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Report of the Interim Strategic Director Corporate Services to the meeting of the Environment and Waste Overview and Scrutiny Committee to be held on 20 February 2018.

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Subject:

Civic Quarter District Heat

Summary statement:

This report sets out the progress made towards achieving the councils ambition to develop a City Centre based District Energy Network supplying low carbon heat and electricity on commercial terms to City Centre civic buildings, other public sector buildings and commercial properties.

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Overview & Scrutiny Area:
Environment and Waste Management

1. SUMMARY

This report sets out the progress made on achieving the councils ambition to develop a City Centre based District Heat Network supplying low carbon heat on commercial terms to City Centre civic buildings, other public sector buildings and commercial properties. The report summarises the progress made so far, changes to the network from the initial proposals, next steps and likely delivery timelines (A glossary of technical terms is included in Appendix 1).

2.0 BACKGROUND

District Heat Networks (DHN) offer an opportunity to create significant new long term secure income streams and contribute to corporate cost reductions.

UK government has identified DHN as a significant contributor to reducing UK greenhouse gas emissions and as a component in the transition to low carbon energy. The Department of Business, Energy and Industrial Strategy (BEIS) (formerly the Department of Energy and Climate Change(DECC)) is playing an enabling role and making financial and technical resources available to support project development.

In 2010 Bradford Council agreed to reduce its carbon emission from its own activities and for the District by 40% by 2020. The Council also agreed a target of 20% for energy for delivery of its own functions to come from renewable sources (Council March 2010)

Executive considered a renewable energy report on 3 May 2013. This presented a discussion of the Link Member Report Bradford Power 2020 and Beyond, Renewables Future for Bradford Council and set out the Councils approach to deploying a range of renewable electricity and heat projects. The Report set out progress to date on a number of renewable technology projects deployed across Council assets and includes the case for use of biomass systems. Executive endorsed this approach.

Funding from the Heat Networks Delivery Unit (Part of BEIS) has allowed us to commission consultants to undertake a technical and economic feasibility of a number of DHN scenarios using Civic Quarter as an anchor estate for the scheme and complete the current level of design work. We have also been successful in bidding for funding that will help us to develop the legal and commercial structure and documentation and the detailed financial case.

2.3 Update of current position

In December 2016 a potential source of capital finance became available. This European Regional Development Fund money is being administered as European Structural and Investment funds (ESIF) and there was £16M available for applicants to apply for grants to support low carbon projects in the city region. Officers prepared and submitted a bid for 50% of the capital cost requirement of the project.

This outline bid was accepted and the Department for Communities and Local Government (DCLG), which was administering this stage of the application process, had a

deadline of 5th October 2017 for the submission of a full application for £6.8M.

The requirements at this time were for a full application to be considered to have a detailed planning permission granted for the proposal. The original proposal was for the energy centre to be located within the proposed city centre pool complex on Nelson St. However, this project is no longer proceeding and it coincided with the request from the Education Funding Agency to acquire the Nelson St site from the Council on behalf of Bradford New College, on which to develop a £19 million education facility for 1,200 16 – 19 year old students, conditional contract have now been exchanged to deliver this facility and an alternative site was required for the energy centre.

Officers identified an alternative site in the immediate vicinity which was not within the Council's ownership, and feasibility work was undertaken to if the plant could be accommodated on the site, unfortunately when the city centre strategic plan was developed it became clear that there was a competing requirement for the site and that the long term strategic plans would require the Civic Quarter energy centre location be reserved for other uses.

Officers considered a number of alternative sites in June 2017 and requested that the estates team look to identify an alternative location for the energy centre.

In September 2017, officers contacted the department for communities and Local Government (DCLG), which is administering the ESIF grant application process to outline the delays CBMDC was encountering and to look for a solution that would allow the authority to remain within the bid process, and DCLG granted an extended deadline until 5th January 2018.

In October 2017, the estates team successfully identified another potential energy centre site, which was also not a council owned site. Unfortunately it soon became clear that the amount of work required to develop a design of sufficient detail in order to support a planning application and to properly assess the financial impacts on the schemes capital and revenue meant that it was not possible to prepare the full funding application for the ESIF grant that had been planned by the deadline of 5th December 2017 and on discussion with DCLG it was made clear that the application deadline could not be extended again.

The site is located directly adjacent to a main route into the city and is nearby to people's homes. This means that the development must be of the highest possible standard to ensure that approaches to the city centre are improved by any development and that there is no adverse effect on people's quality of life.

At the time of preparation of this report it is proposed to undertake further feasibility work to ascertain whether an appropriate design can be accommodated on the site, and also whether the site can be acquired at an acceptable price. The next steps are;

- Utilise the 'in house' architects team to develop a high quality building that can proceed through the planning pre application process for the new site and submit to planning.

- Remodel the technical operational aspects (detailed design, hydraulic modelling and Air Quality modelling amongst others) of the network to allow for the new energy centre location

- Continue to look at potential connections and explore the opportunities moving the energy centre to a new location hold, this could mean new heat or power customers which could improve the business case.

- Continue to look for sources of finance, both grant funding and investment finance will need to be sourced.

- Utilise information from planners and modelling to make decision on site acquisition

- Procure detailed financial model and add to outline business case

- Procure legal and commercial elements to be included in business case

- Take business case forwards for approval.

The project has suffered from setbacks over the last year and it has proved challenging to identify a city centre site in an acceptable location following the Council's decision not to proceed with the city centre pool project. The currently proposed site does seem to be a good option with feedback from both the planning team and the air quality team being initially positive. The uncertainty about the site is currently the major risk factor to the scheme and to mitigate this risk, before a detailed planning application is submitted, the project would look to secure an interest in the site. This course of action ensures that the site would be made available for the energy centre.

Should the project not be able to proceed for any reason the land would still be available for housing development. Officers understand that there is interest in the site from housing providers and will include any information about this at an appropriate point should permission to obtain the land be sought.

3. FINANCIAL & RESOURCE APPRAISAL

Work to develop and set out a detailed financial operating model will be commissioned. This will include development of revenue budgets for an operating network including options for Customer relationship Management (CRM).

There are a wide range of financing solutions for a scheme of this type and the final, best, option will necessarily depend on the business structure chosen following the recommendations of the financial commercialisation report. It is possible to finance the scheme completely using a mixture of grant and investment capital, particularly since there are some tax efficient investment vehicles that can support the development of elements of heat networks and that require much lower levels of return than traditional investments.

5. RISK MANAGEMENT AND GOVERNANCE ISSUES

The Feasibility Report sets out project risks and mitigation. The continuing development of the CQDHN will follow the council's standard capital project governance structure.

The property implications for the proposals have been presented to the councils Property Board in January 2017.

6. LEGAL APPRAISAL

A suite of legal documentation appropriate to the development and operation of the network will be commissioned. This will include for example commercial energy contracts. In addition the legal aspects of any regulatory compliance will be undertaken.

7. OTHER IMPLICATIONS

7.1 EQUALITY & DIVERSITY

N/A

7.2 SUSTAINABILITY IMPLICATIONS

The Civic Quarter District Heat Network will contribute to delivering a more sustainable Bradford District by developing a local energy generation supply chain enhancing resilience to global energy market price forces and mitigating some price rise impacts.

The project is consistent with the Councils Climate Change Strategy and contributes to climate change mitigation by reducing greenhouse gas emissions.

7.3 GREENHOUSE GAS EMISSIONS IMPACTS

The Council reported 19000 tonnes of CO_2 emissions for the reporting year 2015/16 under Carbon Reduction Commitment. The expanded network as proposed identifies about 2000 tonnes of CO_2 emissions savings. This contributes an additional reduction in annual corporate emissions for the council of 10% and will bring the Council to around a 37% reduction from corporate energy use by 2020.

7.4 COMMUNITY SAFETY IMPLICATIONS

N/A

7.5 HUMAN RIGHTS ACT

N/A

7.6 TRADE UNION

N/A

7.7 WARD IMPLICATIONS

The Civic Quarter District Heat Network will be delivered in City and Bowling & Barkerend wards. Public sector, commercial and domestic energy consumers may be impacted.

7.8 AREA COMMITTEE ACTION PLAN IMPLICATIONS (for reports to Area Committees only)

N/A

8. NOT FOR PUBLICATION DOCUMENTS

N/A

9. OPTIONS

None

10. RECOMMENDATIONS

Recommended -

That the progress made on the development of the scheme, its technical scope and current delivery timetable be noted.

11. APPENDICES

Appendix 1 Glossary of terms
Appendix 2 Risk register (update required to reflect changed circumstances)

12. BACKGROUND DOCUMENTS

None

Appendix 1 Glossary of terms

• DHN – District Heat Network, pipes in the ground that move heat between buildings, central heating for cities

• CHP – Combined Heat and Power, an engine that burns gas to produce electricity and the waste heat is captured and used

• Load – the amount of heat required by the system at any time

• Base Load – the typical load required during periods of light use of the system

• Peak Load – The highest heat requirement at any point of the day, week, month or year

• Heat exchanger – a device that allows heat to be moved in to or out from the DHN without having to mingle the fluid that the heat is being carried in. Allows systems to operate at different temperatures and pressures

• Heat Interface unit – See Heat exchanger

• Heat Meter – measures the flow rate of heat carrying liquid and the temperature difference allowing accurate billing for every unit of heat consumed

• Boiler – burns fuel to provide heat

• Biomass – usually wood fuel, either in chipped form (cheaper) or industrially formed into pellets (more compact and consistent quality). Can also be straw, miscanthus or other fuel crops.

• Energy From Waste (EFW) – a facility that combusts municipal waste and harnesses the heat to generate electricity, heat left after this process can be distributed via a DHN

• Losses – energy lost during distribution through heat leakage or electrical resistance

• Private Wire Network (PWN) – a privately owned and operated electricity distribution network

• O&M – Operation and Maintenance – the team or mechanism that keeps the technical equipment running smoothly

• CRM – Customer Relations Management – the team or mechanism that deals with customers including billing, complaints and new customers