

HEATWEB

CASE STUDY · HEAT NETWORKS & COMMERCIAL

Graylingwell heat network, Chichester

An HNES study of high losses and overheating

AT A GLANCE

NETWORK
Graylingwell, Chichester

OWNER AND OPERATOR
Graylingwell Energy Services Limited

CUSTOMERS
650 residential, 1 commercial

HEAT SOURCE
Biomass and gas boilers

FUNDING
£20,000, Heat Network Efficiency Scheme

TOP RECOMMENDATIONS
Metering, insulation and control

A £20,000 funded HNES revenue study of the Graylingwell heat network, to find why losses, running costs and overheating were so high, and to set out the works packages that will fix them and prepare the network for HNTAS.

The challenge

The network has been built in phases since 2010 and serves 650 homes and one commercial customer, with a further 350 homes being developed. Graylingwell Park is a former hospital dating back to around 1900; most properties are new build and around 30% are refurbished buildings.

Losses and operating costs were high, leading to significant fuel poverty across the site, and heat lost from the system was causing continued overheating in the buildings.

What we did

- Traced the problems from the energy centre to the properties and found their root causes.
- Reviewed the energy centre: gas and biomass boilers in parallel feeding two 45,000-litre thermal stores, run by the BMS, with six pumps circulating to every property.
- Worked around incomplete data: several key figures, including the number of connected properties, had to be estimated, so every working is built into a spreadsheet whose assumptions can be updated as better data arrives.

What we found

- The primary and secondary systems are built to a very high standard, if perhaps oversized, but the property installations date from 2010 regulations and overheating in the flats is a noticeable problem.
- The original design had CHP as the lead heat source. It was never installed, but the thermal storage was never resized to reflect that.
- Gas and electricity are sub-metered, but some properties have no heat meter.



Aerial plan of the Graylingwell Park site in Chichester.

650
homes served, plus one commercial customer

45,000
litres in each of the two thermal stores

£20k
HNES funding for the study

The outcome

- Six works packages to cut running costs and reduce overheating, starting with a review of every consumer connection, the missing heat meters and up-to-date technical documentation.
- A BMS package to correct data errors, add visibility and improve control, and an insulation package to reduce heat losses.
- A water quality package to extend equipment life, and HIU upgrades and recommissioning to improve network performance.

About Heatweb. Heatweb Solutions is a UK provider of engineering support for heat networks and commercial HVAC: monitoring, fault diagnostics, technical compliance, optimisation, commissioning and maintenance.

Talk to an engineer

The full case study: www.heatweb.co.uk/blog/case-study/graylingwell-heat-network/

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