

Accelerating home energy retrofit uptake: actions to overcome social factors

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Retrofitting UK homes to improve energy efficiency is essential to reduce greenhouse gas (GHG) emissions, meet net-zero targets, and address fuel poverty.¹ Home energy improvements can also deliver wider benefits, including lower energy bills, improved comfort and better wellbeing.² Retrofitting could reduce health impacts of substandard housing estimated to cost £1.4 billion per year.³

What does home retrofit involve?

Home retrofit involves modifying existing buildings to enhance energy efficiency, prevent energy waste and reduce or eliminate reliance on fossil fuels. It can include:

- insulation (for loft, cavity walls, floor)
- replacing gas with electric heating
- double-glazing for windows
- installing solar panels and a battery to generate on-site renewable energy.⁴

Key Points:

- **Language and framing are critical.** Using clear, non-technical terms and emphasising wider benefits makes retrofit more accessible and appealing.
- **Retrofit can disrupt daily life.** Early, tailored engagement that accounts for household routines and vulnerabilities can reduce disruption and improve participation.
- **Concerns about technologies can deter uptake.** Providing clear information and demonstrations, such as show homes, helps build understanding and trust.
- **Community-led delivery builds trust.** Partnering with local organisations and champions, and co-designing solutions with residents, strengthens confidence and uptake.

Local authority and agency-led retrofit initiatives are often constrained by low uptake – even when measures are offered at no cost.

This briefing summarises the key factors shaping homeowners' and tenants' engagement in retrofit initiatives and identifies actions to increase uptake.

Communication and accessible language

Public debate on climate change and net zero has become increasingly polarised, partly due to misinformation, disinformation, and a limited understanding of its implications.⁵

These narratives, amplified by social media, can erode public trust and weaken support for cutting carbon emissions,⁶ thereby hindering engagement with retrofit initiatives.⁵

Communication is key to successful retrofit programmes, building trust, transparency and enabling meaningful participation.^{7,8} Evidence highlights the need to tailor information to different audiences, ensuring clarity, relevance and accessibility – particularly for non-experts.⁹

Sustained engagement allows practitioners to emphasise wider co-benefits, such as improved comfort, health, and lower bills, and embed these priorities into decision-making and communication strategies.¹⁰

To maximise effectiveness, information on retrofit – including its co-benefits – should be delivered in multiple formats (written, verbal, and visual) and channels (door-to-door engagement, social media, and print).^{7,8}

Communication should be sustained across all retrofit process – before, during, and after installation.^{7,8}

Retrofit can be perceived as scary, off-putting, and overwhelmingly technical, suggesting that the language used to promote energy efficiency measures may itself be a barrier to uptake.⁹

Using simple, non-technical language can reduce engagement barriers and encourage broader participation, particularly among people without specialist knowledge.

Framing retrofit as “home energy saving measures” or “home energy efficiency upgrades” can be more accessible and relatable, helping to emphasise personal benefits such as improved comfort and lower energy bills.¹¹

Evidence shows that avoiding technical terminology and focusing instead on everyday experiences – such as “home comfort” and “energy use” – can support more meaningful conversations than use of technical jargon.⁹

An example is the Net Zero Neighbourhoods (NZN) initiative in the West Midlands. This initiative was designed to deliver place-based demonstrators to tackle fuel poverty and climate change by promoting energy-efficient homes, low-carbon mobility, green spaces, community energy and improved climate resilience.¹²

Within the NZN initiative, local authorities adopted bespoke, public-facing project names to overcome barriers associated with “net zero” terminology and better reflect locally relevant priorities. For example, Dudley Metropolitan Borough Council rebranded its scheme as *Community BEES (Brockmoor Energy and Environment Scheme)* and engaged local schoolchildren in designing the project logo – helping to build community ownership, recognition, and trust.⁸

Similarly, Birmingham City Council rebranded its Net Zero Neighbourhood as *Powering Up Castle Vale*, foregrounding its focus on a community solar co-operative and making the initiative’s purpose more immediately clear and relevant to residents.¹³

Public perception of retrofit technologies

Public attitudes toward retrofit technologies play a significant role in shaping uptake. Evidence from smart meters and heat pumps highlights persistent concerns that can deter adoption. For example, DESNZ Public Attitudes Tracker data show that in 2024–2025, 45% of owner-occupiers were unwilling to install air source heat pumps, rising to 52% for ground source systems.¹⁴

Common concerns about heat pumps include uncertainty about their suitability for older properties, potential noise from outdoor units, and the perceived complexity of installation compared to familiar gas boilers.¹⁵ There are also concerns about the performance of heat pumps in colder climates. Alongside these technical issues, high upfront costs and ongoing installation and running costs – often perceived as higher than those of gas boilers – remain significant barriers to adoption.¹⁵

Providing clear, accessible information on how retrofit technologies work and their benefits can strengthen public confidence, supporting greater acceptance and uptake.¹⁶

Demonstration projects, such as show homes, enable households to see retrofit measures in practice, helping to build understanding and dispel common concerns about technologies.^{7,8}

The Dudley Net Zero Neighbourhood programme¹² is a £2.65 million pilot scheme including home energy efficiency upgrades for 50 homes in Brockmoor.¹⁷ Robinson and colleagues describe how an empty local dwelling was used as a show home (*Figure 1*). The space was used to demonstrate how retrofit technologies functioned and as a platform to discuss homeowners' and residents' concerns (*Figure 2*).⁸



Figure 1: Show home in Brockmoor Net Zero Neighbourhood
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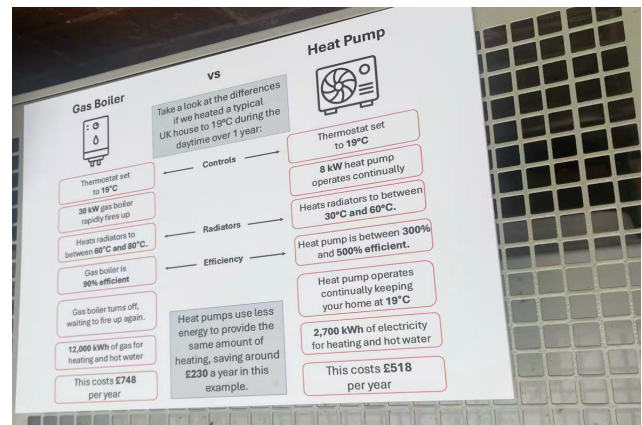


Figure 2: Display in Brockmoor Show home
Image © Yuqing Dai (2025)

Disruptions from retrofit

Retrofit programmes can be highly disruptive to residents' daily lives. Disruption arises from time-intensive assessments, extended installation periods, and the requirement for residents to be present – often necessitating time off work. The presence of contractors, noise, dust, and temporary loss of access to parts of the home further add to the burden. Concerns about potential damage to property can intensify stress.^{7,18}

These impacts disproportionately vulnerable residents, who may feel unable to manage the disruption and therefore be less likely to take part. Without adequate mitigation, disruption risks reducing uptake and undermining the effectiveness of retrofit policy.^{7,18}

Post-retrofit changes can also negatively affect resident acceptance. Measures such as internal wall insulation reduce room sizes, while aesthetic changes may not align with household preferences. In addition, the introduction of new technologies – such as app-controlled heating systems and in-home monitoring devices – can disrupt established routines and create anxiety.⁷

These impacts are particularly significant for residents with low digital literacy, who may experience a loss of control over their home environment. Without adequate support and

user-friendly design, such changes risk reducing satisfaction, limiting effective use of new systems, and undermining the intended benefits of retrofit policy.⁷

To reduce disruption, early and meaningful engagement with households is critical. Morgan et al. recommend assessing residents' daily routines, priorities, and vulnerabilities at the outset to anticipate and manage potential impacts.⁷

In practice, this involves co-designing retrofit solutions with residents, offering flexible scheduling, and tailoring measures to household circumstances. Approaches such as phased or room-by-room installation can further minimise disruption, helping to improve acceptability and uptake.^{2,7} It is also essential to provide clear guidance and support on how to use newly installed technologies effectively to achieve intended performance outcomes. Without adequate demonstration and ongoing support, residents may struggle to operate systems correctly, reducing efficiency gains and overall retrofit effectiveness.⁷

Trust and accountability

Past failures in national retrofit schemes have significantly eroded public trust.¹ Government audits of programmes such as the Energy Company Obligation (ECO) Phase 4 and the Great British Insulation Scheme (GBIS) have identified widespread quality issues, including poor workmanship.¹⁹ Many external wall insulation projects have subsequently required remedial work due to damp and mould caused by substandard installation.²⁰ The Grenfell Tower tragedy has further heightened concerns about safety and accountability, reinforcing public scepticism and increasing scrutiny of retrofit delivery.^{2,21}

Previous involvement and experiences in retrofit initiatives from social networks (friends, family, neighbours) play an important role in shaping perceptions. Word-of-mouth can

amplify both positive and negative experiences and influence people's choice to take part in retrofit programmes.^{7,8} Therefore, retrofit schemes must be delivered to a consistently high standard, with strong quality assurance and accountability, to build confidence and support sustained increases in uptake.

Evidence shows that involving trusted intermediaries – such as community champions and local organisations – can strengthen trust and engagement. By leveraging existing relationships and networks, these actors can improve communication, support recruitment, and enhance the effective delivery of retrofit programmes.²² The adoption of approaches tailored to specific characteristics and needs of places and communities, and rooted in community engagement activities, can also enhance residents' trust, addressing concerns (e.g. energy costs and savings), explaining the retrofit process, and clarifying its impacts.^{2,7,8,21}

Trust cannot be assumed; it must be actively built through consistent, transparent engagement with communities at every stage of the retrofit process. Ongoing involvement helps to establish credibility, address concerns, and foster long-term confidence in retrofit programmes.

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