Case study

The Boardwalk , Goat Wharf

Brentford, London

86 dwellings, with a mix of private and affordable rent

THE CHALLENGE

Notting Hill Genesis were concerned by the operating efficiency of the network at The Boardwalk, Goat Wharf.

High operating temperatures and poorly performing HIUs meant heat loss levels were high, resulting in overheating. This also impacted cold water temperature in the dwellings, with water being heated to temperatures that residents complained were uncomfortable.

The poor valve control in the HIU also meant that residents had to wait an unsatisfactorily long time to get hot water at their taps.

Residents were also dissatisfied with the frequent HIU breakdowns and the subsequent maintenance costs to fix them.

They had also complained about their billing system which didn't provide sufficient information about their balance or how much energy they were using.

FAIRHEAT EXPERTISE GUIDED IMPROVEMENTS FOR RESIDENTS AND THE CLIENT

FairHeat installed heat meters in the block and plantroom to develop a heat loss model across the network and analyse performance in more detail. After the analysis was complete, FairHeat developed a fully costed business case for the improvement works.

FairHeat and Notting Hill Genesis rolled out a full programme of works across the homes in the block that included:

- Installing new HIU units across the block
- Reduced the operating temperatures across the network through recommissioning and improved controls
- Installing Guru Hub II devices across the network, including in each individual dwelling

- Repairs to heating controls and underfloor heating in flats
- Replacing mains pumps and installing a water filtration system
- Closing all network bypasses so the system could operate as designed

SYCOUS RETROFIT INSTALLATION ENSURING EXCELLENT RESIDENT CARE

Sycous was appointed to retrofit the HIUs on site, including installing Guru Hub II across the network.

This project began with an onsite 'kick-off' meeting attended by all stakeholders where detailed surveys were undertaken to establish the best approach to installation that caused minimal disruption to residents – including residents with limited mobility. Meeting onsite meant that Sycous could identify several problems, including the original use of incorrect materials. This allowed a resolution to be agreed prior to wider installations and without disruptions the programme.

Sycous along with FairHeat also installed a heat meter in the plantroom as part of the heat loss model to analyse performance on the network in more detail.

Sycous worked closely with Notting Hill Genesis to identify vulnerability requirements and ensure they were accommodated, including the use of live translation facilities for residents with limited English as part of equipment demonstrations.

Sycous was also responsible for post-installation monitoring. Guru Pinpoint was used to monitor network efficiency as part of the sign-off process and for the following 24-month warranty period.

Sycous was able to significantly minimise waste to landfill by transporting waste materials from the old HIUs to their distribution location in Leyton for material recycling. Sycous were also able to return of reusable HIU packaging to the manufacturer again reducing the environmental impact of our works.

Included within the HIU replacement programme was the successful commissioning and roll out of the Guru Hub II system which included network infrastructure which Sycous installed and commissioned.

Existing HIUs were replaced. (Left - before. Right - after.)

GURU TECHNOLOGY TO SUPPORT NETWORK OPTIMISATION AND TRANSPARENT BILLING

Guru's Hub II utility management device was installed in each dwelling. The fine-grained network performance data captured by each Hub was then analysed by Guru Pinpoint as part of the post-installation monitoring process. Guru Pay was then set up giving residents a simple way to view and pay for the energy they use.

GURU HUB II

Taking data from meters, a network of Hubs constantly monitors conditions across the entire heat network, including individual dwellings and the plant room, as well as up to four additional utilities.

GURU PINPOINT

Guru Pinpoint gives developers, operators, and engineers access to the real-time performance data being collected by Guru Hub II. The platform uses machine learning algorithms to help identify and resolve performance issues. At Goat Wharf Guru Pinpoint was used as part of the post-installation monitoring process, as well as to observe ongoing network performance.

GURU PAY

Guru Pay allows property managers and metering and billing companies to manage tariffs, manage payments and mitigate debt risk by remotely switching customers from credit to prepayment, extending friendly or emergency credit, and enabling or disabling supply when needed.

THE RESULTS

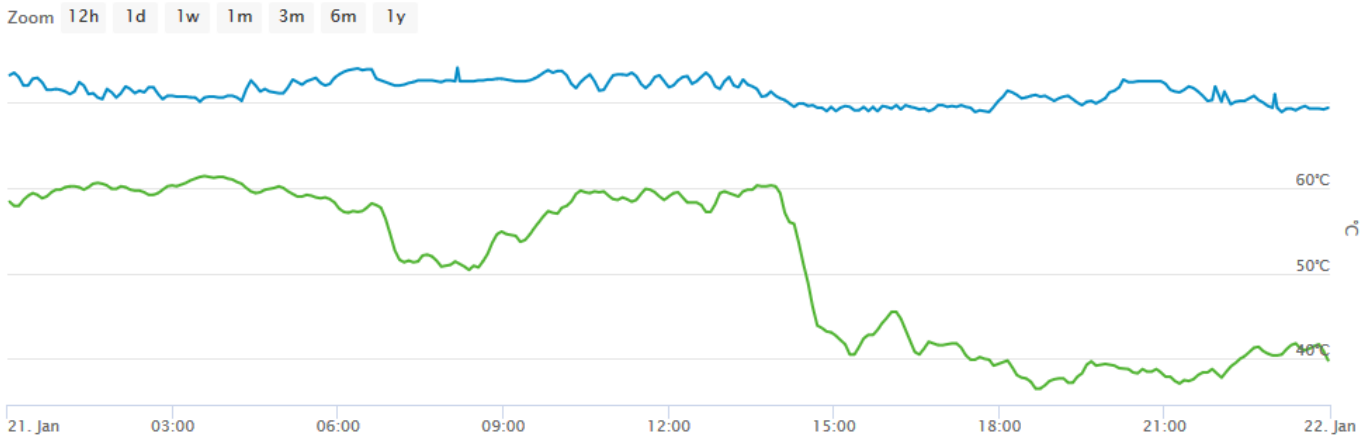
- Network flow temperature reduced from 80°C to 65°C, resulting in much lower heat losses.
- HIU bypassing has been eliminated and return temperatures are reduced by approximately 20°C across all modes of operation (hot water, heating and standby).
- 75% reduction in primary flow rate across the network.
- 90% reduction in pump energy consumption, saving £2,000 per year.

"We're happy with the result of the project at Goat Wharf, the improvement to the network has meant the system is now much more reliable and we'll be able to offer more affordable tariffs to our residents.

"We faced several challenges along the way associated with the unique set-up of the legacy network, both Sycous and FairHeat were committed to working through these challenges and proposed effective solutions to any problem while keeping residents needs in mind at all stages.

"Overall the project has made a positive impact on both NHG heat network operations and our residents heat service." – **Cat Avenell-Pankhurst, Notting Hill Genesis**

GURU PINPOINT SHOWS RETURN TEMPERATURE DROP AT THE ENERGY CENTRE AS THE FINAL HIU WAS REPLACED



GURU PINPOINT SHOWS THE FLOW RATE DROP, THEN BEGIN TO REACT TO DEMAND OVER THE SAME PERIOD

GURU PINPOINT SHOWS THE NETWORK NOW RUNNING AT 60°C FLOW, 40°C RETURN