

# Vega Building, Southern Housing



HNES awarded over £200,000 of Capital grant funding to support efficiency improvements to Southern Housing's Vega building, a general needs social housing block in Brighton & Hove, serving 40 people. The housing association worked with both Fairheat and Watkins to deliver the project, which aimed to implement improvements recommended through a previous optimisation study, also supported by HNES.

Summary	
Network name	Vega Building
Network owner / operator	Southern Housing
Location	Brighton & Hove
Number of residential / commercial customers	40 dwellings
Total funding awarded	£203,632
Total project capex (total value of works)	£800,000, including investment from Southern Housing in other upgrades
Heat source	Gas boilers
Performance/efficiency improvement measures deployed	<ul style="list-style-type: none"> <li>• Plant room upgrades</li> <li>• Pipework insulation</li> <li>• In-dwelling changes, including new TRVs, thermostat relocation, and</li> </ul>

	Heat Interface Unit (HIU) replacements.
Annual reduction in network fuel use	50% reduction in baseline gas use
Annual reduction in network carbon emissions (kg.CO2)	27,000 per annum over baseline
Average annual efficiency improvement (%)	50%

## Overview of heat network

The Vega building is a 13-year-old development comprising 40 homes located just off the seafront in Hove. HNES revenue funding was provided to the project for an optimisation study in 2023, and in Round 5, Southern Housing received over £200,000 capital grant funding to help them implement recommended improvements.

The support came at a time when the building was already undergoing a full roof replacement and upgrades to the homes themselves. Residents are kept warm through a heat network powered by gas boilers, discovered to be operating inefficiently through benchmarking in 2022.

Alongside the network's general inefficiency, Southern Housing Group's Sustainability team also identified other issues with consumer tariff calculations, frequent plant room interruptions, and localised callouts due to issues with the HIUs.

## Details of why the project was needed

Southern Housing's benchmarking revealed that the heat network was operating at 35% efficiency, with the building using an average of over 290,000kWh of gas over five years.

These issues meant that residents were faced with higher heat tariffs relative to other heat networks with a similar gas input price, and following price hikes in 2022, the cost of heat quickly became unaffordable for residents. Complaints had increased, and the issues were resulting in higher incidences of complaints and fuel poverty.

The optimisation study found a range of issues with the network. These included high flow and return temperatures, poor heat distribution, uninsulated pipework, poorly commissioned tertiary systems, hydraulic breaks in the system, and a lack of thermostatic control over the HIUs.

## Efficiency measures implemented

The funding provided by HNES helped Southern Housing and their delivery partner Fairheat to implement a number of improvements to the heat network.

In the plant room, Southern Housing installed a side-stream filter, dosing pot and vacuum degasser, recommissioned the Building Management System (BMS), and rinse and dosed the system to improve the network's water quality.

Southern Housing also installed differential pressure sensors, and reinsulated sections of pipework. In each residential dwelling, the thermostats were relocated, new radiator valves were installed, and single plate HIUs were replaced with dual plate HIUs.

## Outcome of changes

HNES-funded changes made to the heat network had an immediate effect on the network's performance. Southern Housing is now using 50% less gas, and the changes resulted in a reduction of 27,000kg.CO<sub>2</sub> per year. The network owners are also expecting even higher energy savings over the Winter period.

Residents are also directly benefiting from the improvements, with an annual reduction in their heating and hot water bill of around £438. Comfort levels have improved, with higher levels of customer satisfaction with their heating system being reported, resulting in a positive impact on residents' health and wellbeing.

The network's billing issues have also been resolved, and residents now have improved engagement with their metering and billing agent.

## Quote from heat network owner

*"The Vega Building project shows what is possible when specialist technical knowhow (Fairheat) is combined with the competency of an experienced heating contractor (Watkins).*

*The success of the project can be measured in multiple ways, from the satisfaction of Southern Housing's residents to the demonstrable improvements in flow temperatures, carbon emissions and gas usage. HNES funding unlocked this project and provided the methodology for which future retrofit projects will be based."*

**Greg Falder**, Heat Network & Energy Manager, Southern Housing