



## Bath Road Energy Centre - Frequently Asked Questions

The Bath Road Energy Centre will be Vattenfall's second low carbon energy centre to supply heating and hot water to the Bristol heat network.

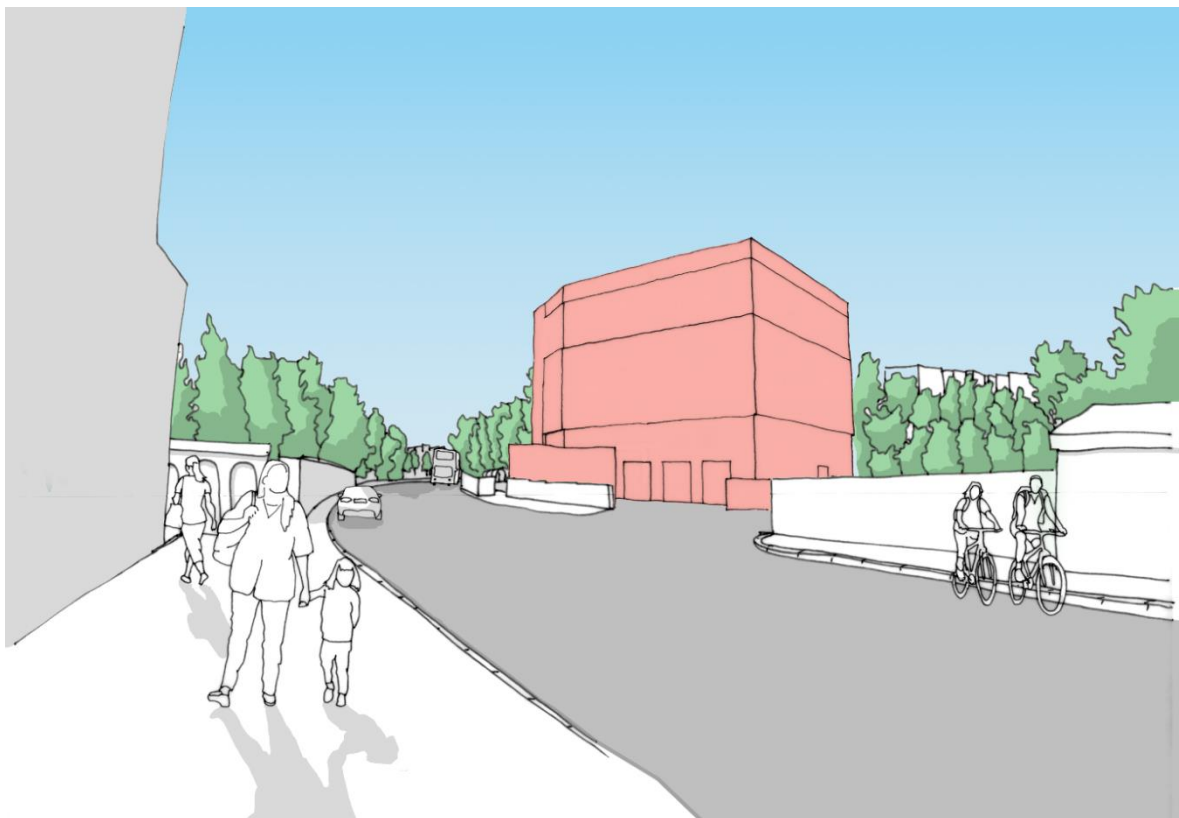
This permanent energy centre will be the engine room behind the development of Bristol Temple Quarter, and ultimately support the wider Bristol heat network once the current network areas are joined together.

The proposed energy centre is set to produce 13MW of low carbon heat generated by an air source heat pump and electric boilers – producing heating and hot water for up to 2,350<sup>1,2</sup> houses and reducing carbon emissions by up to 65%.

The Bath Road Energy Centre could save up to 4,231 tonnes of carbon emissions going into local environment annually, compared to a normal gas boiler. Running at full capacity, this could reach a height of 7,385<sup>5</sup> tonnes, which is the equivalent of taking 3,690<sup>6</sup> diesel cars off Bristol's roads every year.

The energy centre will unlock a fossil free future for Bristol, and it will work alongside other energy centres such as the water source heat pump already at Castle Park. It will provide buildings in the city centre with access to a long-term, future proofed decarbonisation solution, eliminating the need to burn fossil fuels to heat homes, offices, education centres, leisure and social spaces.

For more information, please email us at: [bristol.enquiries@vattenfall.com](mailto:bristol.enquiries@vattenfall.com).



Context view - looking south along Bath Road towards the Wells Road junction, showing angled and set back building frontage.  
Note: indicative massing only, not proposed facade detail.

### April 2025 - Bath Road Energy Centre

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## **Frequently Asked Questions**

### **What is an energy centre and why is it needed?**

An energy centre is a facility that generates energy for a heating system, like the Bristol heat network. Vattenfall operates energy centres already in Bristol, like Castle Park Energy Centre, England's largest harbour based water source heat pump to provide low carbon heating and hot water to homes and businesses.

### **What's the difference between an energy centre and a heat network?**

Heat networks are a more efficient way of providing heating and hot water to multiple properties from a shared, central source rather than each property having to generate its own by burning fossil fuels. Energy centres are an important part of heat networks as they generate the heat that is distributed to buildings connected to the heat network.

For example in Bristol, Castle Park Energy Centre produces low carbon heat using water source heat pump technology, which is stored and distributed to connected buildings including Castle Park View, Temple Fire Station and the Central Health clinic via the Bristol heat network.

### **How will the Bath Road Energy Centre work?**

The Bath Road Energy Centre will generate low carbon heating and hot water for the Bristol heat network using air source heat pump technology (ASHP), with back-up electric boilers.

ASHP technology works by absorbing heat from the air and transferring it to a fluid refrigerant. This fluid passes through a compressor, which raises the fluid's temperature to between 70-75°C. The warm water is distributed through the heat network to connected properties, where it is used to provide heating and hot water. Instead of gas or other fossil fuel alternatives, ASHPs use electricity to operate, meaning there are no carbon emissions going into the local area.

The Bath Road Energy Centre will also have thermal stores on site. These thermal stores function in a similar way to hot water tanks by storing any excess heat that we generate. When the demand for heating and hot water is higher – for example, on the coldest days of the year - we will take heat from the thermal stores and top up the Bristol heat network to provide sufficient heating to homes and businesses.

### **Who will be responsible for its operation and maintenance?**

Vattenfall as owner and operator of the Bristol heat network, is responsible for the operation and maintenance of this energy centre. More information about Vattenfall and the Bristol heat network can be found [here](#).

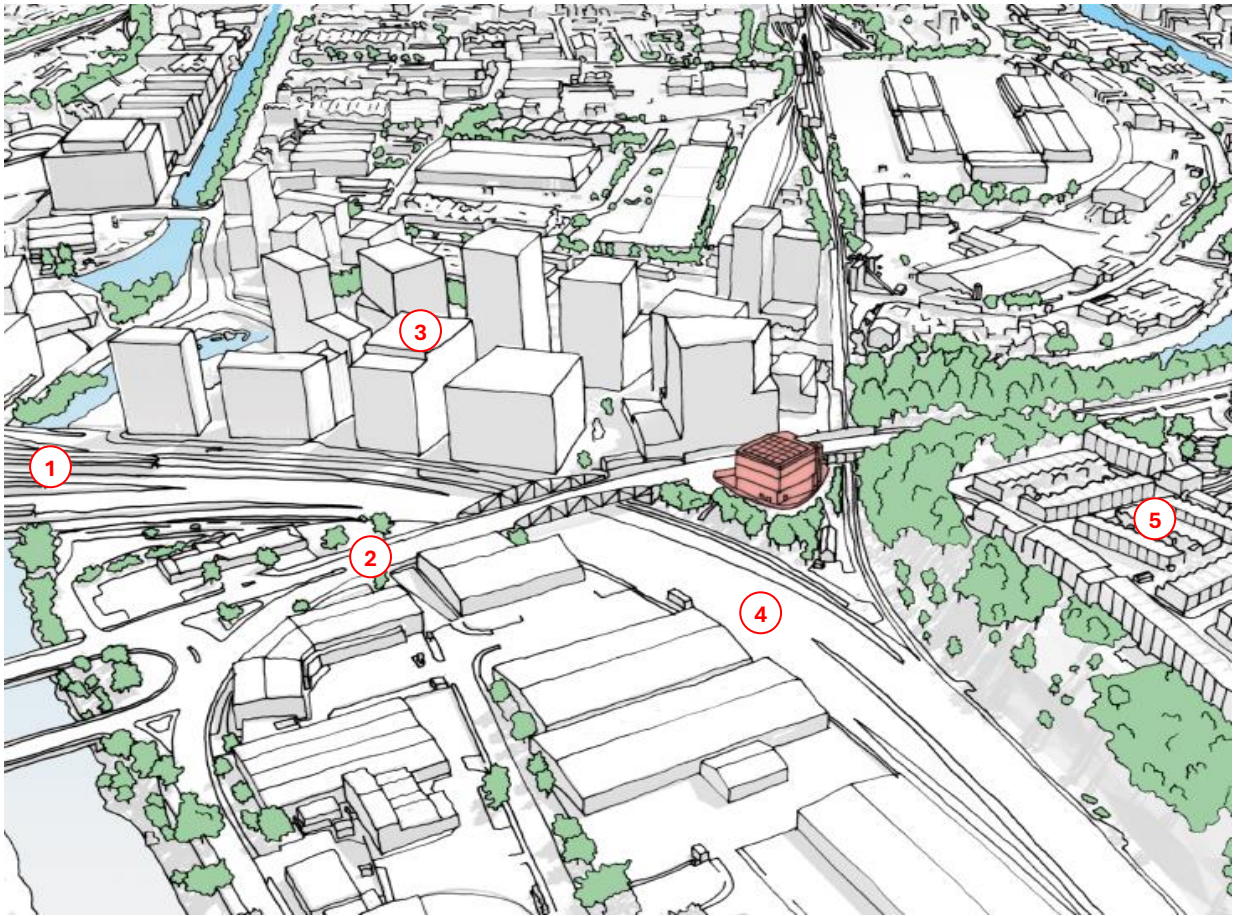
### **Where will the energy centre be located?**

The proposed site for the energy centre is situated adjacent to Bath Road (A4), one of the main routes into and out of Bristol city centre, and lies at the boundary of the future development area of Temple Island.

The image below visualises how the site will be tucked in between Bristol Temple Meads railway lines, Bath Road and the neighbouring community of Totterdown to the south. The supporting key references nearby locations.

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Key:

1. Temple Meads station
2. Bath Road
3. Future Temple Island development
4. Great Western main line
5. Totterdown

### **Why was this location selected?**

The location balances the need for it to be close to existing energy infrastructure and the buildings it is serving, whilst minimising interference with local residents and businesses.

We wanted to place the energy centre in an industrial setting so the functionality and architecture of the building could be integrated within the surrounding area. Located next to Bristol Temple Meads, the energy centre will proudly sit next to a bustling transport hub that celebrates the industrial heritage of the city. The building seeks to reflect this context, creating a piece of modern civic industrial architecture for Bristolians, commuters and visitors.

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## **What will the energy centre look like?**

The energy centre needs to be big enough to keep up to 2,350<sup>1,2</sup> homes warm within the Temple heat network area, supporting the new buildings coming forward as part of Bristol Temple Quarter.

In the future, this energy centre will also contribute to heating the entirety of the city centre once the Bristol heat network areas are all joined up, which is expected to supply heating for equivalent of 12,000 by 2030.

The energy centre is expected to be three storeys tall (almost 19 metres) – with the ground floor and first floor hosting the heat generation equipment, whilst the screened roof area above will contain the fan units, which are used to extract heat from the surrounding air. Adjacent to the main building will be two thermal storage tanks, which look like large cylinders, and will also be screened.

The energy centre will have its own dedicated access road, as well as fencing to ensure the site is secure. We will sympathetically landscape the area and rewild the perimeter of the site to create spaces for wildlife and soften the visual impact of the building for those passing.

## **Where is the low carbon heating going to and who is it benefitting?**

The Bristol heat network currently provides heating and hot water to both new and existing buildings, usually residential developments and office blocks. This is partly to do with the type of energy infrastructure we're installing and how it works, as well as local planning policy in Bristol which states that any new development in Bristol must connect to a low carbon heating system, like the Bristol heat network.

With this in mind, heat generated from the Bath Road Energy Centre will be primarily supporting buildings which are being built as part of Bristol Temple Quarter. These will mostly be new residential housing blocks and new offices, as well as new educational facilities.

By providing low carbon heating and hot water to new buildings in the area, this will significantly reduce reliance on fossil fuels and contribute to Bristol City Council's decarbonisation targets.

## **Does this energy centre have planning permission?**

The Bath Road Energy Centre will require planning permission from Bristol City Council, and we are expecting to put in our application in Summer 2025. We are working with a number of stakeholders in the area, such as Network Rail and utility providers, to develop our application.

## **Will there be any public consultation or opportunity for feedback?**

To support our planning application, we will be sharing information on our plans and receiving feedback from the Bristol community in April 2025. This energy centre is an exciting development for the Bristol heat network and we want to provide local residents, businesses and community groups the opportunity to learn more about why it's needed, how it'll work and what you can expect from the development of the energy centre both now and in the future.

We are intending to submit a full planning application in Summer 2025. Once the application is submitted, Bristol City Council will undertake a period of statutory consultation, during which you will be able to submit comments on the application through the council's online application portal.

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## **What will the impact be on local residents?**

The site selection for this energy centre, along with the proposed positioning of the building itself within the wider site, has been selected with our neighbours in mind with a specific focus on mitigating any visual and noise impact. With this considered, the impact on local residents will be minimal.

Beyond the tree line, the nearest neighbouring residential area is Totterdown on the hill above the site, with the closest home being 60m away. Once constructed, residents here could expect to look down upon the energy centre, when viewed through the existing dense tree canopy.

## **What will the energy centre look like?**

A team of architects are working on the project to create an energy centre that is visually interesting and fitting for the environment. The design will use high quality and decorative metal cladding across the building's elevations, incorporating discrete and low level lighting to subtly highlight these features at night. As we're currently in the planning process, the exact metal cladding design for Bath Road Energy Centre has not been finalised and this will be discussed as part of the consultation process.

Beyond the outside of the building, we also have a landscaping strategy. There is an existing woodland habitat, which we would retain and improve through additional biodiversity planting which would meet Bristol City Council's Biodiversity Net Gain targets and Ecological Enhancements.

Due to the nature of the building, there will also need to be secure perimeter fencing around the site.

## **Will the energy centre be noisy?**

Air source heat pumps (ASHPs) have fan units that produce some noise but are typically quiet. These fans will be at roof height and therefore away from the nearest point that the public will interact with the building, which is the public highway (Bath Road) either from within a vehicle, or as a pedestrian or cyclist.

We are undertaking a noise impact assessment. Depending on the results of these surveys, we will explore measures to reduce noise through soundproofing materials or by turning down the fan speed of the ASHP during nighttime.

These measures will ensure there will be no negative noise impact beyond the existing background noise levels on the site (recorded with noise sensitive receptors), as agreed with Bristol City Council.

## **What is the impact on air quality?**

The Bath Road Energy Centre will be 100% fossil free in operation, and there will be no negative impact on air quality once built. This is an exciting milestone for Bristol and the expansion, and decarbonisation, of the Bristol heat network – and we're thrilled to be delivering the second permanent low carbon energy centre and bringing this to the centre of Bristol.

## **When will construction start?**

If we are successful with receiving planning permission in 2025, we expect construction to begin from 2026. The design and build of this energy centre is estimated to finish in 2027 and begin

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supplying heating and hot water to buildings connected to the Temple heat network area from 2028.

### **How will traffic along Bath Road be affected?**

The energy centre will have its own access road located fully within the site's boundary. This will join onto Bath Road via the existing entrance into the site, located to the south of the main railway bridge. Once built and in operation, the energy centre will not generate more road traffic. This is because it is designed to run autonomously.

The energy centre site is across Bath Road from the Temple Island development, which is being developed by Legal & General. As part of this regeneration project, Temple Island have responsibility for any highway improvements along Bath Road. More information on this project can be found [here](#).

### **Can local residents get heating and hot water from the energy centre?**

Connecting individual homes is something the heat network market in the UK is still working on. This means individual homes nearby in Totterdown will be unable to connect to the Bristol heat network and receive heating from the Bath Road Energy Centre.

We are exploring pilot projects for connecting existing homes locally to demonstrate technical and economic viability. If you're interested in being involved in a pilot project, please email [bristolbusdev@vattenfall.com](mailto:bristolbusdev@vattenfall.com).

As part of Bristol City Leap, Vattenfall will deliver a combined social value package over £61 million which includes initiatives and funds supporting skills and development, supporting community energy and boosting the local supply chain. Find out more about our social value activities [here](#).

### Contact us

For more information on the Bath Road Energy Centre, please email us at: [bristol.enquiries@vattenfall.com](mailto:bristol.enquiries@vattenfall.com). If you're a building owner or plot developer in the area who would like to connect to the Bristol heat network and benefit from low carbon heat, please email: [bristolbusdev@vattenfall.com](mailto:bristolbusdev@vattenfall.com).

### References

<sup>1</sup> Assume optimal dispatch, large thermal stores and 96% uptime of ASHP.

<sup>2</sup> Average house taken from data provided by Ofgem.

<sup>3</sup> Comparison against a 90% efficient condensing boiler.

<sup>4</sup> 0.183kg CO<sub>2</sub> per 1kwh of gas burnt and 0.143kg of CO<sub>2</sub> per kwh of electricity consumed (2028).

<sup>5</sup> This assumes ASHP run at full capacity for 96% of the year and Electric Boilers run at fully capacity for 100% of the year. Heat losses in the network and electricity usage for ancillaries/ distribution pumps not included in calculation.

<sup>6</sup> Assumes an average diesel car does 7,400 miles a year which produces 2 tonnes of CO<sub>2</sub>/ year.

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