

ABERDEEN CITY COUNCIL

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| COMMITTEE | Finance and Resources |
| DATE | 13 September 2023 |
| EXEMPT | The covering report is not exempt, however the content of Appendix 1 is exempt under paragraph 6 of Part I of Schedule 7A to the Local Government (Scotland) Act 1973 |
| CONFIDENTIAL | No |
| REPORT TITLE | District Heating – Network Expansion / Waste Heat Utilisation (City Centre Link) |
| REPORT NUMBER | COM/23/290 |
| DIRECTOR | Gale Beattie |
| CHIEF OFFICER | Craig Innes |
| REPORT AUTHOR | Barry Davidson |
| TERMS OF REFERENCE | 1.1.5 |

1. PURPOSE OF REPORT

- 1.1 The purpose of this report is to present details of the proposed project to expand the district heating network and connect the network to a low carbon heat source.

2. RECOMMENDATION(S)

That the Committee:

- 2.1 Authorise the Head of Commercial and Procurement to undertake a procurement exercise to commission a feasibility study (to include network design to RIBA stage 3) and outline business case for Phase 1 of this project; and
- 2.2 Instructs the Head of Commercial and Procurement to explore external funding sources to support the capital delivery of this project and to report the outcomes of recommendations 2.1 and 2.2 to this Committee during Q3 2024.

3. CURRENT SITUATION

Background

- 3.1 Aberdeen City Council had a vision over 20 years ago to create a city wide network of low carbon heat sources to alleviate fuel poverty in the city.
- 3.2 Aberdeen Heat and Power Company Ltd (known as Aberdeen Heat and Power) was developed as an arm's length external organisation of Aberdeen City Council with the principal aim of providing affordable heat and reducing fuel

poverty in multi-storey domestic properties through the installation of district heating using gas fuelled combined heat and power (CHP) generators.

- 3.3 Producing district heating using gas fuelled CHP generators has reduced the overall impact of carbon emissions from heating and hot water demand in properties connected to the district heating network. Now there is a requirement to transition from gas to other forms of low/zero carbon alternatives in order to meet the Scottish Government emission reduction target of Net Zero by 2045 and deliver Aberdeen City Council's own Climate Change Plan targets.

Project Proposal

- 3.4 To meet the Scottish Government's Net Zero target, and the Council's Net Zero vision, Aberdeen City Council and Aberdeen Heat and Power have ambitions to reduce the carbon emissions produced from district heating through a phased programme of network expansion and decarbonisation of the current gas fuelled district heating energy centres using hybrid heat sources such as energy from waste, waste heat from fish processing, and waste heat from hydrogen production to provide low carbon heat and hot water to domestic, commercial and industrial properties.
- 3.5 The expansion of the district heating network and the connection to a low carbon heat source will provide connected households with access to affordable heat and support the alleviation of fuel poverty.
- 3.6 It is anticipated that the project will be delivered over three phases and the proposed network phasing map can be found in Appendix 1 to this report (note that the network routings and connections shown in the map are indicative only and will be subject to the outcome of detailed feasibility studies).
- 3.7 The recommendations in this report apply to Phase 1 only which considers the utilisation of heat production from the NESS Energy from Waste (EfW) plant in Torry.
- 3.8 Heat demand modelling in the Torry area identified that only a small portion of the available heat from the EfW plant will be utilised in the local Torry area (the Torry Heat Network) and therefore there is capacity to distribute heat to the existing city centre heating network and to support further network expansion.
- 3.9 Phase 1 will initially develop the localised heat network within Torry to connect to the existing heating networks within Aberdeen City Centre and Seaton schemes. The indicative schedule to deliver the recommendations in Section 2.1 and 2.2 of this report are as follows:

| Activity | Date |
|--|-------------|
| Publish contract notice on Public Contracts Scotland | Sep 2023 |
| Publish contract award notice on Public Contracts Scotland | Nov 2023 |
| Feasibility study completion | May 2024 |
| Outline business case completion | July 2024 |
| Report outcomes to Finance and Resources Committee | Q3 2024 |

- 3.10 Potential heat sources identified for Phase 2 and Phase 3 (referred to in Appendix 1) will provide for the continued network expansion across the city delivering heat and hot water for domestic, commercial, and industrial use.
- 3.11 Recommendations relating to Phase 2 and Phase 3 of the project will be the subject of a future report(s) to this Committee.

4. FINANCIAL IMPLICATIONS

- 4.1 The cost to develop the Phase 1 feasibility study and produce an outline business case would be met from existing budget NHCP 937 (the General Fund Capital Programme, as approved at the Council budget meeting on 1 March 2023, included £34.5m capital funding for this project).
- 4.2 In addition to Council funding, Council officers are exploring external funding sources including grant funding from the Scottish Government Heat Network Support Unit (funding of up to 100% of development costs for detailed feasibility studies up to a value not exceeding £50k and up to 50% of development costs for detailed project development, i.e. outline business cases is available from the fund). Grant funding from the Scottish Government Heat Network Fund and/or Just Transition Fund, would also be sought to support the capital delivery of this project and the outcome of any bid will be reported to Committee.

5. LEGAL IMPLICATIONS

- 5.1 The proposed investment by the Council as a public authority (previously “the state” under State Aid rules) to create a heat network is considered likely to be a low subsidy control compliance risk due to the clear compliance with Scottish and UK policy with regard to the creation of low carbon heat networks.
- 5.2 This assessment draws on the Council’s past experience in relation to the Torry Heat Network. However due to legislative changes since then, an assessment will be completed to ensure the current proposals are compliant with current legislation. This includes the Heat Networks (Scotland) Act 2021 and the Heat Networks (Metering and Billing) Regulations 2014.

6. ENVIRONMENTAL IMPLICATIONS

- 6.1 Whilst there are no direct environmental implications arising from the recommendations of this report, the delivery of this project will lead to a significant reduction in the use of fossil fuels within the district heating network and have a positive impact on the Council’s carbon reduction and net zero targets.

7. RISK

- 7.1 The recommendations contained within this report and the assessment of risk contained within the table below have been carefully considered against the Council's Risk Appetite Statement. The proposals set out in the recommendations are consistent with the Council's approved risk appetite statement.
- 7.2 The table below provides a summary of the risks identified at the time of writing and it is anticipated that the table will be refreshed to reflect the outcomes of the Phase 1 feasibility study and outline business case.
- 7.3 The risk ratings specified reflect the risk level post-mitigation and assume that the control actions identified will be implemented and completed.

| Category | Risks | Primary Controls/Control Actions to achieve Target Risk Level | *Target Risk Level (L, M or H) *taking into account controls/control actions | *Does Target Risk Level Match Appetite Set? |
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| Strategic Risk | Potential for non-delivery of the heat network extension / connection to a low carbon heat source would negatively impact on the development of a low carbon regional economy, delaying the transition to net zero and leaving residents and businesses exposed to rising energy prices and market volatility | This project would support the Council to deliver this strategic objective and align with the LOIP and Local Heat and Energy Efficiency Strategy (LHEES) Ensure that the heat network expansion routes are viable in terms of maximising heat connections, capitalising on available waste heat, design resilience into the heat network and ensuring that domestic customers are protected through Heat Trust | L | Yes |

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| Compliance | Subsidy control and grant funding | Full legal review of funding proposals for compliance with subsidy control requirements and any grant funding conditions will be undertaken | L | Yes |
| | Delay in securing legal rights to lay the heat network infrastructure over jointly owned property (including a right of access for operation and maintenance) | Ensure that the project delivery programme allows sufficient time for rights to be secured | M | |
| | Compliance with future Heat Network legislation | Continue to monitor any changes that may have an impact on the delivery of the project | L | |
| Operational | Operation and maintenance of the network | All operation and maintenance of the network to be undertaken by Aberdeen Heat and Power | L | Yes |
| Financial | There is a risk that all three phases of the project cannot be delivered without securing additional funding | In addition to the existing budget (NHCP 937), Council officers are exploring external funding options including the Scottish Government Heat Network Fund and the Just Transition Fund | M | Yes |

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| | <p>There is also a risk that the tendered costs will be higher than currently estimated</p> | <p>A contingency sum has been built into the project budget to manage this risk and more accurate costings will be available following the completion of the feasibility study and outline business case</p> <p>In the event that the budget is exceeded, a range of options including external funding (capital grant/capital loan) will be presented to the Council</p> <p>Consideration will also be given to the project phasing, for example commercial connections could be prioritised to offset the capital costs required to deliver the project</p> | | |
| Reputational | <p>Non delivery of this project would damage the city's reputation as an exemplar of best practice in low carbon heat supply</p> | <p>This project would support the Council to deliver this strategic objective</p> | L | Yes |
| Environment / Climate | <p>Non delivery of this project will have a significantly adverse</p> | <p>This project would support the Council to deliver this strategic objective</p> | L | Yes |

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| | impact on the City's carbon emissions and net zero targets | | | |
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8. OUTCOMES

| <u>COUNCIL DELIVERY PLAN 2023-2024</u> | |
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| | Impact of Report |
| <p>Aberdeen City Council Policy Statement</p> <p><u>Working in Partnership for Aberdeen</u></p> | <p>The proposals within this report support the delivery of the following aspects of the policy statement:-</p> <p><u>Building a Greener and Sustainable City</u></p> <ul style="list-style-type: none"> - Work with partners to deliver a just transition to net zero and plan to make Aberdeen a net-zero city by no later than 2037, and earlier if that is possible. - Continue to reduce the carbon footprint of the council's building estate and vehicle fleet and adopt an "environment first" approach to all new Council building projects. <p><u>Homes for the Future</u></p> <ul style="list-style-type: none"> - The project will support the Partnership commitment to extend Aberdeen's district heating network, to offer affordable warmth and help alleviate fuel poverty. |
| <u>Aberdeen City Local Outcome Improvement Plan 2016-26</u> | |
| <p>Prosperous Economy Stretch Outcomes</p> | <p>The proposals within this report will support the delivery of the following LOIP Stretch Outcomes:</p> <ol style="list-style-type: none"> 1. No one will suffer due to poverty by 2026: <ul style="list-style-type: none"> - The expansion of the district heating network and the connection to a low carbon heat source, will provide connected households with access to affordable heat and support the alleviation of fuel poverty across the city. 2. 400 unemployed Aberdeen City residents supported into fair work by 2026: |

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| | <ul style="list-style-type: none"> - The construction programme for this district heating project will support the local economy and provide training and employment opportunities. |
| <p>Prosperous People Stretch Outcomes</p> | <p>The proposals within this report will support the delivery of the following LOIP Stretch Outcomes:</p> <p>11. Healthy life expectancy (time lived in good health) is five years longer by 2026:</p> <ul style="list-style-type: none"> - The most common physical health impacts experienced by those living in cold homes are respiratory and circulatory illnesses. The availability of affordable heating will contribute towards the meeting of this objective. |
| <p>Prosperous Place Stretch Outcomes</p> | <p>The proposals within this report will support the delivery of the following LOIP Stretch Outcomes:</p> <p>13. Addressing climate change by reducing Aberdeen's carbon emissions by at least 61% and adapting to the impacts of our changing climate:</p> <ul style="list-style-type: none"> - The expansion of the district heating network and the utilisation of waste heat will allow the current gas fuelled heating systems to be replaced by hot water produced from the EfW plant, this has the potential to save 7,332,000 kg of carbon dioxide, (a reduction of ~89% in carbon emissions) from the existing network. Further carbon reductions will be achieved as new connections are added to the network. |
| <p>Regional and City Strategies</p> <p><u>City Strategies</u></p> <p>Climate Change Plan 2021-2025</p> | <p>The proposals within this report will support the delivery of the following City Strategies:</p> <p>Extending the district heating network and connecting to a low carbon heat source will support the Council's transition to net zero and interim targets for a reduction in carbon emissions.</p> |

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| Buildings and Heat Strategy (Net Zero Aberdeen) | The proposals within this report will accelerate the switch to low carbon heating and hot water and support the journey to net zero. |
| Local Housing Strategy 2018-2023 | Extending the district heating network and connecting to a low carbon heat source will support strategic outcome 5 of the Local Housing Strategy – “fuel poverty is reduced which contributes to meeting climate change targets”. |
| <u>Council Strategies</u> | The proposals within this report will support the delivery of the following Council Strategies: |
| Medium Term Financial Strategy / TOM 1.2 Transformation Programme | <p>Revenue generation through the sale of heat will support the delivery of the TOM 1.2 Transformation Programme and contribute towards addressing the funding shortfall identified in the Medium Term Financial Strategy.</p> <p>Security of a low-cost heat supply will reduce the Council’s dependency on imported fuels and exposure to volatile energy markets and will support the delivery of the TOM 1.2 Transformation Programme and contribute towards addressing the funding shortfall identified in the Medium Term Financial Strategy.</p> |

9. IMPACT ASSESSMENTS

| Assessment | Outcome |
|--|--|
| Integrated Impact Assessment | Not required for this report. An Integrated Impact Assessment will be submitted following the completion of the feasibility study. |
| Data Protection Impact Assessment | Not necessary for this report. |
| Other | No additional impact assessments have been completed for this report. |

10. BACKGROUND PAPERS

10.1 The following papers were consulted in the preparation of this report:

- Net Zero Vision and Infrastructure Plan – PLA/20/088 – Urgent Business Committee – 6 May 2020;
- Torry Heat Network – Third Progress Report – RES/20/172 – City Growth and Resources Committee – 28 October 2020;
- Torry Heat Network – Fourth Progress Report – RES/22/204 – City Growth and Resources Committee – 21 September 2022; and
- General Fund Revenue Budget and Capital Programme 2023/24 to 2027/28 – RES/23/085 – 1 March 2023

11. APPENDICES

11.1 Appendix 1 – Proposed Network Phasing Map

12. REPORT AUTHOR CONTACT DETAILS

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