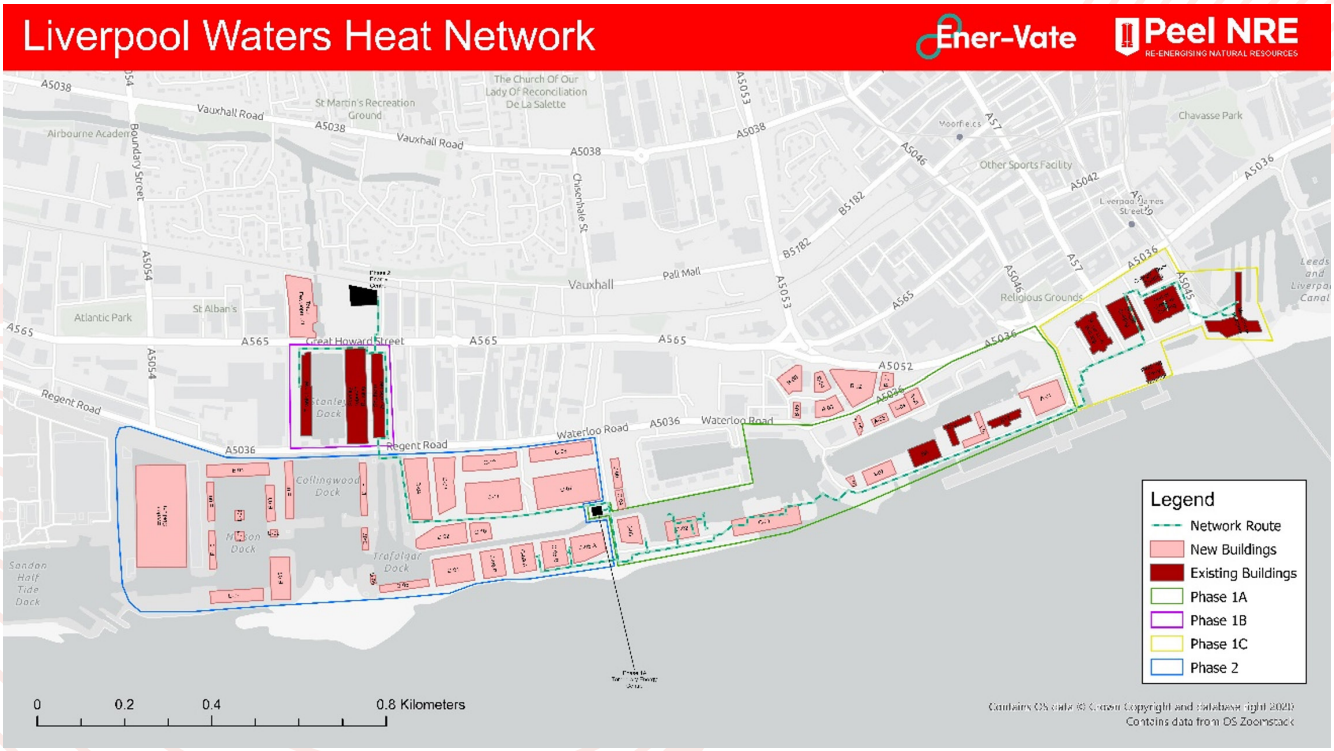
PEEL - LIVERPOOL WATERS

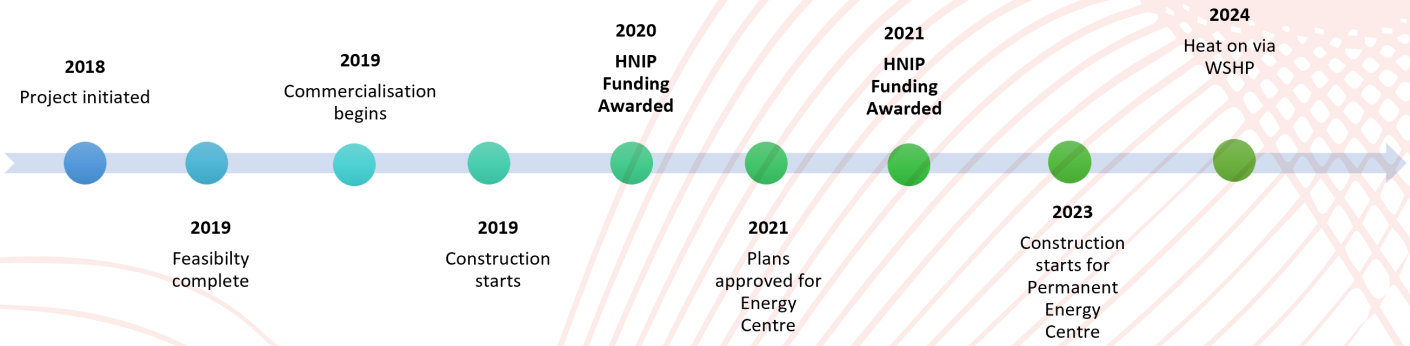


Funding beneficiary	Peel L&P Energy Limited on funded to Mersey Heat Limited
Location	Liverpool City
Total project capex	£34,070,000
Funding awarded	£7,566,000 commercialisation grant and construction loan
Planned/estimated heat export at completion	29 GWh per annum
Heat source & technology	3 MW Water Source Heat Pump (planning for 6MW), and 40 MW of backup boilers
Thermal storage capacity planned	260m^3 of thermal stores
Key anchor loads	Peel L&P's mixed use development Liverpool Waters and surrounding developments and existing buildings
Length of primary network	2.2 km
Anticipated number of buildings and/or connections	Up to 9000 residential homes and 50 non-residential buildings
Annual carbon savings (average over first 15 years)	3124 tCO_2e

Mersey Heat is Peel NRE's proposal to develop, install and operate a district heat network and energy service company. This will serve residential and commercial buildings within Liverpool Waters, a Peel L&P mixed-use development on the Liverpool waterfront, and the surrounding area. HNIP funding has allowed Liverpool Waters to install a 3MW water source heat pump (WSHP). This opens the door to provide low carbon heat to the Liverpool Waters development and expand their existing network south to connect important buildings, including the Grade II listed Cunard Building, George's Dock Building and Museum of Liverpool.

Plans for the energy centre were approved in Feb 2021, and planning and development on Mersey Heat's Permanent Energy Centre is reaching completion. The key components of the energy centre will be two water source heat pumps (WSHPs), gas boiler backup and thermal stores. The first phase of the project focuses on connecting existing buildings around Princes Dock. A second award of £6.27m was then granted to fund the second phase. This stage involves connecting an additional 1km of pipe from Princes Dock to Stanley Dock, connecting with the new energy centre and the installation of one of the WSHPs.

Project Milestones



The Story So Far*

The combination of planning approval in February 2021 and two rounds of HNIP funding have allowed the project to reach an ambitious scale and put emphasis on high quality delivery for those it will benefit. Liverpool Waters is a large undertaking, which has required careful planning. This involved splitting the project into different phases of project development to link various parts of the heat network through the two rounds of HNIP funding. Doing so has allowed smoother expansion of the existing network by assigning timelines, costs, materials, and contracts to specific areas and provides the ability to review the scope and scale of current and future additions to the network.

Peel NRE appointed Ener-Vate as commercial consultants for the scheme. This involved considerable stakeholder engagement, preparation of commercial models and investment papers, funding applications and all planning and permitting requirements. Ener-Vate has also had a project management role from conception to delivery and operation through its asset management service.

Vital Energi were appointed as delivery partners to construct the energy centre and install the district heating network. Using the customer data, Vital Energi created load models, sourced materials, and ensured construction was delivered smoothly. Their flexible design approach has allowed for room to adjust plans. The original scheme was designed to generate heat from gas combined heat and power, however, this has now been redesigned to utilise a WSHP. This is a much lower carbon solution which will provide most of the heat required for the first phase of the network.

Project Insights

The Liverpool Waters project has been a valuable learning experience for Peel NRE, offering important insights. One significant takeaway was the effectiveness of breaking down a project of this magnitude into manageable microprojects. By dividing the project into logical phases and leveraging Vital Energi's extensive data, the management of both the core and growth of the heat network has been feasible. This approach has allowed for a cohesive and integrated finished product that surpasses the individual components.

Additionally, the project has served as a means to establish strong relationships with stakeholders interested in being connected to the network or overseeing connected areas. This has been facilitated by streamlined planning, communications, and initial implementation phases, to ensure that each zone's specific requirements are effectively addressed.

Jo Longdon, Commercial Director for Ener-Vate, part of Peel NRE, said:

"Mersey Heat supports national and local targets to achieve net zero and we're pleased to receive further funding to help roll-out the network on a larger scale.

"The technology in the energy centre will help to save more than 4,000 tonnes of carbon per year to help supply low carbon heat and hot water to residents and businesses in Liverpool."

*Up to date as of March 2023