

Report of Director of Resources and Housing

Report to Executive Board

Date: 17th July 2017

Subject: Development of a district heating network

Capital scheme number: 32463/000/000 and 32022/FA1/000

Are specific electoral Wards affected?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If relevant, name(s) of Ward(s): Burmantofts and Richmond Hill, City and Hunslet & Gipton and Harehills		
Are there implications for equality and diversity and cohesion and integration?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Is the decision eligible for Call-In?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Does the report contain confidential or exempt information?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
If relevant, Access to Information Procedure Rule number: 10.4.3 Appendix number: 1 and 4		

Summary of main issues

1. The council's Recycling and Energy Recovery Facility (RERF) is capable of generating enough electricity to power over 22,000 homes. Strategically designed to be district heating enabled, the RERF presents a unique opportunity for the council to supply low cost, low carbon heat in the form of hot water to households and businesses in Leeds through a network of super insulated underground pipework.
2. The construction of a district heating network (DHN) will provide the city with a flagship green infrastructure asset that will not only maximise the efficiency and environmental benefits of the RERF, but also support future developments in the city to be more sustainable.
3. Supporting the aspirations set out in the Best Council Plan 2015 – 20, the DHN will provide a range of significant economic, social and environmental benefits to the city of Leeds, including:
 - Tackling poverty and fuel poverty by reducing fuel bills for vulnerable residents;
 - Reducing CO₂ emissions associated with the RERF and contributing to our citywide target of 40% CO₂ reductions between 2005 and 2020;

- Improving air quality by making ageing gas boilers redundant;
- Creating construction, operation and maintenance jobs and retaining wealth in the local economy; and
- Supporting the expansion of superfast broadband across the city centre by installing empty telecommunication ducts across the route of the DHN.

Recommendations

4. Executive Board is asked to note the contents of this report including its appendices, and:

4.1. Approve the injection of £0.276m into the Capital programme to provide the balance of funding to deliver the district heating network programme.

4.2. Approve authority to spend for :

- The construction of the Spine District Heating Network of £21.276m funded through £17.276m supported prudential borrowing and £4m of grant from the WYCA;
- The connection of the council housing District Heating Network of £17.42m funded through £11.3 of HRA capital and £5.774 of European Regional Development Fund (ERDF).

Subject to the Director of Resources and Housing being satisfied with the outcome of external due diligence on the business case and securing the required heat loads; and

subject to the approval of the grant from the WYCA.

4.3. Delegate authority to the Director of Resources and Housing to enter into a contract with Vital Energi Utilities Ltd for a maximum sum of £2m for a limited scope of works and services for the housing DHN as described at paragraph 3.8 of this report.

4.4. Provide authority to enter into the leases of the Sites for the energy centres based next to the RERF (site A) and at Saxton Gardens, including disposal of Site A at an undervalue.

4.5. Authority to set up an energy trading company on terms that are agreed by the Director of Resources and Housing and in consultation with the Leader, the Executive Member for Sustainability and the Environment and the section 151 officer.

4.6. Delegate authority to the Director of Resources and Housing to enter into all other documentation and take all other decisions required for the delivery of the project and approve operational decisions relating to the district heating scheme.

1 Purpose of this report

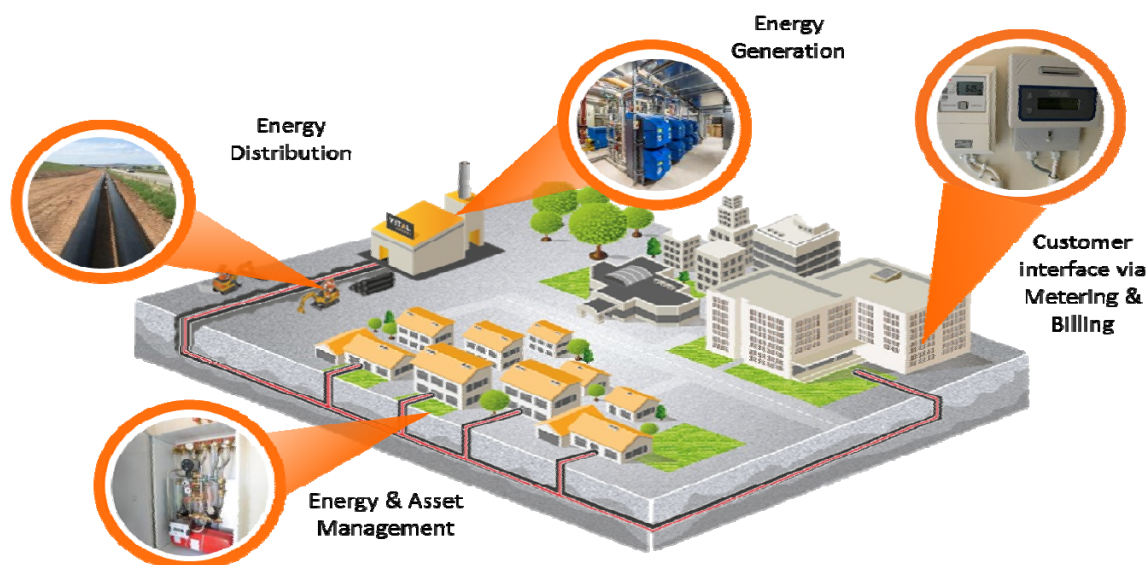
1.1 The purpose of this report is to:

- Inform Members of the progress of the district heating project since the Executive Board paper in February 2016;
- Inform Members of the outcome of the evaluation process undertaken in respect of the tenders received for the two procurements that will deliver the DHN;
- Provide an outline of the funding arrangements and the business case that supports the project;
- Advise Members of the planned customer connections and the potential growth opportunities for the network;
- Advise Members of the technical advisor role that will support the development of the project;
- Provide an outline of the proposed construction programme and communications strategy for the next phase of the project.
- Seek approval to proceed with the project subject to certain conditions being met.

2 Background information

Project Context

- 2.1 The council has been working to secure the benefits of district heating for a number of years and already operates small networks serving clusters of council owned multi-storey flats (MSFs).
- 2.2 Having commenced full operations in April 2016, the council's Recycling and Energy Recovery Facility (RERF) is capable of generating power equivalent to over 22,000 homes, but is also designed to be district heating enabled. This allows the heat that is produced whilst processing waste to be harnessed for use in a DHN. One unit of electricity can be converted into five units of heat, therefore developing the DHN will maximise the benefits associated with one of the council's major development projects.
- 2.3 The diagram below illustrates a DHN, setting out how the energy generation facility (i.e. the RERF) would distribute valuable energy through an underground pipework supplying hot water to residential communities and businesses for use in heating systems.



2.4 The DHN will help to further enhance the city's credentials as an enterprising, ambitious and green city in which people want to live, work and visit, but also crucially help to improve the health and lives of some of the most vulnerable residents in the city. The key benefits the DHN will provide are:

- Tackling fuel poverty by reducing vulnerable residents' fuel bills by c.10%;
- Improving comfort levels and providing more controllable heating for vulnerable tenants in council owned multi-storey flats (MSFs);
- Maximising CO₂ emission reduction opportunities associated with the RERF to contribute to our citywide target of 40% CO₂ reductions between 2005 and 2020;
- Improving air quality in the city by removing old, inefficient gas boilers and replacing them with low carbon, renewable heat generated at the RERF;
- Creating construction, operation and maintenance jobs;
- Retaining greater wealth within the local economy.

Planning Position and the LDO

2.5 To support the delivery of the DHN, the council has adopted the revised Local Development Order 3 (LDO), which grants planning permission for the development of a DHN within defined areas of land in Leeds.

2.6 Having the LDO in place means that the installation of the pipework can be carried out across the city without the need to apply for planning permission, therefore making the development of the DHN a more efficient process. It also allows the network to expand as it already provides the planning approval that would ordinarily be required to construct new sections of pipework.

- 2.7 The LDO provides planning permission for the construction of the majority of the DHN, however, there will be a requirement for Vital Energi to apply for planning permission for the new energy centre at Saxton Gardens, and where the DHN crosses land excluded from the LDO or in close proximity to listed buildings/conservation areas.

3 Main Issues

Contract Procurements

- 3.1 In February 2016, the Executive Board granted approval to commence the procurement of a DHN in accordance with public procurement law and the council's Contract Procedure Rules, by advertising in the Official Journal of the European Union. The procurement of the DHN was undertaken using the Competitive Dialogue with Negotiation Procedure in accordance with the Public Contracts Regulations 2015.
- 3.2 To deliver the DHN, two separate but intrinsically linked procurements were carried out concurrently, these being:
- the construction of a council asset in the form of an underground pipeline (the Spine DHN), to carry heat in the form of hot water from the RERF in Cross Green through to connections in and around the city centre and Lincoln Green.
 - the development of a local housing DHN, construction of new and refurbishment of existing energy centres to allow a connection to the Spine DHN, and replacement of the existing heating systems in council owned Multi-Storey Flats (MSFs). This housing contract is critical because it is a key enabler in ensuring the Spine DHN procurement is a commercially viable option for the market place. The housing connections provide an 'anchor load' for the DHN, as together they require a significant volume of the heat that will be supplied through the network.
- 3.3 Having concluded the two respective procurements the evaluation process determined that Vital Energi Utilities Ltd was the successful bidder in both procurements.
- 3.4 Due to the spine and housing contracts being interlinked, there was an obligation within the council's tender documents that the two contractors would be required to work together following contract award, to ensure the successful interface between the projects and to seek to achieve efficiencies for the benefit of all parties.
- 3.5 It was recognised by the project team that the two separate DHN's could each have a level of surplus capacity built into them to ensure that they could operate as a standalone network. Bringing the two successful organisations together provides an opportunity to identify where efficiencies between the two networks could be made, which will assist with the deliverability of the overall DHN.

- 3.6 Conditional contracts have been awarded to Vital Energi Utilities Ltd for both contracts, which place no obligation on the Council to spend and require that Vital Energi work at risk in identifying efficiencies that may exist.
- 3.7 If Executive Board decides not to proceed with the project, the conditional contracts will be terminated without any payment being made to Vital Energi. If Executive Board grants authority to spend, and the other conditions relating to funding and due diligence are fulfilled the conditions within the contracts will be removed and the project will proceed.
- 3.8 As explained in paragraph 4.6.6 the West Yorkshire Combined Authority (WYCA) grant is required for the project to go ahead. Whether or not the WYCA grant is approved, there will be a requirement to undertake non-abortive works with the contractor. Regardless of heat source, the Council intends to install DH to all 1,983 flats in the Housing DHN site in order to avoid risking the ERDF grant. Therefore, a certain amount of work can be done prior to the decision on the WYCA grant being taken. Examples of non-abortive works associated with the Housing DHN include, but are not restricted to, design work for the local DHN (including underground pipes, within blocks and within flats), route surveys, asbestos surveys within blocks and flats, tenants engagement, CEEQUAL qualification, installation of elements of the underground DHN and shared heat networks within blocks.

Programme

- 3.9 The table below sets out the key project milestones associated with the delivery of the district heating network.

Project Milestone	Date
Investment Committee approval	September 2017
Combined Authority approval	October 2017
Mobilisation commences	October 2017
Planning granted	November 2017
Construction Commences	November 2017
Spine Commissioning	March 2019
Spine Completion	April 2019
Saxton Gardens / Stoney Spine connection	May 2019
Lincoln Green complete	October 2019
Ebor Gardens	February 2020

DHN Design Proposals

- 3.10 The DHN will incorporate a range of above and below ground infrastructure and equipment that will be located across the northern part of the city centre. The key assets of the DHN will be:
- A 6.5km super insulated underground pipe network to supply heat generated at the RERF to various connections across the network. Appendix 2 shows the route of the network and the location of supporting infrastructure, along with the location of the initial customers.

- An energy centre located on land adjacent to the RERF, including large hot water storage vessels, pumping equipment, and heat exchangers.
- A new energy centre located on the site of the existing energy centre at Saxton Gardens, containing stand by heat generating equipment to provide back-up and supplemental heat for the DHN.
- Empty telecommunications ducting installed along the route of the network to enable the installation of superfast broadband across the city centre.

3.11 The RERF will provide the majority of the heat to the network, apart from periods when the facility is shut down for planned or unplanned maintenance. To provide back-up in these scenarios, the DHN will be designed to incorporate plant that is capable of providing 100% of the required heat. This will be provided at a new facility at Saxton Gardens.

3.12 There will be a requirement to secure planning permission for the new Saxton Gardens energy centre. A request for pre-application advice has been submitted to the Local Planning Authority to gain an understanding of any considerations that will need addressing when applying for planning permission. The existing Saxton Gardens energy centre and a redundant pump house will be demolished to enable the construction of the new facility, requiring temporary heating provision for the housing blocks at Saxton Gardens.

3.13 The DHN will connect to a range of public and private sector customers, which will provide a 'base load' that enables the construction of the network and allows for future expansion. The table below sets out the potential initial customers with whom the council is in detailed discussions.

Connection	Type	Peak Energy Demand	Connection Status
Council Connections			
Lincoln Green MSFs	Residential	11.65MW	Confirmed
Stoney Rock MSFs	Residential		Confirmed
Ebor Gardens MSFs	Residential		Confirmed
Saxton Gardens MSFs	Residential		Confirmed
Additional Connections			
Customer 1		2.5MW	HoT's negotiations
Customer 2		0.61MW	HoT's negotiations
Customer 3		2.6MW	HoT's negotiations

Environmental Benefits

3.14 The DHN will ensure that the RERF generates both electricity and heat. This will increase the overall efficiency of the energy recovery process at the RERF maximising the energy production capacity at the facility.

- 3.15 Using the heat generated at the RERF provides carbon savings through reducing the consumption of gas or electricity. Using RERF heat for the buildings identified in the above table will reduce emissions by c.6,000 tCO₂ pa. The DHN will therefore help maximise CO₂ emissions reductions associated with the RERF and contribute to the citywide target of a 40% reduction in CO₂ between 2005 and 2020.
- 3.16 The DHN will provide a contribution to reducing NOx emissions in and around the city centre as buildings connected to the network will not need to run NOx emitting gas boilers to generate heat. Gas boilers will only be used to provide back-up and supplementary heat to that supplied by the RERF, and as they will be new boilers they will be more efficient than the gas boilers currently used. New developments will not need to install gas boilers when they connect to the network.

Health and Social Benefits

- 3.17 In total, we expect up to 1,983 council flats to connect to the DHN. Of these, 1,440 currently have their heating supplied through outdated electrical heating systems. The DHN will improve comfort levels for these flats through having more efficient and controllable heating, and which will also reduce heating bills for tenants. Modelling shows that 42% of the 1,440 households with electric heating systems are in fuel poverty, with an average 'fuel poverty gap' of £325 per annum. Installation of the DHN should reduce fuel poverty levels to just 6% of households and most importantly reduce the fuel poverty gap to just £63.
- 3.18 Removing the reliance on the use of NOx emitting gas boilers will contribute towards reducing the health effects of air pollution such as respiratory and cardiovascular diseases and pregnancy issues in inner city areas where exposure to poor air quality is typically higher than elsewhere.
- 3.19 The DHN will provide employment opportunities during the construction and operation of the project, along with opportunities for apprenticeship and school/college learning opportunities.
- 3.20 Through using existing links with the city's universities the DHN will also facilitate opportunities for academic research that relate to the DHN.
- 3.21 The installation of the underground pipework provides an opportunity to install empty telecommunications ducts along the length of the network which will help facilitate superfast broadband across the city. There is strong interest in supporting this from both Department of Culture Media and Sport and the local operator.

Network Development

- 3.22 The first phase of the DHN provides an initial heat load of only 16% of the network's overall capacity, providing significant capacity to expand the network to customers across the city, some of which are identified in appendix 2.
- 3.23 DHN's have operated in other cities such as Sheffield, which having been established in 1987 is one of the oldest DHN's in the UK. With the aim of

providing reliable and cost effective energy from locally generated low carbon energy to a wide range of customers, the network has expanded to more than 44km in length. Heat is supplied to a range of customers including 2,800 homes and 140 commercial buildings including the Lyceum Theatre, Crucible, Sheffield City Hall and Weston Park Hospital.

- 3.24 The largest DHN in the UK is operated in Nottingham by an independent energy services company, wholly owned by Nottingham City Council. Established over 30 years ago the network supplies energy to 100 commercial customers such as the National Ice Arena, shopping centres, Nottingham Town Hall, as well as over 5,000 domestic customers.
- 3.25 Similar expansion opportunities exist in Leeds with discussions having already taken place with building owners and developers along the initial route, who recognise the benefits of connecting to the DHN. These customers provide opportunity to supply heat to additional residential properties and commercial space, requiring minimal additional capital investment.
- 3.26 Additional capital investment would enable expansion into the city centre and provides an opportunity to supply heat to additional customers that include council buildings. The South Bank expansion of the city centre is one of the largest city centre regeneration initiatives in Europe and is planned to develop a range of commercial and leisure facilities as well over 4,000 homes. This initiative provides an excellent opportunity for the council to supply low carbon energy to a significant number of developments in what will be a key area of strategic growth for Leeds.
- 3.27 The expansion of the network can be enforced by the Local Planning Authority through the use of existing planning policy by applying conditions to planning permissions. Policy EN4 (District Heating) requires developments to connect directly to an existing DHN, or as a minimum demonstrate how the development is designed to connect to a DHN in future.

Business Case

- 3.28 The capital investment of £21.276m required to construct the DHN is based on a business model that generates revenue from two main sources; these being the sale of heat to customers, and Renewable Obligation Certificate payments from both the DHN and a Paper Pulping Facility linked to the RERF. This revenue, in addition to grant funding, supports the affordability of the DHN.
- 3.29 The heat supplied from the RERF is classed as renewable power and is therefore eligible for Renewable Obligation Certificate (ROC) payments for each megawatt of energy it provides to the DHN. Certification has been received from Ofgem confirming the eligibility for ROC payments, which provide circa one third of the revenue associated with the DHN until 2037 in the base case. As heat sales increase, the value of ROC income reduces as a proportion of total revenue received.
- 3.30 The construction of a Paper Pulping Facility (PPF) by Veolia to recycle paper extracted from the RERF has enabled the DHN to qualify for ROC payments. The

council will contribute to the construction costs of the PPF facility via its share of the ROC payments for which the PPF qualifies. Once the council pays its contribution, further income from these ROCs will contribute to the DHN's revenue.

- 3.31 Within the business case an interest rate of 3% has been applied to the Public Works Loan Board (PWLB) loan, over a period of 40 years. Delaying the project may result in a higher rate of interest being applied.
- 3.32 The council's housing connections provide an initial base load of heat demand that accounts for over 60% of the base case heat sales. Being in council ownership, the revenue received from the sale of heat to housing tenants provides a secure revenue stream across the lifetime of the DHN.
- 3.33 Additional connections to the network will provide further revenue through the sale of heat and the associated ROC revenue as the demand on the network increases. It should be noted that additional capital will be required at various stages in the project lifecycle to allow further expansion. However, when additional heat sales have been modelled, the need for additional capital has also been reflected.
- 3.34 Expansion of the network to the South Bank would facilitate connection to a large development on the former Tetley Brewery site, where proposals for the first phase includes up to 850 homes, a significant area of commercial space plus a 400 room hotel. Adding a connection of this scale would add over £300k per year in additional revenue to the business model.
- 3.35 The costs of operating the DHN will cover the operation and maintenance of the energy centres and pipe network, the purchase of steam from the RERF, the gas and electricity required to support the network, lifecycle replacements, and the Non-Domestic Rates (NDR) that apply.
- 3.36 The level of the energy charges are relative to the heat demand on the network, meaning that as the network expands so the energy charges will increase. Stepped changes in operating costs will be realised as and when more boiler plant is required to provide back up and supplementary heat. The lifecycle and NDR costs are fixed in relation to the capital investment.
- 3.37 The table below shows a high level summary of the first full year's financial information within the business case.

	£m
Revenue	1,848
Operational costs	(1,292)
Funding costs	(753)
Surplus/(loss)	(198)

- 3.38 The table below shows a high level summary of year 11 within the model (labelled as scenario 6 within confidential appendix 1). Scenario 6 includes all the

presumed base case customers as well as an additional 3,000 flats and 3 small commercial users.

	£m
Revenue	5,159
Operational costs	(2,925)
Funding costs	(1,048)
Surplus/(loss)	1,179

- 3.39 Further breakdown of the summary information is provided within the confidential business case, attached as confidential appendix 1. As can be seen in the table above based upon the likely initial level of customers, the income generated will not be sufficient to cover all costs. However, upon relatively conservative assumptions regarding the growth of demand over time, the DHN should be able to cover all its annual operating costs, and over the life of the DHN it can be reasonably assumed to more than cover its lifetime costs.
- 3.40 Business rates are payable on all the assets linked to the DHN including the underground pipes. This means that the amount anticipated to be due in non-domestic rates will cost the project more than the amount payable in fuel costs. Business rates will be payable to the Council and on a capital cost of £21.276m, business rates in the order of £28m are estimated to be payable over the lifetime of the project. Under the current business rates retention scheme the council retains 45p in every £1 of business rates generated, and the Government have a stated policy intent to move towards council's having greater control of their resources. As members will appreciate, business rates are an integral part of the local government finance system and as such it is difficult to be confident as to whether a given level of business rates paid by an individual business will confer a level of financial benefit to the council over the longer term. Business rates are subject to national policy changes over which the Council has no control and are part of the system of local government finance, which itself is subject to periodic resets that can result in the benefit of growth for an individual authority being lost over time to a greater or lesser extent.
- 3.41 Within the business case, the value of NDR accrued to the council is not taken into consideration due to the level of future uncertainty over government policy. However, members will note that if the scheme were not to proceed, the NDR would not be generated.
- 3.42 Agreement on energy purchase costs is provided through the RERF contract with steam prices linked to RPI, and gas and electric prices linked to the BEIS energy forecasts. The energy sales prices will also be index linked, so they will go up and down together.

Agreements Required for Implementation

- 3.43 To enable the construction, operation and maintenance of the DHN the following arrangements will need to be entered into, subject to the approval of the Director of Resources and Housing:

- Design & Build contracts and Operation and Maintenance contracts for each of the Spine and the Housing network with Vital Energy Utilities Ltd.
- Interface agreement;
- Parent Company Guarantee;
- Collateral Warranties; and
- Independent certifier appointment associated with the spine and housing DHN.

3.44 The funding arrangement with the WYCA will also need to be entered into following approval by the Director of Resources and Housing.

Governance

3.45 To ensure that the project has robust governance and that the necessary growth is realised, annual updates regarding the performance of the DHN will be reported via the annual budget report and also via the annual Cutting Carbon and Improving Air Quality breakthrough programme report.

Technical Advisor Role

3.46 Throughout the detailed design phase of the project and the construction period there will be a requirement for support to be provided by a technical advisor that has the technical knowledge and experience necessary to ensure the successful construction of the DHN.

3.47 The technical advisor will support in the review and approval of detailed designs and provide a project manager role throughout construction. A competitive procurement will be undertaken to identify and appoint a suitably qualified company to support the council.

3.48 Following the procurement the Director of Resources and Housing will approve the award of the technical advisor contract.

4 Corporate Considerations

4.1 Consultation and Engagement

4.1.1 As part of development of the Local Development Order (LDO) for district heating, statutory consultation has taken place, including placing notices on lamp posts along the route and holding two ward member consultation events. In February 2017 the Executive Board approved the extension of the area covered by the LDO.

4.1.2 The Executive Member for Regeneration, Transport and Planning and the Executive Member for Environment and Sustainability have also been consulted throughout the procurement.

- 4.1.3 Vital Energi will undertake consultation activities to ensure Local Ward Members, the general public and other relevant stakeholders are involved and informed of the process. Information will be provided to local communities on the proposals.
- 4.1.4 The project team have undertaken consultation with the Executive Member for Communities regarding the housing elements of the DHN, along with consultation with ward members to brief on the benefits the project will deliver and the new Saxton Gardens energy centre.
- 4.1.5 Officers from the council's Highways Department have been consulted with throughout the procurement, which has provided assurance regarding the deliverability of the route. Engagement with the Highways Department will continue throughout detailed design and construction of the network to minimise the impact on the highways network.
- 4.1.6 Initial engagement with the WYCA has commenced to understand the potential impacts on the bus networks and to identify mitigation measures. This engagement will continue alongside discussions with stakeholders associated with recurring planned events occur within the city centre.

4.2 **Equality and Diversity / Cohesion and Integration**

- 4.2.1 An equality impact assessment has been completed and is attached as appendix 3.
- 4.2.2 The DHN will have a positive impact on equality as it will support the compassionate city equality objective by reducing fuel poverty, helping to increase life expectancy, improving mental health and wellbeing and reducing health inequalities.

4.3 **Council policies and Best Council Plan**

- 4.3.1 The unique opportunity to construct a DHN supports the aspirations set out in the Best Council Plan 2015-20 and the overall vision of becoming the best city in the UK. In particular, the project helps deliver the councils Low Carbon priorities, which were declared for 2017/18 as:
 - Reducing emissions;
 - Tackling fuel poverty, and
 - Delivering efficient and secure energy.
- 4.3.2 The council has made public commitments to address fuel poverty concerns. As part of the city's Affordable Warmth Partnership, there is a stated aim to improve the health and wellbeing of vulnerable people through action on increasing affordable warmth and this project supports that aspiration.
- 4.3.3 In addition, the council is committed to reducing citywide carbon emissions by 40% between 2005 and 2020 and has already made significant progress towards this target. Indeed, the council considers CO₂ emissions to be a crucial challenge facing the city and this has culminated in the creation of a 'breakthrough project' –

under the Best Council Plan 2015-20 – titled ‘Cutting carbon and improving air quality in Leeds’, one of eight priority council projects.

- 4.3.4 The council is working towards meeting air quality targets to ensure that it complies with national requirements. The DHN will provide a contribution towards reducing the emissions generated by heating systems in the city.
- 4.3.5 This scheme will also allow the Council to demonstrate its ability to be enterprising and to act as an enabler for growth.

4.4 Resources and value for money

- 4.4.1 The Housing DHN is funded through HRA and ERDF grant funding. The Council has received a full grant agreement from DCLG for the ERDF grant funding which contains strict requirements on a range of aspects. This includes a requirement to spend against an agreed financial profile, with a final deadline to defray all spending associated with Lincoln Green by the end of 2019. Although there is a change request process, there is a real risk that any delay to spend will reduce the total grant available, with particular uncertainty of any carry forward of underspend beyond Q2 2018.
- 4.4.2 Prior to deciding to connect the housing blocks to district heating, the council commissioned a study to compare the relative costs of the different systems. Connecting to the citywide district heating network represents good value for money compared to developing a standalone heating system for the Housing Leeds flats. A recently completed smaller scale standalone scheme cost over £9,000 per flat whereas this scheme will equate to circa £7,600 per flat. This is in part due to the scheme being able to attract high levels of ERDF funding. Another way to support fuel poverty and reduce carbon emissions would have been to replace the electrical heating with updated electrical heating and insulate the blocks, however this would have cost in the region of £15,000 per flat.
- 4.4.3 Following Executive Board in February 2016, a bid was made to WYCA for £7 million (£4 million grant/ £3 million loan) that was conditionally approved based on the outline business case that was completed prior to the procurement. However, as the project has evolved substantially from the original submission, the council is amending its request from the WYCA to £4 million grant.
- 4.4.4 Both grant from WYCA and that from ERDF are subject to State Aid considerations and the Council has sought external legal advice to ensure that we comply. This is detailed in section 4.5 below.
- 4.4.5 A cashflow table is provided below setting out the forecast spend for the project.

Previous total injection to Spend on this scheme	TOTAL £000's	TO MARCH 2017 £000's	FORECAST			
			2017/18 £000's	2018/19 £000's	2019/20 £000's	2020/21 £000's
DISTRICT HEATING HRA	17420.0	194.2	3702.1	10968.4	2555.3	0.0
DISTRICT HEATING GEN FUND	21000.0	156.2	5162.8	15425.1	255.9	
TOTALS	38420.0	350.4	8864.9	26393.5	2811.2	0.0
Injection	TOTAL	TO	FORECAST			

required for this Approval	£000's	MARCH				
		2016 £000's	2017/18 £000's	2018/19 £000's	2019/20 £000's	2021 on £000's
DISTRICT HEATING HRA	0.0				0.0	0.0
DISTRICT HEATING GEN	276.0		0.0	0.0	276.0	
FUND						
TOTALS	276.0	0.0	0.0	0.0	276.0	0.0
Authority to Spend required for this Approval	TOTAL £000's	TO MARCH 2017 £000's	FORECAST			
			2017/18 £000's	2018/19 £000's	2019/20 £000's	2021 on £000's
DISTRICT HEATING HRA	17420.0	194.2	3702.1	10968.4	2555.3	
DISTRICT HEATING GEN	21276.0	156.2	5162.8	15425.1	531.9	
FUND						
TOTALS	38696.0	350.4	8864.9	26393.5	3087.2	0.0
Total overall Funding (As per latest Capital Programme)	TOTAL £000's	TO MARCH 2017 £000's	FORECAST			
			2017/18 £000's	2018/19 £000's	2019/20 £000's	2021 on £000's
GF Supported Borrowing	17276.0	156.2	4162.8	12425.1	531.9	
GF WYCA Grant	4000.0		1000.0	3000.0		
HRA Housing Leeds Capital Programme	11645.5	194.2	2179.9	6918.1	2353.3	
HRA ERDF Grant	5774.5		1522.2	4050.3	202.0	
Total Funding	38696.0	350.4	8864.9	26393.5	3087.2	0.0
Balance / Shortfall =	0.0	0.0	0.0	0.0	0.0	0.0

- 4.4.6 Cost certainty is provided on the level of capital and operational costs. The Spine contract comprises a construction contract of around 18 months, followed by an operational contract of 12 years in length, followed by 2 extension periods of 5 years each. The housing contract comprises a 3 years works contract followed by a 2 year operational contract, with the option to extend for 3 additional years. The design and build costs are based on a fixed price lump sums, subject to industry standard compensation events.
- 4.4.7 For the scheme to be financially viable, it is critical that additional heat customers are connected. However, the level of customers required to breakeven is significantly below the potential heat capacity of the network and securing the necessary additional connections is deemed to be achievable given the developments currently planned in the city and the existence of planning policy EN4. The exact breakeven point varies depending on the type of customer, when customers connect and their level of heat use however as an approximate guide the network would break even if 30% of the heat generated were sold.
- 4.4.8 Having a centralised and locally focussed DHN will result in fuel bill payments circulating within the local economy rather than these payments being made to nationally based energy companies.

- 4.4.9 Council tenants who are newly connected to district heating will benefit from a reduction in their fuel bills.

4.5 Legal Implications, Access to Information and Call In

- 4.5.1 The information contained within confidential Appendix 1 to this report is designated as exempt from publication in accordance with paragraph 10.4(3) of the Access to Information Rules and Schedule 12A(3) of the Local Government Act 1972 on the grounds that it contains information relating to the financial or business affairs of any particular person (including the authority holding that information). The appendix contains detailed pricing information underpinning the Council's heat sales business case which if disclosed could damage the commercial interests of the Council. Disclosure of this information would seriously harm the Council's negotiating position when discussing heat sales with potential customers. Therefore it is considered that the public interest in maintaining the content of confidential Appendix 1 as exempt outweighs the public interest in disclosing the information.
- 4.5.2 The two procurements were carried out following the publication of an OJEU notice under the Competitive Dialogue with Negotiation Procedure.
- 4.5.3 The D&B contracts use NEC3 as a base but with an improved position to improve the risk profile to the benefit of the Council. The O&M contracts are based upon the council's standard services conditions with project specific amendments.
- 4.5.4 The Council does not have a statutory right to supply heat and, in order to sell heat to the private sector, legislation requires us to set up a trading company. The trading company will be set up on terms that are approved by the Director of Resources and Housing in line with statutory requirements and in consultation with the Leader, the Executive Member for Sustainability and the Environment and the section 151 officer.
- 4.5.5 In any project involving the expenditure of public monies and parties acting in part for a commercial purpose there is the possibility of state aid arising. External legal advice regarding state aid has been received. This indicates that both the Spine and Housing DHN projects can rely on the block exemption under Article 46 of the General Block Exemption Regulations (GBER), which applies to the capital cost of the pipes and equipment for the district heating network. Other state aid risks that have been considered (including possible aid to businesses that purchase heat and disposal of land at an undervalue) cannot be ruled out but should not arise. The disposal of land has followed the required process and is to a design, build, maintenance and operation contractor who has been procured through an open tender process and heat sales prices to end users will be set within the parameters of market rates.
- 4.5.6 Article 46(6) of GBER requires that the total amount of aid for the distribution networks must not exceed the difference between the eligible costs (i.e. the investment costs) and any operating profit which is generated. The Council must calculate the operating profit on the basis of discounted revenues and operating costs over the life of the asset. If, as anticipated, an operating profit is made the

Council must then repay an equivalent amount of the grant it received to the grant provider.

4.5.7 Land Disposal Consent

- The Sites (as described at appendix 5) will be leased to Vital for the operative period of the operation and maintenance contract. This means that each site will be leased for 20 years. This constitutes a “disposal” for the purposes of section 123 of the Local Government Act 1972. The lease of Site A (plot of land near the RERF) will be based on receipt of a nominal rent of £1. The lease is structured in this way because any rent that was charged for the premises would simply be re-charged to the Council through the contract price (the charge made by Vital to operate and maintain the district heating network) plus the costs of administering the payments. The lease of Site B (plot of land near Saxton Gardens) will be at a market rent as assessed by the Council’s asset management section. This is because this small area of land (that is already used as an energy centre) is held under part 2 of the Housing Act 1985 and would require Secretary of State consent for disposal at an under value. The project team considers that the cost and resources involved in securing this consent exceeds the costs of administering the charge and re-charge (through the contract price) of the market rent.

The following text relates to the disposal of Site A only:

- The tender from Vital was priced to include this assumption and the Council is receiving value for money for the transaction as a whole.
- In all transactions local authorities need to take into account the fiduciary duty that is owed to council tax payers. In this case officers are satisfied that the fiduciary duty has been fulfilled as there has been no loss of income to the Council. As described above, to have a charged a rent for this site would simply have resulted in the rent plus administration costs being re-charged to the Council through the monthly service charge.
- However, this means that the Council is considered to be disposing of the Site at less than the best consideration that can reasonably be obtained for it. The Council’s asset management team has carried out a site valuation including an assessment of undervalue in accordance with circular 06/03 “Local Government Act 1972 general disposal consent (England) 2003 disposal of land for less than the best consideration that can reasonably be obtained” (“the General Disposal Consent”). The valuation report is attached as a confidential appendix 4 to this report. Appendix 4 contains exempt information under Access to Information Rule 10.4(3) as it contains commercially sensitive information detailing the value of Council owned property, disclosure of which may prejudice future property development and disposals and where the benefit of keeping the information confidential is considered greater than that of allowing public access to the information.
- The General Disposal Consent permits local authorities to authorise disposals of land at an undervalue providing the disposal will promote or improve the economic, social or environmental well-being of the whole or any part of the

area and that the extent of the undervalue achieved for the site is £2 million or less.

- The requirements of the General Disposal consent are satisfied if:

(a) the local authority considers that the purpose for which the land is to be disposed is likely to contribute to the achievement of any one or more of the following objects in respect of the whole or any part of its area, or of all or any persons resident or present in its area;

- (i) the promotion or improvement of economic well being;
- (ii) the promotion or improvement of social well being;
- (iii) the promotion or improvement of environmental well being; and

(b) the difference between the unrestricted value of the land to be disposed of and the consideration of the disposal does not exceed £2,000,000 (two million pounds).

- Where applicable, local authorities should also have regard to their community strategy.
- It is considered that the disposals meet the above criteria. Please see sections 3.14 – 3.21 and 4.3 for details of the economic, social and environmental benefits and links to strategy. The disposals are well under the £2,000,000 threshold (see confidential appendix 4).
- Members are therefore requested to approve the disposal at an undervalue in excess of £100,000 and the exercise of the General Disposal Consent.

Members are requested to note and approve that the Director of City Development (or officer with delegated authority) shall take any further actions required to facilitate the disposals of land required to facilitate the project.

Officers from asset management and the commercial property legal team have prepared the relevant leases and plans.

- 4.5.8 The decisions within this report are Key Decisions and are therefore subject to call in.

4.6 **Risk Management**

- 4.6.1 Cost certainty relating to the construction of the DHN is provided through the two completed procurements, which tie down the majority of the construction and operational costs. The signed deed of variation to the residual waste PFI contract provides a secure price for the purchase of steam from the RERF. Heat sales agreements with customers are index linked to tie up to indexation in energy purchase contract to ensure back to back risk cover.

- 4.6.2 Sufficient customers are required to provide an initial anchor load with an energy demand that supports the viability of the DHN from which the network can expand. Over 60% of the heat sales within the anchor load are within the council's

control, with discussions with other customers focussing on Heads of Term agreements. Planning powers (policy EN4) can be used to encourage connection to the network, which will be enforced when new developments arise. The opportunity to expand the network to the Southbank area of the city provides an excellent opportunity and funding opportunities to enable this will be explored.

- 4.6.3 Interruptions in heat supply from the RERF represent a risk to the continuous supply of heat across the network. The inclusion of back-up heat generation equipment along with the ability to connect temporary boiler plant at locations across the network, ensuring that heat supply to customers can be maintained.
- 4.6.4 ROC eligibility has already been confirmed with certification from Ofgem, and is incorporated into the residual waste PFI contract via a deed of variation. The DHN contractor has developed a ROC model to forecast the expected revenue, which is being reviewed by the council's external technical advisor.
- 4.6.5 Revenue from ROCs associated with the Paper Pulp Facility is subject to the success of the facility. The deed of variation, allows any heat not used by the PPF to be supplied to the DHN, meaning that any lost ROC revenue from this facility can be recovered via additional heat sales. ROC payments from the PPF have not been included within the business model until 2024 once the construction costs have been paid off, allowing the council time to find replacement customers should any ROC revenue from the PPF not be realised.
- 4.6.6 The grant from the WYCA had been conditionally approved on the basis of achieving Executive Board approval. However, since the date of the conditional approval the request for funding from the WYCA has evolved and therefore the new funding request will be subject to further Investment Committee Approval in September and Combined Authority approval in October. Members will note that our ability to proceed with this project is subject to gaining this approval.
- 4.6.7 Ground conditions, access and routing risks that are associated with construction projects along highways and over third party land, have been transferred to the contractors. The Council has retained limited risk in relation to unexpected conditions found in Council properties that have not been discovered by pre-contract surveys.
- 4.6.8 The systems within the multi-storey flats have been carefully designed and specified so as not to increase fire risk. Some pipes will be welded in communal areas (none in flats) so these will be carefully fire marshalled. There is no need for a gas connection within the blocks or flats and minimal electrical work. Indeed, removing the storage heaters reduces the electrical load considerably, reducing potential fire risks. All holes created for the new pipework will be properly sealed to maintain fire compartmentalisation. Finally, the council is considering the potential to install sprinkler systems within certain blocks alongside the district heating work. This is not because district heating will increase fire risk, but instead will be a way to improve the fire resilience of certain blocks in a way that minimises disruption to residents.

- 4.6.9 Prior to final approval by the Director of Resources and Housing, the council will employ a consultant to review the business case and to ensure the robustness of its assumptions.
- 4.6.10 Key Performance Indicators within the spine and housing contracts will provide performance remedies to mitigate underperformance in key areas of the service where Vital Energi do not achieve the necessary service levels.

5 Conclusions

- 5.1 The development of a district heating network into the city centre is an exciting opportunity as it not only provides Leeds with a low carbon infrastructure to support the growth of the city but it also supports groups of residents in areas where fuel poverty is most prevalent.
- 5.2 The expansion of the city centre into the South Bank and the range of additional connection opportunities that are planned across the city means the density of opportunities makes Leeds an ideal place to develop a flagship green infrastructure project that can contribute the city's sustainable future.

6 Recommendations

- 6.1 Executive Board is asked to note the contents of this report including its appendices, and:
- 6.2 Approve the injection of £0.276m into the Capital programme to provide the balance of funding to deliver the district heating network programme.
- 6.3 Approve authority to spend for:
 - The construction of the Spine District Heating Network of £21.276m funded through £17.276m supported prudential borrowing and £4m of grant from the WYCA;
 - The connection of the council housing District Heating Network of £17.42m funded through £11.3 of HRA capital and £5.774 of European Regional Development Fund (ERDF).

Subject to the Director of Resources and Housing being satisfied with the outcome of external due diligence on the business case and securing the required heat loads; and

subject to the approval of the grant from the WYCA.

- 6.4 Delegate authority to the Director of Resources and Housing to enter into a contract with Vital Energi Utilities Ltd for a maximum sum of £2m for a limited scope of works and services for the housing DHN as described at paragraph 3.8 of this report.
- 6.5 Provide authority to enter into the leases of the Sites for the energy centres based next to the RERF (site A) and at Saxton Gardens, including disposal of Site A at an undervalue.

- 6.6 Authority to set up an energy trading company on terms that are agreed by the Director of Resources and Housing and in consultation with the Leader, the Executive Member for Sustainability and the Environment and the section 151 officer.
- 6.7 Delegate authority to the Director of Resources and Housing to enter into all other documentation and take all other decisions required for the delivery of the project and approve operational decisions relating to the district heating scheme.
- 7 Background documents¹**
- 7.1 None.
- 8 Further information**
- 8.1 Note the delegated decision in February 2016 that authorised the then Director of Environment and Housing authority to vary the Residual Waste PFI contract.

¹ The background documents listed in this section are available to download from the Council's website, unless they contain confidential or exempt information. The list of background documents does not include published works.