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Retrofit and Wellbeing in Rushden

Case study

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www.riseretrofit.org.uk

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Summary

This case study highlights how the Rushden retrofit project upgraded 1940s social housing from EPC D/E to Band C. Using a fabric-first approach and strong resident engagement, the team installed insulation, new windows and doors, improved ventilation, and introduced low-carbon heating like air source heat pumps.

Beyond enhancing energy performance, the project demonstrates how social value can be achieved through retrofit. Effective communication, sensitivity to residents' privacy, and efforts to minimise disruption fostered trust and strengthened relationships between residents and project teams. The initiative didn't just address fuel poverty and cut carbon emissions, it also boosted health, wellbeing, and everyday quality of life, transforming technical retrofit into a people-focused placemaking effort.

Readers that would like this document in a more accessible format should contact rise@turntown.co.uk.

Introduction

Rushden, a market town in Northamptonshire, England, has a population of approximately 30,000 people. The housing stock in this area largely comprises post-war 1940s properties – typical of Britain's mass reconstruction era. While these homes hold social and architectural value, they are also energy-inefficient, with many originally built with solid walls, poor insulation, and limited ventilation. Consequently, they are prone to dampness, heat loss, and high fuel consumption, making them "hard-to-treat" properties within retrofit schemes.

To address these challenges, **Amplius** delivered a large-scale retrofit project under the Social Housing Decarbonisation Fund (SHDF) Wave 2.0. The project sought to bring properties up to Energy Performance Certificate (EPC) Band C through a fabric first approach. The works included external and internal wall insulation, upgraded windows and doors, ventilation improvements, and installation of low-carbon heating systems such as air source heat pumps and high heat retention storage heaters.

As with any retrofit work, this project's technical aspects were important. However, there were further benefits to realise in Rushden that related to creating a sense of place and delivering real social value. Outcomes included:

- Supporting better health
- Tackling fuel poverty
- Building stronger relationships with residents
- Fostering trust within the community

Engaging with residents without disrupting homes

Delivering energy-efficiency measures in occupied homes presents unique challenges. The project team recognised early that **resident engagement** would be central to success. The refurbishment manager reflected that *"you're working in people's homes… the biggest challenge is resident engagement."* This meant developing a sensitive, human-centred communication strategy that balanced efficiency with empathy.

> "you're working in people's homes… the biggest challenge is resident engagement"
>
> Project refurbishment manager

Initially, there was a technical language barrier. Many residents did not understand terms like "external wall insulation" or "EPC Band C." A **face-to-face engagement strategy** was therefore adopted, which fostered dialogue rather than prescriptive communication. This approach helped residents feel ownership over the retrofit process rather than feeling it was being "done to them."

Privacy was another critical concern. Residents that worked long shifts, particularly at nights and weekends, needed to rest privately during the weekday when construction works would normally take place. Other residents were vulnerable and needed quiet privacy on demand. The contractors therefore created systems to minimise disruption. These included:

- Flexible scheduling, with contractors coordinating access windows in advance, helping residents plan ahead.
- Flagging properties where advance permission was required before entry.
- Bundling site visits to reduce frequency. Utilising 360° imaging technology to gather property data during a single visit, also reduced the need for repeat visits.

Works can test residents' patience and create temporary disruption. These issues were mitigated by maintaining clear and continuous communication – keeping residents informed about progress, explaining what's happening, and ensuring they understand the benefits. The consistent, respectful engagement built trust and transparency, essential for maintaining consent and cooperation in long-term retrofit projects.

The fabric first approach

The fabric first philosophy underpinned every stage of the Rushden project. This approach prioritises improving the thermal envelope – the walls, roofs, floors, windows, and doors – before installing new heating systems. By reducing heat loss first, energy demand decreases, allowing for smaller, more efficient, and cost-effective low-carbon systems to be introduced.

In Rushden, this meant a layered process:

- **External wall insulation** to address solid walls
- **Loft and roof insulation** to reduce heat escape
- **Upgraded windows and doors** for better airtightness
- **Improved ventilation** to maintain healthy air exchange

The result was a "whole-house" upgrade that simultaneously addressed **thermal performance**, **comfort**, and **longevity**. This method not only cut emissions but also future-proofed homes against rising energy costs and climate variability.

In addition to insulation, the project integrated **low-carbon heating systems** such as air source heat pumps and high heat retention storage heaters. These systems not only reduce carbon emissions but also offer residents stable, efficient heating with less reliance on fossil fuels.

Health, wellbeing, air quality, and fuel poverty

Cold, damp homes are known to exacerbate respiratory illnesses, stress, and social isolation – especially among vulnerable populations. Following the intervention, residents reported dramatic changes in comfort levels, air quality, and general satisfaction. Improved **thermal comfort** and **air quality** translated into tangible physical and mental health benefits.

Before retrofit, many homes in Rushden had EPC D and E ratings, meaning significant energy inefficiency and high running costs. These conditions entrenched **fuel poverty**, forcing households to choose between heating and other essential expenses. Warmth reduced the need to overheat homes – lowering stress around bills and contributing to overall wellbeing. Moreover, the reduction in mould and condensation led to healthier indoor environments, directly improving respiratory health.

> "There's no damp in the air… my husband's always cold and even he said, 'God, this house is hot.' The house holds warmth a million percent more. I don't have to put the heating on as much – it saves money."
>
> An Amplius resident in Rushden

These comments reflect the triple benefit of retrofit:

- Improved health – reduced damp and mould lower respiratory issues and mental stress
- Better air quality – upgraded ventilation systems-maintained airflow while enhancing insulation, preventing condensation and improving indoor environments
- Reduced fuel poverty – energy efficiency measures lowered heating demand, helping households save on fuel bills and reducing financial anxiety

Beyond energy savings and EPC upgrades to Band C, the project's true legacy is long-term community resilience. In Rushden, home improvements delivered lasting environmental, economic, and social benefits – warmer homes, lower bills, and stronger resident-provider trust. Decarbonisation here is more than technical; it's a human story of empowerment and wellbeing.

See **Ampilus' article** or a **short film** for more information.