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Rossendale Valley Energy: Net Zero Terraced Streets

Case study

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Introduction

Rossendale Valley Energy (RV Energy) has launched the **Net Zero Terraced Streets (NZTS) Project**, a pioneering project aimed at transforming Victorian terraced homes into energy-efficient, low-carbon dwellings. This case study explores how RV Energy is addressing the challenges of retrofitting older housing stock, reducing fuel poverty, and creating a replicable model for community-led decarbonisation. The initiative is designed to deliver long-term benefits for residents, the environment, and the local economy. Their new approach tackles the energy crisis on a communal level.

Decarbonising houses

Victorian terraces present unique challenges: limited space, outdated insulation, and high energy bills. RV Energy's approach avoids costly electric boilers and instead uses shared ground-source heat pump systems connected via ambient heat loops. Each home is fitted with smart hot water cylinders or thermal batteries, ensuring efficient heat distribution. Before installation, homes undergo fabric efficiency upgrades, including insulation and ventilation improvements.

This integrated system achieves a Coefficient of Performance (CoP) of around 4, compared to 1 for electric boilers, **reducing energy costs by up to 75%** and cutting **peak grid demand by 80%**. These measures also improve indoor air quality and comfort, addressing health issues linked to cold, damp homes.

A place-based approach

The initiative is rooted in community engagement. The Centre for Energy Equality (CEE) in partnership with RV Energy have developed a 'Fairer Warmth' platform to involve residents in decision-making and provide transparent information. RV Energy has developed a 'Fairer Warmth' platform to involve residents in decision-making and provide transparent information. A Community Energy Club offers affordable, locally generated power, while a Smart Local Energy System (SLES) integrates ground source heat pumps, solar PV, battery storage, and EV charging infrastructure.

This system uses peer-to-peer trading and local Power Purchase Agreements (PPAs) to keep energy costs low. Importantly, there is zero upfront cost for households; infrastructure costs are recovered through a standing charge model, similar to the national grid. This approach ensures inclusivity and scalability, making it possible to replicate across other terraced streets in the UK.

Benefits of a place-based approach

The benefits of the Terraced Streets project are extensive: significant reductions in heating costs, improved energy security, and enhanced community resilience. By lowering peak demand, the project alleviates pressure on the national grid, supporting wider decarbonisation goals.

Residents enjoy warmer, healthier homes, while the local economy benefits from job creation in renewable energy and retrofit sectors. The project also fosters social cohesion through shared ownership of energy systems and community-driven decision-making.

What does success look like?

Success for RV Energy means delivering affordable warmth and carbon neutrality for entire streets, not just individual homes. It involves creating a replicable model that combines technical innovation with social engagement.

In the long term, success will be measured by reduced carbon emissions, improved public health, and the establishment of community-owned energy systems that can be scaled nationally. The initiative aims to demonstrate that deep decarbonisation is achievable without financial barriers for residents.

Summary

The Net Zero Terraced Streets project by RV Energy demonstrates that decarbonisation of older housing stock is both achievable and scalable when you pair technical innovation and community engagement. By integrating shared ground-source heat pumps, fabric efficiency upgrades, and a Smart Local Energy System, Rossendale Valley Energy has created a model that delivers affordable warmth, reduces carbon emissions, and strengthens local resilience. This approach not only addresses fuel poverty and health inequalities but also empowers residents through transparent decision-making and shared ownership. As a replicable blueprint for other UK communities, the project proves that tackling the energy crisis at a street level can drive systemic change that can benefit households, the environment, and the economy for generations to come.

More information can be found at [Net Zero Terraced Streets \(NZTS\) in Rossendale](#).