# UK retrofit push risks compromised quality without urgent skills training boost



Graham Rothwell, owner of Rothwell Plumbing Services Group and a member of the Greater Manchester Combined Authority’s Retrofit Task Force, underscores the urgency of decarbonising homes in the UK. While the momentum for retrofitting residential properties gathers pace, Rothwell warns that this effort must not outstrip the training and skills development of installers. “We are increasingly having to rectify basic installation errors by other installers due to their lack of knowledge and experience,” he notes, highlighting one of the critical risks associated with rushing the retrofit revolution.

Recent developments reflect a positive shift towards achieving carbon reduction goals. The independent Climate Change Committee has recommended that, to meet the ambitious 2050 net-zero target, around half of the country’s homes should be fitted with electric-powered heat pumps within the next 15 years. Supporting this, Labour has earmarked an additional £1.2 billion towards the Warm Homes: Social Housing Fund, aiming to retrofit social housing stock efficiently. This funding allows for the implementation of various energy-saving measures, including wall and roof insulation, solar PV, energy storage, and the replacement of gas boilers with air- or ground-source heat pumps.

However, experts warn that successful retrofitting hinges not just on financial investment but equally on enhancing the skill set of workers involved in these installations. While the UK aims to build 1.5 million homes and retrofit millions more over the next five years, the construction industry faces a significant skills gap. According to analysts, the country will need an additional 251,500 construction workers and 59,000 HVAC technicians to achieve its decarbonisation targets. Current training programmes, such as those initiated at Vaillant's Belper factory and Exeter College, represent essential steps but remain inadequate to cover the scale of retraining required.

For example, despite the pressing need, many housing providers have yet to begin large-scale retrofitting; this inertia poses risks not just to landlords and contractors but also to residents unfamiliar with new heating technologies. Rothwell emphasises the importance of employing experienced contractors who can effectively interpret relevant housing data and determine the best strategy for retrofitting, whether on a street-by-street basis or by targeting specific housing types. He acknowledges the desire for simplified, ‘plug-and-play’ heat pump solutions but warns that the reality of installing these systems within older properties is often far more complex.

Issues can arise from simple installation mistakes that, if left unaddressed, could lead to non-compliance with noise regulations and suboptimal system performance. He highlights the necessity for contractors to provide not only the technical installations but also to facilitate knowledge transfer to in-house social housing teams. This collaborative approach is crucial for long-term effectiveness and resident adaptation to new heating systems, especially during those early months post-installation.

The increasing demand for a skilled workforce is echoed across the industry. With an expectation for 400,000 skilled retrofit workers by 2050—up from around 250,000 currently—the urgency to close this skills gap is paramount. Furthermore, training initiatives need to encompass not only technical skills but also soft skills and digital competencies essential for modern sustainable project management. Some experts advocate for improved training ecosystems that would allow partnerships between government and business to focus on long-term investments in apprenticeships and skill development.

Moreover, addressing the barriers in retrofitting historic homes presents additional challenges. Historical and planning restrictions can complicate the integration of modern energy-efficient technologies in older buildings, which account for a significant portion of the UK’s housing. The government has recognised that upskilling the existing workforce in heritage construction methods is vital for ensuring appropriate adaptations, echoing Rothwell's concerns regarding the loss of essential skills in the broader workforce.

The route towards decarbonising homes and reducing fuel poverty is deeply intertwined with the quality of training and knowledge transfer within the industry. If these elements are neglected in the haste to achieve immediate retrofitting goals, taxpayers, landlords, and residents might face significant repercussions down the line. As the UK navigates this transition, it must prioritise skill development alongside the installation of cutting-edge technologies to ensure a sustainable and effective approach to energy efficiency.

### Reference Map

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Source: [Noah Wire Services](https://www.noahwire.com)

## Bibliography

1. <https://www.constructionnews.co.uk/sustainability/the-hidden-risks-of-rushing-the-retrofit-revolution-19-05-2025/> - Please view link - unable to able to access data
2. <https://www.reuters.com/sustainability/climate-energy/long-ambition-short-people-how-skills-gap-could-scupper-uks-bid-decarbonise-2024-11-28/> - This article discusses the UK's significant skills gap in the construction industry, which threatens efforts to decarbonize buildings. Initiatives like retraining workers at Vaillant's Belper factory and specialized courses at Exeter College are steps towards addressing the shortage. The UK aims to build 1.5 million homes and retrofit millions more over the next five years, requiring an additional 251,500 construction workers and 59,000 HVAC technicians. However, the current training ecosystem is insufficient for this large-scale reskilling. Analysts suggest that government and business partnerships and long-term policy consistency are essential. Multi-year funding settlements and apprenticeship incentives could improve training uptake. The shift towards green jobs also demands soft skills, digital expertise, and sustainable project management. Efforts by organizations like Rewiring America and Greenworkx exemplify broader strategies for workforce transformation, crucial for meeting global decarbonization goals.
3. <https://www.ft.com/content/818942c1-eb9e-4b39-946a-5525df51a094> - This article delves into the challenges homeowners face in making UK homes more energy-efficient amid growing climate change concerns. The author recounts attending the UK's first national retrofit conference and reflects on personal efforts to retrofit a 200-year-old Georgian house, which revealed significant difficulties due to high heat loss. Various experts highlight obstacles such as planning restrictions for historic homes, numerous accreditation schemes, and limited consumer awareness. The TrustMark quality scheme, though necessary, is not widely recognized, while local councils cannot recommend specific contractors. The emerging role of retrofit coordinators aims to streamline processes, but broader government intervention and a coherent long-term strategy are crucial for substantial progress. Moreover, the article indicates that finance-related solutions, like "green" mortgage products, are insufficient due to limited consumer awareness and government policy gaps. The piece concludes by emphasizing the need for decisive central government action and consistent guidance to achieve meaningful advancements in home energy efficiency.
4. <https://www.actiononemptyhomes.org/news/5-retrofit-takeaways-from-homes-uk-2024> - This article highlights key takeaways from the Homes UK 2024 conference, focusing on the challenges of retrofitting homes to achieve net-zero carbon emissions. It emphasizes the need for a skilled workforce, noting that around 400,000 skilled retrofit workers will be required by 2050, while the current workforce stands at approximately 250,000. The article also points out the shortage of certified retrofit coordinators and the difficulty in attracting newcomers to key trades like insulation installation. It underscores the importance of prioritizing skills training to meet national decarbonization targets and suggests that current funding mechanisms may not be sufficient to address these challenges.
5. <https://www.avivainvestors.com/en-lu/views/aiq-investment-thinking/2025/01/decarbonising-buildings/> - This article discusses the UK's workforce challenges in supporting the transition to net-zero buildings. It highlights the need for at least 27,000 more trained heat-pump engineers by 2030 and an additional 350,000 full-time equivalent workers by 2028 to decarbonize the existing building stock. The article proposes solutions such as publishing a comprehensive action plan to address skills gaps, reforming apprenticeship structures to prioritize required skills, expanding incentives for reskilling, and upskilling local authorities to enhance planning, permitting, and enforcement capacity. These measures aim to build a workforce capable of supporting the UK's decarbonization goals.
6. <https://es.catapult.org.uk/tools-and-labs/our-homes-net-zero-toolkit/skills-and-training-for-net-zero-homes/> - This article addresses the challenges of decarbonizing UK homes, noting that buildings account for almost 20% of UK carbon emissions. It emphasizes the need to upgrade a large percentage of the UK's 29 million homes to meet net-zero targets. The article highlights the shortage of tradespeople with relevant skills to carry out the work at the required scale and suggests that training approaches should consider all aspects of decarbonization, including advice, assessment, commercial models, coordination, and installation. It calls for increasing the quantity of tradespeople with decarbonization skills and delivering high-quality solutions to achieve good customer outcomes.
7. <https://www.gov.uk/government/publications/adapting-historic-homes-for-energy-efficiency-a-review-of-the-barriers/adapting-historic-homes-for-energy-efficiency-a-review-of-the-barriers> - This government publication reviews the barriers to adapting historic homes for energy efficiency. It identifies the loss of skills in the heritage construction industry as a key barrier and highlights the need to upskill mainstream construction workers to ensure the industry understands appropriate methods to adapt historic buildings. The report suggests that more than 105,000 new workers, including 14,500 more electricians and 14,300 more plumbers, will be needed annually for the next three decades to decarbonize the UK's historic buildings. It also emphasizes the need for rapid and vast deployment of training to meet the government's net-zero targets.