

The Bristol heat network

A guide to getting your community group involved

VATTENFALL 

Working with **BRISTOL**
city leap



P R A X I S



Dom Barton
Director of Bristol Heat Networks, Vattenfall

Welcome from Dom Barton

I have observed the development of the Bristol heat network from the start, and I am immensely proud to be expanding the network to create a local energy system that is fit for the future.

For Vattenfall, community is at the heart of the Bristol heat network. It will not only serve the residents and businesses that connect to it with reliable, low-carbon heat, but the wider community in Bristol too. It will improve the air quality in the city, support its ambition to become carbon neutral by 2030, and deliver social value as it is built.

As we build the Bristol heat network, there are opportunities for local groups to become an integral part of the network's fabric. We want to work with community groups who are considering a connection to the heat network or help explore generation projects that could provide groups with an additional revenue stream.

To support this ambition, we have provided seed funding alongside our partners Ameresco for the Bristol City Leap Community Energy Fund. The aim of the fund is to support local community energy projects, including connections and projects related to the Bristol heat network.

We've created this guide to provide information on how the community can get involved with the Bristol heat network and to highlight the funding available through the Bristol City Leap Community Energy Fund.

If you are interested in the Bristol heat network and how your community could benefit, I encourage you to [get in touch](#) or consider applying to the fund via [Bristol City Leap](#).



Contents

- 4 Introduction
- 6 The Bristol heat network
- 8 **Part 1 - Supporting community connections to the heat network**
 - What makes a good candidate for a connection
 - An example of the application process
 - What to expect from a feasibility study
- 10 **Part 2: Supporting community-led generation**
 - How Vattenfall can help
 - How generation could work in practice
- 12 Contact details





We're powering the transition to low-carbon heating in Bristol

With the impact of global climate change now hitting home, more and more communities are considering what they can do to reduce carbon emissions and live a more sustainable future. Heating represents approximately 14% of household carbon emissions, so decarbonising the way homes are heated is a key priority for communities with a low carbon vision. But where to start?

At Vattenfall, we are driving the transition towards low-carbon heating in Bristol. We're part of Bristol City Leap, a twenty-year partnership between Bristol City Council, Ameresco and Vattenfall. This partnership will enable the delivery of at least £1 billion of investment into Bristol's energy system to support the city's target of being carbon neutral and climate resilient by 2030.

We're working to expand the existing Bristol heat network and develop new networks, with the long-term goal to interconnect them to serve the local community with reliable, low-carbon heat.

With decades long experience in delivering heat networks across Europe, Vattenfall brings investment and unrivalled know-how to design and deliver a city-wide, resilient heat network that achieves low-carbon heat, creates jobs and boosts the local economy in Bristol.

How we're funding a community-led approach

Vattenfall and our partners Ameresco have together committed £1.5 million of funding to create the Bristol City Leap Community Energy Fund. This fund will support and enable community-led energy projects through a combination of grants and loans.

Our goal for the fund is to stimulate innovation and accelerate the decarbonisation of Bristol whilst supporting community projects that deliver for local people.

The fund can support on a range of projects:

- helping local groups gain an additional revenue stream through community-led ownership of renewable energy or heat network assets
- using community buildings to generate low-carbon electricity for your building or to power the heat network
- funding additional community connections to the heat network.

We are working with Bristol Energy Network and Bristol City Leap to identify and support local community groups to leverage the Bristol heat network and benefit from the low-carbon future of the city.

This guide is designed to provide information to communities on how they could work with Vattenfall and the heat network in Bristol on connection and generation projects.

The guide also highlights the funding available through the Bristol City Leap Community Energy Fund.



Working with



Who this guide is for

The opportunities discussed in this guide are by no means an exhaustive list. If you have ideas for alternate models, we encourage you to get in touch for an early discussion at bristolbusdev@vattenfall.com.

Community groups with existing assets

Do you belong to a community group with existing assets such as a church, hospital or other community building that you are looking to decarbonise?

The Bristol City Leap Community Energy Fund can support you with a feasibility study for connecting your community assets to the heat network.

Head to Part 1 of this guide for more information.

Community energy groups

Are you a community energy group looking to gain an additional revenue stream through community-led ownership of heat assets that could generate heat for the Bristol heat network? Or are you looking to develop your assets to contribute to the generation of low-carbon electricity for the network?

The Bristol City Leap Community Energy Fund can also support community groups to connect community-owned heat and power assets to heat networks, providing a revenue stream to your community group.

Head to Part 2 of this guide for more information.

An introduction to the Bristol heat network



What is a heat network? Heat networks distribute heat generated in a centralised location via a network of underground pipes for domestic and commercial space heating and water heating.

How are heat networks more efficient? Generating heat centrally, rather than in each building is much more efficient. Heat networks can also collect heat from multiple sources, including low or zero carbon sources and from sources of heat that would otherwise be wasted (such as waste heat generated by hospitals, disused mines or data centres and waste management facilities). Using these low carbon sources reduces the carbon emissions of supplying heating and hot water to buildings in the network.

What is the plan for the Bristol heat network? In Bristol, Vattenfall has ambitious plans to deliver a city-wide, low carbon heat network. Our goal is to add at least 10 gigawatt hours (GWh) of demand to the heat network each year for the next two decades, by expanding the network and connecting new and existing buildings to it wherever technically and commercially viable.

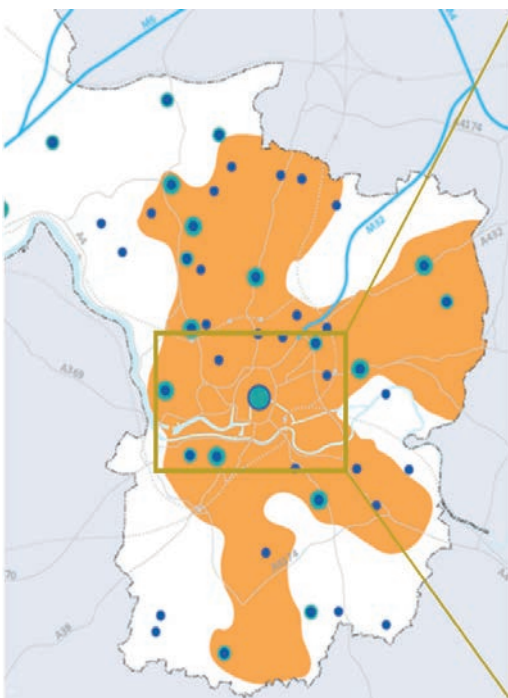
While growing the heat network Vattenfall will also decarbonise it by ensuring that all new permanent heat generation is low carbon, while phasing out all existing gas-fired assets by 2030 at the latest.

Where is the Bristol heat network? Vattenfall currently operates two live heat networks in Old Market and Redcliffe, with a further two networks in construction in Bedminster and Temple. Plans are also progressing for a further four network areas to be developed in the coming years.

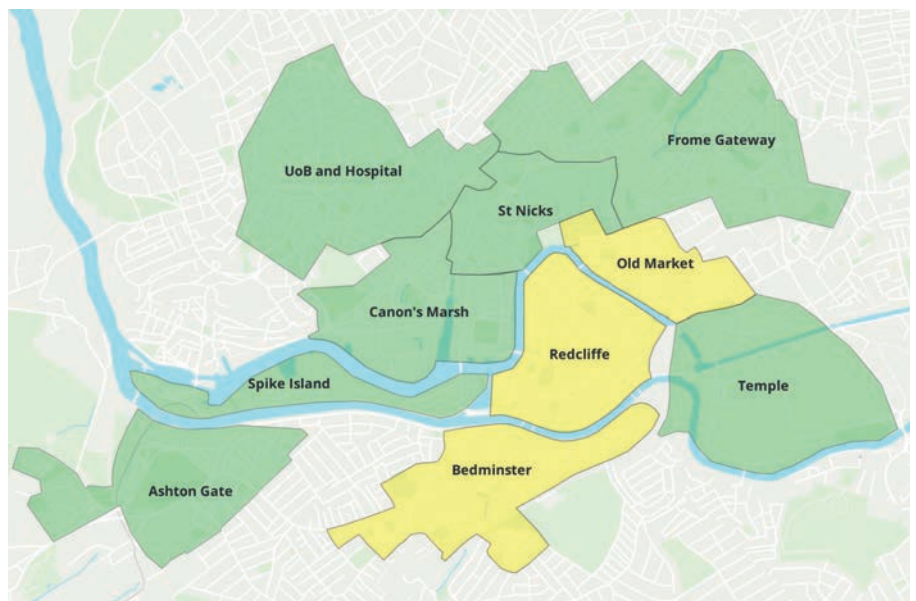
What sort of buildings will be connected to the network in Bristol? Residential, public and commercial buildings can connect to a heat network, from blocks of flats, offices, leisure centres, to hospitals. Both new build and existing buildings can connect to the heat network. We have already made 13 successful retrofit connections with existing buildings and we are in discussions about many more.

What are the benefits of connecting community buildings to a heat network? Connecting to a heat network offers multiple benefits including the reduction of carbon emissions in operations, improved air quality in the local community, greater resilience in energy supply, and future proofed heating operations.

Where is the Bristol heat network located?



Heat priority area



Ten current and planned heat network areas in the city centre

Existing heat network areas Planned heat network areas

Part 1

Supporting community connections to the heat network

Are you a local community group aiming to decarbonise your buildings or looking to build a more resilient energy supply?

A connection to the Bristol heat network could help you meet these goals.

The Bristol City Leap Community Energy Fund is available to help you in evaluating the feasibility of connecting your building or buildings to the Bristol heat network.

You can find a summary of the application process opposite, as well as examples of what makes your community building a good candidate for a connection to the heat network.

If you are looking to build a more resilient energy plan and would like more information, guidance or an informal discussion before submitting your application, please contact bristolbusdev@vattenfall.com.

To apply to the fund, visit bristolcityleap.co.uk and fill out an expression of interest form.

What makes my community building a good candidate for connecting to the Bristol heat network?



Motivated to reduce carbon emissions in your operations



Looking to build resilience in your energy supply



Boiler systems are at end of life or in need of refurbishment



Your buildings are near the heat network



You have grant funding already available

Even if your building doesn't fit all these criteria, please do still [get in touch](#) to explore options.

An example of the community connection application process:

1 You submit an application on the Bristol City Leap Community Energy Fund website.

2 The application is reviewed by the Centre for Sustainable Energy. If successful, funds would be made available to you to engage a heat network expert to complete a feasibility study.

3 A feasibility study is carried out. This would evaluate your suitability in connecting to the heat network, delivery costs and your energy supply.

4 After a successful feasibility study, the next step will be for you to secure funds to deliver the connection, this could be through grant funding, loans, or share offers.

5 We can support you through this process by signposting you to funds or loans that are applicable to the specific project.

What to expect from a feasibility study?

A feasibility study is carried out by a heat network expert. The study will evaluate your suitability for connecting to the existing infrastructure or future planned network. Following a successful application to the Bristol City Leap Community Energy Fund, the fund will cover the cost of this study.

As part of the feasibility study, a building report will be produced which will record and contain the following information:

1. Current heating system temperatures
2. Current metered consumption data for heat source
3. Current installed heat generating plant and rating
4. Water treatment systems and water quality readings
5. Plantroom space availability for heat network connection substation and equipment
6. Thermal store volume and presence of low loss headers and meet the following parameters:
 - Minimum offtake capacity of 250 kW
 - Existing infrastructure for thermal store and heating system
 - In a current or planned and defined network area
 - Ability for a flow temperature of 65°C and return 40°C. We can provide more information on the specifications on request.

Part 2

Supporting community-led energy generation

Are you a community energy group looking to gain an additional revenue stream through community-led ownership of heat generating assets?

Or are you looking to develop your assets to contribute to the generation of low carbon electricity for the heat network?

As part of Bristol City Leap, Vattenfall are committed to helping community energy groups in Bristol stimulate innovation and accelerate the decarbonisation of the city. We are proud to be working alongside Bristol Energy Network to help identify and support communities to leverage the Bristol City Leap Community Energy Fund to deliver value for local people.

How Vattenfall can help

We can provide support to help you assess the feasibility of your community energy generation project. Once we have confirmed that we can accept the heat generation onto the heat network, we would discuss supply agreements and pricing with you.

Support we can offer in assessing feasibility:

- Offer workshops to interested community groups in delivering generation to the Bristol heat network
- Provide support for modelling a community generation project (see example model opposite)
- Discuss suitable locations and the size of generation required
- Arrange community meetings and look at existing generation projects in the vicinity of the heat network.

The Bristol City Leap Community Energy Fund can support groups looking to connect community-owned heat and power assets to heat networks.

If you are considering applying to the Bristol City Leap Community Energy Fund and would like more information, guidance or an informal discussion before submitting your application, please contact bristolbusdev@vattenfall.com.

To apply to the fund, visit bristolcityleap.co.uk and fill out an application form.



Bristol Central Health Clinic, which connected to the network in 2022.

How could community-led energy innovation work in practice?

Here is an example of how a community group¹ could collaborate with Vattenfall to launch an energy project with the Bristol heat network. Our goal is that projects like these will allow the community to benefit from the low-carbon energy future of Bristol*.

1 The community group² raises the funds for the heat pump through a community equity issue at 3%*. The expected life is 20 years, and the community will own the connection as an asset.

2 The community group purchases the heat pump and it is installed on the existing Old Market heat network.

3 The design, build, operation and maintenance will be undertaken by Vattenfall who can also assist the community with procurement. Vattenfall supplies power and other services such as maintenance, insurance, operation and safety.

4 Once installed, The Bristol heat network pays the community group for heat based on delivered heat. The heat pump is expected, on average, to make a profit each year plus capital return on the asset.

¹ Groups could include local community halls, youth centres, religious or cultural venues

² Either an existing vehicle or new local group which would need to incorporate an entity to receive funds and own the asset.

* Figures are for demonstrative purposes only. No guarantees or certainty on profits for community investors. Model based on asset operating for 20 years.

We hope this guide has been helpful in providing information on how the community can get involved with the Bristol heat network, and highlighting the funding available through the Bristol City Leap Community Energy Fund.

If you are interested in the Bristol heat network and how your community could benefit from the low carbon future of the city, we encourage you to get in touch.

If you are considering applying to the Bristol City Leap Community Energy Fund and would like more information, guidance or an informal discussion before submitting your application, please contact bristolbusdev@vattenfall.com.

To apply to the fund, visit bristolcityleap.co.uk and fill out an expression of interest form.

There is other funding and support available that you can explore in parallel to the Bristol City Leap Community Energy Fund. Please visit the Community Energy Government website for more information.

Vattenfall

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This guide was first published May 2024. The information provided in this guide is accurate at the time of printing, but please be aware that it may be subject to updates, modifications, or revisions.

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