

Governance, Risk & Best Value Committee

10.00am, Thursday, 9 October 2014

Greendykes and Wauchope Communal Heating Update – referral from the Health, Social Care and Housing Committee

Item number	7.8
Report number	
Wards	17 - Portobello/Craigmillar

Executive summary

The Health, Social Care and Housing Committee on 9 September 2014 considered an update report on the completion of the retrofitting of a district heating system in the multi-storey blocks at Greendykes and Wauchope House. The Committee agreed to remit the project to the Governance, Risk and Best Value Committee for a review of the processes associated with the installation and operation of the district heating system.

Links

Coalition pledges	See attached report
Council outcomes	See attached report
Single Outcome Agreement	See attached report

Terms of Referral

Greendykes and Wauchope Communal Heating Update

Terms of referral

- 1.1 On 9 September 2014, the Health, Social Care and Housing Committee considered the attached update report by the Acting Director of Services for Communities on the completion of the retrofitting of a district heating system in the multi-storey blocks at Greendykes and Wauchope House.
- 1.2 Details were provided of the final cost of the project, issues arising during the installation and implementation phases and the arrangements for charging tenants for energy use.
- 1.3 The Health, Social Care and Housing Committee agreed:
 - 1.3.1 To note the completion of the work to install district heating in 172 flats in Greendykes and Wauchope House.
 - 1.3.2 To note with concern:
 - (a) That £941,210 of additional costs were incurred as detailed at paragraphs 2.9 and 3.1 of the Acting Director's report.
 - (b) The difficulties involved with "retrofitting" this type of system.
 - (c) The cost to the Housing Revenue Account for unbilled energy use of £95,919.
 - (d) The challenges of managing billing and measuring energy use.
 - 1.3.3 To remit the project to the Governance, Risk and Best Value Committee for a review of processes and to avoid such challenges for the future.
 - 1.3.4 To request an update on the operation of the scheme in one year's time.
 - 1.3.5 To note that the Acting Director of Services for Communities would circulate a briefing note to committee members on charging and ongoing maintenance arrangements in Greendykes and Wauchope House.

For Decision/Action

- 2.1 The Governance, Risk and Best Value Committee is asked to review the processes associated with the installation and operation of the district heating system.

Background reading / external references

[Greendykes and Wauchope Housing – Update on District Heating System - report to Health, Social Care & Housing Committee 28 January 2014](#)

[Minute of the Health, Social Care and Housing Committee - 28 January 2014](#)

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Links

Coalition pledges	See attached report
Council outcomes	See attached report
Single Outcome Agreement	See attached report
Appendices	Report by the Acting Director of Services for Communities

Health, Social Care and Housing Committee

10.00am, Tuesday, 9 September 2014

Greendykes and Wauchope Communal Heating Update

Item number

Report number

Executive/routine

Wards

All

Executive summary

The purpose of this report is to provide an update on the completion of the retrofitting of the district heating system in the multi storey blocks at Greendykes and Wauchope house.

District heating schemes are increasingly common in new build developments, but retrofitting in existing buildings involves the additional complexity of fitting energy centres and pipe networks in buildings not originally designed for this purpose.

The report sets out the final cost of the project, issues arising during the installation and implementation and the arrangements for charging tenants for their energy use.

Links

Coalition pledges

[P8](#), [P50](#)

Council outcomes

[CO10](#), [CO16](#), [CO18](#), [CO24](#), [CO26](#)

Single Outcome Agreement

[SO4](#)

Greendykes and Wauchope Communal Heating Update

Recommendations

It is recommended that Health, Social Care and Housing Committee:

- 1.1 Notes the completion of the work to install district heating in 172 flats in Greendykes and Wauchope House.

Background

- 2.1 The installation of the district heating system at Greendykes and Wauchope House forms part of a comprehensive upgrade of 172 Council flats in two multi storey blocks. The upgrade also included extensive cladding to the building to improve insulation and energy efficiency and the replacement of kitchens and bathrooms in tenants' homes.
- 2.2 Rising energy costs and static incomes mean there are an increasing number of fuel poor households in Edinburgh. Average household energy bills have increased by 27% since 2008, and the cost of energy is likely to increase further. It is anticipated that energy bills could reduce by around £500 per year in Greendykes and Wauchope, making a significant positive impact on the income of many poorer households.
- 2.3 District heating and combined heat and hot water (CHP) provide heating and hot-water by circulating water heated from a locally based energy centre around a building. This increases energy efficiency as heat lost in transit from the energy stations to the building is reduced.
- 2.4 District heating and CHP systems are one of a range of relatively new technologies to be used in the UK, designed to reduce the amount of energy used to heat buildings. They are increasingly being used in new developments. Retrofitting to older buildings, not originally designed for district heating or CHP, is rarer as it is considerably more complex to achieve.
- 2.5 The project originally went out to tender as a design and build contract. Two tenders were received, but neither complied with the original specification and scope and were not taken ahead for approval. On 20 March 2012, the Finance and Resources Committee approved the award of a contract to retrofit a district heating system in Greendykes and Wauchope. The contract was awarded to Easy Heat Systems Ltd.

- 2.6 Using the existing drawings and specification, a bill of approximate quantities was prepared for the retender. Using this method, the bulk of the design element was taken on by the Council and the tender based on approximate quantities and composite items, instead of billing for each item individually. This is common on projects where the design has not been fully developed and time for a site start is critical. This was relevant for this project due to the expiry date for the application for grants that this work attracted.
- 2.7 A bill of approximate quantities sets out the scope of the works required, but the final cost is determined on an assessment of the completed contract. Rates for works are set in the contract, but actual quantities for works can go up or down. Committee was advised that the estimated cost of the contract was £2,106,059.
- 2.8 On 28 January 2014, Health Social Care and Housing Committee received a report updating members on the progress that had been made in retrofitting the district heating system and bringing the system fully into operation.
- 2.9 Committee was advised that costs for additional and unforeseen work of £700,000 were agreed with the contractor in November 2012. These additional works included redesign of the energy centre as a result of unforeseen ground conditions, additional pipe work and joinery work. A claim for further expenditure was subsequently submitted by the contractor, but committee was advised that this claim was under review. That review is reported on below.
- 2.10 Committee was further advised that charging for energy use was to commence when the heating system was fully commissioned and consultation completed with residents on the charging and use of the system.

Main report

Contract Costs

- 3.1 Following the completion of the works in 2013 the contractor submitted final estimates for costs. Following negotiation these final costs amounted to a further £241,210. These works included joinery work, additional excavation work, boiler covers, heat probes and the removal of panel heaters where this was requested by tenants.
- 3.2 A review of these final claims confirmed that these costs were fairly claimed against the contract. The total cost of the contract, including installation costs and the cost of energy not charged to residents during the commissioning of the system, was £3,143,188.
- 3.3 The Council was successful in securing a grant of £967,899 from the Community Energy Savings Programme to support the project. The final cost to the Council for the project was £2,175,289.

Installation and Operation

- 3.4 The construction of the energy centre and most of the major pipework was completed by the end of 2012. Connecting the system and individual meters to

properties began in 2013 and continued to early 2014, when all but three properties were connected.

- 3.5 Connection to the heating system required tenants to provide access to their properties and have further work carried out to install the heating and hot water systems internally.
- 3.6 At the time of the January 2014 report, work was underway to review the operation of the energy monitoring equipment as around 30% of those homes connected to the heating system had reported no energy use. While a number of properties did have faulty monitoring equipment around 25 properties continue to have no energy use in their property, mostly as a result of uncertainty over the operation of the system.
- 3.7 In addition, between May and June 2014 there have been four significant incidents, which are shown in table 1 below.

Table 1- Summary of Operational Incidents

Date	Summary	Outcome
31 May	Loss of electrical supply to the building, which affected the heating system.	System re-set by contractor. Fully operational within 24 hours.
28 June	Low system pressure caused the electronic Building Management System to close down.	System re-pressured by the contractor. Fully operational within 24 hours. System continues to be monitored.
3 & 4 July	Low pressure fault was recorded on the system. Close monitoring of the system reported two short term interruptions.	System re-pressured by the contractor. Residual heat within system would have maintained the heating and hot water.

- 3.8 In all cases the disruption to tenants was minimised. Tenants were advised at an early stage of the disruption and in all cases the heating and hot water was available within 12 hours. A full investigation was carried out and an issue was identified with the system pressurisation unit. The manufacturer replaced the unit on 10 July 2014 and the system has since been operating as designed. This is currently being monitored on a regular basis.

Heating Charges

- 3.9 Tenants have been consulted on how they would prefer to be charged. Of the tenants who responded to the consultation 68% showed preference for the energy costs to be paid along with their current rent charge. Tenants were advised in July 2014 that charges for their energy would be applied to their rent account.

- 3.10 The service charge for the communal heating system has been initially set at £360.00 a year. This is less than half of the current average heating bill for a home in the UK. This is being charged at £15.00 per fortnight over the current 24 rent charging periods each financial year. This charging method will help spread the costs over the whole year and avoid tenants facing higher payments in the colder winter months. Collection of the service charge will be managed in accordance with the rent collection policy and procedures. The one owner-occupied property within the block, connected to the system, will be billed separately.
- 3.11 The service charge for the communal heating will be reviewed on an annual basis as part of the HRA budget process. The unit cost used to set the service charge will be based on the costs of the energy from the utility supplier, the standing charge for the system, and any VAT charges applicable. Notification of any change in the service charge will be covered in the annual rent charge letter issued to all tenants.
- 3.12 Each property within the block has its own energy meter, which provides data on energy consumption information. The actual energy for individual properties and the payments made to tenants' rent accounts will be reconciled no less than every six months. Residents who have paid more than the cost of the energy used will receive a refund for the amount due.
- 3.13 Advice and checks will be made on a regular basis for residents where there is no energy use or the readings are exceptionally high. Where tenants energy use is significantly higher than average, the Council will offer targeted advice and support to help reduce energy use and may consider a recharge. The first reconciliation will be based on actual energy use for the period from July to December 2014.
- 3.14 Local surgeries continue to be provided to assist those tenants who may need additional support to use the system, advice with debt, household budgeting and income maximisation.

Measures of success

- 4.1 Homes are energy efficient and economic to heat.
- 4.2 Tenant satisfaction with the heating system is maintained.
- 4.3 Tenants continue to receive a good quality and well valued housing service.

Financial impact

- 5.1 The total cost of the contract, including installation costs and the cost of energy not charged to residents during the commissioning of the system was £3,143,188. The Council were successful in securing a grant of £967,899 from the Community Energy Savings Programme to support the project. The final cost to the Council for the project was £2,175,289.
- 5.2 The cost of the works was funded from the HRA Capital Investment Programme and the contribution from the external grant funding.

- 5.3 The final costs to the HRA for the energy use up to the end of June 2014, when the system was being installed and commissioned, was £95,919.

Risk, policy, compliance and governance impact

- 6.1 The contract to install the communal heating system was agreed by Finance and Resources Committee on 20 March 2012.
- 6.2 The final additional costs for the contract have been agreed in accordance with Contract Standing Orders and the Scheme of Delegation.
- 6.3 The project has provided significant information on the technical and operational challenges of retrofitting district heating systems within multi-storey blocks and the considerable level of risk there exists in retrofitting district heating schemes in the future.
- 6.4 There is a risk for income collection to the HRA from non-payment of the service charge for heating. This is being mitigated through the use of the standard rent collection and the targeted advice and support provided to tenants.

Equalities impact

- 7.1 There are no negative equality or human rights impacts arising from this report.
- 7.2 The estimated reduction in cost of hot water and heating for the individual tenants of around 50%. This is in line with the key priorities set out in the City Housing Strategy Annual Review to 'Improve the quality of homes in the city, with a particular focus on improving energy efficiency and tackling fuel poverty'. This will have a positive impact on equalities groups such as older, vulnerable people and low income families.

Sustainability impact

- 8.1 The impacts of this report have been considered in relation to the Climate Change (Scotland) Act 2009 - Public Bodies Duties. The reduction in carbon emissions will contribute to the Act's emissions reduction target of 42% by 2020.
- 8.2 The capital investment in these blocks, including the installation of more efficient heating, external insulated render insulation and solar thermal panels supports improved energy efficiency.
- 8.3 It is anticipated that the overall reduction in energy use of the combined measures may be in the region of 50%.

Consultation and engagement

- 9.1 Residents have been consulted before and during the process of installation of the new heating system. They have also recently been consulted on their preferred method for charging for their heating system.
- 9.2 Advice and support has been provided on an ongoing basis to help tenants operate and use the system effectively.

Background reading/external references

[Communal Heating Installation at Greendykes and Wauchope Houses, Finance and Resources Committee, 20 March 2012](#)

[Greendykes and Wauchope House- Update on District Heating System, Health, Social care and Housing Committee, 28 January 2014](#)

[City Housing Strategy 2012-2017 Annual review, Health, Social care and Housing Committee, 17 June 2014](#)

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Links

Coalition pledges	P8 – Make sure the city’s people are well-housed, including encouraging developers to build residential communities, starting with brownfield sites. P50 – Meet greenhouse gas targets, including the national target of 42% by 2020.
Council outcomes	CO10 – Improved health and reduced inequalities. CO16 – Well-housed – People live in a good quality home that is affordable and meets their needs in a well managed neighbourhood. CO18 – Green – We reduce the local environment impact of our consumption and production. CO24 – The Council communicates effectively internally and externally and has an excellent reputation for customer care. CO26 – The Council engages with stakeholders and works in partnership to improve services and deliver on agreed objectives.
Single Outcome Agreement	SO4 – Edinburgh’s communities are safer and have improved physical and social fabric
Appendices	None.