

Barrington Court, London Optimisation Study



A2Dominion, a leading social housing provider, partnered with Elevate Everywhere to conduct an optimisation study for the district heating network at Barrington Court in London. The project serves 74 residential units, aiming to enhance heating efficiency, reduce carbon emissions, and lower operational costs. With a £17,410 funding award from the Heat Network Efficiency Scheme (HNES), the project was fully funded and identifies measures to meet HNES objectives while improving tenant comfort and sustainability.

Summary	
Network name	Barrington Court Heat Network
Network owner / operator	A2Dominion
Location	Barrington Court, 124 Wilton Road, London
Number of residential	74
Heat source	Gas boilers
Total funding awarded	£17,410
Optimisation Study delivered by	Elevate Everywhere
Top three recommendations for improvement	• Install heat interface units (HIUs) with integrated differential pressure (DP) sensors. • Implement weather compensation and upgrade pumps to variable frequency drive (VFD) units. • Upgrade insulation across the network to reduce heat loss.

Overview of heat network

The Barrington Court heat network, constructed in 2008, supplies heating and hot water via three gas boilers located in a ground-floor energy centre. At project initiation, the network operated with an overall efficiency of just 28%, underscoring the need for performance enhancement.

Details of why the project was needed

The network exhibited significant inefficiencies, with 72% of generated heat lost before reaching customers. Customers faced higher-than-necessary energy costs due to poor system design, lack of insulation, and outdated equipment. Aligning with HNES objectives, the project sought to:

- Reduce carbon emissions
- Enhance system efficiency
- Minimise operational costs and customer detriment.

Recommendations Proposed

- HIU Installation: Replace direct feed systems with HIUs equipped with integrated DP sensors for precise performance monitoring and reduced energy demand.
- Pump Upgrades: Install VFD pumps for enhanced control, energy savings, and optimal flow rates.
- Insulation Improvements: Apply missing thermal insulation and "duvet bags" to exposed pipes and valves to minimise heat loss.
- Weather Compensation: Introduce adaptive flow temperature controls based on external conditions to improve efficiency.
- System Monitoring: Install energy meters at key points to track network performance continuously.

Projected benefits realised from proposed measures

- Carbon Savings: 997 tonnes of CO₂e reduced over 20 years.
- Cost Efficiency: Annual fuel savings of £37,512, with a projected payback period of 13 years.
- Improved Efficiency: Boosted overall system efficiency from 28% to 41%.
- Customer Benefits: Lower heating costs and improved system reliability, enhancing tenant satisfaction.

Elevate Everywhere's phased approach ensured that interventions were data-driven and prioritised for maximum impact. Their continuous improvement methodology addressed immediate inefficiencies while setting a foundation for long-term

operational excellence.

Next steps

A2Dominion will look to implement the proposed measures, monitor outcomes, and incorporate learnings into future heat network projects. A robust dissemination strategy ensures that stakeholders remain informed and engaged throughout the process.

Quote from heat network owner

“By collaborating with Elevate Everywhere and leveraging HNES funding, we are informing our approach to improving efficiency and reducing costs for our residents. This project reflects our commitment to sustainability and customer satisfaction. It has highlighted the scale of investment required to deliver better outcomes for our customers connected to Heat Networks. We will use the findings of the study to develop our approach and investment strategy across all the heat networks we operate to reduce carbon emissions and provide affordable warmth to our customers.”

Nathan Rodwell, Energy Manager, A2Dominion