

# The City of Edinburgh Council

10.00am, Thursday, 2 November 2023

## Millerhill Energy from Waste Plant Heat Offtake Unit

Executive/routine  
Wards

Executive  
All

### 1. Recommendations

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- 1.1 It is recommended that the Council:
  - 1.1.1 Notes that the total cost to construct a Heat Interchange Unit (HIU) at Millerhill Energy from Waste (EfW) facility has increased to £7.9m;
  - 1.1.2 Notes that the Council previously approved expenditure of £5.2m to meet the cost of the HIU on 22 September 2022;
  - 1.1.3 Notes that, under an Environmental Permit (PCC) regulated by SEPA, the site is required to connect to a heat network within seven years of first operation, unless there is no network available;
  - 1.1.4 Notes that the cost of prudential borrowing (including the increased cost) can be met from the Council's share of income generated by the facility, as outlined in paragraph 6.3;
  - 1.1.5 Approves the approach set out in this report and the increase in prudential borrowing to meet the additional costs (£2.7m); and
  - 1.1.6 Notes that Midlothian Council are also being asked to approve their share of the additional costs (20%).

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Executive Director of Place

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## Millerhill Energy from Waste Plant Heat Offtake Unit

### 2. Executive Summary

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- 2.1 The Council is requested to approve additional prudential borrowing relating to capital works for the construction of a Heat Interchange Unit (HIU) at the Millerhill Energy from Waste (EfW) facility to provide heat to the Midlothian Energy Heat Network.

### 3. Background

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- 3.1 The Council, for itself as Lead Authority and on behalf of Midlothian Council, signed a Contract with FCC (E&M) Limited in 2016 for the disposal of residual waste which involved the construction of the Millerhill EfW facility. FCC will operate the plant for 25 years then return the facility to the Councils'. This is year four of operations.
- 3.2 The plant operates under an Environmental Permit (PPC) regulated by SEPA (Scottish Environment Protection Agency). The Permit required the facility to be built as a Combined Heat and Power Plant.
- 3.3 A heat network is now being developed by Midlothian Energy Ltd (a joint venture between Midlothian Council and Vattenfall) adjacent to Millerhill EfW plant to service Shawfair and a Heat Supply Agreement has been signed between FCC and Midlothian Energy Limited.
- 3.4 As required by the Contract Project Agreement, FCC has approached the Council to provide the capital funding to allow the construction of a HIU that will transfer heat from the facility to the network.

### 4. Main report

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- 4.1 Millerhill EfW facility accepts up to 135,000 tonnes of residual waste from the Council and Midlothian Council, with the Council providing 85% of the input. The capital cost of the facility was £136.9 million which is funded by FCC (the contractor), with a £36.9m contribution from the City of Edinburgh and Midlothian Councils. The capital costs are repaid via the a 'gate fee' per tonne of waste delivered. The Councils also receive 50% of the income from the sale of electricity from the facility.

- 4.2 It is a PPC Permit requirement that the facility connects to a heat network within seven years of first operation unless there is no network available. If the facility fails to connect, then the Environmental permit can be removed by SEPA, and the facility can no longer operate. In this situation, the Councils would have no waste outlet but would still be required to make contractual payments or a significant compensation payment for the facility.
- 4.3 The Project Agreement was written to allow connection of a Heat Offtake Unit later date (Schedule 34). Specifically, Schedule 34 allows the operator (FCC) to enter into a Heat Supply Agreement where there is no adverse effect on the Unitary Charge to the Councils (the gate fee).
- 4.4 FCC sought competitive tenders for the design and build of the HIU that will make the link from the facility to the network, namely the heat exchanger and the heat exchanger building.
- 4.5 Two quotations were received and, following technical and financial evaluation, a recommendation was made to the Council. The Council has also undertaken its own technical diligence of the tenders and agreed with FCC's recommendation. The quotations were indicative and subject to detailed discussion stage taking place once the preferred supplier has been identified.
- 4.6 On [22 September 2022](#), the Council approved capital expenditure totalling £5.2m (£4.16m to be met from Council prudential borrowing and £1.04m by Midlothian Council) to pay for a HIU at the Millerhill EfW facility that would enable the facility to provide heat to the Midlothian Energy Heat Network.
- 4.7 Following a prolonged period of updating and refining their proposal, the preferred bidder for the Heat Offtake works has provided a revised price of £8.3m meaning they are no longer the lowest cost option. Combined with the latest assessment of the robustness of the technical solution, FCC began negotiations to enter into a design and build contract with an alternative contractor.
- 4.8 The latest estimated cost from the alternative contractor to deliver the Heat Offtake Project is £7.4m plus a contingency of £0.5m, totalling £7.9m.
- 4.9 This means that the Council's contribution is estimated to be £6.32m (80%) of which £4.16m has already been approved. The additional cost to the Council is estimated as £2.16m.

## **5. Next Steps**

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- 5.1 Approval is also being sought by Midlothian Council to meet their share of the additional costs (20%) of the HIU, in accordance with the Inter Authority Agreement that governs the EfW contract.
- 5.2 If the Council and Midlothian Council approve the additional borrowing, a variation to the Project Agreement (the contractors Change notice) and Heat Offtake Agreement will be signed by the Council.

- 5.3 Construction of the Heat Offtake Agreement is scheduled to commence first quarter 2024/25.
- 5.4 Costs will be closely monitored to ensure aligned with agreed budget.
- 5.5 Performance of the existing EfW plant will be closely monitored to ensure maximum efficiency is maintained throughout construction phase.

## 6. Financial impact

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- 6.1 The report sets out capital expenditure of £7.9m, of which 20% (£1.58m) will be met by Midlothian Council, resulting in a net requirement of £6.32m of which £4.16m has already been approved.
- 6.2 The loans charges associated with the Council's 80% share over a 20-year period would be a principal amount of £6.320m and interest of £4.249m, resulting in a total cost of £10.569m based on an assumed loans fund interest rate of 5.25%. This represents an annual cost £0.528m.
- 6.3 The annual cost of prudential borrowing can be met from the Council's share of third-party income generated by FCC at the Millerhill plant. This income is largely due to electricity sales in excess of what was assumed in the original business case. It is currently estimated that the Council will receive around £4m in respect of 2023/24 and while the amount will vary from year to year, it is expected to be sufficient to meet prudential borrowing costs.

## 7. Equality and Poverty Impact

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- 7.1 Whilst this development is within Midlothian Council's area, the heat network project clearly has benefits for the community.
- 7.2 Consultation has taken place with colleagues from legal, finance, risk and insurance services.
- 7.3 The HIU will enable the provision of heat to the new Shawfair town on the outskirts of Edinburgh, reducing reliance on fossil fuels. This heating solution also provides energy security and protects consumers from the volatility of fossil fuel prices.

## 8. Climate and Nature Emergency Implications

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- 8.1 As a public body, the Council has statutory duties relating to climate emissions and biodiversity. The Council

*“must, in exercising its functions, act in the way best calculated to contribute to the delivery of emissions reduction targets”*

(Climate Change (Emissions Reductions Targets) (Scotland) Act 2019), and

*“in exercising any functions, to further the conservation of biodiversity so far as it is consistent with the proper exercise of those functions”*

(Nature Conservation (Scotland) Act 2004)

- 8.2 The City of Edinburgh Council declared a Climate Emergency in 2019 and committed to work towards a target of net zero emissions by 2030 for both city and corporate emissions and embedded this as a core priority of the Council Business Plan 2023-2027. The Council also declared a Nature Emergency in 2023.

### **Environmental Impacts**

- 8.3 The development of a heat network is a vital component in maximising the environmental efficiency of the facility, and minimising the climate impacts of managing waste, and so contributes to the delivery of the Net Zero 2030 target.
- 8.4 Wider environmental benefits would be expected to accrue as there would be an equivalent reduction in the use of energy supplied by other sources, which would have its own environmental impact regardless of whether that is sourced from renewable or other sources.
- 8.5 According to Zero Waste Scotland, converting electricity-only EfW plants to Combined Heat and Power systems is estimated to reduce their carbon intensity by 30% (source: [The climate change impacts of burning municipal waste in Scotland, Zero Waste Scotland, June 2021](#)).
- 8.6 Generating both heat and electricity improves the efficiency of the plant, compared to electricity only. According to Zero Waste Scotland, converting electricity-only EfW plants to CHP systems is estimated to reduce their carbon intensity by 30% (source: [The climate change impacts of burning municipal waste in Scotland, Zero Waste Scotland, June 2021](#)).
- 8.7 The district heating network for Shawfair is expected to save over 2,000 tonnes of CO2 per year, the equivalent of taking 1,200 petrol/diesel cars off the road.
- 8.8 The proposed action does not impact, either positively or negatively, on measures to mitigate climate impacts resulting from historic emissions.

## **9. Risk, policy, compliance, governance and community impact**

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- 9.1 Whilst this development is within Midlothian Council's area, the heat network project clearly has benefits for the community. The FCC plant manager is actively reaching out to the community to provide an update on progress, including engaging with the local Community Council (Danderhall).
- 9.2 The heat offtake unit will enable the provision of heat to the new Shawfair town on the outskirts of Edinburgh, thus reducing reliance on fossil fuels. This heating solution also provides energy security and protects consumers from the volatility of fossil fuel prices.
- 9.3 Health and Safety issues would be the responsibility of FCC rather than the Council. The Council has full access to all of FCC's Health and Safety procedures and records.

- 9.4 The proposal outlined in this report is a key part of the Council's own action to tackle climate change from its own activities and meet Net Zero 2030, as well as of the Council's own waste management strategy. Generating both heat and electricity improves the efficiency of the plant, compared to electricity only.
- 9.5 The proposal outlined in this report is essential to allow the EfW plant to continue to operate in compliance with its PPC requirement that the facility connects to a heat network within seven years of first operation unless there is no network available.
- 9.6 If the facility fails to connect, then the PCC can be removed by SEPA and the facility can no longer operate. The Councils would then have no waste outlet but would still be required to make contractual payments or a significant compensation payment for the facility.

## **10. Background reading/external references**

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- 10.1 [Award of Residual Waste Treatment Contract](#) – Finance and Resources Committee, 17 March 2016.

## **11. Appendices**

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- 11.1 None.