

CASE STUDY



Client: CAMBRIDGE CITY COUNCIL
Product: MODUS
Fabricator: ASSET FINELINE

Cambridge's Low-Carbon Retrofit using Closed-Loop PVC Recycling

- **Energy-Efficient:** 46 homes retrofitted under SHDF Wave 2.1 using high-performance insulation, ventilation, and triple-glazed windows.
- **Closed-Loop Recycling:** Old PVC-U windows were removed, recycled, and remanufactured into new frames - significantly reducing embodied carbon.
- **Sustainable Outcomes:** The project sets a benchmark for circular, sustainable design in social housing retrofits.

Challenge

Cambridge City Council set out to retrofit 46 homes, aiming to significantly enhance energy efficiency through improved insulation, airtightness, and ventilation.

This initiative forms part of the UK Government's £3.8 billion Social Housing Decarbonisation Fund: Wave 2.1, supporting the council's goal to achieve Net Zero Operational Energy - where energy consumption equals renewable energy generated on-site.

Cambridge City Council had the complex challenge of implementing high-performance energy solutions while balancing sustainability, affordability, and timely delivery. A key challenge was selecting materials that met strict criteria for low embodied carbon and recyclability, all while ensuring the comfort and well-being of residents.

Solution

Cambridge City Council partnered with Eurocell, Aran Insulation, Asset Finline, and Saint-Gobain to deliver a fully closed-loop PVC-U recycling project as part of their housing retrofit programme.

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Darren Sowter

Divisional Director at Asset Finline

eurocell

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A cornerstone of the thermal upgrades was Eurocell's Modus 75mm triple-glazed window system, achieving a U-Value of 0.8. These windows not only offered high thermal performance, significantly reducing heat loss and helping the homes meet strict energy efficiency targets but could also be fully recycled at the end of their lifespan.

Through the closed-loop recycling process, implemented by Eurocell and Asset Finline, the old PVC-U windows were removed, collected, recycled and manufactured into new frames, significantly reducing waste and embodied carbon, aligning with the project's sustainability goals. Saint-Gobain further contributed via its Glass Forever program recycling end-of-life glass and producing high-performance glazing to complement the Modus window system.

Aran Insulation were appointed by Cambridge City Council as Principal Contractor for their SHDF Wave 2.1 programme. As a Principal Contractor, Aran Insulation works with a high-quality local supply chain, supporting their commitment to social value. Aran Insulation appointed Asset Finline to cover all their window and door requirements, including recycling the old glass sealed units.

Outcome

The 46 retrofitted homes now offer warmer, more comfortable living environments, while significantly reducing energy consumption and costs for residents.

By integrating a closed-loop recycling process, the project minimised its carbon footprint, supporting Cambridge City Council's sustainability strategy. The collaboration between Eurocell, Aran Insulation, Asset Finline, and Saint-Gobain ensured the project was delivered on time and within budget, setting a new benchmark for energy-efficient social housing retrofits.

Aran Insulation Operations Director, Craig Thomson, visited homes included in the project and reported:

"Aran are proud to be working with Cambridge City Council on this project. The consistent and superior finish across the project is some of the best work I have ever seen. The quality control, provided by our team, and co-operation on site demonstrates the whole team are working well together."

sKelly Hibbert, Head of Commercial Sales at Eurocell, stated: "The Modus window system played a key role in achieving a seamless aesthetic design, while also delivering considerable cost savings. Combining exceptional energy efficiency with sustainability, the system incorporates 50% recycled material, underscoring its environmental credentials. This project highlights how the right sustainable specification can deliver a contemporary design without compromise."

Darren Sowter, Divisional Director at Asset Finline, highlighted the importance of teamwork: "This project serves as a prime example of how effective collaboration can lead to the successful delivery of high-quality, energy-efficient solutions. It showcases that we can meet and exceed expectations without compromising on budget or timelines, ultimately benefiting both our clients and the environment."

