

DECISION-MAKER:	CABINET		
SUBJECT:	FEASIBILITY WORK FOR THORNHILL DISTRICT ENERGY SCHEME		
DATE OF DECISION:	15 OCTOBER 2013		
REPORT OF:	CABINET MEMBER FOR HOUSING AND SUSTAINABILITY		
<u>CONTACT DETAILS</u>			
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STATEMENT OF CONFIDENTIALITY
Not Applicable

BRIEF SUMMARY

The Council is in the process of securing Energy Company Obligation (ECO) funding. This is a significant opportunity to provide for structural and environmental improvements to the Council's housing in the City and includes funding support for new heating and hot water systems.

An ECO funded energy improvement programme supports the Council's strategic aspirations to improve insulation and heating in its housing stock, and to provide support to residents with the aim of responding to fuel cost rises and tackling fuel poverty.

As part of this investment programme Cabinet are requested to approve the next stage of development for a District Energy (DE) scheme in the Thornhill area of the City. Such a scheme has the potential to provide fuel bill savings for residents, achieve significant Carbon reductions, provide a long-term revenue stream for the Council and generate local employment opportunities.

Investment funding for the scheme will be required from the Council using a mix of General Fund and HRA Capital. Significant ECO funding is available which is essential to the financial viability of the scheme. The scheme forms part of the overall ECO funded investment programme. There will also be ongoing revenue implications for the Housing Revenue Account (HRA) and General Fund (GF).

Cabinet is requested to approve the next phase supported by Capita, which includes: seeking planning approval; engaging with residents, securing ECO funding, developing a detailed financial business case and preparing for an OJEU tender covering a Design, Build, Operate and Maintain (DBOM) contract. The detailed financial business case will include an assessment of the capital and revenue implications for the HRA, GF and the tenants who will receive their heating and hot water from the scheme.

The proposed project plan provides outline timescales for the next phase of the development with key dates for the delivery of a scheme prior to April 2015 in order to capture and guarantee the maximum amount of ECO funding. A final decision to

deliver the scheme would be required at Council in November 2013. That report will include the full financial assessment and will seek approval for the required Capital expenditure and the procurement and appointment of a preferred contractor to commence works in early 2014 (utilising appropriate delegated approvals). Subsequent stages would see design, build and operation of the plant, laying heating mains, connecting the flats to the new facility and setting up the payment mechanisms by April 2015.

RECOMMENDATIONS:

- (i) To approve for the purposes of the Financial Procedure Rules, expenditure of £120,000 to undertake preparatory work in relation to the proposed Thornhill District Energy Scheme, including consultation with residents, securing planning permission, finalising ECO grant funding and preparations to tender for a Design, Build, Operate and Maintain contract in relation to the scheme, provision for which exists in the 2013/14 HRA revenue budget, with formal contract commitment decision making reports to be presented to Council by November 2013.
- (ii) Note that the detailed financial business case setting out the implications for the GF, HRA and tenants who will be connected to the scheme is currently being prepared and that this will be reported to Council in November.

REASONS FOR REPORT RECOMMENDATIONS

1. This is a significant opportunity to provide for a new heating and hot water system to one of the Council's large housing areas of the City.
2. The scheme has the potential to meet a number of the Council's key strategic objectives by providing the opportunity for savings for residents on their fuel bills, a reduction in Carbon and the generation of a long-term revenue stream for the Council.

ALTERNATIVE OPTIONS CONSIDERED AND REJECTED

3. An alternative option is for the longer term development of a heating system upgrade in the Thornhill estate in anticipation of further ECO funding support being available post April 2015. This approach carries a risk that ECO funding may no longer be available for this purpose and that a delay would negate the highlighted scheme benefits.
4. An option not to invest in this scheme would leave residents with inefficient heating and insulation, and not address fuel poverty.

DETAIL (Including consultation carried out)

Background

5. The Council approved the development of a Strategic Energy Action Plan (SEAP) in December 2012 as a response to the priority issues of energy cost, energy security and CO2 reduction, as well as other key priorities such as jobs and economic growth.
6. One of the main SEAP project streams is to secure Energy Company Obligation (ECO) funding which is currently available from the energy utilities to support the delivery of insulation and to fully or partly fund new heating installations in selected Council owned housing areas of the City. The Council is in the process

of selecting a suitable strategic partner to deliver a substantial ECO programme over the next 2 - 7 years.

7. ECO funding is currently guaranteed until April 2015 for completed schemes. Although there is likely to be a further ECO funding round for the period to 2020, the level of funding and criteria for investment are yet to be determined. This lack of certainty over future ECO funding is a significant driver for the actions and the timescales outlined in this report.

Fuel Poverty and Affordable Warmth

8. The Council is committed to addressing the continuing rise in energy bills affecting its tenants and leaseholders in the City. A large proportion of the Council's housing stock in the City uses electricity as the principal means of providing heating and hot water. These heating systems are inefficient, costly to run and generate relatively high amounts of Carbon.

Other heating system technology choices for the public sector housing stock are:

- Newer more efficient and controllable electrical heating systems;
 - Individual gas boilers and where appropriate communal gas or biomass boiler district heating systems for tower blocks and larger blocks of flats;
 - District Energy networks with gas Combined Heat and Power (CHP) and biomass boilers for two or more multi occupied buildings.
9. The availability of substantial ECO funding allows the Council to deliver measures to support an Affordable Warmth Strategy across the housing stock. A copy of this policy can be found in Appendix 1.

District Energy

10. A related SEAP project stream is to explore the potential for developing DE schemes in the City. DE covers both district heating and cooling, and can also include Combined Heat and Power (CHP) through electricity generation and using the waste heat for a hot water network. These schemes are seen to be the most cost effective and efficient ways to deliver heat and hot water in areas of high building density and demonstrate the following strategic outcomes:
 - Helping to tackle fuel poverty by providing residents with more control over current and future energy costs;
 - Improving building performance and reducing long term maintenance and replacement costs for alternative heating systems;
 - Producing a potential revenue stream for the scheme owner;
 - Reducing CO2 levels on a whole lifecycle basis.
11. There are currently five DE schemes in Southampton which include; Centenary Quay, the University of Southampton campus, and the General Hospital. Cofely District Energy finance, own, operate and maintain the City Centre scheme (including the Holyrood Estate), These schemes collectively reduce CO2 emissions in the City by circa 20,000 tonnes per annum and achieve in excess of £4M savings per annum in energy for scheme consumers.
12. A number of feasibility studies were undertaken by Capita on behalf of the Council in areas identified by a 2010 citywide heat mapping exercise. The feasibility studies demonstrate that in areas of high building density DE

networks could represent the best solution for heating and hot water.

13. Although residents will inevitably be subject to future energy price rises, DE schemes provide the scope to fix prices below market rates to offer a degree of protection. Gas required as a fuel for a CHP engine can be purchased in bulk at a commercial rate that is much cheaper than the domestic alternative. The Thornhill area of the City is considered to be the best starting point for developing a DE scheme in conjunction with ECO energy efficiency improvements for the following reasons:
 - The area qualifies for ECO funding in the current programme with a scheme that could be brought forward quickly, delivering substantial carbon savings.
 - Most of the properties identified are in need of insulation with a large number of the current heating and hot water provision being provided by electricity.
 - There are 3 tower blocks and 88 walk up blocks within the scheme area, comprising over 1,600 individual properties in a very closely defined geographical area. This provides a good level of heat load to sustain a scheme. This would constitute Phase 1 of the scheme.
 - Within the same area, there are a number of potential additional future connections including a further 550 housing units, schools, and the Antelope Retail Park, providing for further financial benefits to energy consumers and the Council. The 550 extra dwellings would constitute Phase 2 of the scheme and the financial implications of this will be part of the report to Council in November. Any subsequent connections are not part of the financial appraisal at this time.
 - There is a clearly identifiable location for the heat station, on a portion of the land currently owned by the Council on the old Eastpoint school site.
14. Although Thornhill is seen as the best choice for an initial DE scheme, it is important to emphasise that this forms part of a much wider energy efficiency programme in the Council's housing stock. The delivery of a DE scheme in Thornhill should be seen in the context of a significant programme of energy efficiency works throughout the City which could be facilitated through ECO funding.
15. Due to pressures on existing resources across the City, it is recognised that the scheme would need to demonstrate a positive rate of return to be considered a viable Council investment. There has already been major investment through the CESP programme in Weston, which involved external cladding and replacement of inefficient electric heating systems in four tower blocks.
16. Capita, drawing on substantial experience of DE and other large scale heating schemes, has developed an outline operational and technical model for the Thornhill scheme. The capital required for this scheme provides for an Energy Centre with a combined heat and power (CHP) plant, heating boilers, all associated internal and external pipe work, metering and radiators. The Capita model shows that the project is worthy of a detailed assessment.
17. The Thornhill scheme would also include a large-scale investment in insulation measures funded predominantly by ECO, which means that the overall investment in Phase 1 would be around £30M based on Capita's model.

Heating Costs

18. One of the key drivers for the scheme is to supply domestic heating and hot water heating at a saving on current and projected future market rates. It should also be noted that tenants with electric heating currently pay for electricity to provide hot water through a separate utility supply which needs to be taken into account when evaluating the overall energy saving arising from a new combined scheme for both heating and hot water. More information on this likely reduction will be presented in the detailed business case which will be available for the November Council report.

Public Versus Private Sector Investment

19. Most DE schemes in the UK are developed and managed by commercial companies who have access to capital plus the resources and expertise to deliver large, complex schemes. The commercial success of the Southampton City Centre scheme and subsequent schemes delivered by Cofely, and other providers demonstrates this (e.g. Birmingham, Coventry, and Leicester). In these instances, the local authority has passed most of the project risks onto the private partner and supported the growth of the scheme through its influence and the provision of assets. These schemes have been key contributors to inward investment and economic growth.
20. However, a decision to pass ownership of the scheme to the private sector removes control over the strategic development of the network and removes the ability to exert a degree of control over the price consumers pay for energy. The returns on invested capital accrue to the investor and most commercial operators of DE schemes expect much higher returns on capital invested than a local authority.

The Council can also borrow capital to fund a scheme with interest rates that are currently low and less than commercial funding rates.

21. By investing in a DE scheme, the Council is taking on a degree of financial risk in terms of the construction and operational costs of the scheme. However, in turn as an investor the Council would also be in a position to take advantage of any financial returns. It also provides for a higher level of control over the future development of the scheme.
22. A number of local authorities in the UK have taken the decision to invest in DE schemes. These include Woking (Thameswey Ltd), Aberdeen, Nottingham and Islington. Other local authorities including Manchester, Newcastle, Leeds and Bristol Portsmouth are also examining the feasibility of investing in DE networks using ECO funding to subsidise a large proportion of the capital costs for relevant housing schemes. However, currently only Islington Council has developed a scheme along the lines being considered in this report. A summary Carbon Trust case study of local authority schemes can be found at the following link:
<http://www.carbontrust.com/news/2013/01/decentralised-energy-powering-a-sustainable-future>
23. In summary, in return for taking on the risk associated with this scheme, the benefits of retaining Council control over the DE network which accord with key Council strategic objectives are:

- Control over the charges levied to consumers;
- Control over the maintenance and investment strategies for the scheme;
- The opportunity for surplus income to be retained by the Council.

24. It is proposed for the reasons given above that the detailed business case is prepared on the basis that the capital funding for the Thornhill scheme is provided by the Council using a mix of General Fund, and HRA borrowing and by taking advantage of the ECO subsidy. A final decision on the mix of funding will be part of the report to Council in November 2013.

Delivery Structures

25. Delivering the Thornhill DE scheme and potential future projects requires the Council to define the most appropriate business model and funding arrangements. Other requirements for developing a scheme include considerations and risks contained within a contract to finance, design, build operate and maintain (DBOM) a DE network.

i. ***The establishment of a Council owned Energy Services Company (ESCO) for the delivery and ongoing management of the scheme.***

An ESCo generally refers to a business providing a range of energy solutions, including the design, implementation and ongoing operation of energy power generation and supply. The key advantages of an ESCo are the ability to establish the operation and management of the scheme as a single entity which has a degree of day to day independence and a clear allocated budget. ESCos have the flexibility to act in a commercial manner including selling electricity and heat to commercial users. An ESCo would be liable for commercial tax liabilities and as a council owned company would still be subject to procurement and State Aid rules.

ii. **Direct Council management of the scheme with the required technical support**

Due to the complexities of setting up ESCo arrangements and the time constraints on the project it is recommended that the delivery model considered for an initial scheme in Thornhill involves the direct management of a design and build, operate and maintain contract (DBOM) by the Council. This would involve suitable staff being assigned to manage the operation and maintenance contract let to a private provider following the design and build phase. Islington Borough Council, who has recently completed a housing led DE scheme, has adopted these arrangements.

26. There is an ability to develop an ESCo structure for the scheme, if required, at later date. An ESCo is likely to be the favoured model, if a number of future DE schemes in the City are to be developed or the Council wishes to enter into commercial energy agreements. This is a complex area that needs further refinement at the next stage of development, including more detail on the merits and risks of the different scheme delivery options.

Proposed Next Steps

27. The complexity of this process means that there is insufficient knowledge and capacity within the Council to develop the next stage of delivery. It is therefore

recommended that external support to the project is provided by the Council's strategic partner Capita in the role of 'intelligent client'. As the Council's strategic partner and as a large national public sector provider Capita have the relevant resources and experience available to support the Council in the delivery of the Thornhill scheme and potentially other schemes in the city. Capita also have the detailed knowledge and technical experience of our housing stock with relevant experts in this area of work.

28. The key steps to move to the next stage of development work for a DE/Insulation scheme in Thornhill would be undertaken by Capita who will take responsibility for the following areas of the delivery programme:

Developing the procurement process. Early discussions have indicated that there are contractors willing to tender for the works. One option is whether the DE scheme can be included in the wider ECO contract currently under negotiation. More information on these options will form part of the detailed business case. The key objectives of the preferred contractor would be to provide:

- A scheme that represents the best value for money in terms of current and future costs and benefits to Council tenants and leaseholders;
- A scheme model that can maximise ECO funding subsidy;
- A plan to continually drive efficiencies from the scheme and clear strategies for future expansion;
- An ability to deliver other schemes, if required as part of a wider delivery programme (subject to further funding and procurement);
- Generate jobs in the construction phase of the project

Securing planning consent: A suitable site has been identified and initial discussions suggest that the scheme is acceptable in principle. However, the project involves a chimney and a wood chip/pellet fuelled-boiler. There may also be open space issues to be addressed. More detailed pre-application discussions will need to take place promptly to address all potential planning and environmental issues. The Council will need to secure an additional range of requirements to design the scheme and secure planning permission

ECO funding: Securing the optimum contribution of ECO funding in terms of price per tonne of carbon saved either through the preferred ECO Delivery Partner or via an ECO auction process.

Resident Engagement: Timely, meaningful consultation with residents on the proposals while the project is at a formative state.

Business Case Preparation: A robust business case for the scheme, to be completed to inform decision making in November that addresses the strategic, commercial, financial, economic and management issues, including an assessment of risk for achieving the Council's objectives through this route. This will be supported with specialist skills in financial modelling, HRA business planning and General Fund accountancy. Additional financial inputs are also required to examine the most appropriate funding mix and ensure that the impact is clear for the HRA and the general fund both for capital and revenue.

RESOURCE IMPLICATIONS

Capital/Revenue

29. The cost of the immediate feasibility work is estimated at £120,000. This comprises fees to Capita of £90,000 plus a further £30,000 for other fees, principally those connected with planning. There is budget provision for these costs in the 2013/14 HRA revenue budget. Should a decision be taken not to progress the DE scheme, because the Council considers the business case to be insufficiently robust, then Capita would expect 80% of the fees incurred up to the date that the decision is formally communicated to them. The amount due to Capita from the Council if a decision is taken not to progress the project in November would therefore be £72,000.
30. The estimated project budget for Phase 1 of the DE scheme is £15.5M based on Capita's initial work. This includes the capital costs of the energy centre, the pipe network, wet radiator systems, associated metering and interface units and professional fees. The insulation works for the corresponding properties are estimated to be £15M which would be fully funded by ECO. The overall estimated cost for the heating and insulation scheme is £30.5M. In addition, it may be sensible to undertake other works that are already in the HRA capital programme at the same time.
31. The modelling undertaken to date by Capita assumes the estimated life of the scheme is 40 years. It is estimated that a further phase of the scheme in Thornhill involving around 550 properties but making use of the same energy centre would cost a further £7.4M. It should be noted that some of the costs incurred in Phase 1 are necessary to provide the technical capacity to deliver Phase 2. Whilst this will reduce the immediate financial return on Phase 1, if the expenditure is not incurred it would preclude the extension of the scheme beyond Phase 1.
32. ECO funding support is based on the estimated CO2 savings as a result of insulation and heating installation changes. Recent discussions with the two remaining bidders involved in the Southampton ECO tender and information from a number of other utilities have provided a degree of certainty over the income per tonne of carbon saved. This would result in a contribution to the scheme of £6.5M which means the Council's estimated Capital contribution to Phase 1 would be £9M based on the current forecast cost.
33. The level of ECO funding to support the project cannot be formally established until an agreement is reached with an energy supplier on a 'Best and Final Offer' basis, which would run concurrently with the procurement of the DBOM contract.
34. The current Housing Revenue Account Capital Programme, approved by Cabinet on 5 February and Council on 13 February 2013, includes the provision of £21.5M to support the provision of external cladding and insulation to houses, walk-up blocks and tower blocks in the city as well as alternative heating and renewable energy sources from 2013 to 2018. These resources will be available to support the wider delivery of ECO and DE projects and associated works and fees as part of this partnership.
35. In addition, the HRA retains borrowing headroom of just over £9M within the business plan over this period. This is the maximum funding available to meet all funding requirement on the HRA and the allocation of any of this funding to

Thornhill would need to be considered in light of all other spending requirements.

36. There is no specific funding available in the GF capital programme so the spending that would have to be met from the GF would need to be added to that programme. Given the pressures on the GF revenue position, it will be crucial that there is an immediate return on this investment.

Energy Costs Savings and Revenue Potential

37. Under the currently proposed scheme delivery option there are two main options available for selling the electricity generated by the scheme. One option is for the Council to sell the electricity wholesale to the Network Operator (SSE). Another option is for the Council to purchase some or all of the electricity produced by the Thornhill scheme to replace some of the Council's current consumption. Due to the complexity of the electricity licensing regulations, a more detailed summary of the options available will be produced as part of the more detailed business case.

Detailed Financial Appraisal and Business Case

38. Further work involving specialist financial advice is a part of the full business case, to assess the accounting treatment and consider any impact on the mix of funding for the scheme and the cash flows and rate of return for both the General Fund and the HRA. The accounting treatment will be discussed and tested with the Council's external auditors to ensure that any approach is fully supported. The appraisal will also include a sensitivity analysis to establish the range of financial outcomes that might occur and ensure any risk assessment is fully informed.

Property/Other

39. The provision of ECO funding and Council capital funding will significantly improve the standard of the relevant housing stock in the Thornhill estate, reduce fuel poverty and improve the health and well-being of tenants.

LEGAL IMPLICATIONS

Statutory power to undertake proposals in the report:

40. Section 1 of the Localism Act 2011 permits the Council to do anything that any other person or private body could do (the 'General Power of Competence'). The use of the power is subject to a number of pre and post commencement limitations, none of which are considered to apply in this case. Depending on the arrangements ultimately entered into between the Council and the obligated energy company, the implementation of ECO proposals may amount to a public works or a public services contract in some circumstances requiring the Council to fully comply with EU procurement rules when appointing its ECO provider.

Other Legal Implications:

41. The Thornhill DE project will be delivered in accordance with Finance and Contract procedure Rules and any procurement and subsequent delivery of the project will be subject to compliance with the requirements of the Equalities Act 2010, in particular the Public Sector Equality Duty and having regard to the need to reduce crime and disorder in accordance with S.17 of the Crime & Disorder Act 1998.

POLICY FRAMEWORK IMPLICATIONS

- 42. As mentioned in the main body of the report the delivery of a District Energy scheme in Thornhill satisfies a number of Council policies and key objectives, which are included in the provisions of the Southampton Connect Plan, and the Council’s housing and property strategies.
- 43. In March of this year DECC published its strategy for heat, which sets out a framework for delivery which accords with the proposals outlined in this report: A link to the strategy Low Carbon Heating in the UK. is provided below:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/190149/16_04-DECC-The_Future_of_Heating_Accessible-10.pdf

KEY DECISION? Yes

WARDS/COMMUNITIES AFFECTED:	Thornhill
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SUPPORTING DOCUMENTATION

Appendices

1.	AFFORDABLE WARMTH AND SUSTAINABILITY POLICY STATEMENT
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Documents In Members’ Rooms

1.	
2.	

Equality Impact Assessment

Do the implications/subject of the report require an Equality Impact Assessment (EIA) to be carried out.	No
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Other Background Documents

Equality Impact Assessment and Other Background documents available for inspection at:

Title of Background Paper(s)	Relevant Paragraph of the Access to Information Procedure Rules / Schedule 12A allowing document to be Exempt/Confidential (if applicable)
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1.		
2.		