



Subject:	Heat Network Update
Date:	11th December 2025
Reporting Officer:	John Tully, Director Organisational and City Strategy
Contact Officer:	Debbie Caldwell, Belfast Climate Commissioner

Restricted Reports

Is this report restricted?

Yes

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No

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Please indicate the description, as listed in Schedule 6, of the exempt information by virtue of which the council has deemed this report restricted.

Insert number

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1. Information relating to any individual
2. Information likely to reveal the identity of an individual
3. Information relating to the financial or business affairs of any particular person (including the council holding that information)
4. Information in connection with any labour relations matter
5. Information in relation to which a claim to legal professional privilege could be maintained
6. Information showing that the council proposes to (a) to give a notice imposing restrictions on a person; or (b) to make an order or direction
7. Information on any action in relation to the prevention, investigation or prosecution of crime

If Yes, when will the report become unrestricted?

After Committee Decision

After Council Decision

Sometime in the future

Never

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Call-in

Is the decision eligible for Call-in?

Yes

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No

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1.0	Purpose of Report/Summary of Main Issues
1.1	To update Members on the completion of the Belfast Net Zero Pathfinder project.

2.0	Recommendation
2.1	The Committee is asked to note: I. the successful bid for a third round of funding from Innovate UK (£150k) for a new project 'Enhancing the viability of low carbon heat networks' to be completed in partnership with the Energy Systems Catapult, SONI and NIE Networks by the end of March 2026; II. the project builds on a feasibility study for a City Centre low carbon heat network as well the outputs of the previous Innovate UK funded project and that the project was one of only six projects approved for funding and there is a strong interest from Innovate UK in the project outcomes; III. the five work packages: 1) Further development of the portfolio PPA model for rooftop solar ESC and market testing; 2) An economic appraisal of the PPA model and the thermal storage component of a heat network; 3) Development of an off-takers forum and soft market engagement; 4) Legal review and a procurement roadmap stress tested with heat network developers and aligned with the future regulations for the heat network; 5) UK-wide dissemination and communication of findings to assess the potential to replicate the approach in other parts of the UK. IV. the project will be overseen by a Steering Group comprising BCC, ESC, NIE, SONI, NIHE and the Department for Economy; V. the planned site visit to an operational heat network in Leeds on 27th February 2026 and the forthcoming request for nominees to attend the site visit.
3.0	Main Report
	Background
3.1	The new project follows on from the Pathfinders Net Zero Living project which ended on 31 st July 2025 (Committee were updated on this in October 2025). The project will strengthen delivery pathways for a city-centre heat network and rooftop solar which are two of the priority projects identified in the Belfast Local Area Energy Plan (LAEP). It will be delivered in partnership with the Energy Systems Catapult (ESC), SONI and NIE Networks with additional support from AECOM (who developed a feasibility study for a city centre network) and Bird and Bird (who have been advising on the route to market). The project timeframe is very tight with delivery scheduled for the end of March 2026.
3.2	The project builds on a feasibility study for a City Centre low carbon heat network as well the outputs of the previous Innovate UK funded project: the market readiness assessment and off-taker engagement; the development of portfolio PPA approach to scale rooftop solar; the route to market and a communities opportunities assessment.
3.3	This new project will address a number of local and regional barriers to achieving net zero ambitions: market immaturity and procurement complexity around complex decarbonisation projects; grid constraints and high levels of wind curtailment prevalent in Northern Ireland; off-taker concerns around the price of low carbon heat, contract complexities and risk; legal and commercial considerations; and the lack of integration of heat networks with the wider energy system.
3.4	The project was one of only six projects approved for funding and there is a strong interest from Innovate UK in the outcomes of this work in particular whether it can be scaled in other parts of the UK to reduce wind curtailment, improve the financial viability of heat networks and scale rooftop solar.
3.5	Key project deliverables There are five Work Packages.

1. Further development of the portfolio PPA model for rooftop solar ESC and market testing.

Currently, the city generates 10MW of power from rooftop solar compared to a potential generation of 1GW estimated by the LAEP modelling. Moreover, the solar capacity installed on rooftops is often sized to the consumption needs of the building rather than maximising the use of the entire roof due to low export tariffs. The high cost of electricity in the UK can also make low carbon heat networks unviable compared with gas heating systems unless a high-grade waste heat source is available. This aggregation model has the potential to unlock solar deployment through an enhanced return from exporting power to a large off-taker such as an energy centre or data centre, maximising rooftop generation while also de-risking cheap power for other developments.

2. Economic appraisal of the PPA model and the thermal storage component of a heat network

Over time, the volume of curtailed renewables across GB and Ireland has increased dramatically with much of the curtailed volume located in areas of weaker grid infrastructure. Almost 40% of wind energy generated in Northern Ireland in December 2024 went unused due to restrictions in the power grid. This level of curtailment deters investment and acts as a major constraint on achieving NI's 2030 target of 80% of grid power from renewables with the share of NI's renewable power falling from 51% in 2022 to 43.5% in 2024.

Thermal storage for heat networks can help to balance the grid by converting renewable electricity that would otherwise be curtailed to heat (using heat pump). This Work Package will quantify and monetise the value of using thermal storage to balance the grid and reduce heat tariff for off-takers as well as determining the impact of doing this at scale across the UK.

3. Development of an off-takers forum and soft market engagement

Securing commitments from off-takers is critical because they turn uncertain future heat sales into predictable, contracted revenue which strengthens the business case for the initial upfront investment. This Work Package will engage potential off-takers through a series of workshops responding to concerns raised by in the market readiness assessment, particularly around the price of heat, contract complexities and risk. It will build consensus across a relatively large group of off-takers and test risk mitigation strategies to progress off-takers towards co-designed letters of intent to connect to a network while also building investor confidence in the project, culminating in an off-taker forum that is well informed and enabled to engage with investors as the project progresses.

4. Legal review and a procurement roadmap stress tested with heat network developers and aligned with the future regulations for the heat network

This Work Package will provide a legal review of the portfolio PPA model and stress test this with businesses to identify risks (and mitigations). It will also develop a procurement roadmap aligned with the future regulations Heat Network Technical Assurance Scheme (HNTAS), based on the de-risking and feasibility work to date and test appetite with heat network developers. This will enable BCC to progress the project, confident that it has a viable project which the market will be interested in competing for.

5. UK wide dissemination and communication of findings

This Work Package will disseminate the findings to a wide audience locally via the Belfast Net Zero Delivery Group and the Our Planet Board, using the learnings to advance two priority net zero projects from the Belfast LAEP. A two-day knowledge exchange visit in Belfast will target stakeholders from areas in GB affected by curtailment as well as those with an interest in increasing the viability of heat

	networks and reducing the reliance on grant finance. The aim is to understand specific interests and assess the potential to replicate the approach in other areas.
3.6	Project oversight The project will be overseen by a Steering Group comprising BCC, ESC, NIE, SONI, NIHE and the Department for Economy. The Steering Group will specifically consider how the innovation will be commercialised and attract further investment. Additional value will be created through embedding design and delivery into key supply chains within the energy system through SONI, NIE (with capability to translate solutions into programmes of work across the island of Ireland) and heat and solar supply chains.
3.7	Site visit to an operational heat network in Leeds Elected Members approved a site visit to an operational Heat Network in Leeds at the October SP&R Committee. The purpose of the visit is to provide Elected Members and members of CMT with an opportunity to visit an operational heat network and learn about the development process, hurdles and benefits.
3.8	Leeds PIPES is a heat network led by Leeds City Council and is considered the most suitable for a Heat Network site visit at this time as the Council has been able to set a lower tariff for heat by taking a long-term approach to securing a return on the initial capex investment. This has enabled the Council to double their heat off-takers within 7 years, leading to more favourable financial returns. Our initial engagement with potential off-takers in Belfast suggests that the price of heat will be a key determinant in securing off-takers and hence the Leeds delivery model would be of interest to CMT and Elected Members.
3.9	The Leeds PIPES development began in 2018 and has progressed into its third phase beginning in 2022. So far 30km of network has been installed with 4,000 homes and public buildings connected, however it has been developed with future expansion in mind. The project has been delivered by Leeds City Council in partnership with Vital Energi with support from central government grant funding. The anchor loads included Leeds Town Hall, Leeds Beckett University and several other Council buildings. The network involved a physical retrofit of old historic buildings (similar to those in Belfast) and uses heat generated from an energy from waste plant.
3.10	This visit will provide an opportunity for Elected Members and Directors to visit an operational heat network to better understand the land use policy context and support provided by the Council, the delivery model, the technology and operation of the network as well as to understand how it has affected local businesses and communities. Participants will also be able to speak to some of the users and operators of the heat network to develop an understanding of the challenges and benefits of delivering a heat network project. These insights will help to inform decision makers on whether the Belfast Heat Network is to progress to a more detailed stage of development.
3.11	Proposed attendees would comprise: Party Group Leaders or their nominees, Committee Chairs, Directors and Senior officers. Members are requested to note a forthcoming request for nominees to attend the site visit which is planned for 27th February.
4.0	<u>Financial and Resource Implications</u> The project will be funded through a £150k grant from Innovate UK. The site visit will be met via the existing City and Organisational Strategy Departmental budget.
5.0	<u>Equality or Good Relations Implications/Rural Needs Assessment</u> Intelligence around diversity, inclusion, fairness and equality in the projects impact on the transition to net zero has been integrated into the project.
6.0	Appendices - None