

Great Places: Hutton Lodge, Manchester Optimisation Study



Summary	
Network name	Hutton Lodge
Network owner	Great Places Housing Group
Location	Stockport, Manchester
Number of residential / commercial customers	28 Dwellings
Heat source	Gas boilers
Total funding awarded	£14,700
Optimisation Study delivered by	FairHeat
Top three recommendations for improvement	• Replace 1 pipe space heating system within dwellings with a 2 pipe system • Provide residents with thermostatic control of space heating in place of the existing end of life manual control • Use replacement of end of life distribution network as opportunity to optimise pipe sizing, upgrade insulation and provide dwelling level metering

Overview of heat network

Baths Court is a care and retirement housing scheme built in 1984, within the borough of Hammersmith and Fulham. It comprises of 32 supported homes, and has a reception, a communal lounge and kitchen. Heat is currently generated by two condensing gas boilers operating at 70-80°C connected to a 4-pipe heating system. This feeds the individual flats directly via the radiators. There are currently no HIUs on the network, and no heat meters installed.

Overview of Heat Network

Hutton Lodge, a Great Places Housing Group development in Stockport, Manchester, relies on a 4-pipe heat network constructed around 1989 to provide heating and hot water to 28 dwellings. Historically, the development has been used to house elderly residents. Whilst this requirement has been relaxed in recent years, there are still a number of vulnerable residents. Great Places was awarded £14,700 to undertake an optimisation study to identify opportunities to improve system performance.

Details of why the project was needed

The existing heat network at Hutton Lodge faces multiple challenges with reports of:

- Overheating in summer and underheating in winter
- Poor system reliability
- High maintenance and utility costs to Great Places Housing Group

The optimisation study confirmed that the system suffers from poor control and high heat loss, and the root cause of many of the issues is the manual control over dwelling space heating circuits which is failing open.

Recommendations proposed

Three work packages have been proposed to address the identified issues:

- Work Package 1: Implement control of each dwelling's space heating system to mitigate overheating.
- Work Package 2: Replacement of the space heating network, radiators, and conversion of dwelling space heating circuits to 2-pipe system (currently a 1-pipe system), with individual dwelling metering for both space heating and hot water.
- Work Package 3: Decommissioning of the hot water system and conversion of the space heating system to a 2-pipe system (network is currently a 4-pipe system) with single plate Heat Interface Units (HIUs) installed to supply heat and hot water to dwellings.

Projected benefits realised from proposed measures

If Work Packages 3 is selected, it is estimated that this would enable the following benefits following implementation:

- 66% reduction in site gas consumption
- 73% reduction in pumping energy consumption

- 66 % reduction in carbon emissions

Next steps

Once the preferred work package has been selected, the design will be developed further to confirm practicalities associated with the works. Once the project delivery plan has been agreed, Great Places intends to apply for capital works funding via HNES to support the optimisation works.

Findings from this site will also be compared against the Great Places' portfolio to identify similar sites where the findings of this study can be applied.

Quote from heat network owner

"The HNES Revenue funding has enabled Great Places to identify the root causes impacting customer experience at Hutton Lodge and the information required to develop targeted solutions. This information provides valuable insight for the residents of this site, but also forms another key step in Great Places' ongoing efforts to deliver heat network optimisation and decarbonisation across the portfolio."

Lisa Sharples, Heat Network Manager, Great Places Housing Group