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with confidence

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5: Home energy improvement

Executive Summary

- The UK's housing stock is among the least energy efficient in Europe, with a significant proportion affected by poor insulation and relying on high-carbon heating systems. The UK Department for Energy Security and Net Zero states that four in five homes that will be occupied in 2050 have already been built, with residential buildings currently accounting for around 13% of national emissions. The UK Climate Change Committee estimates that upgrading the energy efficiency of domestic homes would cost £250bn by 2050, mostly to retrofit homes, highlighting the scale of investment needed for the UK to reach net zero¹.
- Mutuals have the opportunity to act as an ecosystem coordinator to create an enabling environment for home retrofitting and decarbonisation, leveraging long-term member relationships and the mutual model. This is also likely a risk management imperative. Without action, assets on lenders' balance sheets could become unmortgagable. Success may require industry partnerships, updated risk frameworks, collaboration with government, and the effective use of technology to support an equitable transition to decarbonized homes while sustaining the mutual model's relevance.
- This chapter explores the challenges and opportunities in home energy improvement, presenting three climate scenarios illustrating varied impacts on homeowners and financial risks by 2050 and outlining how current building society business models can be adapted. This exploratory paper is based on current information and does not account for energy market fluctuations or major geopolitical shifts.

¹Retrofitting homes for net zero, <https://publications.parliament.uk/pa/cm590/cmselect/cmescnz/453/report.html>



Market context: progress and current policies

The UK's approach to home energy improvement is still evolving. While initiatives and policies are being deployed, significant headwinds and uncertainties remain, highlighting constraints in delivering the required progress. Government actions can be key to driving UK's energy efficiency progress. The UK Minimum Energy Efficiency Standard requires all rented homes to hold an EPC C or above by 2030². Despite this, the UK Housing Survey finds that 19% of UK homes are rented, with almost half of these holding an EPC below C³.

The Challenges

There is a distinct gap between current policy and ambition which is demonstrated by persistent headwinds and structural constraints in the market. Demand for innovative retrofit finance remains limited. Nationwide has offered 0% interest green loans since June 2023; only around 1,900 applications were completed until the end of September 2024⁴. High upfront costs, long payback periods, and limited access to impartial information continue to discourage households from retrofitting, while fragmented delivery disconnects planning, installation, and financing from mortgage products. However, homeowners' demand for housing that is cheaper to run, enables living in more extreme temperatures and is better protected from climatic events is likely to increase. For building societies, addressing these issues may require capabilities beyond current operating models, contributing to uneven progress and reduced delivery confidence.

Climate scenarios: pathways for home energy performance improvements

The following climate scenarios illustrate potential pathways for improving home energy performance to 2050. They are indicative, based on International Energy Agency (IEA) and Climate Change Committee analysis, and are intended to highlight risks, opportunities, and delivery challenges rather than provide forecasts. However, they all indicate that many people's homes may become more financially demanding, with a key role for trusted advisors to guide through the timing and investment choices.

Pathway 1: Insufficient Climate Action Scenario (2.5 – 2.9°C aligned)

Limited sustained economy-wide climate action, short-term measures and fragmented response from governments and businesses may constrain home energy efficiency improvements. By 2050, this may result in widespread social and economic challenges, including resource crises and rising unemployment, contributing to affordability concerns for households and declining health and wellbeing. Homeowners may need to retrofit existing homes to manage temperature changes, requiring innovative financing solutions such as air-cooling solutions which may be inaccessible for many. For building societies, heightened financial risk can emerge including increased physical risks and customer defaults. Climate stress testing may place a growing proportion of properties at risk of lending ineligibility as hazards such as flooding become more prevalent across the UK.

²The domestic private rented property minimum standard, https://assets.publishing.service.gov.uk/media/5eb00785e90e0723b847d644/Domestic_Private_Rented_Property_Minimum_Standard_-_Landlord_Guidance_2020.pdf

³Chapter 1: Profile of households and dwellings – GOV.UK, English Housing Survey 2023 to 2024: rented sectors – GOV.UK, <https://www.gov.uk/government/statistics/chapters-for-english-housing-survey-2024-to-2025-headline-findings-on-demographics-and-household-resilience/chapter-1-profile-of-households-and-dwellings>

⁴Nationwide doubles down on green home improvements by extending 0% borrowing, <https://www.nationwide.co.uk/media/news/nationwide-doubles-down-on-green-home-improvements-by-extending-0-percent-borrowing>



Pathway 2: **Late but** **Decisive** **Action** **Scenario** (2°C aligned)

Under a delayed but more decisive transition, stringent government measures are enforced in the lead up to 2050, following short-term widespread impacts such as shortages and volatility. Late intervention can result in higher catch-up costs for homeowners that don't act early, particularly where minimum energy efficiency standards are introduced. For building societies, this pathway presents a mix of risks and opportunities. They may begin to face stranded asset concerns and reduced insurability, and portfolios can become more exposed to compliance and affordability pressures due to strict measures. At the same time, clearer policy direction and growing demand may support the development of scalable retrofit financing solutions, albeit with continued delivery and coordination challenges.

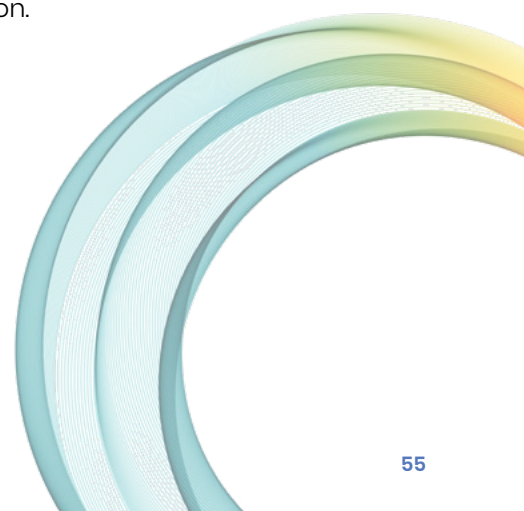
Pathway 3: **Early and** **Decisive** **Global Action** **Scenario** (1.5°C aligned)

This scenario is defined by coordinated and sustained global action, with significant progress made before 2050. Energy efficiency and retrofit considerations are embedded in property financing propositions.

Building societies can be a key enabler in this scenario, by acting as home energy improvement partners, coordinating financing and installation to reduce complexity for homeowners. Embedding 'retrofit-first' thinking within mortgage financing can support a more climate resilient mortgage portfolio with tangible household benefits. Collaboration with retrofit suppliers can help deliver low friction access to energy efficient solutions such as heat pumps whilst reducing energy bills for customers. Partnerships with property technology firms to simulate retrofit scenarios and predict energy savings for personalized financing pathways can provide customers with the confidence and trust they lack today.

Government leadership: policy and market enablement

Government policy remains central to enabling low cost, accessible and equitable retrofit finance. Weak short term incentives risk deteriorating property values and increased credit exposure for building societies highlighting the need for close collaboration to deliver scalable delivery models. The UK Warm Homes Plan emphasizes public and private financing partnerships to enable a greater uptake of retrofitting. The UK's Transition Finance Council's Sector Transition Plan guidebook also demonstrates the government's strategic considerations of financing across the overall transition.





Viable Business Models: considerations for building societies

Building societies should begin to consider the range of ways to adapt existing business models to optimise the risk and opportunity profiles outlined by the potential climate scenarios described above, and to support the UK accelerate its improvement of home energy performance across a range of viable business models:

- **Rate Incentive model:**
Building societies offer interest rate step downs linked to verified efficiency improvements and homes that are EPC B or above. Ecology Building Society has delivered this for nearly 40 years, reducing mortgage interest rates by 0.25% per EPC band improved⁵. We expect significant growth in the demand for Net Zero buildings, presenting an opportunity for building societies to structure financing and incentivise the construction and purchase of such properties.
- **Efficiency Integration model:**
Building societies embed the financing for retrofits and energy efficiency upgrades alongside mortgage financing to reduce the complexity for homeowners. Assessing energy efficiency within mortgage affordability calculations can reward lower energy bills allowing the borrower to take larger loans. The UK Parliament has also discussed allowing households access to third-party ownership finance and grants for installation costs as part of the Boiler Upgrade Scheme.
- **Property Linked Finance model:**
Building societies can enable Property Linked Finance (PLF) by structuring loans tied to the property rather than homeowner. Doing so can enable homeowners to overcome upfront cost barriers, accelerate property decarbonisation, and contribute to the UK's energy efficiency journey. This may requires building societies to work closely with policymakers to overcome legal barriers currently limiting deployment of PLF.
- **Ecosystem Coordinator model:**
Building societies partner with local authorities, energy suppliers, and contractors to become the finance anchor of the UK energy improvement journey, leveraging the mutual model to support the retrofit process. The UK Warm Homes Plan emphasizes collaboration between energy suppliers, housing associations, and industry partners, with £38bn of public and private financing including £15bn of direct public investment by 2030 to support upgrades for energy efficiency⁶. Building societies with local roots and member trust are well positioned to be the trusted face of this in communities.

These models can all leverage existing mutual advantages of trust, local presence, property expertise and long-term relationships, offering member service, not just products, to help people into sustainable homeownership.

⁵New Eco Home Mortgage – Ecology Building Society, <https://www.ecology.co.uk/hub/new-eco-home-mortgage-launched-as-interest-spikes-in-green-mortgages/>
⁶Warm Homes Plan (HTML) – GOV.UK, <https://www.gov.uk/government/publications/warm-homes-plan/warm-homes-plan-html>



Practical Considerations: key questions for delivery and scale

In exploring the role building societies could play in improving the UK's home energy performance, a set of key questions emerges:

- Which retrofit interventions are most compatible with existing financing propositions?
- What partnerships are required to deliver credible end to end journeys at scale?
- Can public sector risk sharing mechanisms be used to improve affordability and reach?

Conclusion

Energy efficiency improvements for UK homes will occur over decades. Building societies can play a pivotal role in this using trusted customer relationships and property expertise. Success will depend on strategic choices about where to integrate, partner and innovate, including public and private sector partnerships.

Building societies that succeed in aligning finance, technology, and purpose are likely to play a transformative role in enabling a just and practical transition for UK homes. In doing so, they would also reinforce the enduring relevance of the mutual model in an evolving housing and energy landscape.

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