

# Site Audit



**75 % reduction in network pump power consumption**



**Reduced return temperatures & heat losses**



**Improved network water quality**

## OVERVIEW

A 216-dwelling in West London, with a mix of social housing and private leaseholders. Low Temperature Hot Water is generated by centralised gas boilers and a Combined heat and power, which is supplied to dwellings via a two-pipe heat network. Twin-plate HIUs supply instantaneous hot water and heating via underfloor heating.

## CHALLENGE

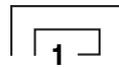
FairHeat was engaged to carry out a site audit of the development due to:

- High levels of resident complaints
- Overheating of dwelling utility cupboards and communal corridors
- High utility bills

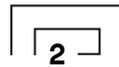


## FAIRHEAT SOLUTION

**An initial site audit by FairHeat identified that the causes of poor performance were:**



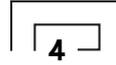
**Inadequate insulation:** The insulation thickness levels were less than Building Regulation requirements



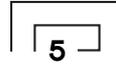
**High network return temperatures:** Caused by poor HIU commissioning and open riser bypasses. This bypass could not be closed due to significant oversizing of the network pumps, which meant their minimum turn down required an open bypass.

There were also concerns over the water quality as no side stream filtration was installed and the CHP and thermal store were acting as a significant dead leg and thus risk to ongoing water quality. FairHeat provided support to install and analyse plant room heat meter data prior to and during work process to monitor improvement. After the side stream filtration unit was installed, FairHeat reviewed the

installation and identified several significant concerns with the installation undertaken by a third-party provider. FairHeat undertook a pump sizing exercise, produced a pump replacement specification and project managed the replacement works, which enabled the riser bypasses to be closed and the dwellings to still receive suitable heating, even during cold snaps.



**Reduction in heat losses and corridor overheating**

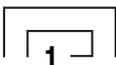


**Reduction in risks posed by poor network water quality**

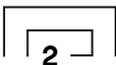
An HIU commissioning guide was produced for use by the maintenance team to improve HIU performance. Following the maintenance programme, FairHeat undertook a review of the works, highlighting flats where the HIU was still performing poorly. A significant number of the flats were found to still be bypassing, pushing the client to change maintenance provider, who have since further reduced network return temperature and losses.



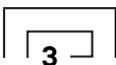
## RESULTS



**A 75 % reduction in network pump power consumption**



**All top of riser bypasses closed**



**Reduced return temperatures and improved insulation thicknesses**