



**Report of Senior Project Manager, Sustainable Energy and Air Quality**

**Report to Director of Resources and Housing and Chief Officer Financial Services**

**Date: 25<sup>th</sup> March 2021**

**Subject: DCR relating to additional capital requirements on the Leeds Pipes DHN.**

Are specific electoral wards affected? If yes, name(s) of ward(s):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Has consultation been carried out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are there implications for equality and diversity and cohesion and integration?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Will the decision be open for call-in?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Does the report contain confidential or exempt information? If relevant, access to information procedure rule number: Appendix number:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

## Summary

### 1. Main issues

- The council has made significant capital investment in the Leeds Pipes district heating network over the last 3 – 4 years since the decision to commence the construction of phase 1 was approved by Executive Board in July 2017, with approximately £45m committed to date.
- Whilst the operation of network very much remains in its infancy, there is significant interest from a range of partners across the city to connect and make use of the low carbon network, with at least 8 new customers planned to connect to the network during 2021 adding an additional c.10GWh of annual heat demand to the network.
- The project has experienced a number of challenges during the construction phase, which reflect the complexity and scale of delivering a DHN network across a major city centre. Despite this the construction of the network has successfully resulted in heat being delivered from the RERF to customers on the network, with a significant number of new customers planned for connection in the short and medium term.
- As a result of a range challenges there is a requirement for additional investment to be made into the phase 1 and phase 2 capital schemes as a result of unforeseen costs.
- Whilst the final construction costs of the citywide network has come at additional capital cost there remains confidence in the overall business case for the project based on forecast connections and discussions with customers across the city.

## 2. Best Council Plan implications (see the [latest version of the Best Council Plan](#))

- The DHN supports the aspirations set out in the Best Council Plan and the overall vision of becoming the best city and best council in the UK. In particular, the project helps deliver the Best Council Plan 2019/20 to 2020/21 priority on Sustainable Infrastructure with a focus on:
  - Improving air quality, reducing pollution and noise; and
  - Promoting a more competitive, less wasteful, more resource efficient, low carbon economy.
- In addition, the council is committed to reducing citywide carbon emissions, having declared a climate emergency in March 2020, committing to be net zero by 2030.

## 3. Resource implications

- The total capital cost of Phase 1 is now forecast at £23,607k. The existing authority to spend for Phase 1 is £21,672k therefore an additional injection and authority to spend is required for Phase 1 of £2,331k. This will cost an estimated additional £100k in annual borrowing costs.
- The total costs of Phase 2 are estimated at £5,509k. Funding of £5,299k exists in the PipeCo Ltd (Loan £2,899k and grant of £2,400k). To complete the works, the PipeCo Ltd will require an additional loan of £210k from the Council.

## Recommendations

For Phase 1 of the Spine District Heating Network:

- a) The Chief Officer Financial Services is recommended to inject £2,331k into the capital programme for the completion of the Phase 1 network, funded through prudential borrowing;
- b) The Director of Resources and Housing is recommended to provide authority to spend of £2.331m on Phase 1 of the Spine District Heating network.

For the Phase 2 extension of the District Heating Network:

- a) The Chief Officer Financial Services is recommended:
  - a. to inject £210k into the capital programme by means of a loan to the Leeds District Heating PipeCo Ltd;
  - b. agree to provide a loan to the Leeds District Heating PipeCo Ltd of £210k at a state aid compliant rate;
  - c. approve the transfer of £345k of existing Authority to Spend funding from the decarbonisation programme approved at Executive Board in October 2020 to account for the building connection costs, as the responsibility for these costs is with the Council and not Leeds DHN PipeCo Ltd.
- b) The Director of Resources and Housing is recommended to provide authority to spend £210k additional capital on Phase 2 of the Spine District Heating network by means of a loan to the Leeds District Heating PipeCo Ltd.



## **1. Purpose of this report**

- 1.1 The purpose of this report is to seek authority to inject and give authority to spend additional capital on the Phase 1 and Phase 2 branches of the city wide District Heating Network.

## **2. Background information**

- 2.1 The council has made significant capital investment in the Leeds Pipes district heating network over the last 3 – 4 years since the decision to commence the construction of phase 1 was approved by Executive Board in July 2017, with approximately £45m committed to date. Out of this total, £23.1m has been invested into constructing the main spine network (phase 1), £16.7m into converting council Multi-Storey Flats and connecting them to the spine network, and £5.5m has been injected into the construction of a 2.5km extension into the city centre (phase 2).
- 2.2 Funding for the network has comprised of £13.2m of grant funding. This includes £6.8m of European Regional Development Fund (ERDF) support for the Multi-Storey Flat (MSF) conversion, a £4m Local Growth Fund grant to support phase 1 of the spine network, and £2.4m of Heat Network Investment Programme (HNIP) funding for the phase 2 extension.
- 2.3 The Housing Revenue Account (HRA) has contributed £9.9m towards the MSF project and £17.3m of prudential borrowing has been injected into the phase 1 and a loan to Leeds DHN PipeCo Lt of £2.9m for phase 2.
- 2.4 The delivery of the Leeds Pipes DHN can be split into 3 distinct elements with these being Phase 1, the connection of the RERF to phase 1, and the Phase 2 network extension.

## **3. Main issues**

- 3.1 Over the last 3 years the Leeds Pipes DHN has been successfully constructed across Leeds city centre with heat being supplied to council tenants in MSFs and the Leeds Playhouse. This has allowed the ambition of creating a citywide low carbon heat network to become a reality, and establishes the flagship network as a means of helping the city meet its climate emergency ambitions.
- 3.2 During the summer of 2021 the council will see its own buildings in the civic quarter connect to the phase 2 extension following successful applications to the Public Sector Decarbonisation Scheme (PSDS). The PSDS scheme has also enabled agreement to be reached with 2 significant public sector partners who will connect to the network in summer 2021 as well as an additional council site being brought forward for development. The connection of these 8 buildings alone will see an additional c.10GWh of annual heat load connect to the network.
- 3.3 The council is also supporting a number of other public sector buildings with funding applications to round 2 of the PSDS, which if successful will see at least an additional 3 significant connections during 2021.
- 3.4 The level of interest from potential customers across the city has increased throughout construction, with new customers regularly contacting the project team to discuss connection opportunities having recognised the network as a means of reducing their financial costs and achieving reductions in their carbon emissions. This interest is reaching fruition with at least 8 customers connecting in 2021, which

is extremely positive given the network is in its infancy but quickly gathering momentum.

- 3.5 The project has experienced a number of challenges during the construction phase, which reflect the complexity and scale of delivering a DHN network across a major city centre. A range of challenges have been resolved by the project delivery team and the DHN contractor Vital Energi. These challenges have included arson attacks, complex land deals, contractual challenges, delays to grant applications, complex grant conditions, unknown ground conditions, restrictive timescales and most recently the COVID-19 pandemic. Collectively these issues have led to additional costs being required to complete the programme of works.
- 3.6 The Phase 1 network requires an additional £2,331k injecting into the capital programme. Out of this, additional contract costs totalling c.£1.25m have been incurred by the project via a number of compensation events agreed with the DHN contractor. These are predominantly associated with delays related to establishing a high pressure gas connection and ensuring a heat supply to MSFs whilst this was secured.
- 3.7 The remaining c.£1.1m additional capital requirement covers additional costs that include areas such as higher than anticipated costs associated with the steam connection at the RERF, the provision of external technical support, and internal LCC staffing costs. It should be noted that there are some costs within this estimated c.£1.1m that have yet to be finalised, but it is considered prudent to include these within the current injection ask.
- 3.8 The phase 2 extension requires £210k of additional capital to be injected into the programme via a loan from the council to Leeds DHN PipeCo Ltd.
- 3.9 The additional costs attached to phase 2 relate to c.£65k of additional construction contract costs via agreed compensation events, with these largely relating to increases in the size of the city centre pipework in order to maximise the volume of heat available to customers in future.
- 3.10 The remaining additional costs on phase 2 have been incurred following additional technical advisor fees, LCC staff costs, and agreement with the Highways Department to share certain costs with the LPTIP project, with these being in relation to GPRS surveys and traffic management.
- 3.11 The council's corporate buildings around the civic quarter will be connecting to the phase 2 extension in the summer of 2021. These works initially sat within the Phase 2 capital programme, however as Leeds DHN PipeCo Ltd are not responsible for building connections there is a need for the council to undertake these connections under the phase 1 construction contract. As such the budget for these works will be transferred to the phase 1 capital project. These costs are being funded by external grant.

#### Value Added

- 3.12 It should be noted that the DHN has provided significant additional value to the council in a number of areas. The main areas where added value has been realised are:
  - The installation of sprinklers within MSFs whilst carrying out DHN works, which has resulted in these being installed at reduced cost, with less disruption to residents, and sooner than a would ordinarily be achievable;

- Up to £2m of Energy Company Obligation (ECO) funding will be received for the 1,440 flats connecting to the DHN, which will be used to support energy efficiency works elsewhere in the Housing Revenue Account;
- An additional £1.6m of ERDF has been secured for the MSF programme, enabling external wall insulation to be installed on 3 blocks and the DHN connections at Ebor Garden to be paid for by ERDF rather than HRA;
- The Phase 2 works were successfully carried out in conjunction with the LPTIP highways improvements on the Headrow, resulting in two major city centre infrastructure improvements being delivered in the time it would normally take to deliver one. This avoided the Headrow having to be closed twice to significantly reduce disruption to business, residents and commuters in the city centre.
- The use of empty telecommunications ducting installed alongside the Spine by Urban Traffic Control, to install fibre cabling without the need to install their own ducting saving capital costs.

3.13 Whilst the final construction costs of the citywide network has come at additional capital cost there remains confidence in the overall business case for the project based on forecast connections and discussions with customers across the city.

3.14 Whilst it is expected that the costs and income associated with phase 1 will broadly breakeven in the medium term of the operation of the DHN, the long term business case for the network remains robust. This is based on the connections that are forecast to take place over the next 12 months along with significant interest from other potential customers

## **4. Corporate considerations**

### **4.1 Consultation and engagement**

4.1.1 The decision has been included on the List of Forthcoming Key Decisions.

4.1.2 The executive member for Climate Change, Transport and Sustainable Development has been kept updated on the progress of the Leeds Pipes DHN throughout its development, as has the Director of Resources and Housing.

4.1.3 The Chief Officer Financial Services has been consulted on regarding the additional capital injection into the phase 1 and phase 2 capital schemes.

4.1.4 Consultation has taken place with the Directors of the Leeds DHN PipeCo Ltd regarding the additional capital requirements associated with the phase 2 construction contract and increasing the value of the loan from the council.

### **4.2 Equality and diversity / cohesion and integration**

4.2.1 An equality impact assessment was completed as part of Phase 1 and Phase 2 of the network, and was updated as part of the Executive Board report in July 2020 regarding a funding bid to support the construction of a Phase 3E extension.

4.2.2 As the decisions within this report are based on the capital cost of the network they do not have any impact on equality and diversity, with those impacts having already been captured at previous stages of the project.

### **4.3 Council policies and the Best Council Plan**

4.3.1 The DHN supports the aspirations set out in the Best Council Plan and the overall vision of becoming the best city and best council in the UK. In particular, the project helps deliver the Best Council Plan 2019/20 to 2020/21 priority on Sustainable Infrastructure with a focus on:

- Improving air quality, reducing pollution and noise; and
- Promoting a more competitive, less wasteful, more resource efficient, low carbon economy.

4.3.2 In addition, the council is committed to reducing citywide carbon emissions, having declared a climate emergency in March 2020, committing to be net zero by 2030.

4.3.3 KPIs of the Best Council Plan 2019/20 – 202/21 will measure progress and achievements using – amongst others - carbon emissions across the city and level of CO<sub>2</sub> emissions from council buildings and operations.

4.3.4 The council has achieved legal compliance for the air quality in the city, however it remains committed to going beyond the legal requirements in order to achieve greater benefits for the environment and public health. The DHN will provide a contribution towards reducing air pollution generated by heating systems in the city.

#### Climate Emergency

4.3.5 The DHN will help maximise CO<sub>2</sub> emissions reductions associated with the RERF and contribute to the citywide CO<sub>2</sub> reductions targets. Using the heat generated at the RERF will provide carbon savings through reducing the consumption of gas or electricity.

4.3.6 Completion of phase 1 and phase 2 of the DHN enables the council to supply this low carbon heat to a range of customers across the city including its own corporate buildings within the city centre.

### **4.4 Resources, procurement and value for money**

4.4.1 The additional capital costs have largely been derived using existing mechanisms within the NEC3 construction contracts that have been in place for the construction of the DHN. As such the approach used to value the additional costs has been in line with agreed contract rates. Costs have been benchmarked and reviewed by the council's external advisors to ensure that value for money was being achieved.

4.4.2 Capital Funding and cash flow (Phase 1 ):

Previous total Authority to Spend on this scheme	TOTAL £000's	TO MARCH 2020 £000's	FORECAST				
			2020/21 £000's	2021/222 £000's	2022/23 £000's	2023/24 £000's	2024/on £000's
DH Network General Fund	21276.0	21276.0					
<b>TOTALS</b>	<b>21276.0</b>	<b>21276.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Authority to Spend required for this Approval	TOTAL £000's	TO MARCH 2020 £000's	FORECAST				
			2020/21 £000's	2021/222 £000's	2022/23 £000's	2023/24 £000's	2024/on £000's
DH Network General Fund	2331.0		1227.0	1104.0			
<b>TOTALS</b>	<b>2331.0</b>	<b>0.0</b>	<b>1227.0</b>	<b>1104.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Total overall Funding (As per latest Capital Programme)	TOTAL £000's	TO MARCH 2020 £000's	FORECAST				
			2020/21 £000's	2021/222 £000's	2022/23 £000's	2023/24 £000's	2024/on £000's
WYCA Grant	4000.0	4000.0					
Departmental Borrowing	19607.0	17276.0	1227.0	1104.0			
<b>Total Funding</b>	<b>23607.0</b>	<b>21276.0</b>	<b>1227.0</b>	<b>1104.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Balance / Shortfall =</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

4.4.3 The total additional Authority to Spend required is £2,331k. This will cost an estimated additional £100k in annual borrowing costs. The 2021/22 District Heating revenue budget already provides for £76k of this £100k additional borrowing. The remaining £24k is expected to be funded through opportunities that exist within the O&M and heat supply arrangements that are in place as the efficiency of the DHN increases, as well through additional heat sales as the number of customers on the network grows.

4.4.4 With reference to the additional costs of Phase 2 of the scheme, these costs will be incurred by Leeds DHN PipeCo Ltd.

4.4.5 The total costs of Phase 2 are estimated at £5,509k, Funding of £5,299k exists in the PipeCo Ltd (Loan £2,899k and grant of £2,400k). To complete the works, the PipeCo Ltd will require an additional loan of £210k from the Council. This new loan will be repaid to the Council in the same way as the existing loan, over the 38 year asset life of the pipe network. There is a small initial projected cost to the profit and loss account of the DHN company of around £10k. The total loan made by the Council is now £3,109k.

4.4.6 The loan will be treated as an asset as the Council's balance sheet for accounting purposes.

## 4.5 Legal implications, access to information, and call-in

4.5.1 The approvals within this report constitute a Key Decision and as such are subject to call in.

4.5.2 There are no other legal implications or access information issues arising from this report.

4.5.3 The additional loan to Leeds DHN PipeCo Ltd will be provided at the appropriate state aid rate (4.15%) in line with the previously agreed loan for phase 2.

## **4.6 Risk management**

- 4.6.1 Given the size and scale of the Leeds Pipes DHN there have been significant risks associated with its delivery. These risks have been managed by the project team and its appointed Project Manager at Arup using project management tools and techniques, with regular reviews taking place to understand risk and potential additional costs.
- 4.6.2 When identified project risks have been mitigated where possible with the DHN contractor and Project Manager in order to reduce the potential additional costs and impact attached to each risks.
- 4.6.3 Senior officers within the council have been kept updated throughout the delivery of the project in relation to the main risks along with the additional costs, and the 2021/22 revenue budget reflected in the main the anticipated additional costs of borrowing for the completion of phase 1.

## **5. Conclusions**

- 5.1 The council has successfully delivered an ambitious flagship infrastructure project which has met key timescales and objectives, despite numerous challenges. However, dealing with these challenges has increased the overall costs by £2,331k on phase 1 (11% increase) which requires an injection of further borrowing into the project. The increase in the cost of phase 2 is £210k, which is broadly 2%.
- 5.2 Despite the additional capital construction costs, the business case for the DHN is still considered robust over the long term based on the forecast connections that are expected to take place in the early years of the network and additional connection opportunities across the city.

## **6. Recommendations**

- 6.1 For Phase 1 of the Spine District Heating Network:
  - 6.1.1 The Chief Officer Financial Services is recommended to inject £2,331k into the capital programme for the completion of the Phase 1 network, funded through prudential borrowing;
  - 6.1.2 The Director of Resources and Housing is recommended to provide authority to spend of £2,331k on Phase 1 of the Spine District Heating network.
- 6.2 For the Phase 2 extension of the District Heating Network:
  - 6.2.1 The Chief Officer Financial Services is recommended:
    - 6.2.1.1 to inject £210k into the capital programme by means of a loan to the Leeds District Heating PipeCo Ltd;
    - 6.2.1.2 agree to provide a loan to the Leeds District Heating PipeCo Ltd of £210k at a state aid compliant rate;
    - 6.2.1.3 approve the transfer of £345k of existing Authority to Spend from the decarbonisation funding approved at Executive Board in October 2020 to account for the building connection costs, as the responsibility for these costs is with the Council and not Leeds DHN PipeCo Ltd.
- 6.3 The Director of Resources and Housing is recommended to provide authority to spend £210k additional capital on Phase 2 of the Spine District Heating network by means of a loan to the Leeds District Heating PipeCo Ltd.

## **7. Background documents<sup>1</sup>**

7.1 None.

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<sup>1</sup> 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.