

# Homes Without Harm

delivering the benefits of  
climate-resilient homes





# Introduction

**The 'Housing Emergency' has been looked at from many viewpoints: from its social and intergenerational impact to its financial effects and consequences for economic growth. Rarely, it seems, is it looked at in the way it should be: as a health emergency.**

The terms 'retrofit', 'decarbonisation', 'sustainability' and 'net zero' are top priorities for housing professionals, yet their relevance and broader implications are often not fully understood by consumers who remain understandably more focused on energy efficiency and the cost of living. The political discourse around net zero, in particular, is becoming ever more contentious and confused as accusations of greenwash fill headlines alongside damning statistics on the poor quality of many new homes. The UK is significantly lagging behind Europe in adoption of new technologies, policies and practices that would better enable the population to cope with the impacts of climate change.

The Royal Institute of British Architects (RIBA) has defined 'pure retrofit' as 'a response to the need to reduce greenhouse gas emissions' and described it as 'the biggest challenge of our generation'. It denotes it as: "specifically about actions to reduce buildings' energy and carbon footprints" (the association's October Journal 2014 'Shaping up for Retrofit').

**Yet homes are about more than buildings and retrofit has the potential to be a vital tool in improving public health and alleviating the cost of living crisis. When coupled with decarbonisation it can enable measurable improvements to people's health and the general betterment of their lives.**

Nearly nine in ten of the homes we'll be living in by 2050 have already been built – mostly designed for a colder climate. Awareness of the link between excess deaths, air quality and illness caused through housing being too hot, cold or damp is growing after two children's deaths prompted widespread calls for action: Awaab Ishak died due to pervasive damp and mould in a social housing flat in Rochdale in 2020 and nine-year-old Ella Adoo-Kissi-Debrah became the first person in Britain to

have air pollution listed as a cause of death following a fatal asthma attack in 2013 after living near the busy South Circular road in Lewisham, south-east London.

Awaab's law – requiring social landlords to investigate and fix dangerous damp and mould in set time periods and repair all emergency hazards within 24 hours – came into force in October 2025.

Much ground had already been laid in highlighting the link between poor quality housing and poor health by the seminal Marmot Review in 2010, *Fair Society, Healthy Lives. Revisited* by Professor Sir Michael Marmot's Health Equity Institute ten years later, research funded by Legal & General, found that more than a million people in England died prematurely in the decade after 2011 owing to a combination of poverty, austerity and Covid.

Further notable work drawing attention to the relationship between illness and housing conditions includes reports commissioned by the Joseph Rowntree Foundation (JRF) and analysis from the National Housing Federation (NHF). In 2016 the JRF estimated that £29bn of NHS spending was associated with poverty.

Our own 2024 Radix Big Tent/Shoosmiths Housing Commission report *Beyond the Permacrisis – delivering 1000 homes per day* highlighted BRE research estimating that the total cost to society of poor housing stood at £18.5bn per year. The NHS spends £1.4billion a year to treat those people.

But political drive and action has yet to match this awareness, mainly due to a lack of simple 'one size fits all' solutions. Retrofit and decarbonisation processes are complex and varied. Even worse, they can end in failure; the public spending watchdog the National Audit Office recently revealed that the Government's flagship Energy Company Obligation (Eco) scheme resulted in 22,000 to 23,000 homes being fitted with faulty external wall insulation – up to 98 per cent of all homes insulated. This left thousands of victims living in misery and significantly undermined public trust in efforts to tackle the cold damp homes crisis facing many households.

## Thousands of homes given faulty insulation through government scheme

Almost all homes insulated under the Energy Company Obligation system need to be fixed because they are at risk of damp and mould  
(<https://www.thetimes.com/uk/politics/article/thousands-faulty-home-insulation-national-audit-office-dhj2356k5>)

## Tens of thousands of homes insulated under government schemes need repairs -

<https://www.bbc.co.uk/news/articles/c3w965gz8zgo>

## Almost all external insulation fitted under Tory scheme needs repair or replacing, report finds -

Homeowners who took advantage of government programmes left with cladding likely to cause damp:  
<https://www.theguardian.com/environment/2025/oct/14/external-insulation-previous-government-scheme-repair-replacing-report-finds>

## Thousands of homes hit by botched Government insulation jobs -

Watchdog finds external wall insulations leave most homes at risk of damp and mould, leading calls for urgent action to fix poor-quality retrofits-

<https://www.homebuilding.co.uk/heating/insulation/thousands-of-homes-hit-by-botched-government-insulation-jobs>

## Almost all homes fitted with insulation under government scheme 'must be fixed' leaving thousands at risk this winter

The botched programme "let cowboys through the front door"

<https://www.thesun.co.uk/money/36995922/homes-insulation-scheme-must-be-fixed/>

## 98% of homes that used government insulation scheme need mould repairs

Up to 46,000 households are affected with some facing immediate hazards such as exposed wiring

<https://inews.co.uk/news/politics/homes-government-insulation-scheme-mould-repairs-3976079>

RADIX  
BIG TENT





#### CHALLENGE

**During the scorching heatwave of 2022, when Britain's first 40C-degree day was recorded and wildfires ravaged the countryside, there were nearly 3,500 "excess" deaths linked to high temperatures. The majority of the victims were aged over 65 and living in low-grade homes. The charity, the Centre for Better Ageing, predicts that the death toll will continue to rise as long as Britain has the poorest insulated housing stock in Europe. Inadequate insulation means not only a cold home in winter, but a hot one in summer.**

Our island is not just getting hotter, but wetter. Today, more than 6.3 million homes and businesses in England are in areas at risk of flooding - up from 5.5 million in 2018. By the middle of the century, the number of properties at risk is expected to rise to 8 million - one in every four homes in the country, according to an Environment Agency report.

Last year, insurance companies paid out a record £585 million for weather-related damage to homes and possessions, according to a report by the Association of British Insurers (AB).

The harmful effects of failing to adapt to the climate are already clear. Yet, it seems, the more urgent the need for action grows, the slower that action is in coming. The long-delayed decision on the Future Homes Standard (FHS), which aims to ensure that new homes produce up to 80 per cent fewer carbon emissions and are more energy-efficient, has been put back until the end of the autumn. It is expected that gas boilers will no longer be allowed in new homes, that some form of low-carbon heating, better fabric performance, and possibly solar will be required, but the level of ambition, and transitional arrangements remain unclear.

Meanwhile, the Government is proposing that all social homes must meet minimum energy efficiency standards equivalent to EPC C by 1 April 2030. However, it is also changing the metrics by which EPCs are measured and the interaction between the various government departments involved has been less than seamless, so there is a sense of 'moving goalposts' for developers, investors and operators.

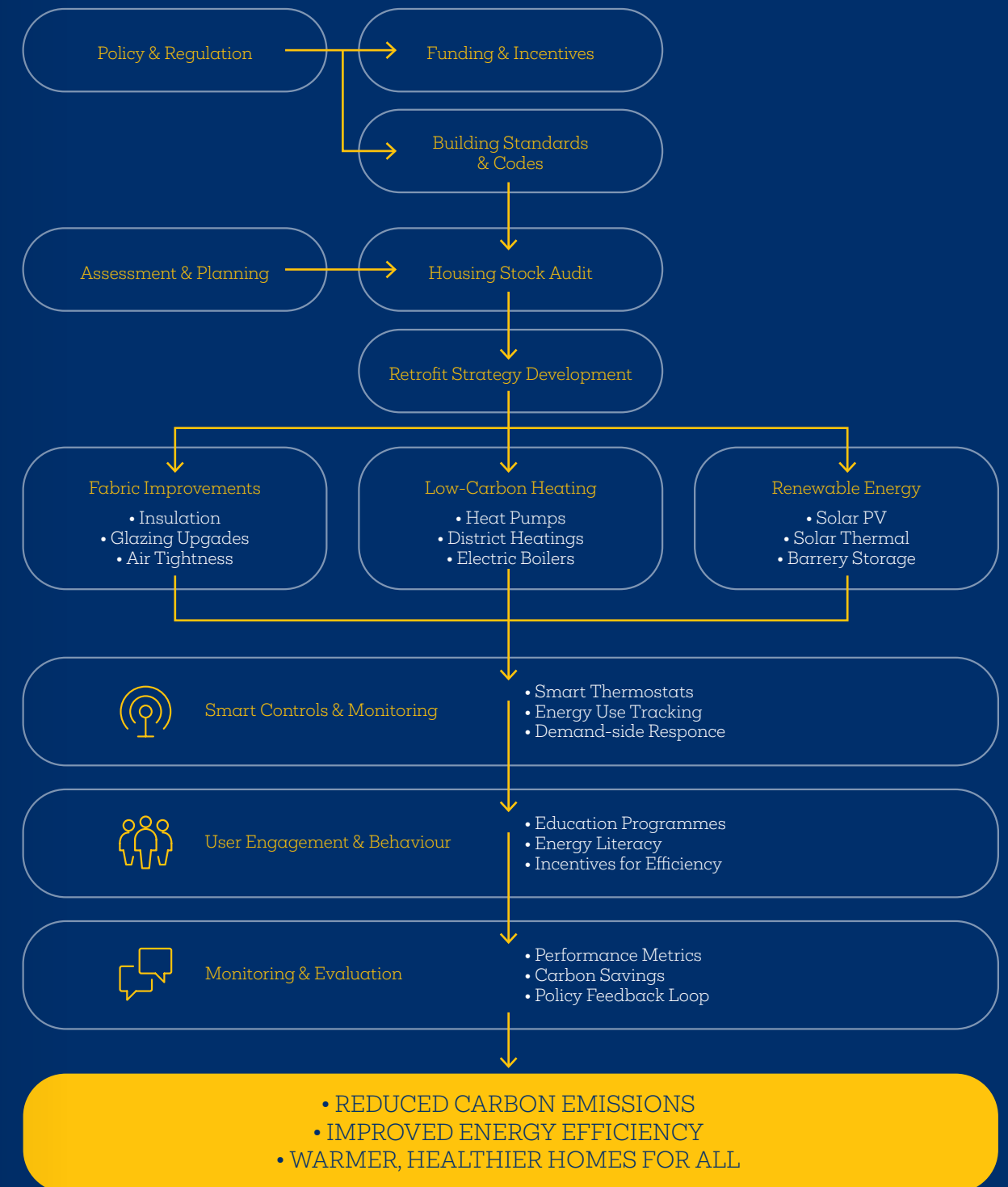
Registered Providers have been left to plan multi-year programmes with no confirmed baseline for existing or new regulatory standards.

The challenge of this regulatory limbo is exacerbated by the cashflow challenge on funding improvements where the energy savings go directly to the resident. While a valuable customer benefit when cost of living is such a challenge for so many, the unintended consequence is that properties with lower EPC ratings that require the most intensive and expensive retrofits are simply unaffordable for RPs to retain. These 'stranded assets' are being sold off, despite the desperate need for these homes to remain in the affordable sector.

Currently, there simply isn't the capacity - financially, technically or organisationally - to scale both new build and retrofit at the pace required to meet either house-building or Net Zero targets, let alone both. Yet it cannot be an 'either/or' as there is little point in building a home that cannot be safely occupied in 40 years' time.

**Nevertheless, small moves, switches of emphasis or perspective could change the arithmetic and make a huge difference. Here we set out a series of small but catalytic system-change shifts or 'nudges' that we believe could create safer homes and improve the health of the nation.**

## Creating Healthier Homes



# Metrics.

## Current Situation:

What has long been the mantra at business schools and management consultancies: “If you can’t measure it, you can’t manage it” is worth consideration when applied to the link between health and poor-quality housing. However, the Government’s main data set around Energy Performance Certificates (EPCs) is infamous for being a poor measure of actual operational performance and the consultation around improving the EPC has been slow and patchy. From the second half of 2026, the ratings will be based on four metrics – fabric performance, heating systems, smart technology readiness

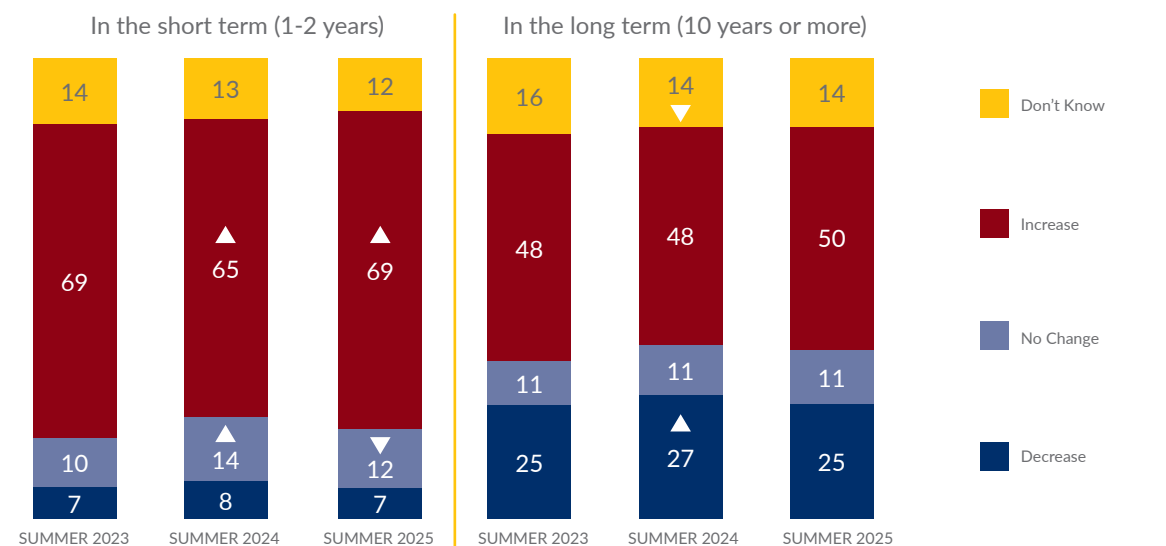
and energy cost – rather than just energy cost, as they are currently. This is broadly agreed to be a positive step but the lack of clarity on the detail of implementation does not aid long-term planning for retrofit and maintenance programmes.

Similarly, baseline fuel poverty statistics can be confusing and contradictory, charities often differ from the Government in the indicators they use, which means they are not always readily clear to local policy makers. The data is no less confusing for the families suffering ill health through being forced to live in homes too hot, cold or damp themselves.

Equally, data showing rising concentrations of carbon dioxide, the main greenhouse gas, in the atmosphere and technologies needed to combat climate change can be inconsistent and difficult for those lacking scientific knowledge to comprehend.

The DESNZ (Department for Energy Security and Net Zero) public attitudes tracker for Summer 2025 (published 25 October 2025) shows very high awareness of Net Zero but even where citizens were convinced by the veracity of climate change and the need for action, they expect very high material impact on regular living expenses both now and in the longer term.

**Figure 1.3: Expected impact of UK’s transition to Net Zero on regular living expenses (% based on all people), Summer 2023, Summer 2024, Summer 2025**



SOURCE: DESNZ Public Attitudes Tracker: Net Zero and climate change, Summer 2025, UK - GOV.UK

▲▼ Significant increase/decrease from previous wave

Consequently, the narrative around green housing often fails to convince particularly given other challenges around the wider economy and cost of living. There has been little onus on local authorities to update data-gathering metrics first established two decades ago when the focus was to show outcomes that mattered to the housing providers rather than residents and, where updates have been made, they are often inconsistent across regions.

## Where we want to get to:

Alongside carbon measurement, **there needs to be clear, consistent and user-friendly gauges that show the link between fuel efficiency and poor housing - and health.**

Decision-makers, residents and customers could be better informed and educated by putting **health at the heart of housing choices** – a vision championed by social purpose company Healthy Homes Hub through its content, insight and practical guidance. This could help to cut 6,000 unnecessary winter

deaths every year from respiratory conditions, including asthma, improving health and national productivity.

When well marketed, sustainability sells - multiple studies show that younger generations of homebuyers and renters have a strong inclination towards eco-friendly and sustainable living. Three years ago, a report by Legal & General revealed buyers were prepared to pay up to a 20 per cent premium for low carbon homes with many owners carrying out ‘greenovations’ to make their property more

environmentally friendly and renter retention also improved in more sustainable and efficient homes.

Research supporting this trend has been illustrated by the NatWest Greener Homes Attitude tracker, first published in 2021, and Rightmove surveys. Estate agents are routinely recognising the increase in value afforded by the sustainable features of a property. The price comparison website, Money Supermarket, reported up to 14 per cent increase in value in 2022, based on an improvement from EPC G to EPC A.

## Nudges needed:

- End the repeated delays around the consultation on the Future Homes Standard rules with a swift decision and confirm the policy with legislation. The stated ambition was for new homes to produce 75 to 80 per cent less carbon emissions than under current building regulations, with a focus on transitioning to low-carbon heating systems and reducing heat waste. No details or timeline have been announced despite it being primed for implementation this year when first announced by Theresa May’s government in 2019.
- Mandate more and better co-ordination between relevant government departments working on related regulation affecting the housing sector both on data and in practice. Minimum Energy Efficiency Standards, Future Homes Standards, EPC ratings and Warm Homes Plan, heat network zoning sit awkwardly across MHCLG and Defra and DESNZ who tend to consult in very linear groups and not join the dots on how these complex policy changes inter-relate in real terms.
- Once the Future Homes Standard is published, end the myriad of different policies set by councils locally which fail to provide a consistent approach and hamper innovation and delivery.
- Promote green features by encouraging would-be tenants and buyers to ask three simple questions: Does it cost less to heat? Is it more healthy or comfortable to live in? Has it reduced carbon?
- Nudge some of the current out-of-date and inconsistent metrics used by councils and housing providers about general carbon emissions towards a clear, consistent national dashboard for all UK properties capturing how our health and finances could be improved through climate-proofed homes. Useful metrics would include: actual running costs, carbon performance beyond modelled projections, measures of cost-effectiveness over time.
- Tightly regulate retrofitting grants using public funds to ensure there is no repeat of past failures such as the Government’s Energy Company Obligation Scheme.

## MODEL TO BUILD ON:

Rochdale Borough Housing’s fuel poverty data collection scheme.





# Funding

## Current Situation:

The scale of the demand for affordable housing far exceeds the grant-funded model and the rent settlement planning framework even in the context of the recent Affordable Housing Programme improvements and the additional £39billion for housing.

The current approach is fragmented, slow, and still too dependent on short-term grant funding. Many small pots of money are available, but each necessitates lengthy and bureaucratic application procedures.

Low-cost retrofit lending schemes are often well-intentioned but remain underused due to the sheer volume of debt finance already utilised by the social housing sector. At the same time investors willing to put large amounts of money into retrofit are deterred by often incoherent structure, uncertainty around capacity and scalable, replicable solutions.

## Where we want to get to:

**DESNZ, MHCLG and DEFRA working more effectively together under a streamlined approach to unlock scale across the critical pillars of funding, procurement and supply-chain capacity Adopting joint priorities would mean aligned funding pots, planning rules and regulatory frameworks, producing a clear, national, retrofit pathway, broken down by tenure.**

The unlocking of private capital with the Government accepting a comfort charge for this income stream. This would help local authorities and social housing providers overcome risk aversion towards institutional investors.

Providing a new wave of incentive schemes for households and small businesses looking to make their properties more climate-friendly.

## FEATURES OF SUCCESSFUL RETROFIT SCHEMES INCLUDE:

An offer written in plain language, easy to understand and accessible to hard-to-reach groups - not just the affluent - with minimal paperwork.

Clear objectives about what can be achieved (e.g. improved health, energy/ carbon savings, jobs created). An accompanying supply of ongoing data to drive follow-on improvement.

Targeted at the most energy-inefficient properties, fuel-poor households or high-impact business premises.

Providing trusted, independent advice and using high-quality accredited installers, who are verified and monitored.

Aligned with both building regulations and local/national Net Zero targets.

Stimulating the market by giving the supply chain confidence to invest in training and capacity through predictable demand, supporting the creation of a competent local workforce through upskilling.

## Nudges needed:

- Build on schemes such as the National Wealth Fund and the new National Housing Bank sitting within Homes England, going beyond traditional debt finance.
- Encourage banks to make carve-out for decarbonisation from Housing Association covenants permanent and reform sustainability-linked loans to put an end to unsupported 'greenwashing' claims. Reforms could include creatively designing sustainability-linked products to reduce banking, audit and legal costs as set out in the recent report authored by corporate finance and sustainability advisory firm Newbridge Advisors 'The Use of Sustainability-Linked Loans in the Social Housing Sector'.
- Ensure that the Government's Devolution Bill, currently making its way through Parliament, grants new powerful, proactive mayors the tools they need to bring together the many small housing funding pots and encourage local councils and housing associations to work together instead of being pitted against one another. Regulate this through a special cabinet committee, supported by departmental working groups to create a holistic assessment. The Bill will introduce a new legal requirement for almost all strategic authorities to 'have regard' to the need to improve the health of people in their areas and reduce health inequalities. In theory, healthier homes should be among the thousands of homes they are expected to deliver.
- Encourage existing efforts to move the social housing sector on from grant dependence by bringing in private finance to scale and switch the focus towards public health with multi-year funding.
- Bring private capital together so that groups of private investors can generate an income stream from works that can pay back investment banks from fuel bill savings.

## MODEL TO BUILD ON:

The **National Wealth Fund** (formerly the UK Infrastructure Bank), launched a year ago, as part of a drive by the Government to attract billions of pounds of private sector cash for big infrastructure projects across the UK. It will work with regional mayors for the first time, as part of a package of initiatives to boost growth.

A new **National Housing Bank** was announced in June 2025 to be a publicly owned financial institution sitting within Homes England, the national housing and regeneration agency although detail on the structure has yet to emerge.

The announcement noted the bank was being established to accelerate housebuilding in England by providing financial resources, including loans and guarantees, to unlock private investment and facilitate the construction of over half a million new homes.

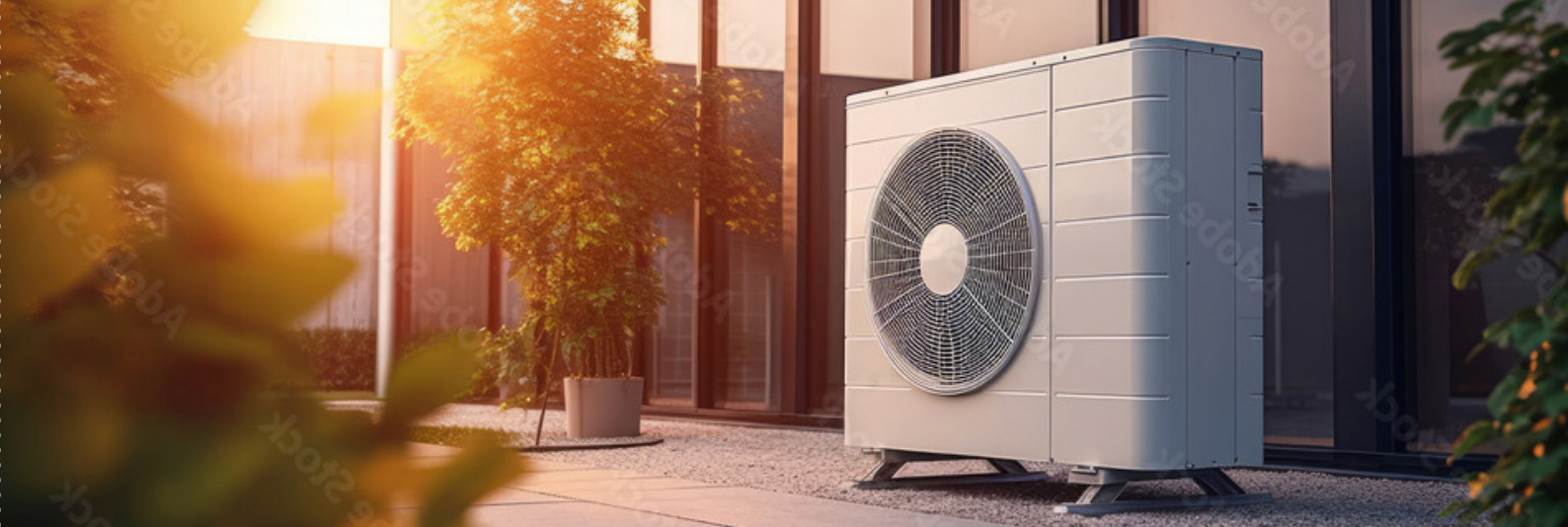
**Lloyds and Sovereign Network Group (SNG)**, one of the UK's leading housing associations, have announced a £100 million loan agreement to fund the sustainable retrofit of thousands of social homes across the South, West and East of England, including London.

Successful collaboration by housing associations include the **Greener Futures Partnership**, made up of five of the UK's largest housing associations with a joint turnover of £2.3bn, representing over 600,000 customers in 300,000 homes. Last year it helped fund a large-scale retrofit program aimed at improving the energy efficiency of more than 900 homes in Chichester.

**Oxford City Council** offers step-by-step support to families wishing to retrofit, 'holding their hand' to guide them through the entire process.



# New building and sustainable technology.



## Current Situation:

All evidence shows that low carbon heating results in the greatest emissions reductions in the housing sector. New build is ideal for low carbon heating solutions – yet thousands of homes are built without them. The cost of installing some solar panels, for example, is the same as for some concrete tiles but developers are consulting financial models for sustainable solutions that can be up to 20 years out of date and – as a result - failing to introduce them.

Alongside a construction sector that is wary of innovation having

been caught out with the ‘tech obsolescence’ of previous ‘green solutions’ this means that some new homes built today need retrofitting as soon as they are completed as some developers play it safe delivering to historic EPC C standards as a means of maintaining viability. The independent Climate Change Committee notes that 71% of new homes built in 2024 were constructed with fossil fuel heating. This is storing up work and cost for the future as they will have to be ‘added into the ever-increasing retrofit pot’. According to research by industry magazine Inside Housing, the

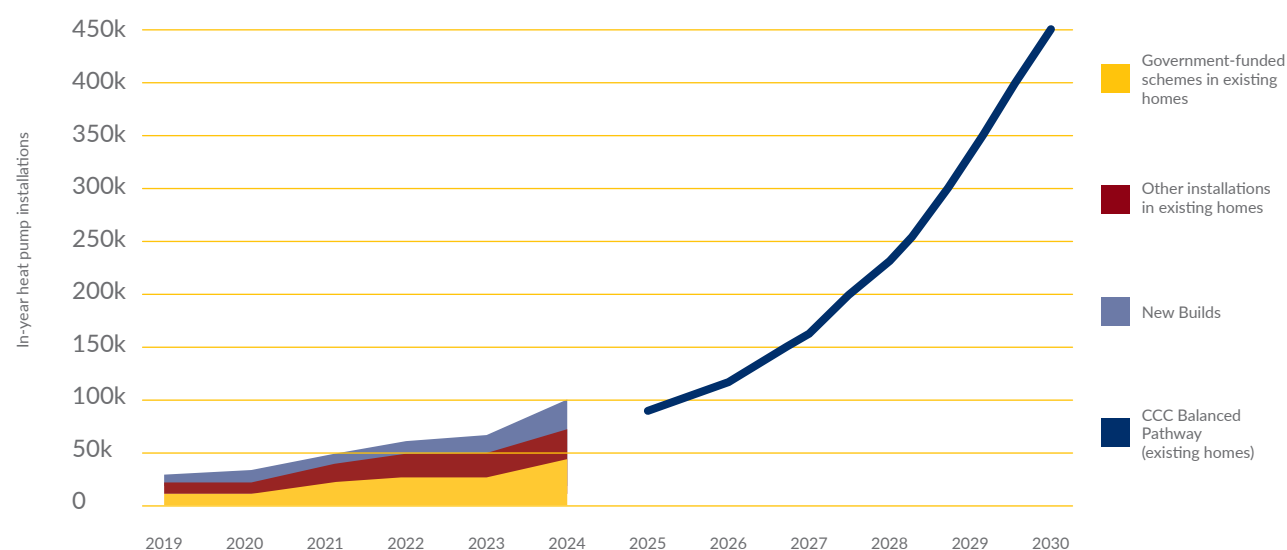
social housing sector alone faces a bill of £104 billion to meet Net Zero goals.

It also means further disruption to people’s lives as retrofitting work must be carried out after they have moved in.

Heat pumps are a key potential solution to reducing cost, energy consumption and achieving Net Zero goals but currently are in use in under 1% of the UK’s housing stock. Public awareness is growing and in 2024, demand surged upwards by 56% but this is only 100,000 homes.

## Heat Pump Installations

Home installations increased by 56% in 2024 with a significant contribution from Government-funded schemes; this positive progress must continue

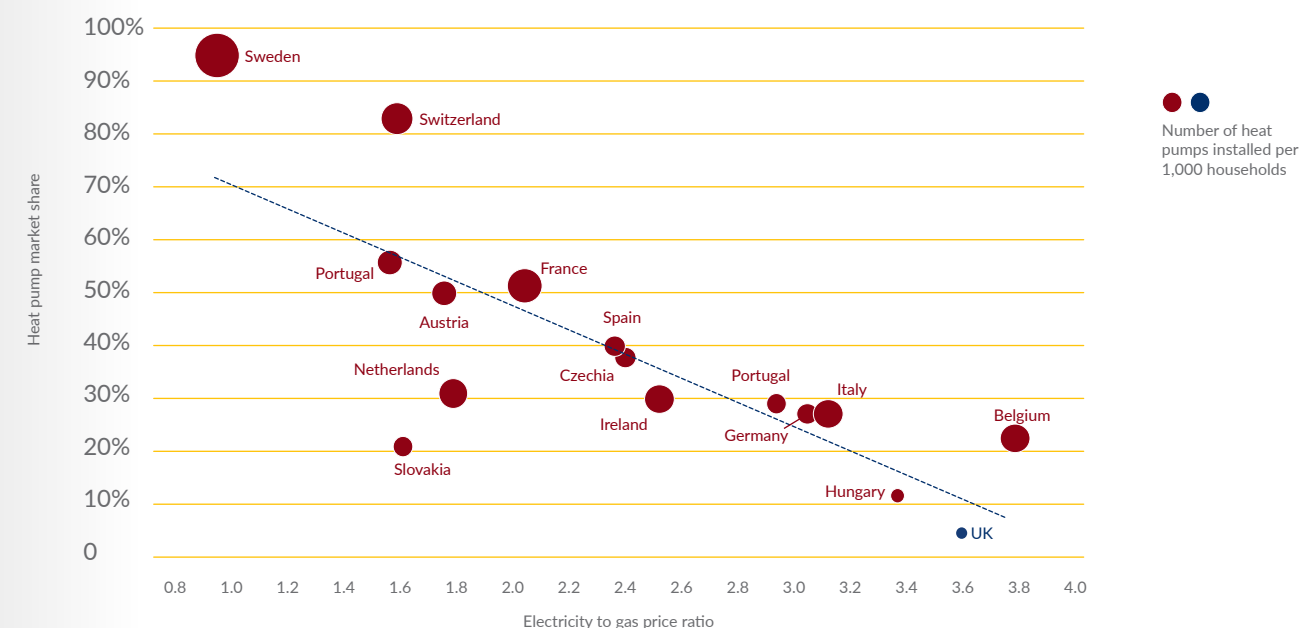


SOURCE: Climate Change Committee

**The Government target for half of all homes to have heat pumps by 2040 seems out of reach on this trajectory. Yet, the evidence is clear that the challenge is predominantly cost rather than consumer choice. The UK are, again an outlier in Europe in terms of the very high electricity price vs gas, on average four times higher.**

## Electricity to gas price ratio and number of heat pumps by European country.

The UK has the lowest number of heat pumps installed and one of the highest price ratios.



SOURCE: Climate Change Committee

The heat pump supply chain fails consistently on becoming a household product. It is grant-based, whereas a gas boiler is a cheaper, short-term solution. Analysis has shown that without extra support about 80 per cent of ‘fuel poor’ households – those with a combination of low incomes, high bills and inefficient heating – could

see bills rise by switching to a heat pump. An estimated 100,000 heat pumps were installed last year in the UK – the Government’s annual target is to reach 600,000 by 2028. Supportive policy is needed to achieve this, in particular we need to get the incentives right by removing policy costs from electricity bills to ensure the true

low running costs of heat pumps are reflected in household bills. Companies such as Octopus Energy have taken this ‘nudge’ a step further offering their own Zero Bills programme in partnership with developers and councils targeting 100,000 Zero Bills homes by 2030.





All evidence shows that low carbon heating results in the greatest emissions reductions in the housing sector. New build is ideal for low carbon heating solutions – yet thousands of homes are built without them.

#### Where we want to get to:

**Solving the affordability and practicability gaps around heat pumps.** They can currently cost up to £15,000. The cost to the nation of every home having a heat pump has been calculated to be around £300 billion – a large proportion of this being the £70 billion cost of throwing away our national gas grid, along with tens of millions

of gas appliances. An estimated twenty per cent of homes can never have a heat pump and a further 20 per cent require invasive and expensive upgrades for heat pumps to work. Furthermore, an estimated 90 per cent of homes that could have a heat pump would require at least bigger radiators or underfloor heating.

Answers to these problems need to be found before gas boilers can be banned without pushing a huge number of households into fuel poverty.

#### The vast majority of new builds kept warm with a heat pump.

Some, especially in the new towns, will also be connected to heat networks — heat piped from a central source.

The UK has witnessed significant solar PV adoption over the past decade, with government data showing a total of 15.8 GW solar capacity distributed across 1,468,652 installations as of February 2024.

Residential installations represent the bulk of solar PV adoption, which has strong public support - industry surveys claim as high as 90%. The government has set ambitious targets to increase solar capacity to 40 GW by 2030 as part of the sustainable energy transition and projects that increased adoption could create more than 42,000 new jobs by 2030.

#### Nudges needed:

We need to address the gas boiler/heat pump affordability gap and high transition costs in the low-carbon heating standards expected to be outlined later this autumn. Electricity prices, artificially inflated by levies to pay for social and environmental measures, need to be cheaper to encourage take-up of heat pumps and induce people to ditch gas boilers. Past Governments twice promised to fix this, but made no changes.

- *Implement the Future Homes Standard and update Building Regulations. Remove the ability of Councils to have individual policies, replacing with consistent policies which will drive innovation and reduce cost through consistency.*
- *Introduce smarter model schemes, which spread cost over time, tap into revenue streams like solar income, and that are scalable beyond pilot projects.*
- *Use banks' green mortgages as a powerful tool to enable households to overcome the financial and practical barriers to adopting retrofit measures in the current cost of living crisis. Working alongside mortgage providers, a clear message could be communicated that such investment reduces running costs and therefore outgoings with money saved in the long run.*
- *Develop a Dynamic Purchasing System for retrofit and decarbonisation to incentivise smaller, local contractors.*

#### MODEL TO BUILD ON:

Homeowners wanting to replace fossil fuel heating systems can currently secure a £7,500 grant towards an air source heat pump as part of the 2022 Boiler Upgrade Scheme. Expand this by pushing ahead firstly, with the current proposal to offer £200 a year off energy bills to encourage families to give up on gas boilers and, secondly, with DESNZ plans to go further and completely cover the cost of upgrading to a heat pump for some households in the lowest 30 per cent of incomes.

**OCTOPUS ENERGY:** Octopus Energy has an established programme targeting 100,000 brand new Zero Bills homes by 2030 in partnership with housebuilders including Vistry, Persimmon and Bellway. In addition, they are offering a 'zero bills' retrofit deal for existing homes built since 2015. The company will offer to install a heat pump, battery and solar panels to bring them up to its 'Zero Bills' standard, where customers are guaranteed to receive no energy bills for at least 5 years.

The trials, in partnership with local councils offer 'warm homes loans' of up to £15,000 that covers the upfront costs of installing PV and a battery. Octopus Energy are also working with Registered Providers and institutional landlords to offer rental customers similar Zero Bills benefits.

**octopus**  
energy





# Historic\* homes and embodied carbon



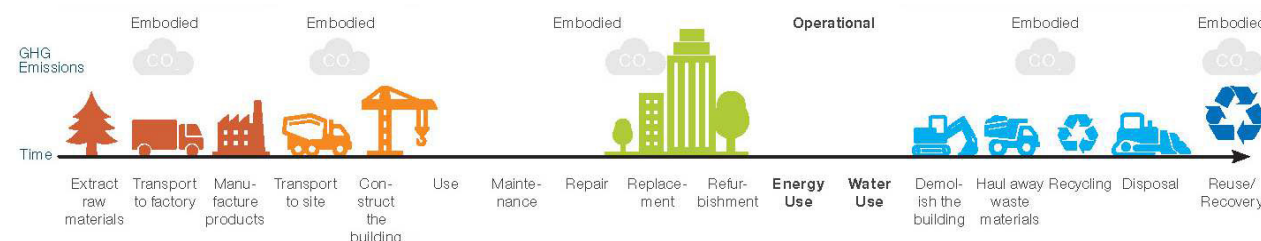
**“Embodied carbon refers to the emissions associated with materials and construction processes throughout the whole lifecycle of a building or infrastructure. This is typically associated with any processes, materials or products used to construct, maintain, repair, refurbish and repurpose a building.”**

UK GREEN BUILDING COUNCIL

## Current Situation:

It is nearly two decades since US architect Carl Elefante wrote: “The greenest building is one that already exists” to express the concept of “embodied energy”, the investment of materials and energy in existing buildings, is often useful in determining the “real” replacement cost of a building.

The concept has entered public consciousness in debates around the proposals to demolish and rebuild the flagship Marks and Spencer store on Oxford Street vs a retrofit that would have been far less harmful in embodied carbon terms. In fact, according to the UK Green Building Council, embodied carbon makes up 20% of UK built environment emissions.



SOURCE: UK GBC Embodied Carbon Explainer, <https://ukgbc.org/wp-content/uploads/2023/02/operational-and-embodied-carbon-1.pdf>

One simple means to effectively reduce carbon emissions in construction projects would be the consistent measurement and alignment of definitions related to embodied carbon as repeatedly called for by industry experts such as Carl Brown and Simon Sturgis. UK GBC continues to campaign for greater data consistency, transparency and responsible regulation as well as providing detailed technical guidance. Many industry professionals are taking seriously how to factor in the embodied carbon impact but the additional layers of complexity when dealing with older and historic buildings are significant.

Cost, the absence of advice and the lack of readily available grants are the main barriers to the retrofitting of the at least 19 million homes across the UK that need it, according to Historic England's report published last year.

A separate survey estimates one in five private rental homes is currently failing the minimum level of quality set out in the Government's 2006 Decent Homes Standard.

Typically, VAT is charged on refurbishment and retrofit, while there is zero VAT charged on new build. A retrofit in a cavity wall 90 metre square home that is not in a conservation area to EPC E is costed at £7,000. Retrofit of a solid wall home the same size in a conservation area unit costs £24,000 plus.

There is activity at national level in support of training for retrofit generally, but not explicitly in relation to retrofit of pre-1919 buildings, where it is often most needed.

## Where we want to get to:

**Wider acceptance of the limits to which an older home can be retrofitted.** Despite best efforts, few will reach rigorous, highly energy-efficient Passive House standards.

**Scaling up the construction sector with the skills necessary to retrofit the UK's historic buildings,** which, according to Historic England, would lead to an additional £35 billion of output annually, supporting around 290,000 jobs.

The conservation organisation estimates that for every €1 million invested in energy renovation of buildings, an average of 18 jobs are created in the EU with an 84 per cent saving in carbon emissions through the careful retrofit of historic homes.

## Nudges needed:

- Level the playing field between preservation and building new by removing VAT on refurbishment and retrofit so that both can run in tandem.
- Create an opportunity pipeline by setting up training schemes for the specialist skills needed to renovate older buildings.
- Ensure that regulations reflect the different costs and benefits of retrofitting older properties for decarbonisation.

## MODEL TO BUILD ON:

The converted historic mills and warehouses of the Ancoats Green project in Manchester, part of a mix of old and modern new-build blocks (1,500 homes and 500 more to come). Some funding has been committed by the DESNZ for skills training to support the decarbonisation of homes and grow the retrofit supply chain.



There is also a new occupational standard in development for the role of Retrofit Co-ordinator (Level 5) and commitment from the Institute for Apprenticeships & Technical Education (IfATE) to 'green' apprenticeship standards. The recent invention of the world's first 'emission-free' quarry that uses fossil-fuel free machinery, developed through a partnership between Skanska and Volvo. A test run in Sweden produced a 98 per cent reduction in carbon emissions.



\*This section relates to older buildings with mostly solid masonry or timber walls as opposed to modern homes with cavity walls that can be insulated.



# Energy market

## Current Situation:

The current structure of the energy market is a huge barrier to retrofit because electricity costs are maintained at a high level. The cost of electricity per unit for customers is an estimated four times higher than gas and the highest in Europe. No SAP points (ratings required for all new homes) are awarded for battery storage and there is no additional grant funding or EPC points.

## Where we want to get to:

Using less energy could save an estimated £4bn worth of investment in infrastructure such as new electricity networks and substations needed to meet the UK's growing demand for electricity.

**Introduce SAP and ECP points for installing a battery storage system.**

**Bring forward the proposed upgrade to the Minimum Energy Efficiency Standard (MEES) to a 'C' rating under the Energy Performance Certificate (EPC).** Regulate this effectively and it is projected to add almost £40bn to the economy by the end of the decade, according to Citizens Advice research. Heating bills could fall by £24bn if the efficiency of 13m homes was moved to at least a 'C' rating lifting hundreds of families out of fuel poverty.

## Nudges needed:

Move to an energy market model in which electricity prices can fall below gas prices to incentivise change. Emma Pinchbeck, the chief executive of the Climate Change Committee recently stated that various options were available for the Government such as moving the levies into taxation or moving some of them on to gas, some of them on to taxation.

- *Incentivise battery charging by introducing a recognised rating.*
- *End the repeatedly-delayed consultation on MEES so that targets to aim for are clear.*

## MODEL TO BUILD ON:

The 2015 introduction of the Minimum Energy Efficiency Standards (MEES) for rented properties, requiring them to have an EPC E rating of E or above, has led to landlords making this change in a million private rentals. However, as outlined earlier, a repeatedly delayed consultation on updating MEES and the related consultation on upgrading Energy Performance Certificates (EPCs) have not helped the sector as without knowing what targets to aim for it's very difficult to set sustainability ambitions in any great detail.



# Empty homes

## Current Situation:

An estimated 1.2 million people are waiting for social housing in England, and 335,035 of them are on a London council housing list, according to data obtained through Freedom of Information requests to 387 local authorities. This is the highest figure in more than a decade and a 32 per cent increase since 2014. The wait for a council house is as long as 25 years in some parts of the country. Meanwhile, according to the last England and Wales census, 1.4 million homes that are not second homes or holiday lets, stand empty. Londoners typically wait 6.6 years for social housing, more than twice the national average (2.9 years) while data released earlier this year reveals that London has the highest number of vacant council homes, with 8,878 unoccupied

## Where we want to get to:

### A cheaper, faster and lower-risk supply of homes both from building anew and retrofitting.

Based on typical costings, a new build costs an estimated £250,000 per unit, takes about a year to build including planning permission. A deep retrofit costs about £25,000 and takes just three months. Clearly both approaches working in

properties, though many of these will be empty for specific reasons being, for instance, between lettings or undergoing refurbishment, according to the housing charity, Shelter. This is exacerbated by the appalling state of most Temporary Accommodation in the UK. On 31 March 2025, 131,140 households were in temporary accommodation. This is the highest number on record and an increase of 12% from 31 March 2024. This includes 169,050 children, a 12% increase since 31 March 2024. (MHCLG Statutory homelessness statistics released 22 July 2025).

Not only is the accommodation often woefully sub-standard and often unfit for purpose in terms of location for schooling and employment but according to the London School of

tandem are needed to fulfill the Government's pledge to create 1.5 million homes before the end of this Parliament. Whilst some argue that 'grit' in the system - administrative burdens such as the need for a 'wet signature' or requirements around parking permits - have led to retrofits not being undertaken in the past and that their cumulative impact means the system is ripe for reform;

Economics (LSE) analysis, some London boroughs are spending as much as £4million per day on temporary accommodation. The total national spend on temporary accommodation was £2.8billion in 2024-25, a 25% increase from the previous year, driven by rising homelessness.\*

Obtaining planning permission to convert empty homes into accommodation for homeless families is a slow process that can take several months to complete, despite the result still only being a temporary solution. Innovative ideas around modular housing solutions that could be delivered at pace and at scale are also often caught up in extended planning disputes and delays.

others feel these are minor inconveniences that do not make a big difference and that the focus should remain firmly on large scale measures.



A 'wet signature' is needed on almost every grant application form. One housing association was recently 'timed out' of 400 fully-funded retrofits because this type of signature could not be obtained.

On a separate occasion, one thousand retrofits were lost when parking permits could not be granted by a London council in time.

“Current expenditure on temporary accommodation, if capitalised and used as an income stream for just under 10 years could fund the delivery of over 65,000 additional homes for social rent – enough to house every family currently living in costly and unsuitable nightly paid temporary accommodation, B&B and hostels, in a safe and stable home.”

## Nudges needed:

Open up further routes for private finance investors to invest into councils to fund retrofit following the examples set by Lloyds Social Housing Initiative and the GLA (see below).

Building Futures report, Lloyds Banking Group Social Housing Initiative 2025.

## MODEL TO BUILD ON:

In July housing association **Peabody** announced a £60m loan agreement with Lloyds Banking Group to fund the sustainable retrofit of thousands of social homes across London and the south-east through its Social Housing Initiative. The loan, partially guaranteed by the National Wealth Fund (NWF) is one of the largest issued to date under the government-backed £1.3bn social housing retrofit guarantee scheme.

**Warmer Homes London (WHL)** – a scheme to retrofit around 22,000 homes across the capital that currently have poor insulation and high energy bills. It is a joint initiative by London councils, the Mayor of London and social housing providers and is funded by a £231m investment from a national pot of £1.79bn to spend on energy saving measures for the capital's most vulnerable residents.

Until now, boroughs have had to apply for funding individually, led by the Government's funding rounds – which brought costs and uncertainty. WHL instead has a 'one-London approach', forming a close link with Government and giving boroughs the reliable, long-term funds they need.

**Birmingham City Council** has a specific unit that identifies vacant properties through census data, acquires them through CPO and in this way currently brings up to 400 homes a year into use. If this was replicated across the UK, it would be equivalent to 24,000 new socially rented homes every year - 17 times the average over the last decade.

The specialist UK insurer, the **Pension Insurance Corporation's** £67 million investment into acquiring stock in Bromley. This was then 'flipped' to council ownership to alleviate temporary accommodation spend.

Earlier this year **Lambeth Council** retrofitted two near-derelect properties in London's Gipsy Hill to provide sustainable accommodation for homeless families, moving them out of temporary accommodation into three-bedroom homes with low heating costs. Scaled up, measures like this could help reduce the soaring costs to councils of providing temporary accommodation, described as "unsustainable" by London Councils in April. The cross-party organisation, which represents the 32 boroughs in the capital, has revealed they overspent by £330m last year.

\* SOURCE: Research | London | Temporary Accommodation | Homelessness - LSE



## Conclusion

Most of the tools we need to make our homes safer, healthier and more comfortable to live in are already available. Yet hesitation, bureaucratic creep, and, above all, the lack of a clear emphasis on the link between efficient homes and good health is preventing them from being grasped. Too often, the Net Zero narrative appears remote from people's lives, leaving them sceptical or even hostile towards the idea of change.

Messaging matters. Rather than the doom-mongering that tends to hang over this debate, a clear and simple explanation of the benefits to be had should drive the message home. Reinforce it with consistent, focused data. Show how everything from living costs to life expectancy is linked to the quality of the homes we live in.

Take the story local. If Big Government directives tend to arouse suspicion, let regional powers such as the new Mayoral bodies point the way. Local bodies tend to be nimbler, faster and more trusted. Pioneering 'retrofit' schemes, where families are supported in climate-proofing their homes, could compete to provide models for the whole country.

Confront the negativity about Net Zero's "unaffordable" cost. This report shows how, in many cases, money matters less than a simple shift in thinking, a nudge towards an achievable timeframe and firm decision-making rather than short-term fixes. Demonstrate how such measures are often cheaper and more effective over time. A solar panel costing the same price as a concrete

roof tile here, money saved on electricity bills and fed back into a retrofitting programme there. System change does not always require legislation and money. By adapting our thinking, we may find we can move the dial not only on reducing carbon, but improving lives.

## Key Recommendations

- Introduce FHS and ensure national delivery. Remove inconsistent local standards from Local Plans to focus on consistency and investment.
- Rebrand 'decarbonisation' as a process that signals a clear link to people's health and characterises retrofit as an explicit health intervention.
- Collect data that tracks the link between poor physical and mental health and homes that are too hot, cold, overcrowded, leaky and draughty.
- Mandate more and better co-ordination between relevant government departments working on related regulation affecting the housing sector both on data and in practice. Pool funding pots and unlock private capital using a focus on public health as incentive.
- Level the playing field between preservation and new building by removing VAT on refurbishment and retrofit.
- Move more quickly to an energy market model in which electricity prices can fall below gas prices to incentivise change.

## Who we are:

### Radix Big Tent

Radix Big Tent is a cross-party independent think tank dedicated to the renewal of Britain by transforming not just what we do but how we do it. We believe that real change requires system change and radical thinking coupled to practical proposals.

Our unique theory of change seeks to:

- **Stimulate out-of-the-box thinking**
- **Convene experts**, policy makers and stakeholders,
- **Frame arguments** to make them politically attractive
- **Provide platforms to shape** the political debate

Our solutions are radical but practical and non-ideological, which is why we are called the systems change think tank.

Charity number: No.1195014

### Background

Twelve months ago the Commission published its final report, which was presented directly to the Government. The Housing Minister, Matthew Pennycook described the report as an "incredible and important contribution to the debate". The following day, a number of specific recommendations were included in the Budget and further recommendations – not least a commitment to reintroduce strategic planning – have been announced since.

As there is still clearly a massive appetite in Government for further practical recommendations for reform Radix Big Tent's Housing Commission Leaders Group (HCLG) will continue its work. Its reports and recommendations represent the synthesis of comprehensive deliberations by the commissioners. Not all the commissioners necessarily agree with every recommendation in this paper but each recommendation has a majority of support.





Commissioners

- ALEXANDRA NOTAY HON MRTPI**  
(Chair from August 2024).  
Internationally recognised expert and strategic advisor on housing, placemaking and ESG
- LORD RICHARD BEST**  
Social housing leader and member of House of Lords Built Environment Committee
- RICHARD BLYTH**  
Recently retired head of policy at the Royal Town Planning Institute
- PAUL BROCKLEHURST**  
Chair of the Land, Planning and Development Federation and former head of Catesby Estates
- TOM CHANCE**  
CEO, Community Land Trust Network
- RICK DE BLABY**  
CEO, Get Living
- MELISSA MEAN**  
Director at WeCanMake, a community-based project to create affordable homes by unlocking micro-sites for development
- CHRIS NORRIS**  
Policy Director, NRLA
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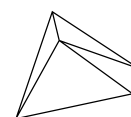
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