

RISE

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Retrofit Success Stories: Delivering clean, affordable heat through innovation in Manchester

Case study

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Retrofit Success Stories

This series aims to explore the individual stories and experiences of successful retrofit projects from the perspective of key suppliers. This covers a range of themes from technology use through renewable energy and low carbon heating to the career progression and skill development that projects are enabling.

Introduction

This Retrofit Success Stories case study showcases Iain's experience working at **Kensa**, the UK's leading manufacturer and installer of **Ground Source Heat Pumps (GSHPs)**. Iain is a long-standing ambassador of heat pump technology, with a depth of experience in supply chain, manufacturing and contracting.

Iain Carr is a **Director of Domestic Sales** at Kensa and has been with the company for 7 years. Iain explains Kensa's role in One Manchester's Social Housing Decarbonisation Fund (SHDF) Wave 2.1 project at Hamilton Lodge in Rusholme:

"We are the manufacturers of the heat pump, and we've designed the emitter and distribution systems throughout the building as well."

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Background

One Manchester

One Manchester is a registered provider of social housing which owns and manages over 12,000 homes in Central, South and East Manchester. The organisation's purpose is to provide good quality homes, great services and real opportunities for its customers and communities.

One Manchester received £550,000 - as part of Greater Manchester Combined Authority's (GMCA) £37m consortium bid - under the Government's Social Housing Decarbonisation Fund (SHDF) Wave 2.1.

This Government grant funding upgraded 164 homes with energy efficiency measures – including loft and cavity wall insulation, external wall insulation, energy-efficient windows and doors and renewable heating systems such as air source heat pumps. The SHDF scheme was renamed to the Warm Homes: Social Housing Fund (WH:SHF) in September 2024.

Kensa

Kensa is the UK's leading manufacturer and installer of **GSHPs**, celebrating 26 years at the forefront of low-carbon heating. As specialists in networked heat pump

systems, Kensa delivers efficient, low-carbon heating and cooling to multiple properties and whole communities with minimal grid impact and the lowest lifetime costs.

With a strong focus on social housing, Kensa provides an end-to-end energy expert service that makes decarbonisation straightforward - from initial concept through to full project delivery. In partnership with the Warm Homes Social Housing Fund (WH:SHF), Kensa is committed to reducing fuel poverty and improving long-term comfort for residents by providing clean, affordable, zero-carbon heating.

Kensa's approach includes bespoke feasibility studies, tailored funding options and a dedicated team managing projects from planning to installation. Their systems are engineered for durability, efficiency and minimal replacement costs, offering a long-term, cost-effective route to improve EPC ratings, reduce energy bills and meet compliance standards.

Kensa's networked heat pump solutions are transforming the decarbonisation of tower blocks and social housing. To date, over 10,000 residents have benefited from warmer, more efficient, and more affordable heating, delivering 94% of all WH:SHF GSHP projects.

Ground Source Heat Pumps (GSHPs)

While acknowledging that the mechanics behind heat pumps can seem complicated, Iain broke the process down into straightforward steps:

"In simple terms, a Ground Source Heat Pump works by extracting a low-grade energy from the ground, through our network of boreholes which we call the ground infrastructure. Once we've collected that energy, we run that through the building, through the distribution pipework and bring it to the individual heat pumps."

"Once we've collected that energy at the heat pump, we increase the temperature of that low-grade energy, condense that down into a usable heat that we can use at the radiators at 50 degrees. So, when the resident turns the heating on, they get a radiator that instantly comes on at 50 degrees."

"A Ground Source Heat Pump in its essence is a little heat engine. We use ours inside the individual properties all at the end. All the energy that's provided by it stays within the fabric of the property."

Experience on Hamilton Lodge Works

Kensa now plays a pivotal role in housing retrofit through its work on the SHDF Wave 2.1 refurbishment project at Hamilton Lodge in Rusholme. The building had previously relied on night-storage heaters, which were extremely costly for



residents to run. Through its partnership with principal contractor Casey and One Manchester, Kensa was appointed as the specialist contractor to design and deliver a GSHP system that would significantly reduce running costs for residents.

The shift to networked heat pumps has cut energy consumption by around 75% while still providing the same level of warmth. In real terms, residents typically experience a 50% reduction in fuel bills compared with electric storage heaters. Much of this saving is naturally reinvested into improved comfort, resulting in homes that are warmer, easier to heat and far more affordable to live in.

GSHPs also help to address persistent issues such as damp and mould. The stable, consistent temperatures they provide eliminate the cold, fluctuating conditions in which damp develops, creating a healthier and more comfortable environment. While upgrades such as improved ventilation and new windows installed by Casey support this, the key factor is the ability to maintain a steady internal temperature. With residents now able to heat their homes consistently and affordably, the overall living environment has become safer, healthier and more comfortable.

Tackling fuel poverty

Iain explained that one of the core objectives of the Hamilton Lodge project was to tackle fuel poverty and reduce energy bills for residents. He emphasised that GSHPs were central to achieving these outcomes, describing them as *“the lowest cost to produce a kilowatt of heat”* in the fight against fuel poverty.

He also highlighted the crucial role of Government grant funding, particularly through schemes like SHDF Wave 2.1, in enabling energy-efficiency upgrades across social homes. This support, he noted, has been instrumental in demonstrating the value of networked heat pump solutions nationwide. As he put it, *“the funding provided by Government has been able to demonstrate, up and down the country, that a networked heat pump solution provides the lowest cost of heat.”*

At Hamilton Lodge specifically, residents have transitioned away from expensive night-storage heaters. Iain explained that *“in moving to networked heat pump and ground source heat pump technology, we’ve moved them onto the lowest possible cost to generate heat,”* helping to significantly reduce heating bills.

Looking ahead, he stressed the importance of continued collaboration and long-term planning within the housing sector: *“I think what we need to do now is continue working with the registered providers and continue to develop longer term strategies in terms of deployment to make sure that we get out and impact people’s lives.”*

Cool temperatures

In addition to delivering low-carbon heating, Iain highlighted that GSHPs can also provide efficient cooling - making for an attractive, all-year-round solution for residents. He explained that this capability is especially valuable as the UK faces increasingly frequent heatwaves and rising summer temperatures.

Kensa's approach to cooling is designed specifically with UK homes in mind. As Iain noted, *"Kensa's solution to cooling in properties is again another unique element because we're a British manufacturer with a British problem to solve."* He went on to describe how the system works: *"What we've done in this instance is we've provided an infrastructure in the ground, where our networked heat pumps are connected to the ground infrastructure. That infrastructure, with it being sat in the ground for heating, we can also utilise as a low temperature to bring in during the summertime."* This means that during high-temperature events or heatwaves, the cool ground loop can be used to deliver gentle, efficient cooling into homes. *"We're able to bring that medium that's already connected and already supplied to every individual property through to high-level fan convectors"* Iain explained.

The process is not only effective but also highly energy efficient. The cool ground loop can be used to lower room temperatures, and the energy removed from the indoor environment during cooling is then transferred back into the ground. This stored energy increases the efficiency of the ground source heat pump when it switches back to heating mode. As a result, the cost of providing cooling is almost negligible. This dual functionality - cooling in summer, heating in winter - offers residents year-round comfort while further improving the overall efficiency of the system.

Working in partnership

Reflecting on the success of the Hamilton Lodge project, Iain highlighted the strong collaboration between Kensa, One Manchester, and Casey as a major factor. He explained that the teams had built effective working relationships over previous projects, noting that *"really does smooth the process of getting everything together."* The experience and capability of the delivery partners also played an important role, with Iain emphasising that *"Casey, as the principal contractor, are very experienced in doing these types of blocks, and essentially have paved the way for Kensa to come in and deliver our speciality."*

Key successes

When asked about his proudest achievement, Iain spoke passionately about the difference the project will make to residents' lives and to the local area. For him,

the real impact lies in improving affordability and comfort for households who had previously relied on expensive storage heaters. *“The proudest bit of every project when we leave it is the difference that’s been made to the people that live here”* he said. He explained that moving residents onto networked heat pumps often leaves them with more disposable income, adding, *“we’ve got countless examples where we’ve taken people from that in the past, and they’ve got more money in their pocket to spend.”*

He also pointed out how this benefit extends beyond individual households. Increased disposable income feeds back into the local economy, and Casey’s use of local contractors on the project helps create and support green jobs. Ultimately, Iain said, the most rewarding part is knowing that residents will be living in warmer, healthier, more affordable homes: *“And when we leave here, we know that we’re leaving people in comfort.”*

Link to resources referenced:

[Kensa](#)

[One Manchester](#)

Links to relevant RISE resources:

[Heating technologies by RISE podcast](#)

[Understanding Heat Pumps | SHRA Masterclass](#)

[Understanding Heat Pumps | HUG 2 Masterclass](#)



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