

Briefing Note

Subject: Exeter District Heating Network Energy Centre Briefing

Summary

Exeter Energy Ltd is developing a commercial heat network for the city centre of Exeter.

The Exeter Energy Network (EEN) will provide low-to-zero carbon heating and is committed to becoming zero carbon by 2030. Connections to the network will initially be offered to larger buildings in the city.

The Department of Energy Security and Net Zero announced £42m of funding for the proposed Exeter Energy Network (a District Heat Network) in January 2024.

Exeter Energy is now in the process of submitting plans for the Energy Centre that will provide heat to the Network. It will be engaging with local stakeholders to emphasise the advantages to the community, ensure the project is run with the minimum amount of disruption to residents, and outline the broader benefits to the users of the Exeter Energy Network and the city of Exeter.

Background

In October 2022, Exeter Energy Ltd's parent company, 1Energy Group, presented its proposal to develop a District Heat Network in Exeter to members and officers from both DCC & ECC, as well as other public sector bodies.

1Energy Group is a rapidly expanding company founded and staffed by a team of experts in district heat networks. Collectively, the team has decades of experience of delivering and operating over 50 district heating projects in the UK, including E.On Community Energy, Bristol Heat Network and Bradford Energy Network. 1Energy has secured £220m of private finance to build a series of district energy projects across the UK.

Exeter Energy Network

Exeter Energy Ltd plans to invest over £110m into sustainable heating infrastructure in Exeter. It is developing the Exeter Energy Network (EEN) - a heat network designed to provide low-to-zero-carbon heat to buildings across the centre of Exeter in the form of hot water through highly insulated underground pipes to buildings. The project is financed through a mix of public and private funding with £42m of grant funding from the Department of Energy Security and Net Zero, and £70m of investment from 1Energy Group.

The project aims to provide net-zero carbon space heating and hot water by 2030, aligning with DCC's target of achieving net-zero by 2030. It builds upon previous

partnership work conducted in 2013 in collaboration with the University of Exeter, Royal Devon University Healthcare NHS Trust, Exeter City Council and Devon County Council through Dextco. This work showed the viability of a city-wide heat network as an important tool in decarbonising the city.

Siting of the energy centre

The Exeter Energy Network will generate heat in a centralised Energy Centre, which is proposed to be sited next to the Water Lane Solar Park in Marsh Barton, directly behind the Marsh Barton Energy Recovery Facility (ERF). There is no relation between the Exeter Energy Network and the Marsh Barton ERF. The Exeter Energy Centre is independent of the ERF.

1Energy is working on full artist impressions / CGIs to show the size of the building and the visibility from vantage points nearby.

The energy centre will pump in water from the River Exe, extract heat from the water, and discharge the same water back into the Exe. The exact location of the abstraction and discharge is currently being defined and will be the subject of consultation with local river users. The whole process will use various low carbon solutions, including the UK's largest high-temperature water source heat pump, and potentially utilise spare energy from solar arrays and from other sources close by.

Water abstraction and discharge

To ensure minimum disruption to the ecology of the River Exe, the water will be screened prior to pumping with a very fine mesh to ensure any fish or spawn are left untouched. 1Energy is also committed to biodiversity net gain and is closely working with specialist ecology firms and consulting with the Environment Agency to ensure the project leaves a positive footprint on the local habitat, working above and beyond the requirements.

The process of extracting heat through the heat pumps will result in around 0.5 degrees centigrade drop in the river temperature. This is within daily variance of the temperatures in the Exe. However, due to a gradual climate-induced warming of the river, any effect of this change will be positive as it provides a small amount of thermal refuge for all aquatic life in that area of the Exe.

Renewable heat

Renewable heat will be distributed from the Energy Centre to buildings through highly insulated underground pipes. The transition to net zero carbon heat is targeted for 2030.

Next steps

Exeter Energy is liaising closely with both the County and City Council in regards of planning requirements and delivery programming to ensure the best outcome for the city. This involves stakeholders involved in every aspect of the project including:

- Working with the Devon County Council's Highways Department on our plans for the installation of the network of pipes to ensure that it delivers the minimum amount of disruption for road users and residents.

- Consulting with river stakeholders across the River Exe, and marine ecologists to understand how we can deliver biodiversity net gains.
- An intensive programme of engagement and outreach is planned to enable residents, visitors and other road users to plan their journeys effectively, avoiding areas of roadworking.
- Consulting with local businesses to understand how Exeter Energy can help deliver Net Zero heating.

Regular briefings to Members and information will be provided.

For more information please contact Liz, Simon or Mike at Coast Communications on EEN@coastmarcoms.co.uk