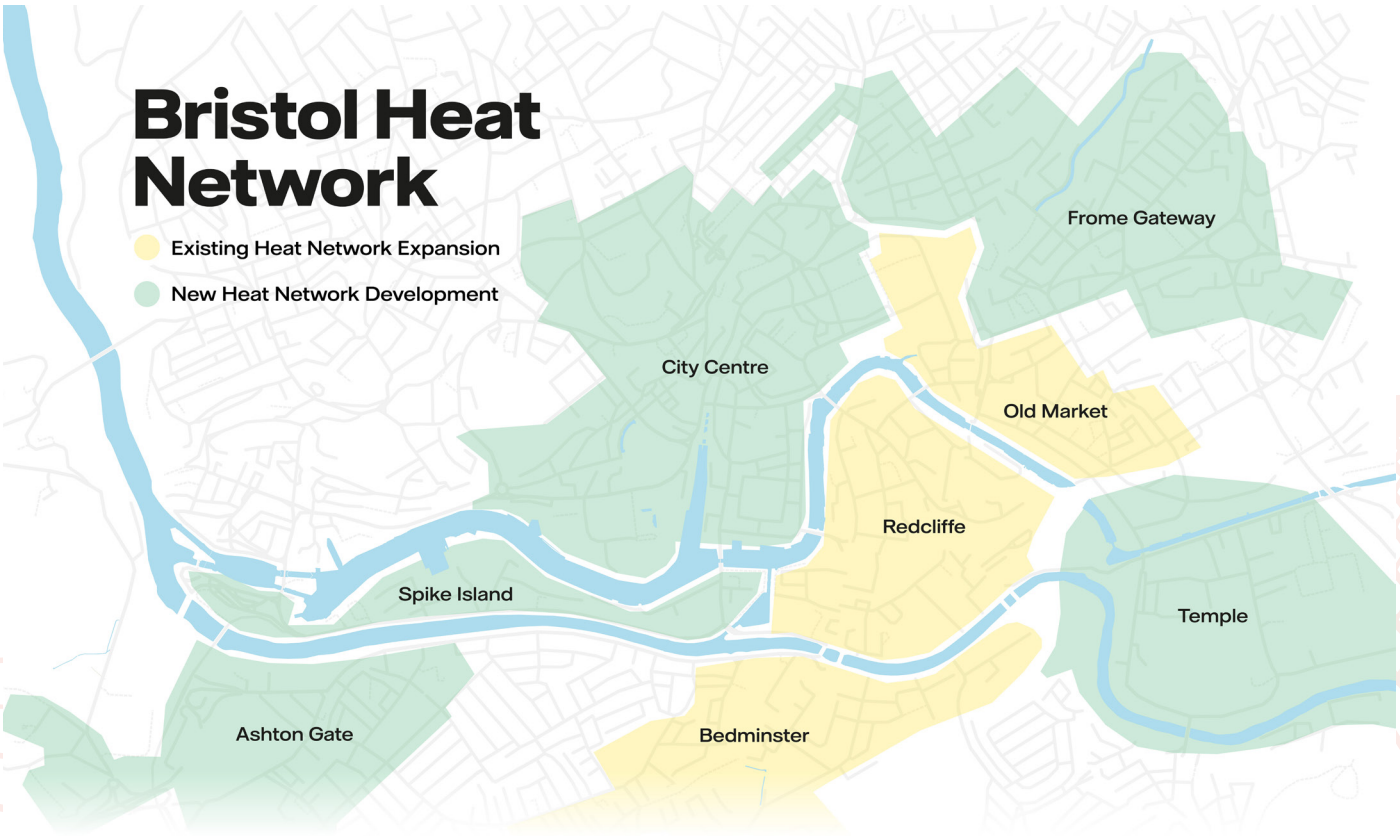
BRISTOL REDCLIFFE



VATTENFALL

Working with BRISTOL city leap

Funding beneficiary	Bristol City Council
Location	Bristol
Total project capex	£8,090,000
Funding awarded	£3,628,000 commercialisation and construction grant
Planned heat export at completion	8.4 GWh per annum
Heat source	1MW Biomass + Gas fuelled combined heat and power
Key technology	0.6MW Gas CHP and 1MW biomass boiler with peak & reserve gas boilers
Connections	700 social housing flats plus offices, student accommodation and private residential connections
Key anchor loads	Redcliffe social housing blocks, Halo office, Millwrights place flats and Coopers court.
Length of primary network	1.8km
Annual carbon savings (average over first 15 years)	500 tCO_2e

Department for Energy Security & Net Zero

Triple Point HEAT NETWORKS INVESTMENT MANAGEMENT

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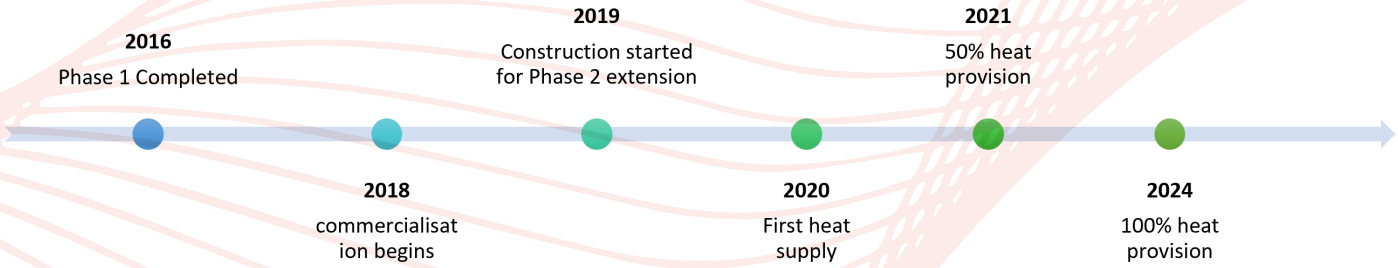
The Bristol Redcliffe Heat Network (BRHN) was initiated by Bristol City Council to help the Council deliver on its city-wide carbon neutral aspirations. The first phase was completed in 2016 and supplied 700 social housing properties with low carbon heating from biomass boilers through a 1MWth biomass energy centre. In a bid to extend and grow the heat network to meet Bristol City Councils decarbonisation plans, BRHN was amongst the first seven heat network projects to secure £3.6m of HNIP funding for Phase 2 and 3 of the Redcliffe extension. With the new extension, the Redcliffe heat network is expected to produce over 5,000 tonnes of carbon savings in its first 15 years of operation.

Project Milestones



The Story So Far*

At present, Bristol City has installed heat networks that supply almost 2,000 properties with low carbon heat in a bid to decarbonise and cut emissions across the city. This followed the declaration of a climate emergency and a pledge for carbon neutrality by the Council in 2018, and a subsequent slew of measures to combat its emissions and transform the city into a low carbon jurisdiction.

The HNIP grant has given Bristol City Council a means to not only invest in up-and-coming heating technologies for city-wide decarbonisation, but to further their position in reaching net zero and creating an emissions-free city.

The growth of the BRHN has provided hundreds of further properties within the city centre with low carbon heating and given traction to its implementation in Bristol and further afield. The funding supports the development of localised infrastructure, like the BRHN, but also provides wider proof of its purpose, practicality, and potential for implementable decarbonisation of domestic and non-domestic properties.

The extension of the Redcliffe heat network with the help of HNIP funding has enabled the heat network to supply new and upcoming commercial and residential developments in the area, and the connection of Bristol City Council's Temple Street office to further accelerate the city's decarbonising venture.

The HNIP grant has extended capacity within the energy centres, which include a new gas CHP and back up boilers. Future proofing works will enable connections to additional areas, including new developments around Bristol Temple Meads and expansion into other city areas. These extensions will be powered by lower carbon technology, such as water source heat pumps and geothermal power.

Recently announced new connections include Millwright Place, Coopers Court, Aspire and Redcliffe Street.

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Experience

Vattenfall Heat UK are working with Bristol City Leap to expand the existing network, develop new networks and ultimately interconnect them to create a single Bristol Heat Network. The company acquired the networks as part of the City Leap transaction and continue to build out new networks as well as put in place a comprehensive plan to decarbonise the heat network by 2030.

Vattenfall Heat UK bring investment and proven experience in large scale, resilient heat networks across Europe. Within five years, over 120 GWh of low carbon heat will be delivered to customers in Bristol through over £200 million of investment into high-quality, long-term infrastructure across the city.

The City Leap Energy Partnership is a twenty-year joint venture that is 50% owned by Bristol City Council and 50% owned by Ameresco, with their essential subcontractor, Vattenfall Heat UK – a coming together of global partners from the UK, the USA and Sweden.

Project Insights

Bristol's heat network expansion provided valuable insights, emphasising the importance of realistic construction timelines and effective collaboration with developers to overcome challenges. This experience has paved the way for enhanced best practices and flexibility in resource allocation, ensuring a smoother implementation process. For example, as part of the process, Bristol City Council worked with delivery partners to ensure construction and connection dates are realistic and account for possible caveats along the way.

Lessons learned from initial connections have been instrumental in streamlining processes and efficiently resolving breakdowns. By treating challenges as valuable opportunities to enhance ways of working, the project team has demonstrated a proactive approach to risk mitigation and continuous improvement.

Councillor Kye Dudd, Cabinet Member for Energy Transport Said:

"Our Bristol heat network has such a vital role to play in our city's journey to carbon neutrality. The council has invested over £12 million in this infrastructure over the last five years and will continue to expand the network to serve new communities with low carbon heat. This new funding from BEIS is so welcome to support the growth of the network and will enable us to innovate with new technology that will provide zero carbon heat to a number of new developments in the city. It's also very exciting to see old fossil fuel infrastructure like the Bedminster coal mine being considered for use to provide zero carbon heat for the future – another example of Bristol's ability to find pioneering ways to tackle the climate emergency.

"It's exciting to be replacing old technology with greener solutions and great to be supporting public sector partners with their own efforts to decarbonise. Developing the heat networks has so many benefits for the city including the reduction in fuel poverty, cutting carbon emissions and creating thousands of jobs to support the local economy."

*Up to date as of March 2023

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