

Avon Fire and Rescue Service

A retrofit success story on the Bristol heat network

A heat network connection for Temple Fire Station was completed, reducing Avon Fire & Rescue Service's carbon footprint by an estimated 12 tonnes per year.



Project overview



Located within the existing Redcliffe heat network area, the station **replaced their gas-fired boiler system with a heat network connection providing reliable, low carbon heat.**



The project was completed with funding secured through **the government's Public Sector Decarbonisation Scheme.**

The challenge

1

Temple Fire Station is Avon Fire & Rescue Service's busiest site, and like many public sector buildings, it faced the challenge of reducing its carbon emissions while maintaining operational reliability.

2

The station's existing heating system relied on fossil fuels, contributing to the service's overall carbon footprint and conflicting with its goal of achieving net zero emissions by 2030.

3

Decarbonising the heating system required a solution that could be integrated into the building with minimal changes to the existing heating system and internal layout of the building.

The low carbon heating solution

- To connect the building, Vattenfall integrated a substation within an existing space in the buildings plantroom, and made the changeover from gas boilers to the heat network without interrupting day to day operations of the local fire service.
- Avon Fire & Rescue Service played an active role in supporting the installation process, including integration into the station's plant room.



“Temple Fire Station demonstrates how building’s gas fired heating systems can be upgraded to a low carbon alternative with minimal impact to the building fabric and M&E systems.

“For building owners weighing up their options, especially those unsure about the complexity of moving away from gas, this is a great example of how it can be done. You don’t always need to go down the route of an on-site heat pump which may require additional internal and external space to be sacrificed as well as heat emitters needing to be changed. The heat network offers a simpler solution to integrate into your building.”

Andrew Foulkes, Vattenfall Business Development



“Connecting Temple Fire Station to the Bristol heat network marks an exciting step in decarbonising our estate and advancing the Service’s net zero and environmental goals.

As one of our busiest stations, it was essential that the switch had no impact on our operational activities, and we’re pleased to confirm it hasn’t. By joining the heat network, we’re not only reducing our emissions and environmental impact, but also supporting local, sustainable energy for the wider community”

Louise Brogan, Environmental Manager, Avon Fire & Rescue Service

The results

- 1 Estimated reduction in carbon emissions of 12 tonnes per year**
with the potential for even greater savings in the future.
- 2 Building remained operational**
while all connection works were delivered, with short cutover period scheduled at optimum time with the client.
- 3 Enhanced operational experience**
the fire station can now enjoy guaranteed heat provision, with the heat network providing greater reliability of supply from its multiple energy centres and 24/7 reactive maintenance provision.
- 4 Space optimisation achieved**
by locating heat network plant within a portion of the existing plant room. Heat network substations tend to occupy the same less, or less, than a gas boiler. There was also no need for any additional space that would have been required by an on-site air source heat pump.
- 5 Supports Avon Fire & Rescue Service’s net zero by 2030 target**
and contributes to Bristol’s citywide decarbonisation efforts and reduces local air pollution.