on climate'

Willingness

'Covid has made it even more difficult to finance this work, but with the right support in place we are confident of being able to pull it off'

Importance

'The introduction of TCFD regulation means reducing our scope 1, 2 and 3 emissions has become a both a business and ethical imperative'

Trust

'Contracting goes through a lengthy procurement process, therefore we have confidence in our due diligence process to spot any potential issues'

SOURCES AND FURTHER READING

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