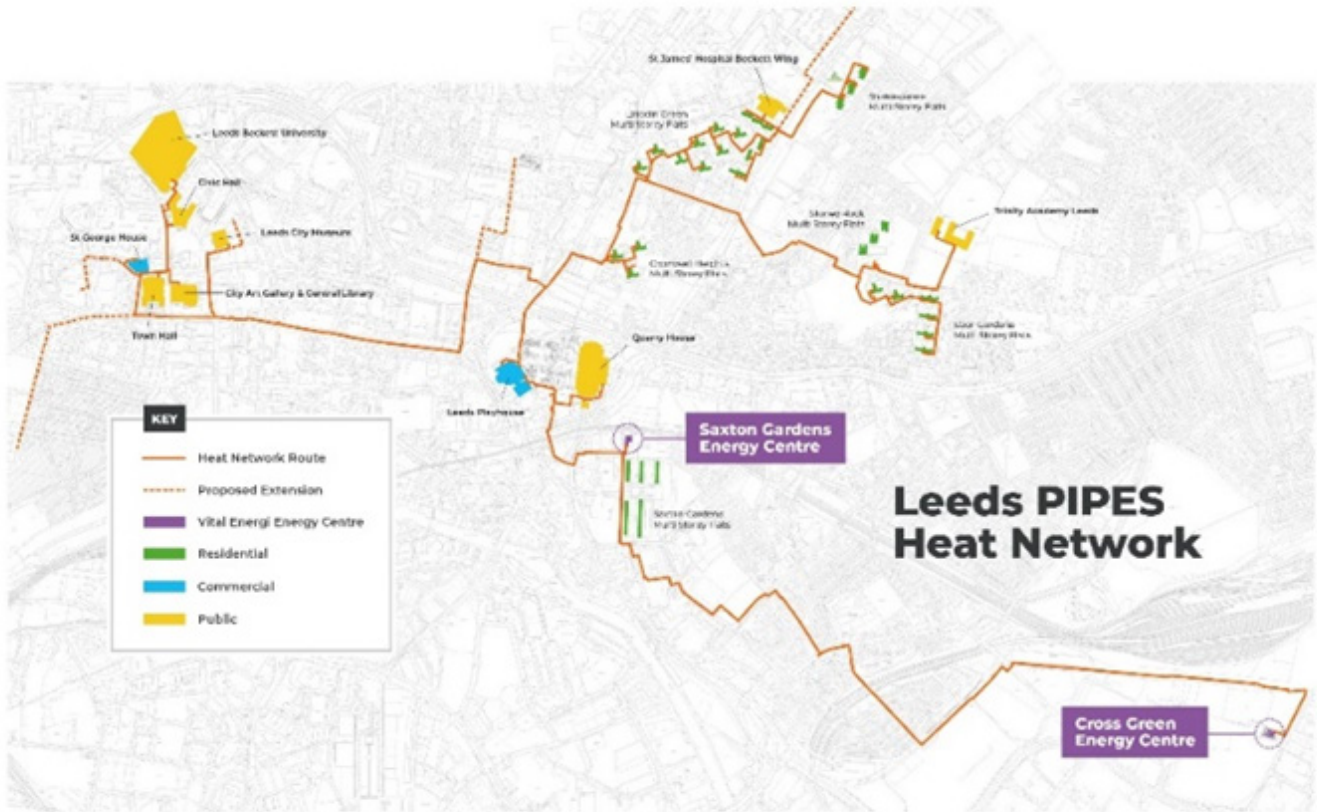


LEEDS PIPES SCHEME



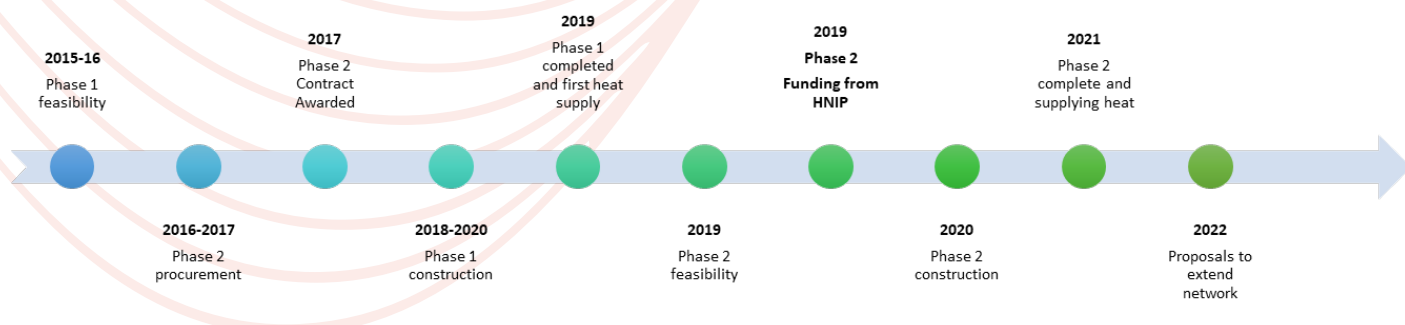
Funding beneficiary	Leeds City Council
Location	Central Leeds
Total project capex	£54,000,000
Funding awarded	£5,500,000 construction grant
Planned/estimated heat export at completion	26 GWh currently and growing rapidly
Heat source & technology	Industrial Heat, Heat from Energy from Waste (EfW)
Thermal storage capacity planned	Currently 240m ³
Length of primary network	18km over 3 phases, with ambition for continued growth
Anticipated number of buildings and/or connections	1,900 residences and 10 non-residential connections
Annual carbon savings (average over first 15 years)	1,905 tCO ₂ e

The first two phases of the Leeds PIPES district heat network have been completed with 16km of pipework connecting the energy from a waste Recycling and Energy Recovery Facility (RERF) to commercial properties, council homes and non-domestic buildings. Phase 3 commenced construction in October 2022, and is due to be completed early 2024.

The Leeds PIPES project is a multi-phase scheme, developed by Leeds City Council and constructed and operated by Vital Energi. Phases 1 and 2 are now complete, with a total investment of £45 million, of which £2.5 million is from HNIP funding, which predominantly contributed to the Phase 2 extension. Phase 1 started construction in 2018 with the installation of c11km of pipework to connect the energy from the waste Recycling and Energy Recovery Facility (RERF) to commercial and council homes. Phase 2 received HNIP funding to add another c5km of pipework to connect several council offices and public buildings, alongside other properties. Phase 3, again partially funded by HNIP, will connect further council homes, public buildings, and private housing schemes with an additional c2km pipeline. The network has been deliberately oversized to allow for future growth, through infill development and new network extensions, to make use of up to 160GWh of low carbon heat available from the RERF.



Project Milestones



The Story So Far*

The Leeds PIPES network went live in 2019, utilising low carbon heat from the city's Recycling and Energy Recovery Facility (RERF) to supply council flats and commercial businesses around the Quarry Hill area of Leeds. The network is owned by the Council and enjoys strong political support, as it is a key part of the Council's net zero carbon strategy. As part of Phase 1, an energy centre was built which provides full network resilience for planned and unplanned RERF maintenance and to cover future peaks. All key elements of the network were deliberately designed to be oversized, to support the Council's ambitious growth plans.

Leeds City Council were awarded c£2.5m HNIP funding to enable a Phase 2 extension of the Leeds PIPES network. This extension allowed the network to connect into the heart of the city centre, including five of the Council's own civic buildings. Phase 2 is owned by Leeds PipeCo LTD, a Special Purpose Vehicle (SPV) created and owned in turn by the Council. The Phase 2 extension took place in conjunction with the Connecting Leeds scheme, a significant and wide-reaching highways and public space improvement project, providing exemplary interdisciplinary working, which significantly reduced disruption in the city centre. Phase 2 was completed in 2021. Construction of Phase 2 took place throughout much of the 2020 covid pandemic, so the principal contractor, Vital Energi, was able to work ahead of programme and make the most of the quiet city centre.

In Spring 2023, the network supplied heat to c1,800 council flats, St James' Hospital Beckett Wing, Quarry House, Leeds Playhouse, Leeds Trinity Academy, St George House, Leeds Beckett University and five major civic buildings. Phase 3 began construction in autumn 2022 and is due to complete mid-2023. Rather than a singular extension of the network as was seen in Phase 2, Phase 3 consists of a number of branches which are designed to aid the network's strategic growth. New connections include an additional c300 council flats and a significant number of buildings at St James' Hospital by way of a new bulk heat exchanger connecting to the hospital's existing pipes. There are also further public buildings and a range of new private housing schemes. The extension will also aid the network in reaching the city's South Bank area, a key focus of regeneration and concentration of heat demand. Additional connections will continue to be sought after throughout the network, in addition to a further extension towards the city's South Bank. It is intended that in the coming years, the network is built out all the way to the South Bank. A key part of this expansion will rely on the proposed district heat zoning policy, due to come into effect in 2025.

Since its inception, the project has helped to employ 430 people including 36 apprentices. The continuing growth of the network, including the strategic Phase 3, will deliver long-term carbon savings of over 20,000 tonnes per annum, vital to reaching the local net-zero target.



Project Insights

Lessons learned from LeedsPIPES underscored the significance of effective stakeholder engagement throughout the project's lifecycle, leading to positive relationships and community support.

By navigating sensitivities and prioritising early pipe installation, the team maximised customer opportunities during the regeneration project, fostering sustainable growth of the network.

The project's success in overcoming delays, often outside of their control, through contingency plans and flexibility reflects the team's proactive approach and commitment to delivering positive outcomes. This ranged from co-ordinating utilities works sequentially to approaching network design strategically to ensure pipe routes are futureproofed.

Their approach helped to communicate the right messages to the right audiences, but more importantly it can help secure customers and partners. A key outcome of this is that new customers have come forward after seeing the network during construction, so positive early engagement has delivered benefits later.

Clear responsibilities and effective risk management have ensured a smooth and successful project, while regular stakeholder engagement has created a sense of ownership and positive community impact.



Councillor James Lewis, Leader of Leeds City Council:

"It's fantastic to have secured funding to extend the district heating. This expansion means that we will be able to connect more of the city's buildings to the Leeds PIPES network and further reduce the use of individual, fossil fuel powered boilers - helping building owners save money on energy, improve local air quality and reduce the city's carbon footprint."

*Up to date as of March 2023