

# Bedminster heat network

Working in partnership with Bristol City Leap, Vattenfall Heat UK has started the next phase of the Bedminster heat network, a key milestone in the delivery of vital infrastructure and bringing low carbon heat to the area.

The partnership between Bristol City Council, Ameresco and Vattenfall Heat UK will accelerate investment in Bristol to help meet the city's ambition to be carbon neutral by 2030.

Vattenfall is responsible for expanding the city's existing heat network to create a citywide network. Two heat networks are already in operation in Redcliffe and Old Market, with work now underway to develop Bedminster and Temple.

The purpose of this document is to provide information about upcoming plans and activities for the Bedminster heat network. FAQs related to Vattenfall and the Bedminster heat network are below.

If you have questions, please send them to: [bristol.enquiries@vattenfall.com](mailto:bristol.enquiries@vattenfall.com).

## **Bedminster heat network**

### **What is a heat network?**

A heat network (also known as district heating) is a system of insulated pipes that transports hot water from centralised sources to multiple buildings, where it is used to provide heating and hot water to residents and businesses in each building. They provide a more efficient way of heating by using a larger central heating source, instead of lots of small individual heating systems.

### **What is happening in Bedminster?**

In April 2024, as part of the phased delivery plan for the Bedminster heat network, Vattenfall is installing a temporary energy centre to enable the first three buildings in Bedminster to connect to the heat network and be supplied with reliable heat.

This temporary energy centre will be formed of three pre-packaged shipping containers. These will host a low carbon fuel boiler, plant room and fuel tank respectively. The temporary energy centre will be located on the highway on St John's Road for a maximum of one year until April 2025.

This project required installation of a new underground heat network pipe, approximately 30m long. This involved one short-term road closures between March 21<sup>st</sup> - March 25<sup>th</sup> 2024.

### **What is the delivery plan for Bedminster?**

To meet the demands of the Bedminster heat network as it develops, low carbon heat will be generated using smaller equipment to start with, ahead of us developing a permanent energy centre in the future.

We are planning a three-phase approach:

- In Phase 1 a temporary energy centre will be installed to serve the needs of local buildings in the short term, located on the highway of St John's Road for one year.
- In Phase 2, as the demands of the heat network expand with more buildings connecting, we will replace the energy centre with another temporary solution, in a different location, that is capable of supplying heat to all customers of the heat network.
- Phase 3 will see the installation of a permanent energy centre.

*Please note, Phases 2 and 3 are subject to planning permission.*

**How will the Bedminster heat network generate energy?**

The low carbon energy generation solutions currently being considered are:

- **Phase 1 (April 2024-April 2025)** – Hydrotreated vegetable oil (HVO) which is made from 100% renewable raw materials such as vegetable oil and contains 90% less carbon than traditional fuel oil.
- **Phase 2 (2025-2028)** - Reuse of existing equipment from the Old Market heat network. This will be located on Whitehouse Street, subject to planning approval.
- **Phase 3 (from 2028 onwards)** – A permanent energy centre generating fossil free heat will be installed. We are working with Bristol City Council to decide on the best location with the current preferred site on Whitehouse Street.

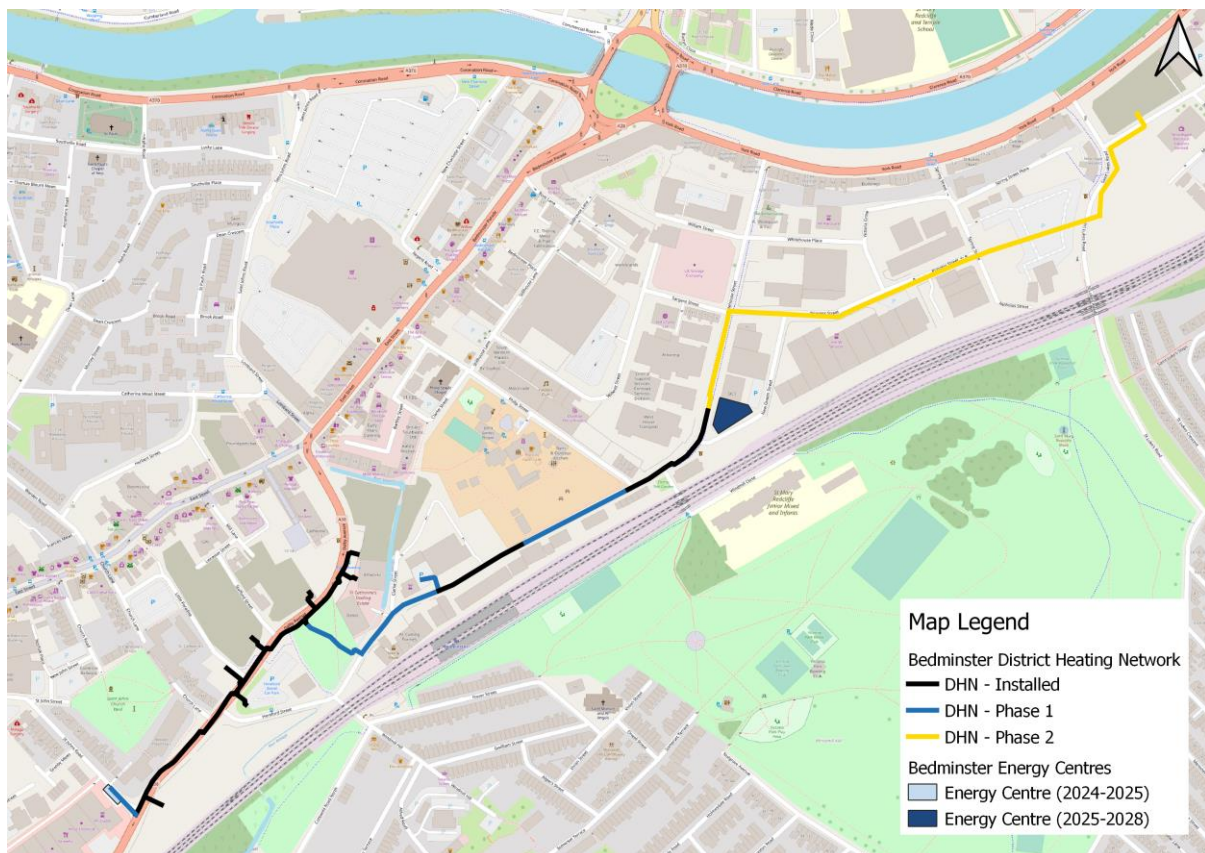
**What will the energy centre(s) look like? What size will they be?**

The temporary energy centre (April 2024-April 2025) will come pre-packaged in three shipping containers, approximately 18ft long each. The Phase 2 energy centre comes in a similar shipping container and will be reused from the Old Market network. The permanent energy centre in Phase 3 will be a separate building. The size and appearance of this building will depend on the site and technology chosen for the project and is subject to its own planning application. This is still in the development stage and will be designed in line with relevant policies and frameworks.

**What is the proposed route for the Bedminster heat network?**

The map below provides a view of the buried pipework delivered to date (shown in black), alongside planned construction works as part of Phase 1 (shown in blue).

Our longer term plans to extend the Bedminster heat network are referred to as Phase 2 (shown in yellow). The team are continuously evaluating the route, which will develop in accordance with feasibility studies and market development opportunities.



**What are the proposed timelines for construction of the Bedminster heat network?**

To complete Phase 1 of the Bedminster heat network, we will be installing two separate sections of underground pipework: crossing Bedminster Green and along the edge of Windmill Hill City Farm. Subject to permission being granted, we are aiming to complete Bedminster Green and Windmill Hill City Farm construction works during winter 2024/2025. This will ensure minimal disruption to the farm's growing season.

**Why aren't Vattenfall working to bring existing houses onto the network given the proximity of the piping? Are there plans and timelines to connect existing houses onto the network?**

The immediate priority is to work with the new developments in Bedminster, and we are exploring ways to extend the heat network in surrounding residential areas.

Once the initial phase of the Bedminster heat network is built, we will be able to focus more on decarbonising existing buildings and hopefully individual homes. Connecting existing homes is something the UK as a whole is still working on; the focus to date has been to connect new build properties. So, we will initially look for a pilot project to demonstrate the technical and economic viability.

Under the Bristol City Leap partnership, colleagues are working on home energy efficiency support, which residents can get involved in now.

There is also a Community Energy Fund that's dedicated to supporting community initiatives that contribute towards the decarbonisation of Bristol and secure long-term benefits for local residents. The fund was launched at the end of September 2023 and is open for applications now: <https://www.bristolcityleap.co.uk/community/community-energy-fund/>.

**St John's Road temporary energy centre****Did the temporary energy centre go through planning approval?**

We required a licence from Bristol City Council's highways authority, which we have obtained. As the energy centre is temporary, no planning permission was required.

**What is the noise impact of the temporary energy centre?**

A noise impact assessment has been conducted by a specialist environmental consultant which determined that the operation of the energy centre at this location is in line with relevant standards. Acoustic barriers will be in place around the temporary energy centre to further reduce the noise impact to the local community.

**Will the temporary energy centre impact air pollution?**

Relevant mitigation measures in line with an air quality assessment, conducted by a specialist environmental consultant, will be implemented. The temporary energy centre will generate low carbon heat in accordance with Vattenfall's CO2 roadmap, which states that we will rapidly move away from energy production based on fossil fuels and increase use of fossil-free sources for generating electricity and heat.

**Will there be more road works required?**

The road works currently taking place on Malago Road are highway improvement works which are being managed by Bristol City Council. In order to operate the temporary energy centre, the project required installation of a new underground heat network piping, approximately 30m long into the heat main that runs under Malago Road and Dalby Avenue. This required one short term road closure between March 21<sup>st</sup> - March 25<sup>th</sup> 2024. The pipe installation works are now complete but further road works will be required on St Johns Road to install the temporary energy centre.

**Why was the temporary energy centre located on St John's road?**

Vattenfall went through an extensive exercise with stakeholders to assess multiple sites along Malago Road, with St John's Road being identified as the best short-term solution. This was due to its proximity to the underground network, availability of land in Bedminster and ability to refuel the temporary energy centre alongside the unit.

**How often will the temporary energy centre be refuelled?**

Refuelling requirements will be dependent on demand, but a high-capacity tank will be used to reduce the number of deliveries. The required frequency will be further understood over the course of the first few weeks of operation, and we will be able to provide additional guidance on this soon. Please let us know if there are certain days of the week or times of day that you would like refuelling to occur outside of.

**How long will the temporary energy centre be on St John's road for?**

There is a phased approach to the works which ensures that the temporary (Phase 1) energy centre will be moved to an appropriate location as soon as possible. Currently, the Phase 1 energy centre will be located on St John's Road for a maximum of one year (April 2024-April 2025).

**Why does the energy centre require foundations if it's temporary?**

In line with structural design requirements, the steep road required levelling. Solid bases will be installed to enable the installation of the temporary energy centre. This will be removed at the end of use, with the road returned to normal.