

District Heating Annual Report 2023

Date: 26th July 2023

Report of: Director of Communities, Housing & Environment

Report to: Executive Board

Will the decision be open for call in? Yes No

Does the report contain confidential or exempt information? Yes No

Brief summary

The Leeds PIPES district heating network is now well established across Leeds following three main phases of work with the most recent taking place across 2022-2023, for completion in early 2024. Customers continue to connect regularly to the network and there has been a rapid increase in the number of prospective customers the council are working with for future connections.

This annual Leeds PIPES report provides an update on progress since the last report was brought to Executive Board in November 2022, looks at the performance of the network over the past year, and forecasts the anticipated performance in 2023/24. It also outlines planned construction, some of which will be supported by an application to the Green Heat Network Fund grant scheme.

In addition, this year's report will discuss the continuing development of Heat Network Zoning policy by central government, and the intention of the council to submit an application to the Heat Trust for accreditation.

The recommendations of this report will support the continued expansion of the network and further enhance it and the council's credibility to the market.

Recommendations

Executive Board is requested to:

- a) Approve the application to the Green Heat Network Fund for the next phase of extension for Leeds PIPES District Heating Network, with the balance to be met by borrowing, noting that a further report will be brought to Executive Board in 2024 seeking further approvals prior to commencing the works.
- b) Delegate approval for the funding of works to extend the network from Little Queen Street to Castle Street to the Chief Officer for Financial Services, noting a further report will be brought to this officer in relation to this decision.
- c) To note the financial performance of the network outlined in this report.

- d) Approve the application to the Heat Trust for accreditation from its customer standard scheme by the end of summer 2023.
- e) Note the progress made thus far by the council and central government on Heat Network Zoning and Regulation legislation and that a further report will be taken to Executive Board in 2024 outlining our strategic approach and the decisions required to implement it locally.
- f) Approve the underwriting of cash flow losses in Phase 3 up to a maximum value of £2m, in line with the approach taken for Phase 2.

What is this report about?

- 1 The Leeds PIPES district heating network has continued to grow over the past year in scale, customer numbers, and reputation. This report provides Executive Board members with a progress update and looks ahead to the future. Specifically, the report:
 - a) Provides an update on performance of the Leeds PIPES network during 2022-2023, including key information on how the network has grown and attracted new customers.
 - b) Identifies the opportunity provided by the Green Heat Network Fund and outlines the intention to apply for grant funding to support the next phase of development of the network.
 - c) Provides a summary of the financial performance of Leeds PIPES during 2022-2023 and forecasts financial performance over the next financial year.
 - d) Provides an update on the proposal outlined at November 2022 Executive Board to submit an application to the Heat Trust for accreditation.
 - e) Provides an update on Heat Network Zoning and Regulation legislation outlined at the November 2022 Executive Board.

What impact will this proposal have?

- 2 This section will address each of the 5 areas identified above in turn.

Update on Leeds PIPES operational performance during 2022-23

- 3 The Leeds PIPES district heating network continues to be a strategic priority for the council, with investment into the network approved at Executive Board meetings in 2017, 2019, 2020, and most recently in February 2022. Phase 1 was completed during 2019, with Phase 2 completing in 2020. The Recycling and Energy Recovery Facility (RERF) now provides low carbon heat to council tenants in Multi-Storey Flats (MSFs), non-domestic customers, and the council's own buildings in the Civic Quarter of the city.
- 4 The Phase 3 extension of the network commenced in summer of 2022 with a planned completion date of March 2023. There have been several delays to the programme outside of the council's direct control. Works are currently 85% complete with the two final sections of work taking place in September 2023 and January-March 2024.
- 5 Critically, the network has been extremely reliable since operations commenced, with only one unplanned interruption to customer's heat over the lifetime of the project which occurred earlier in 2023. As soon as the issue was identified, the customer isolated the PIPES plate heat exchanger (PHeX) from their secondary system, and our contractor delivered a new PHeX the same evening. This allowed hot water supply to be reinstated to the site within 24 hours.
- 6 A review was undertaken by our contractor which determined that the most likely cause was a spike in the differential pressure between the primary (Leeds PIPES) and secondary (customer's equipment) systems leading to part of the PIPES PHeX becoming dislodged. A full report has now been produced, and to avoid a repeat, any PHeXs which are installed will be

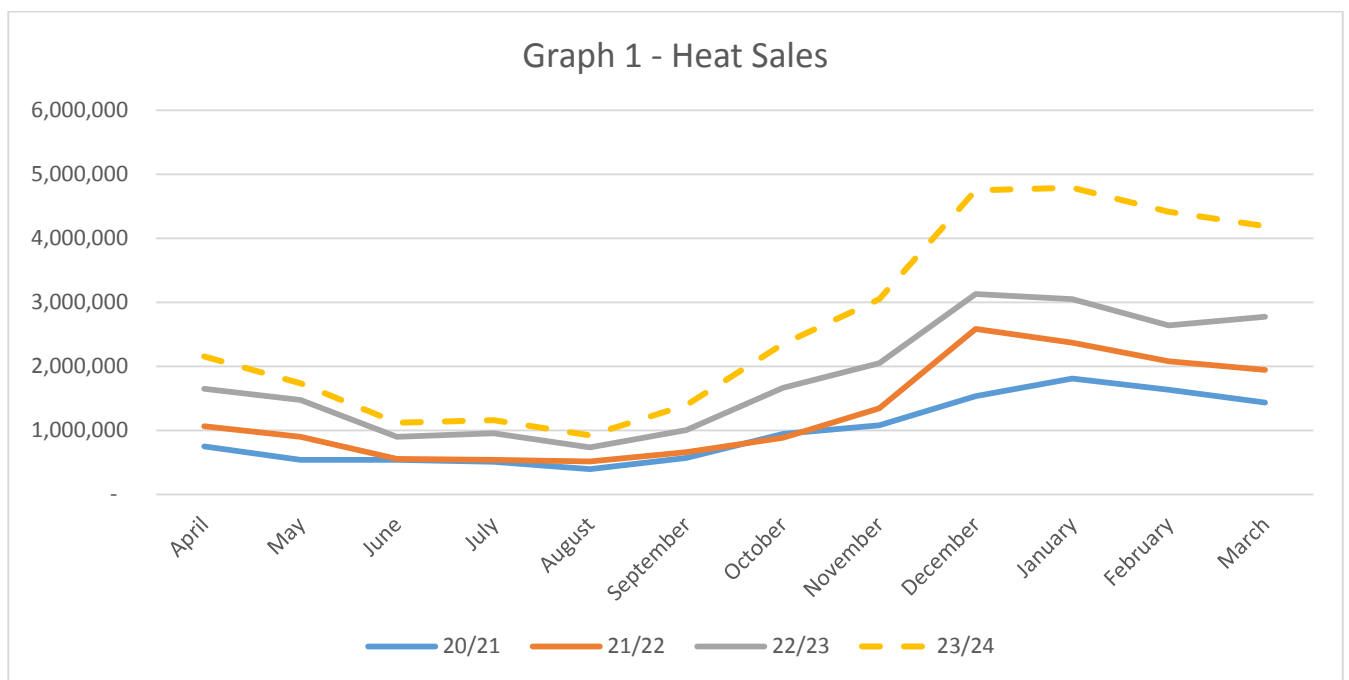
swapped from gasketed to brazed connections. This means there will be stronger sealing to reduce the likelihood of a repeat, should a spike in differential pressure occur anywhere on the network in future.

- 7 The day's outage of domestic hot water supply at this one customer's building, is equivalent to approximately 0.0094% of the total annual heat load delivered to customers on the network in 2022/2023.
- 8 When the RERF has had outages, the back-up boilers at Saxton Gardens have automatically fired to ensure uninterrupted service is provided to customers. The level of resilience in the network and the council's strategy for dealing with outages has proven to be one of the biggest selling points of the network when in conversation with prospective customers. The council is working to identify additional sources of heat for the network which will further add to this resilience. This includes a potential interconnection with the Enfinium energy from waste plant in the east of the city, which SSE are seeking to develop a heat network from, as well as the South Bank heat network project which is covered in more detail at paragraphs 22 to 34.
- 9 The council has instructed Vital Energi to undertake a deep dive audit of the existing network, identifying areas of heat loss and network capacity by branch. As the network continues to grow and add customers, the availability of heat on the network will decrease, so it is important for us to understand any pinch points to avoid signing multiple customers up in an area that then struggles to meet the demand due to the size of pipework or availability of heat overall on the network. The outcomes of this audit should be presented over the summer of this year.
- 10 The council held a customer update meeting with each of its non-domestic customers in 2022/2023. This is an opportunity for customers to raise any concerns they have with the performance and reliability of their connection, or with the maintenance of the kit and response times to issues. None of the customers flagged any concerns or issues they had and provided very positive feedback regarding their connection to the network. The council intends to hold these meetings annually moving forwards, or sooner should there be a specific update that needs to be provided.
- 11 Leeds PIPES continues to be seen as the model for other local authorities in the country, and the council regularly meets with other authorities to support the development of their projects, as well as maintaining a presence at national events such as UK REIIF and the Associated for Decentralised Energy annual conference, and hosting visits to the network from central government, local authorities, and other industry figures.
- 12 The network has experienced strong growth since it became operational and eight new non-domestic connections were made during 22/23. Key metrics are shown in table 1 below together with forecasts for 2023/24 and 2024/25.

	2020/21 (actual)	2021/22 (actual)	2022/23 (actual)	2023/24 (forecast)	2024/25 (forecast)
Heat supplied to customers (MWh)	11,757	15,454	22,029	32,332	36,525
Number of non-domestic customers	1	4	12	18	20
Number of domestic customers	c1600	c1700	c1700	c1850	c2150

Percentage of heat supplied by the RERF	89%	96%	93.8%	95%	95%
Percentage of available heat from the RERF used	c9.5%	c12.3%	17%	23.1%	27.2%
CO ₂ reduction (tonnes)	1,666	2,254	3,975	6,201	7,092

Table 1



Graph 1 – Heat sales on the network. Actuals for 20/21, 21/22 and 22/23. Forecast for 23/24.

13 It has been outlined at previous Executive Boards that the growth of the network has enabled partner organisations in the public sector to access Public Sector Decarbonisation Scheme funding, including Department of Work and Pensions, Leeds Beckett University and St James' Hospital. Earlier in 2023, works to connect both the Leeds Combined and Magistrates' Courts to the network completed and the sites are now taking heat from the network, following their successful PSDS application. Leeds Conservatoire and Leeds Art University recently received funding from the scheme and the council aims to commence works later this year to connect the sites. There are further public sector organisations the council are working with currently to develop proposals to form the basis of applications to the scheme. District Heating acts as the heat decarbonisation element of the application and by achieving this, it opens up the opportunity to apply for funding for supplementary energy efficiency and decarbonisation measures such as Solar PV, LED lighting, and insulation.

14 In the past year the number of potential customers that the council is working with to connect to the network has rapidly grown, as we continue to widen the focus beyond the public sector to incorporate private customers, both looking for domestic and non-domestic supplies. We are in varying stages of negotiations with 40 customers currently, and we have a well-established process which involves Vital Energi and our commercial adviser Ener-Vate, to take customers through from initial enquiry to legal and commercial agreement, up to works commencing on site.

15 A summary of the current position with prospective customers is outlined in table 2 below.

Stage	Number of customers
New enquiry	8
Budget design and cost	3
Connection proposal	16
Heads of Terms	8
Contract negotiation	5

Table 2

16 The council has recently signed a Connection and Supply Agreement with a private residential developer for the first time. This has been entered into with the freeholder at the Leonardo and Thoresby buildings and car park redevelopment, which will open as student accommodation later in 2023. District heating will provide the domestic hot water demand for the property.

17 We anticipate the growth of customers on the network will continue to snowball over the coming years, as the reputation of the network grows further and customers see the benefits of a lower cost, reliable, low carbon solution to their heating and hot water needs, whilst Zoning policy is implemented by central government (outlined in more detail at paragraph 60-66).

18 To help quantify the benefit to customers, we estimate that the lower cost heat and hot water that customers are benefitting from will achieve these cost-savings during 23/24.

Customer type	Forecasted annual saving
Council civic buildings	£120k
Non-domestic customers	£220k
Housing Leeds residents	£150k

Table 3

Next phase of extending the network – GHNF

19 The Green Heat Network Fund (GHNF) is the main grant funding scheme from central government for funding commercialisation and construction works for new and existing heat networks. The scheme is open to public or private organisations and generally has two rounds each year for which applications can be submitted.

20 GHNF has superseded the Heat Networks Investment Programme (HNIP) but retained several similarities to the previous scheme, including in its application form, evidence requirements, and assessment criteria. The council was successful on two separate occasions in receiving HNIP funding and the council feels this will put us in a strong position for GHNF.

21 The council has been working over the past year to identify the next phases of works to form the basis of a GHNF application, both of which are outlined in more detail below. The intention of the council is to submit an application that combines these two phases of work in round 6 of GHNF, which is expected to close at the end of September 2023.

GHNF - South Bank Study

22 In parallel to the extension of the main Leeds PIPES network, the council has identified the opportunity for a new heat network in the South Bank of the city.

23 During 2019 and 2020 the council worked with the developer of the Tetley Brewery site to explore a connection to the city park development and approval was granted by Executive Board in July 2020 to progress with the Phase 3E extension into the South Bank area of the city. A HNIP grant was secured to support this work.

- 24 Brexit and Covid-19 slowed the redevelopment of the site, which was the key heat load for the extension's business case. In addition to this, the volume of heat required by the site significantly reduced based on the original business case, and a relatively low number of other connection opportunities were identified. Financial modelling showed the extension having a negative impact on the DHN business case and as such, Executive Board decided to hand back £2.438m of grant funding to HNIP, and not proceeding with the extension to the Tetley Brewery site. In the end, the council worked with the funder and retained (and increased) the funding to support the phase 3 extension to the network.
- 25 Since this decision and the reduced impact of Covid-19 on the city, the regeneration of the South Bank has gathered significant momentum and the council has re-evaluated the best way to bring a heat network to the area, making best use of local assets.
- 26 In early 2022, the council secured funding from the Heat Network Delivery Unit (HNDU), a body within BEIS, for a Techno-Economic Feasibility (TEF) study on the South Bank heat network. Following a competitive procurement exercise, this contract was awarded to Aecom Ltd.
- 27 The TEF study completed in February 2023 and identified potential customers on the network, their estimated heat demands, options for heat sources to feed the network, and the route for the pipework. This route would be significantly larger in scale than the previously planned 3E extension, connecting East-West from Clarence Road as far as Sweet Street. Crucially it recognised that there is a strong business case to support the further development of the scheme, in contrast to the position identified in 2021.
- 28 To bring the scheme to realisation on the ground, a further study needs to be undertaken which takes it from high level feasibility to a detailed project plan which can act as the business case upon which the council can proceed with the scheme. On this basis, a further application to HNDU was submitted in December 2022, for 67% match funding for the Detailed Project Development (DPD) stage of the scheme, which will bring together multidisciplinary technical, commercial, legal, and financial workstreams.
- 29 This application was successful, and the council have since awarded the contract for the technical, commercial and financial workstreams of the DPD to Aecom Ltd. A legal contractor is due to be appointed by the end of July 2023 to support the project.
- 30 The DPD study is due to complete in February 2024, however the council will be applying to the Green Heat Network Fund in September 2023. A workshop will be set up with Aecom to determine the priority outputs from the study to support the GHNF application to allow for the application to be submitted prior to the completion of the full study. We understand that other authorities have been successful with GHNF applications submitted without a full DPD being completed.
- 31 There are two main reasons for submitting a GHNF application prior to the completion of the full DPD study:
- The GHNF has a finite amount of funding to distribute, and the council understand that it is likely to be oversubscribed, with significant funding already allocated across the country. Submitting our application as soon as possible will give the best chance possible that funding is still available.
 - There is a significant pipeline of development in South Bank which will not pause and wait for a heat network to be delivered in the area. The sooner the heat network infrastructure is delivered the better in terms of capitalising on potential connections in the area.
- 32 One of the key outputs of the DPD will be the outline business cases for the strategic, management, commercial, and financial cases. This suite of documents will form the basis of an

Executive Board report to be brought before the board in 2024, seeking authority to proceed with the final commercialisation elements and ultimately the construction of the network.

- 33 Based on the original TEF study undertaken by Aecom, the cost of the South Bank extension project will be in the region of £32m. Further detail on the approach to the GHNF application is outlined throughout this report.
- 34 The intention of the project is to interconnect the South Bank extension of the network with the main Leeds PIPES network, currently to the north of the river. There are several options for this interconnection that are currently being assessed for viability. The benefit of this interconnection is that should one heat source go offline and fail to supply heat, such as the RERF, the additional heat sources added through the South Bank project will be able to step in to supply not only the South Bank sites, but the entire Leeds PIPES network.

GHNF - Wellington Street Extension

- 35 The project development of the South Bank extension of the network has been undertaken in parallel to the continued engagement with the main pipeline of prospective customers outlined at paragraphs 14-15.
- 36 One of the key criteria for the GHNF, as was the case for the Heat Network Investment Project previously, is the outline commitment from customers to connect to the network should grant funding be received and the network be constructed such that it makes a connection possible for the landowner.
- 37 One area which has emerged over the past year as a cluster of potential customers with sizable heat demands has been the western section of Wellington Street. Negotiations are ongoing with customers in the area ranging from initial outline design to development of Heads of Terms, and there is confidence that at least two customers in the area will connect.
- 38 As such, it is the intention of the council to include this extension in the GHNF application in September 2023 alongside the South Bank project.

Project funding and next steps

- 39 The GHNF is administered on behalf of central government by Triple Point Heat Networks Investment Management. The council has an existing relationship with Triple Point and as such is in regular conversation for updates about the scheme. It is understood that the scheme is highly competitive and, whilst up to 50% of grant funding can be applied for to cover construction costs, it is likely that we will apply for a lower percentage for the following reasons:
- One of the main assessment criteria of the GHNF is the pound of grant funding spent per kWh of heat delivered to customers. As such the lower the percentage of funding applied for to deliver the project, the higher it will score with assessors.
 - The total value of the application being lower means it's less likely to fall outside of the total grant pot for the round submitted in.
 - A financial model developed for the GHNF is required to be used to support applications. The model allows the applicant to determine the amount of grant it is eligible to apply for. This model will be used to set the funding application at an appropriate level.
- 40 Whilst there remains work to be done to fully develop and cost the extensions to the network, at this stage of development the council understands the costs to be in the region of £40m and on this basis, the maximum grant that will be applied for is £20m, noting the point above regarding the GHNF financial model, which will determine the final figure.
- 41 The remainder of the costs will be funded by borrowing. Traditionally, borrowing to support the project has been met by the Public Works Loan Board (PWLb). However, over the course of 2023 the council has had positive discussions with the UK Infrastructure Bank regarding potential funding for the project. UKIB currently offer local authorities loans for infrastructure

projects that are slightly below headline PWLB costs; however the council's Treasury management approach also often improves on headline PWLB costs. UKIB are also exploring opportunities for bespoke repayment arrangements to support strategic DH infrastructure, such as delaying the commencement of loan repayments until a certain number of years after construction has completed and/or when a revenue threshold is achieved, thereby attempting to eliminate potential short-term pressures to the council whilst the asset is under construction and revenue from heat sales have not yet been fully realised.

- 42 Whilst all borrowing decisions are delegated to the S151 officer, any decision to fund from any particular source will be evaluated against PWLB rates offered at the time along with the maturity profile, period etc. to assess the best fit in terms of the Council's strategic funding requirements.
- 43 Therefore, the council will remain in close contact with UKIB as the project develops, with the option to use UKIB loan funding rather than PWLB subject to securing a preferential rate or preferential terms when the borrowing decision is made, to ensure that the Council borrows at the lowest cost available.
- 44 The application to the GHNF will be submitted prior to the deadline for round 6 at the end of September 2023. Allowing for up to three months for the assessment of the application and grant funding agreements being issued, it is assumed that the programme of work will be along the lines of table 4 below.
- 45 As outlined at paragraph 32 above a further Executive Board report will be brought in 2024 following the outcome of the GHNF application and completion of the DPD study, to allow the board to make a decision on proceeding with the construction of the extensions to the network.
- 46 Confirmation on the procurement route will be included in the 2024 Executive Board report on the project and PACS will be consulted prior to a decision being taken.

Location	Start on site date	Completion date
Westgate junction (outstanding section of Phase 3 works)	January 24	March 24
Phase 4 mobilisation	December 2024	March 2024
Little Queen Street to Lisbon Street	March 24	May/June 24
Lisbon Street to Wellington Street	Summer 24	Summer 24
Wellington Street to Whitehall Road	Summer 24	Autumn 24
Detailed project development of South Bank extension prior to works commencing	Summer 2023	Summer 2024
South Bank Extension Phase 1 construction	Late 2024	Mid 2025

South Bank Extension Phase 2 construction	Mid 2025	Early 2026
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Table 4 – GHNH programme

- 47 An element of works may be required to be brought forward ahead of this programme and sit outside of a GHNH application. Following an assessment of the impact of works on the Highways network, it has been determined that pipework installations along Wellington Street need to be minimised as much as possible. As such, alternate routes in the area have been explored. One such option is to extend pipework from its existing position on Little Queen Street, to Castle Street. Vital Energi will undertake a design exercise assessing two potential routes to achieve this, both of which would result in a reduction of pipework on Wellington Street.
- 48 One potential route entails installing pipework across private land, and to achieve this it would need to occur in 2023 prior to the owner of that land starting their own works on site. Another, potentially preferential, route appears to present greater challenges in terms of available space and hence buildability, however this will be determined through the design exercise.
- 49 Securing this small extension to the network would reduce the overall costs of the extension (as the Little Queen St to Castle St route is more direct with less pipework required than using Wellington Street to reach this area) whilst enabling connections to the network with customers who are currently in advanced negotiations with the council.
- 50 The reduction in pipework from avoiding the Wellington Street route is estimated to be in the region of 100-110m, which based on recent costs for pipework installations would be a saving of c£550,000.
- 51 The customers referenced above are currently forecast to generate in the region of £300,000 in annual standing and variable charges once connected, a significant amount of revenue for the scheme which justifies the potential investment decision.
- 52 Should the route across private land be the only feasible option to secure this extension, the works will be planned and undertaken prior to the main GHNH works referenced in this report. As such, in this scenario a separate decision will be brought to the Chief Officer for Financial Services to take, once design of the option has completed and the firm price is received from the contractor. The maximum value of these works are £600,000 and the S151 officer, the Chief Officer for Financial Services, will have authority to inject and spend the required funding up to this amount.
- 53 The council has demonstrated over the multiple extensions of the PIPES project its ability to coordinate district heating works with wider highways projects taking place across the city, to minimise disruption to the highway network as far as possible and in turn minimise impacts on residents. The next phase of works will be significant in scale and planning is already underway with key internal stakeholders, to ensure this alignment between projects continues during the planning and delivery phases.

Financial performance of Leeds PIPES during 2021-22 and 3-year forecasts

- 54 The 2022/23 financial year has continued to be challenging. Sustained high inflation rates linked to rapidly escalating utility costs and increased interest rates, have both had a negative impact on the District Heating Network, through increased operation and maintenance costs as well as higher gas costs for the c5% of gas used on the network. Conversely, the increased utility costs also link through to higher than anticipated heat sales income, albeit with a time lag. These macroeconomic factors which began in 2021/22 have impacted on financial performance in 2022/23 and the effects are expected to continue into subsequent financial years.

Leeds District Heating PipeCo Ltd (Special Purpose Vehicle)

- 55 The Company is currently in its third year of trading and reflects operation of Phase 2 of the District Heating Network. Audited accounts are being prepared and are expected to be signed off in the near future and shows that the financial results to March 2023 indicate an unaudited operating loss of £111k against an estimated loss of £105k.
- 56 This unaudited loss has been appropriated to the profit and loss reserve on the balance sheet, resulting in a cumulative loss for the three trading years of £231k in line with budgeted expectations. As outlined in the Executive Board report dated 25th March 2020, the early years of the company are modelled to produce modest losses and agreement is in place for LCC to underwrite early years cashflow losses up to c£1.5m. Savings from the government decision to exempt District Heating Networks from Business Rates will reduce the impact of these losses in relation to Phase 2 and allow for a reassessment of the current officer costs of supporting the company.
- 57 As outlined in this report, Phase 3 of the network is currently under construction and is expected to come on stream during Q4 of 2023/24. Current financial modelling indicates an additional Use of System (UoS) charge for Phase 3 in the region of £273k indexed in line with Phase 2 scheme arrangements. As in Phase 2, early years losses are forecast within the Company. It is expected these losses will cumulate to circa £1.8m to £2m to 2044. This is higher than the phase 2 as the cost of the Phase 3 network is higher, impact of rising interest rates and the need to set the initial Use of System Charge (to the General Fund) low in the earlier years whilst the customer base is extended, so as to not to create additional pressures within the General Fund. These losses will reduce year on year as income rises with indexation and many of the company costs are fixed.

Leeds Pipes – General Fund

- 58 General fund activity in 2022/23 generated turnover of £1.45m (compared to £1.24m in 21/22) and produced a £193k deficit against a budgeted deficit of £171k, resulting in a net overspend for the council of £22k. This is as a result of increased loan costs reflecting higher interest rates, delays to receipt of RHI payments and additional legal and consultancy charges. In part, costs have been offset by higher than anticipated income through heat sales. The exemption of District Heating Networks from Business Rates will result in savings of approximately £230k per annum which has been reflected in the 2023/24 budget.
- 59 Once Phase 3 is fully operational heat sales will increase. It is expected that as more customers are connected and the sales increase, the Council benefits from additional net income generated, contributing positively towards the financial challenges faced by the Council, and at this point the UoS charging model can also be revaluated to reduce the company losses.

Review of forthcoming legislation

- 60 An update was brought to Executive Board in November 2022 on the progress made thus far on the Heat Network Zoning and Heat Network Regulation policy from central government. This is the most significant policy commitment from government in relation to heat networks in many years and has followed the Net Zero document developed by the Committee on Climate Change (CCC), which estimated that around 18% of UK heat will need to be met via heat networks if the UK is to comply with its carbon targets cost effectively.
- 61 In brief, Zoning Policy will designate areas within cities where buildings are mandated to connect to networks, unless exempt, enabling expansion of networks where they are

recognised as the lowest cost way to decarbonise heat. Local authorities will act as Zoning Coordinators, be provided with funding to set local zones, choose how to operate the zones (including developing themselves, contracting with third parties, or letting the market control the development of networks), and be regulated by Regulation policy.

- 62 Leeds has played an active role in the development of the policies and is participating in a Zoning pilot currently working alongside government and Arup. The pilot zoning model has been developed and reviewed by Leeds, with two key zones identified: the wider city centre of Leeds including South Bank, and the area to the east of the city centre.
- 63 Zoning policy can significantly increase heat network take up across the areas in which it's enforced, however the quantum of investment required for the city centre zone alone is currently estimated at c£650m for c175km of new heat network. When compared to the scale of investment from the council into Leeds PIPES (c£50m currently with c£30m directly invested by the council) it becomes clear that significant amounts of work will result from this policy given the council's role as the Zoning Coordinator.
- 64 At this stage there are several elements to Zoning policy which need to be confirmed by central government to allow the council to make a decision on how it will choose to implement it and the role it will play. It is intended that a further Executive Board report is brought in 2024 which outlines this strategy in more detail, including but not limited to:
- The confirmed Zones
 - The level of investment expected to be required
 - The council's preferred approach to delivery (sole operator, partner with private sector, leave to market)
 - The resource implications including recruitment and internal costs
- 65 An update was also provided at Executive Board in November 2022 on plans to introduce a Heat Network Regulator by 2025. Since the last update, Ofgem have been appointed to the role.
- 66 The Heat Network Regulation legislation is out for consultation currently and the outcomes of this should be confirmed by the end of 2023.

Heat Trust accreditation

- 67 Regulation will bring requirements to meet certain standards as a heat network operator. This could potentially include compliance with the Chartered Institution of Building Services Engineers (CIBSE) Code of Practice (a technical standard) and utilising the government-developed legal documents for connection and supply agreements (see paragraph 86).
- 68 It is also anticipated that a requirement of Ofgem will be to meet the requirements of the Heat Trust, a customer service standard for those with responsibility for the supply of heat to residents in homes (be that houses, flats, apartments etc.).
- 69 Noting that it is likely to be a requirement of Ofgem in 2025 and also with the aim of holding Leeds PIPES to the highest standards of customer service, it is intended that the council will submit an application to the Heat Trust in 2023 to gain accreditation for the scheme.
- 70 Work has been ongoing since early 2023 to fully understand the application process and criteria for accreditation, and based on this, compiling the supporting information required to form the bulk of the application. This includes our current commitment to response times to residents, how we deal with complaints, how we issue invoices for heat, and a number of other criteria that ensures residents are treated in the proper and fair manner.

- 71 We are in conversation with the Heat Trust regarding our prospective application, and they are currently considering a draft application made up of the above evidence, to give us steer on whether we are ready to submit a full application. It is then intended to formally submit the application to the Heat Trust in summer 2023.
- 72 We will provide a further update to Executive Board when a Leeds PIPES report is next brought to the board, at which stage the outcome of the application will be known.
- 73 The Leeds PIPES district heating network has considered equality, diversity, cohesion and integration issues throughout its development and has previously screened for impacts. An updated EDCI assessment is appended and published with this report. In summary, the assessment identifies that the project creates an overwhelmingly positive impact, with residents and businesses connected to the network benefitting from more affordable heat, reducing financial exclusion. In addition, the latest assessment also considers the impact of Zoning policy. When implemented, this will likely rapidly increase the number of customers that connect to heat networks in Leeds and as such for the same reasons as the wider project, the impacts of this policy should be positive for the city.

How does this proposal impact the three pillars of the Best City Ambition?

Health and Wellbeing

Inclusive Growth

Zero Carbon

- 74 The Leeds PIPES DHN uses very low carbon heat from the RERF for c95% of the heat supplied to customers so achieves significant savings against other heating fuels, particularly where it replaces gas. As the network grows, it becomes more efficient with improved steam to hot water conversion efficiencies and lower losses throughout the network. This will significantly decarbonise heat from all connected customers, with customers replacing gas boilers typically reducing heating and hot water emissions by c80%. Removing gas boilers from dense urban areas also has a positive impact on background air quality, with a positive impact on health.
- 75 Whilst only a small percentage of the heat supply for the network comes from gas boilers, the council is striving to reduce this even further in line with our Zero Carbon ambitions, by identifying additional low carbon heat sources that can feed into the network via our work in the South Bank and with the Enfinium EfW, both referenced in more detail in this report.
- 76 As Leeds PIPES uses so little gas with the bulk of the heat from the RERF, the network is less exposed to energy volatility. This allows us to avoid the rapid escalation in heating costs that is pushing thousands more people into fuel poverty. This allows our customers to afford to heat their homes and business, improving health and wellbeing and supporting inclusive growth. The project also creates or secures significant numbers of short-term construction jobs when extensions are built or customers connected and now has a dedicated team of engineers to service and maintain the network.

What consultation and engagement has taken place?

Wards affected:

Have ward members been consulted?

Yes

No

Beeston and Holbeck, Hunslet and Riverside

- 77 Executive Board are regularly updated on the progress of the project and this report is a continuation of this.

- 78 The Executive Member for Climate, Energy, Environment and Green Space is regularly updated on the PIPES programme and is supportive of the continued development of the network.
- 79 Members for Beeston & Holbeck and Hunslet & Riverside, where the works in South Bank will be located, have been consulted on the progress made thus far on the project and on the next stages leading to construction.

What are the resource implications?

- 80 Construction of the DHN was approved on the basis that the council would attract additional customers to the network. The council will continue to add commercial connections to the network over the next phase of works, which helps to support the business case for the network in line with the council intention.
- 81 Customer connections such as those outlined in this report are paid for by the customer, either 100% up front, or split between a percentage paid up front, with a deferred percentage of the cost paid back over a fixed term through the standing charge.
- 82 A further decision will be taken by Executive Board in 2024 in relation to the injection of capital into the Capital Programme should the GHNF application be successful and the business case for the extensions be proven to be positive. This decision report will detail the level of borrowing required and what type of borrowing will be utilised.
- 83 The financial position of the network is slightly worse than previously forecasted at this stage of the project, and as outlined in the financial summary at paragraphs 50-54, it is running at a deficit currently.
- 84 Heat Network Zoning and the council's role as Zoning Coordinator will have implications for the workload of the current project and as outlined at paragraph 54, a further Executive Board report will be brought in 2024 to consider the approach to Zoning and its implementation.

What are the key risks and how are they being managed?

- 85 One of the key risks of the project is the stalling of negotiations with customers or ending of these negotiations without agreement, which results in fewer customers connecting to the network and impacting forecasts outlined in this report. This risk is being mitigated by:
- Regular discussions with potential customers
 - The number of customers we are now dealing with on a regular basis compared to 12-18 months ago, meaning that should a handful of customers choose not to proceed, we have 30+ customers still in the pipeline
 - The financial forecast presented in this report takes a very conservative approach to estimating future heat sales, with only a small number of customers currently in the pipeline included in these forecasts
- 86 There is a risk that the Aecom study is not delivered in a timely manner which delays the ability of the council to take a decision on proceeding with the South Bank extension. This is being mitigated by:
- Aecom's provision of a resource plan as part of their tender submission which outlines a well-resourced team, with strong mitigations in place for business continuity in cases of long term unexpected staff absence
 - In addition, the contract will be paid based on project milestones being achieved rather than on a fixed monthly fee, providing additional motivation to stick to programme.

87 The impact of DHN works on highways networks across the city is closely monitored throughout all phases of work. The council and Vital Energi work closely to carefully plan and managed works to minimise disruption to the highways network, key stakeholders and city events.

What are the legal implications?

Annual key decision for customers

88 As outlined previously there are many customers in the pipeline who want to connect to the network. For each customer there are a number of decisions to be taken by senior council officers to allow contracts to be awarded and Connection and Supply Agreements to be entered into with customers.

89 From 23/24 onwards, a new approach will be followed to streamline the decision-making process whereby multiple decisions are wrapped up into one Key Decision, which outlines what decision is required for which customer over the next financial year, and what the value of that decision is. With there being over 30 customers in the pipeline, each with up to three decisions to be taken prior to connections being achieved, this will significantly reduce the officer time required for both writing decision reports, and reviewing and approving them.

90 The first such Key Decision was taken in April 2023 by the Director for Communities, Housing and Environment.

Updated Legal Agreements

91 An update was provided at November 2022 Executive Board in relation to the legal agreements the council uses to set the terms of the connection and supply of heat to buildings. Government have developed a suite of template heat supply contracts to be used by district heating schemes, with the aim of standardising these contracts across the market.

92 Addleshaw Goddard LLP were appointed in 2022 to adapt these templates for the Leeds PIPES project, aligning them with the previously used Heat Sales Agreements and ensuring there is appropriate flow down of risk from the new templates to the council's existing contracts with Vital Energi.

93 This commission is now drawing to a close, with final template Connection, Supply, and Connection and Supply Agreements now being used as the starting point for negotiations with prospective customers.

94 The final agreement yet to reach final template stage is the Residential Supply Agreement which will be used for sites at which the council is responsible for the supply up to residential units. This template is due to be finalised in July 2023.

95 We anticipate that this will speed up the process of signing customers up to connection agreements and long-term heat sales contracts, as the templates will be used in heat networks across the country.

South Bank Legal Implications

96 The legal workstream of the South Bank DPD study will include the drafting of Heads of Terms with both potential customers and sites from which the scheme recovers waste heat. This will be a critical step in gaining commitment from the parties to sign up to the scheme for either heat offtake or heat supply.

97 There may be additional legal implications associated with the DPD including land acquisition, local authority powers, and easements.

Options, timescales and measuring success

What other options were considered?

- 98 The other option for the council with regard to the GHNF application is to not apply for the fund or proceed with construction works. This option has been discounted as it would inhibit the growth of the network, and its ability to add connections to improve the financial position of the project and therefore the council, in addition to contributing to the council's 2030 net-zero ambitions.
- 99 The other option for the council with regard to the Heat Trust application, is to not apply for accreditation. The Heat Trust is the 'gold standard' in customer service for residents who are customers on heat networks. The key aim of the Leeds PIPES project has always been to improve the wellbeing of Leeds residents through providing reliable, low cost, low carbon heat, mitigating fuel poverty and financial exclusion. We should continue to strive for the highest standards in our service to customers. In addition, as outlined above it is expected that Heat Trust accreditation will become a requirement of heat networks operating across the country, when Regulation comes into place in 2025. As such, not applying for accreditation has been discounted.

How will success be measured?

- 100 Success will be measured by the receipt of GHNF funding later this year to allow the next extension of the network to commence works in 2024.
- 101 Generally the main measure of success for the network is the volume of heat sold through the network, which improves the financial position and reduces CO2 emissions from the city. The volume of heat sales is increased either by building new extensions to serve specific clusters of customers or via infill development onto existing sections of the network. Heat sales are monitored via monthly invoicing.
- 102 Receipt of accreditation from the Heat Trust will also be a key deliverable against which success is measured.

What is the timetable and who will be responsible for implementation?

- 103 The GHNF application will be submitted in September 2023, with construction works to take place over 2024, 2025 and 2026. A breakdown of the anticipated programme is available at paragraph 41.
- 104 The Heat Trust application will be submitted in summer 2023 with confirmation of whether we've been accepted onto the scheme expected by the end of 2023.
- 105 The Senior Project Manager with responsibility for the Leeds PIPES project will be responsible for implementation.

Appendices

- Appendix 1 – Equality, Diversity, Cohesion and Integration Assessment

Background papers

- None