

To: Leadership Board

On: 02 December 2020

Report by: Chief Executive

Heading: AMIDS District Heating Network

1. Summary

- 1.1 This report is to update the Board on the progress of proposals for a low carbon District Heating Network (DHN) at the Advanced Manufacturing Innovation District Scotland (AMIDS) as outlined in this report.
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2. Recommendations

2.1 The Board is asked to:

- i) Note the progress of the District Heating Network (DHN) project which will be the first of its kind in Scotland and the associated business case;
- ii) Authorise the Director of Finance and Resource to accept grant funding as follows:
 - a. Capital grant offer of match funding of £2.96m received from LCITP (see section 6);
 - b. Revenue grant offer from Ofgem under the Renewable Heat Incentive (RHI) scheme amounting to £0.09m per year for 19 years;
- iii) Subject to satisfactorily securing the LCITP funding referred to in (ii) above, approve that the project is progressed and appropriately incorporated into the Council's financial planning arrangements.

- iv) Authorise the Director of Finance & Resources to enter into any further relevant funding agreements as outlined in para 6.7 on the basis that such agreements will reduce the funding requirements from the Council.
 - v) Authorise the Head of Corporate Governance in conjunction with Director of Finance & Resources to enter necessary legal agreements with the following key stakeholders;
 - a. Scottish Water Horizons in relation to the bulk heat source;
 - b. The University of Strathclyde on behalf of the National Manufacturing Institute Scotland (NMIS) as initial customer;
 - c. The Centre for Process Innovation (CPI) on behalf of the Medicines Manufacturing Innovation Centre (MMIC) as initial customer.
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3. Strategic Case

- 3.1 Responding to the climate emergency has resulted in ambitious targets to reach net zero greenhouse gas emissions by 2045 to end Scotland's contribution to climate change within a generation. The Council has also declared a climate emergency and our ambitious targets included a pledge to work proactively with others to make Renfrewshire carbon neutral by 2030.
- 3.2 A low carbon district heat solution provides a significant opportunity for AMIDS and Renfrewshire, to reduce its future carbon emissions and enhance its reputation as a site with a vision 'to become internationally recognised for advanced manufacturing, leading innovation and research' whilst acting as a demonstration to the rest of Scotland of how a transition to a low carbon future could be achieved.
- 3.3 Providing access to an innovative low carbon solution for on-site renewable energy would give AMIDS a competitive advantage over other locations for future investors and therefore helping attract further investment and delivering further key objectives of AMIDS including creating new sustainable jobs for Renfrewshire.
- 3.4 The Programme for Government (PfG) 2020 re-emphasised the priority of achieving net zero emissions in Scotland by 2045 and included a mission to create new, high-quality, green jobs which aligning the AMIDS vision and objectives with these ambitions for a greener Scotland.
- 3.5 It is acknowledged that responding to the climate emergency will not be easy, Scotland's transition to a net zero society requires collaboration to ensure all opportunities are seized.
- 3.6 This project provides an exciting opportunity to utilise untapped renewable energy source to feed the AMIDS site and will, when delivered, prove the technology that can then be used to extract heat from other untapped

renewable heat sources to provide low carbon heat to other buildings across Renfrewshire.

- 3.7 By implementing an ambient loop network, **AMIDS will be the first development of its kind in Scotland** supplying low carbon heat through a 5th generation heat network, wholly aligning with the innovation focus of the AMIDS project.
- 3.8 There is potential to expand the AMIDS network to supply low carbon heat to other buildings in the surrounding area including the future uses of the former Chivas site. The project team will explore these other opportunities.

4. Technical Solution

- 4.1 The AMIDS DHN uses a mix of renewable energy and low carbon technology and an ambient loop heat network to distribute low grade heat through a network of uninsulated pipes from the nearby Laighpark Wastewater Treatment Works (WWTW) to the AMIDS site.
- 4.2 Heat from the treated sewage effluent, which is otherwise discharged into the White Cart river, provides the renewable ambient heat supply to the AMIDS site where each building takes the heat from the ambient loop and upgrades it for heating and hot water using low carbon heat pump technology.

5. DHN Delivery Model

- 5.1 The DHN project will be owned by the Council with the construction delivery, operation and maintenance commissioned to be delivered by an external contractor. As outlined in the financial case below, the DHN project is prudently forecast to return a positive whole life economic assessment and to be a financially sustainable project, capable of funding its own running costs, long term lifecycle maintenance requirements over a whole life 40 year period with a planned long term financial return.
- 5.2 Beyond the construction and operational commissioning referred to above, the DHN project will involve the Council entering a legal agreement with Scottish Water Horizons in relation the arrangements for heat abstraction and energy centre at the Waste Water Treatment Works along with initial long term commercial agreements with MMIC and NMIS for the provision of heat from the DHN.
- 5.3 Heads of Terms are being agreed with the three key stakeholders; Scottish Water Horizons (charge for low grade heat source), NMIS and MMIC (revenue for provision of heat).
- 5.4 As part of the wider development at the AMIDS site, future occupiers will be required to enter a legal agreement to utilise the DHN to supply to meet all of their heating and hot water requirements. As such the DHN is being future proofed to ensure it can provide a service that is:

- a. of sufficient capacity, reliability and resilience to meet the heating needs of all connected customers at all times;
- b. good value vs. alternatives; and
- c. low carbon, to support future building regulation approval and corporate aspirations for low carbon operations.

6. Financial Case

Financial Model Information

- 6.1 The key points to note in relation to the economic and financial case are summarised in the following sections.
- 6.2 The capital investment requirement for the initial phase as set out in section 4 of this report, servicing the NMIS and MMIC developments, totals £6.5m. This investment is future proofed and will provide sized infrastructure with network capacity for future development phases which will allow the network to be expanded with each further AMIDS development. Capital costs for later phases are significantly less and will be self-funded through connection charges from future site occupiers.
- 6.3 The AMIDS DHN has successfully progressed to the final stage of the Scottish Government and European Regional Development Fund programme Low Carbon Infrastructure Transition Programme (LCITP) application process for Capital Grant funding which is expected to conclude with a grant offer of matched funding of up to £2.96m. This grant offer is subject to final due diligence which includes consideration of the project business case and evidence of Council match funding, a grant offer is therefore expected after Council approval of the funding requirements outlined in this report. An unsuccessful LCITP application would have a significant detrimental impact on project viability and would therefore result in the project not proceeding unless another external source of funding could be urgently identified.
- 6.4 The net capital funding requirement is therefore £3.5m to be funded through Council borrowing. As referred to in para 6.6 below, the annual financing charges associated with the borrowing will be fully funded over the project life from net revenues generated from the heat sales and therefore will not present any annual cost to the Council's revenue budget.
- 6.5 An application for annual revenue grant through the Renewable Heat Incentive funding (RHI) has been submitted for phases 1 and 2 of the project. This equates to £0.09m per annum in revenue support for a 19-year period. We have received confirmation that our application has been allocated budget and therefore continues to be assessed. A final decision is expected in due course.

- 6.6 We have received a spike in applications for the Tariff Guarantee during June 2020 and September 2020. A decision is expected imminently on the RHI application.
- 6.7 With the exception of some relatively minor cashflow smoothing requirements in the early years, the financial case demonstrates that the DHN system over a whole life 40 year period is capable from the Council's perspective, of delivering a positive economic value for money assessment as well as fully funding its annual revenue capital financing costs, operational running costs and long term lifecycle maintenance costs. In addition, although not a primary objective of the project, the DHN on a prudent assessment it is projected to generate a long term positive financial return for the Council.
- 6.8 In addition to the above funding arrangements, Council officers are continuing to progress discussions with Scottish Enterprise and the Scottish Government via Scottish Futures Trust (SFT) to explore potential funding opportunities to support the project. If secured as an option, such opportunities could reduce the level of required Council investment outlined above, in return for releasing a proportionate share of future positive net returns from the DHN project (i.e. after all capital financing, operational and lifecycle costs have been met over the life of the project). Should such an option be secured this would provide a further layer of funding coverage to deliver the project, reducing the financial requirements from the Council. On this basis, a delegation to authorise the Director of Finance Resources to enter into relevant funding agreement in this respect is being sought in the recommendations should this option become available.

7. Environmental and Economic impacts

Carbon savings

- 7.1 An AMIDS DHN would be a major infrastructure project that would support and help deliver local and national climate policy objectives.
- 7.2 The annual projected carbon emissions across 40-years, using traditional gas boilers as the counterfactual, resulted in the AMIDS DHN generating a carbon reduction of 9720 tonnes (90% reduction) for initial phases (NMIS and MMIC), 56,679 tonnes (92% reduction) up to phase 4 of development and 90,926 tonnes (93% reduction) assuming full AMIDS masterplan development.

Economic impacts

- 7.3 The provision of a 5th generation low carbon district heating system will be a significant asset to AMIDS, helping to attract ambitious companies that will generate high quality jobs whilst ensuring that the social and economic benefits delivered at AMIDS are available to neighbouring communities.

The AMIDS DHN will help to drive the low and zero carbon economy in Scotland by providing a basis for contractors and suppliers to develop new skills. The project is replicable and scalable, particularly for new developments in a suburban and urban context.

Implications of the Report

1. **Financial** – The financial implications arising from the Council's participation in these proposals are set out in detail in section 6 of this report. The net capital funding requirement of £3.5m to be funded through Council borrowing with annual financing charges fully funded over the project life. Funding opportunities to be explored with Scottish Enterprise and the Scottish Government via the Scottish Futures Trust to further support the project.
2. **HR & Organisational Development** - none
3. **Community/Council Planning** –
 - *Our Renfrewshire is thriving* – The AMIDS development will facilitate new development opportunities and business growth whilst improving educational and health opportunities for people within the local communities as well as aiding employees to access these major existing and new employment centres.
 - *Our Renfrewshire is well* – This project will play a significant role in responding to the climate emergency, generating low carbon heat and enabling the route to a lower carbon future, thus improving local air quality.
 - *Reshaping our place, our economy and our future* – The completed infrastructure at AMIDS, enhanced by the DHN, will enable new business creation at AMIDS and with that, thousands of additional new high quality permanent jobs will be created as well as improved access to existing jobs for people in our communities.
 - *Tackling inequality, ensuring opportunities for all* – As a demonstrator project, the successful implementation of an AMIDS DHN can prove the technology that can become a strong driver of job creation, job upgrading, in addition to the job opportunities AMIDS as a whole will create.
 - *Creating a sustainable Renfrewshire for all to enjoy* - The completed infrastructure will provide a route to a low carbon future, avoiding pollution and managing natural resources sustainably.
 - *Working together to improve outcomes* - Officers are working collaboratively with partners including Scottish Government, Scottish Enterprise and other partners to take forward the delivery of the AMIDS development as an exemplar commercial location.
4. **Legal** – legal agreements will be entered into as set out in this report.

5. **Property/Assets** – land acquisition and assets requirements will be approved at the ILE Board.
6. **Information Technology** – none.
7. **Equality & Human Rights** -
 - (a) The Recommendations contained within this report have been assessed in relation to their impact on equalities and human rights. No negative impacts on equality groups or potential for infringement of individuals' human rights have been identified arising from the recommendations contained in the report because it is for noting only. If required following implementation, the actual impact of the recommendations and the mitigating actions will be reviewed and monitored, and the results of the assessment will be published on the Council's website.
8. **Health & Safety** – Will be considered from the outset including appointment of a Principal Designer to plan, manage and monitor the pre-construction phase and to co-ordinate health and safety matters.
9. **Procurement** – A recommendation to award the design, build, operate and maintain contract for the DHN will be submitted to the Finance, Resources and Customer Services Policy Board in March 2021. The procurement procedure used will ensure compliance with the Council's Standing Orders relating to Contracts and the Utilities Contract (Scotland) Regulations 2016 for the procurement of over EU threshold Works contracts.
10. **Risk** – Project specific and programme level risk registers have been established with key risks associated with these proposals highlighted in this report. These will be kept under regular review and reported to the Council's internal City Deal Programme Board.
11. **Privacy Impact** – none.
12. **COSLA Policy Position** – not applicable.

List of Background Papers

None.

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Author:

Barbara Walker, City Deal Project Director (Acting); Tel: 07727377977, email barbara.walker@renfrewshire.gov.uk,