

DECISION-MAKER:	COUNCIL		
SUBJECT:	THORNHILL DISTRICT HEATING SCHEME		
DATE OF DECISION:	19 NOVEMBER 2014		
REPORT OF:	CABINET MEMBER FOR HOUSING AND SUSTAINABILITY		
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STATEMENT OF CONFIDENTIALITY
None

BRIEF SUMMARY

The City Council Strategy 2014-17 makes key commitments to our residents, “Southampton – city of growth and opportunity, where everyone thrives” including aspirations for: Jobs for local people; Prevention and Early Intervention; and Good Quality and Affordable Housing. This report outlines detailed proposals for the development and implementation of a significant investment project in Thornhill which will:

- Improve the quality of over 900 homes through the provision of a new, efficient and controllable heating and provide external cladding to over 400 of those properties which are some of the hardest to heat in the city;
- Tackle the fuel poverty suffered by households in one of the most deprived wards within Southampton by giving residents more control over the cost they pay to heat their homes;
- Improve the health and wellbeing of over 900 families by improving their thermal comfort and reducing damp, mould and condensation which are all recognised to have long term impacts on health; and
- Deliver opportunities for development of skills, training and employment in the local

In November 2013 the Council approved the principle of a scheme within Thornhill for heating and insulation improvements. During the past 12 months the Council has continued to qualify the economic and operational options for a District Heating (DH) scheme for the Thornhill Estate.

The original ECO initiative was principally focused on the deployment of insulation measures across the city's housing stock. This was principally driven by the fact that the contribution of grant funding, that was available at that time, would provide for the majority of the insulation deployment costs and thus minimal investment from SCC. There was still an interest in deploying a District Heating scheme but this was as a secondary measure compared with the scale of the insulation works.

The changes in ECO funding at the end of 2013 had a major impact on the proposed project structure. The funding available for insulation measures reduced to a fraction of that which had previously been available. In parallel there was however a change in the ECO funding mandate, that would promote District Heating as a primary funding measure.

This change saw a renewed interest from the 6 energy utility companies to provide meaningful investment in schemes such as these.

In November 2013 the Council approved the funding necessary to qualify the potential viability of a District Heating scheme for the Thornhill estate and to identify a preferred Delivery Partner (refer to Council Paper dated 20th November 2013). The scheme would be procured via the ECO Framework contract that was subsequently secured by Mitie Property Services in late November 2013.

The Council appointed Utilyx, Mitie's in-house energy specialist, to lead the combined Project Team and to undertake the assessment process that would focus on the qualification of the following key issues:

- Confirm which of the 6 energy utility companies, and their supply partners, would be able to bring the Thornhill project the greatest level of investment and delivery expertise;
- Identify what would be the most appropriate scheme configuration to bring SCC and its tenants the maximum return;
- Identification of the capital and operational cost to deliver the identified scheme; and
- Identify a contract structure, for the delivery and operation of the scheme, that would provide SCC with an appropriate level of risk transfer and return from the project.

This Project Team is now satisfied that it has sufficiently and successfully qualified each of the above and is now able to now present a final case for the Council to review and approve. This paper sets out the primary components of this case and how they were determined.

The project qualification process was funded initially by the £194,000.00 investment that was committed to at the 20th November 2013 Council review. In addition the Project Team applied for, and successfully secured, further Heat Network Development Unit (HNDU) grant funding of £215,000.00 to support the further development of the scheme. The HNDU has been set up by DECC to promote the take up of Local Authority sponsored DH networks across the UK.

Council is requested to approve the next phase of the development activity which will conclude negotiation of a 'best value' contract, with the preferred supply chain partner for the Design, Build and operate of the DH scheme over a 30 year period.

RECOMMENDATIONS:

- (i) To increase the funding on the Thornhill District Energy Scheme line, in the HRA Capital Programme, from £8,035,000 to £12,820,000 and to change the title to the Thornhill District Heating Scheme
- (ii) To remove the approved budget of £6,712,000, for the Thornhill District Energy Scheme, from the General Fund capital programme
- (iii) To delegate authority to the Director Place, after consultation with the Chief Financial Officer, to accept an ECO funding grant of £4,190,000 to part fund the scheme
- (iv) To approve, in accordance with Financial Procedure Rules, capital expenditure of £12,820,000, phased £300,000 in 2014/15, £9,365,000 in 2015/16 £2,245,000 in 2016/17 and £910,000 in 2017/18, on the Thornhill District Heating Scheme
- (v) To approve, in accordance with Financial Procedure Rules, capital expenditure of £1,200,000 phased £100,000 in 2015/16, £700,000 in 2016/17 and £400,000 in 2017/18, on works around the 3 Thornhill

- tower blocks, provision for which exists in the unapproved Future Decent Neighbourhood Schemes line in the HRA Capital Programme.
- (vi) To delegate authority to the Director Place, after consultation with the Head of Legal and Democratic Services to enter into negotiations with the preferred Delivery Partner to design and build a suitable scheme that represents the best value for the residents of Thornhill, and for the Council
- (vii) To delegate authority to the Head of Legal and Democratic Services to agree and sign the relevant contracts and; to delegate authority to the Director Place, after consultation with the Head of Legal and Democratic Services to take any other action necessary to implement and operate the scheme

REASONS FOR REPORT RECOMMENDATIONS

1. This is a significant opportunity to provide a new flexible and efficient heating and hot water system to one of the Council's large housing areas of the City and in doing so to meet a number of the Council's key strategic objectives as follows:
 - Provide support to residents with the aim of responding to fuel cost rises and tackling fuel poverty;
 - Improve insulation and heating to improve the quality of its housing stock;
 - Reduce carbon emissions and contribute to a more sustainable city; and
 - Promote job creation and retention in Southampton to support the city's economic development.

ALTERNATIVE OPTIONS CONSIDERED AND REJECTED

2. None.

DETAIL (Including consultation carried out)

3. The Council wishes to address the continuing rise in energy bills affecting its tenants and leaseholders in the City. A large proportion of the Council housing stock in the City has heating systems that are inefficient, costly to run and result in relatively high Carbon emissions.
4. The Thornhill area of the City has been identified as the best starting point for developing a DH scheme, and other energy efficiency measures, for the following reasons:
 - The Thornhill area's deprivation classification allows it preferential ECO funding qualification, within the current programme criteria that is set out by DECC. This change in status means the utility companies are further motivated to participate as it contributes to one of their key ECO mandates.
 - The majority of the properties are electrically heated and a number are of 'non-traditional' construction meaning they are in need of external insulation measures. This backdrop means that the deployment of a District Heating and insulation scheme will contribute to the highest levels of CO2 savings which is the principle measure by which ECO funding values are calculated.
 - There are 3 tower blocks and a large number of walk-up blocks within the identified first phase (Phase 1) of the scheme. The close proximity and higher density of the properties means for shorter pipework routes and greatly aids the cost viability of the project.
 - The initial phase (phase 1) will extend to 904 dwellings however, within the same area, there are a number of potential additional future connections

including a further 450 housing units, schools, and the Antelope Retail Park, providing for further potential financial benefits to energy consumers and the Council. The extra dwellings would constitute a subsequent phase/s of the scheme which is not part of the detailed financial appraisal at this time. It should however be noted that the capacity of the distribution pipework has been sized such as to be able to support an expansion of the network from day one and extend to further dwellings in time.

ECO Funding

5. A principle part of the project qualification process was to determine what ECO funding may be available for the scheme, post the funding changes in late 2013. To achieve this qualification a Consultation Process was run whereby each of the 6 energy utility companies was invited to put forward their proposed funding offer along with the mechanics by which this could be secured, pre-project completion. The participants were also asked to present the operational value that their proposed engagement might bring SCC beyond the above. This was to include delivery experience, scheme variations and expected programme.
6. The Consultation Process identified a preferred bidder in the form of a partnership between npower and Vital Energi. npower/Vital were able to demonstrate a proven track record for developing similar schemes and a logical and inclusive commitment to working with SCC to finalise an offer.
7. SCC and Mitie/Utilyx have continued to work with npower and Vital through 2014 to finalise the scope of the scheme and to validate their offer to deliver and operate the assets for an extended period.

The initial (phase 1) Scheme

8. A study has been undertaken to identify the phase 1 property list. This has combined surveying the individual property types and the verification of DH pipework route. A similar study has been completed to identify the configuration and capacities for the Energy Centre. This work has allowed an assessment to be completed of the amount of CO₂ that will be displaced by the scheme and the capital cost to build the infrastructure.
9. A detailed performance model has been developed, that has taken the outputs from the survey work, to identify the optimum initial scheme. This is as follows:
 - 904 properties to be connected to the network (694 electrically heated and 210 local gas boilers) across 54 housing blocks;
 - Creation of a centralised Energy Centre on a portion of the land currently owned by the Council on vacant land at the old Eastpoint site;
 - The DH scheme, on average, will provide a circa 20% reduction on tenants' current heating costs at the commencement of the scheme with significant opportunities for price rises to remain lower than national energy price inflation;
 - Heat will be generated by a lead 990kW wood chip boiler that will consume an estimated 3700 tonnes of locally sourced fuel per year;
 - The Energy Centre will have 3 additional conventional 2mW Gas boilers that will provide top-up heat supply capacity and resilience to the biomass boiler;
 - A 200m³ buffer vessel will be installed within the Energy Centre to ensure sufficient capacity at peak demand times and to optimise the use of the biomass boiler system;

- The pipework network will extend for over 3,800 metres and will connect to a network of risers and radial connections in each of the blocks;
 - Pre-payment heat meters will be included in all of the dwellings which will give tenants direct control of their system; and
 - The scheme will provide a saving of over 2,800 tonnes of CO2 per annum (84,000 tonnes during the term of the agreement) compared with current system. This is the equivalent to the output of about 470 average family cars each year.
10. It was previously intended to deploy a local electrical generation capability (CHP) however the design development assessment work has confirmed that this would not provide a secure economic return to the General Fund for the scheme. For this reason the recommendation to remove the General Fund budget line has been included.
 11. The scheme will be designed and operated such that it will be entitled to receive an incentive from the government via the Renewable Heat Incentive programme (RHI). The RHI is paid on a p/kWh basis from the useful heat produced by the renewable wood chip boiler technology and is provided for the 20 years and adjusted for indexation (RPI) annually. The RHI provides a material contribution of circa £148,000 per annum to the project's economics over the term.
 12. In addition to the deployment of the DH scheme the Council will also be undertaking some further insulation measures to properties within the overall scheme which are of 'non-traditional' construction. These works are to include the deployment of External Wall Insulation (EWI) to each of the three tower blocks and to nine of the walk-up blocks. These blocks are the only ones in the scheme with full electric heating and have not had any insulation measures deployed and their inclusion in the overall project will maximise the amount of ECO funding that will be available and, for the tower blocks, provide some urgently needed external repair measures
 13. The insulation works will be completed within the main project window so that cost economies can be achieved by using a mobilised workforce, its management team and re-use of access equipment. This also ensures that the design of the replacement DH heating scheme can be designed to the new improved levels of insulation ensuring optimum sizing of the infrastructure. This project will allow for new windows and roofs to all 12 buildings and stone fibre external wall insulation which is then rendered in a coloured silicone based top coat. Full detailed costing for this part of the project has also been undertaken and will provide for a further investment of £7m. Funding is already approved and available within the HRA Capital programme for these works and will be aligned to the timescales of the project.
 14. Further, under the New Deal for Communities funding that Thornhill received a significant urban design project was undertaken called the Better Neighbourhoods project. This made significant changes to many of the public realm and open spaces around the estate and was the forerunner of the current Decent Neighbourhoods programme. However the areas around the three tower blocks in Thornhill were not included in the original scheme. The District Heating and External cladding around these tower blocks will fundamentally change the visual appearance of the buildings and have an impact on the hard surfaces around the blocks. It is therefore proposed that funding is allocated from the Future Decent Neighbourhoods unallocated capital programme in the HRA business plan of £1.2m to allow for a comprehensive redesign and improvement

of the space around the towers in partnership with the local residents. This will ensure that a significant legacy is left for the residents on completion of the overall project and this public realm is brought up to the consistent standard of other parts of the whole estate including the newly developed homes at Hinkler Parade and the former St Colman's site in Lydgate Road.

Development Template

15. Although Thornhill is seen as the best choice for an initial DH scheme, it is important to emphasise that this forms part of a much wider energy efficiency programme in the Council's housing stock.
16. The potential availability of Energy Company Obligation (ECO) funding allows the Council to deliver measures across the housing stock to maximise this available subsidy and improve the housing stock in the City. Whilst ECO funding has been reduced funding is currently available to provide a material contribution of capital funding to the project. However due to the overall reduction in funding access to these funds is very competitive and as such therefore it is important to be able to agree the project as soon as possible so as to risk prevent losing the funding available. By bringing this project for approval at this time and by having an agreed deployment model with a nominated ECO funding partnership such as npower and Vital the Council will ensure that subsequent initiatives will be faster and cheaper to deploy and represent even greater value to SCC and its tenants.

Project Timescales

17. Subject to the appropriate approval from Council it is the intent to negotiate and finalise the respective supply chain contracts during a time period from the end of November 2014 and through to the end of January 2015. In parallel, the DH and Insulation work designs will continue and planning applications will be submitted for both activities. It is expected that the EWI measures will be approved in mid-January 2015 and that construction works on this element will commence in February 2015. It is anticipated that the contracts for the DH works may be completed and signed at the end of January 2015 but they will still be subject to securing the appropriate planning approvals and operating permits. This is expected to be concluded by early May 2015.
18. It is forecast that the DH network will be brought into operation in a phased approach. The initial heating change-over will commence towards the end of Q1 2016 with a full deployment by the end of summer 2016.
19. The EWI works will be coordinated around the DH works and will all be completed within the overall project window.
20. The Decent Neighbourhoods work will follow the completion of the DH and cladding with a view to commencing autumn 2016.
21. A detailed project programme for the DH scheme has been developed.

Take-up and ongoing Service Provision

22. All tenants will be required to take the replacement heating system being provided by the Council as a landlord's fixture
23. Of the 904 dwellings 210 have existing gas boilers and these tenants will have this system replaced by the DH scheme. Based on feasibility work these residents will have lower fuel bills, initially, and also into future. As existing pipework and radiators will be retained in the gas properties there will be minimal disruption to these residents from the switch over

24. Electrically heated homes will require the installation of radiators and heating pipes along with a Heat Interface Unit (HIU) which is a local heat exchanger of approximately the same size as a gas boiler.
25. Works to both the electrical and gas properties will provide savings to the long term HRA business plan through the reduction in ongoing servicing and boiler or heating replacements. This is modelled in the Resources section later in the report
26. In addition to the 904 tenant dwellings there is also an additional 72 leaseholders who exist within the targeted blocks, who could also be included. The Council will develop a Heat Supply Agreement with a costing structure for those who are interested in connecting to the scheme.
27. The Council will need to operate the scheme in balance and it will need to set its charges to a minimum required to fully recover its costs. For example, if costs increase, charges to tenants would also need to increase accordingly to reflect this. It should be noted, however, that due to the increased efficiencies of district heating over individual systems and the ability for the Council to negotiate commercial rates for fuel, the cost for tenants for heating are likely to remain lower than the price individual domestic customers could negotiate for gas or electricity.
28. This charging policy will be an important part of the future management of the scheme. Tenants on the scheme will no longer have the ability to go elsewhere for their energy so the Council must endeavour to ensure that charges to tenants and leaseholders are kept below other domestic alternatives. Further details of arrangements will be developed in conjunction with the operation and maintenance options for the scheme to be determined during the next 2 – 3 months.
29. The table below shows a comparison of heating costs the tenants can expect in year one of the proposed scheme compared to their projected heating costs under their existing arrangements:

Table 1

Currents Source of Heating	Projected Cost Per Annum Under the Existing Arrangements	Projected Cost Per Annum Under the Proposed Scheme
Electric	£1,197	£931
Gas Boiler	£1,045	£931

Resident Engagement

30. An early programme of limited resident engagement has taken place in the Thornhill area based on the proposals to provide the new heating scheme and insulation measures. This has included an introductory letter to all residents as part of the original proposal in the area and attendance at the Thornhill Block Rep Forum. The local housing office and the Block Rep Forum have been briefed on the outline scheme proposals. A project team will be set up to oversee the projects, support the communication and consultation elements and assist in the delivery of the scheme in particular the complex access arrangements to individual properties during the works. A further programme of engagement is planned for appropriate stages in the development of the scheme and will include detailed engagement with residents in the tower blocks on the Decent Neighbourhoods project.

31. The initial response from tenants has been positive for the provision of lower cost more controllable heat combined with insulation works to their properties. Due attention will be paid to the Housing Act requirements on formal consultations and responding to any comments. Consultation will also take place with leaseholders affected. Planning discussions will involve wider consultation with neighbours and will be linked to the tenant liaison process.

Employment, Skills and Training

32. This project represents a significant investment on behalf of the City Council in Thornhill and the wider Southampton area. As part of the ECO Partnership Mitie have made a commitment to supporting opportunities for skills, training and local employment both direct and within their supply chain. As part of the formation of the project an Employment and Skills plan will be developed to ensure the greatest possible benefits are brought to the local economy.

Risk and Responsibilities

33. During the project qualification process a number of contracting models were considered that provide SCC with a range of risk and reward positions. These include the following three principle options:
1. Own and operate - whereby SCC would benefit from the maximum return from the assets but also carry the maximum performance and operational risk.
 2. Full ESCo – whereby SCC would transfer all operation risk to a third party but would see a considerable dilution of overall project savings.
 3. Hybrid (ESCo Lite) – SCC would retain specific project risks that it will be able to sufficiently manage and transfer others to the delivery partner
34. Option 1 gives the Council the best potential return on capital and revenue investment however requires the significant risk to the Council of having to manage a complex set of plant and machinery which is an area where there is no expertise. The Council would also be responsible for the replacement of the assets in the energy centre at the end of their life and would require significant contingencies or sinking fund arrangements.
35. Option 2 would see the council pass all risk to a third party but in return give up any rights to income generation from the scheme and more importantly the Council would give up the ability to control the prices charged to residents. This would leave the very real possibility of diminished savings to residents on their heating bills undermining the key principles of the scheme.
36. Option 3 is the one that has been identified to offer SCC the most appropriate level of risk and return and whilst the specific details will be agreed in the next development and negotiation stage the principle responsibilities, and owners, are

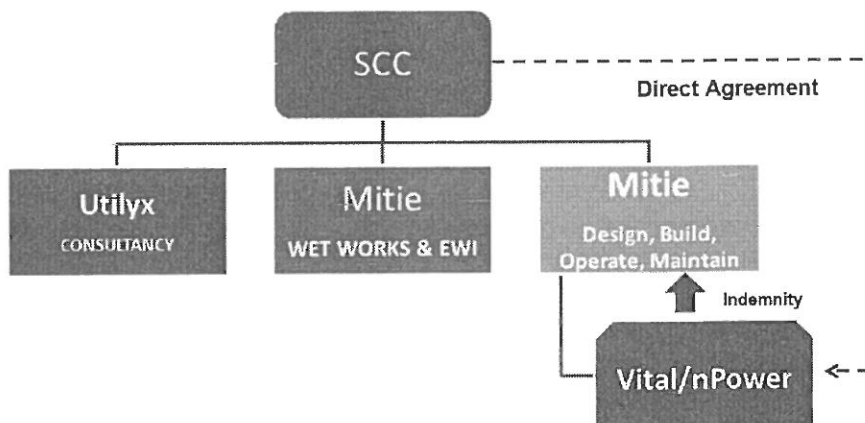
summarised in the table below.

Risk	Owner	SCC	Delivery Partner
Planning		✓	
Design and Build			✓
Construction cost			✓
Take-up		✓	
Bad-debt/Continued service		✓	
Funding		✓	✓
Government incentives		✓	
Fuel supply/Management		✓	✓
Operation and Maintenance			✓
Asset performance optimisation			✓
Asset replacement			✓

37. SCC principle responsibilities would be a commitment to take the heat delivery for the contract term, provide the necessary funding for the scheme and take the primary fuel supply and price risk (Wood chip and Gas). In turn the delivery partner would be incentivised through gain share arrangements to maximise the ongoing efficiency of the plant and heat generation and seek opportunities for expansion of the scheme to other third parties.

Contract Structure

38. With the above in mind Bevan Brittan Solicitors have been commissioned to develop a contract structure that will be able to bind the respective counter parties into an agreement that will satisfy each entity and ensure that the risk allocation, identified above, is appropriately allocated. The proposed structure is indicated below.



39. Heads of terms have already been drawn up on this basis and are currently being reviewed by the respective parties. Delegated Authority is being sought to allow the Council to enter into the appropriate legal arrangements over the next two

months.

RESOURCE IMPLICATIONS

Financial Appraisal

40. A detailed financial evaluation has been undertaken by Utilyx and has seen the creation of a financial model for the Thornhill scheme that has enabled scenario testing for different technologies and capacity configurations. The Utilyx study was a key element of the feasibility process to determine the appropriate scheme configuration and then to verify delivery costs and funding offers from both Vital and npower.
41. Whilst npower has completed calculations to determine the ECO funding that they are able to provide the project, the actual offer can only be confirmed once the final contracts are completed (target for end of January 2015). The principle risk during this period would be one of regulatory or policy change, to the ECO programme, between now and contract closure. Whilst National ECO Policy has been the subject of a number of changes over the last 12 months in it not felt at this time that a further change in the next couple of months is likely. However if there was a change it may have an impact on the viability of the project. As part of the contract npower have agreed an ECO offer of £4.19m and the final grant received will be subject to verification of the final carbon displacement that the scheme would bring, and this can only be undertaken upon completion of the network. However under this proposed arrangements this risk would be assessed and borne by Vital as part of the delivery structure outlined above.
42. Likewise the offer from Vital is still subject to some further specified conditions, such as additional scheme modifications imposed by planning requirements and unknown cost risks associated with still to be completed ground surveys. Contingencies are contained within the Capital cost to allow for most foreseeable impacts.
43. Utilyx has undertaken a comparison analysis of the capital cost structure and Operation and Maintenance (O&M) fees to ensure that the project represents value to SCC. This comparison has included a value engineering exercise on the principle plant components to ensure appropriate and market based supply rates. It is worth noting that there has been no prescribed change in the plant schedule. Vital will be committing to the operating the plant at an agreed performance level for the full term of the agreement and as such should be able to nominate their equipment to effectively achieve this. The value analysis has been completed specifically to verify costs. The model has been fully reviewed by the Council's finance team.
44. The ongoing O&M costs have been committed to by Vital. These include an annual and fixed indexation rise through the term of the agreement. The only variable on the O&M component is the cost of the primary fuel supply for both Biomass and gas and which continues as SCC risk through the term. The wood chip feed stock price has been benchmarked against known prevailing market supply rates and indexation testing against that of the DECC forward energy increase scenarios. Gas inflation has likewise been tested against the same DECC curves. Prudent assessments have been made within the model to provide a level of comfort in the sensitivity analysis undertaken
45. Construction funding will be provided by the HRA. There will be a draw down schedule plotted across the construction phase of the project and factored into the

HRA business plan. The maximum funding will be equivalent to that of the overall capital value of the project because the ECO grant funding will not be paid to the Council until Practical Completion of the project. If the project construction phase is extended beyond the current programme costs are likely to increase without a corresponding increase in the grant making the cost to the Council greater and this would have to be accommodated in the business plan.

46. The profile for the Capital spend, grant funding and the SCC revenue streams, contained within the Utiyx financial model, have been fed into the HRA 30 Year business plan approved by full Council on the 12th February 2014. The base case uses the DECC September 2013 Reference Scenario to inflate the energy related cost and income lines and assumed RPI increase of 2.5% for the other lines. The base case assumes grant funding of £4.19M and a total capital cost of £12.820M. Sensitivities have been run looking at lower levels of energy inflation and reduced levels of consumption by residents. The results from the base case and sensitivity analysis are detailed below.

Table 2

Scenario	Increase / (Decrease) in HRA 30 Year Business Plan Surplus ¹	Savings over 30 years to SCC Tenants
	£000s	£000s
Base case	9,822	12,399
Energy Inflation set at RPI	(1,795)	7,378
Energy Inflation set at RPI Plus 2%	2,144	10,864
5% Reduction in Consumption by Tenants	8,847	10,397
10% Reduction in Consumption by Tenants	7,865	9,931

¹ This represents the savings to the business plan due to reduced capital replacements costs for existing boilers and heating systems and the RHI payments.

Capital/Revenue

47. There are sufficient funds available within the HRA Capital budget to meet the requirements of the proposed scheme. The existing line in the HRA Capital programme assumed that any ECO grant would be paid directly to the ECO partner. The recommendations contained within this report assume that the full Capital cost will be charged to the Council and the Council will then claim the grant once the District heating Centre is performing within the prescribed parameters. For this reason the recommendations to increase the provision within the HRA capital programme and to delegate authority to accept the ECO grant has been included within this report. The proposed scheme does not contain any General Fund component so the recommendation to delete the Thornhill District Energy Scheme budget line from the General Fund capital programme has been included.
48. The grant funding is dependent on external wall insulation (EWI) being applied to 3 high rise tower blocks and 9 walk-up blocks. Budgetary provision to carry out this work is already contained within the existing HRA capital programme.
49. The borrowing required to support the scheme can be contained within the HRA borrowing cap, while also still providing adequate surpluses to tackle unforeseen pressures in the HRA should they arise.

50. In summary the total cost and benefits of the scheme are as follows:
- Total cost of District Heating for 904 and cladding for 400 properties = £19.82m less grant of £4.19m = total net cost to SCC of £15.63m.
 - Total savings to SCC capital programme and RHI Payments = £9.822m
 - Total savings to tenants in reduced heating bills = £12.399m
 - Overall financial benefit of scheme = £6.591m

Staffing resources

51. A key learning from the recent project undertaken at International Way is that the Council needs to allocate a small team of dedicated staff to oversee the project. This is particularly important to ensure good communication with residents during the course of the project which is likely to run for around 2 years. In Weston some staff had hours allocated to support the project however this had to be augmented by other staff through overtime and reprioritising at key parts of the project.
52. The Thornhill Project will be almost twice the size of International Way in terms of numbers of properties and budget and therefore it is proposed that a small dedicated project team is set up to oversee the various elements of the project for both residents and contractors and in particular support and manage the engagement, communication and access arrangements for the different phases of work. It is therefore proposed that the following posts are established to oversee the project:
- Project Manager (Technical) – to be the client technical project manager on all property related aspects of the project and the lead conduit with the contractor on the construction elements of the project.
 - Project Manager (Housing Services) – to manage the day to day co-ordination of Housing resources to support the project and lead on tenant consultation for all elements including the Decent Neighbourhoods project.
 - Project Officer – to oversee and co-ordinate the access process for residents; and
 - Programme Support Officer – to provide local support to the project.
53. These roles will need to be funded from the project from January 2015 and it is anticipated they will need to be in place until post completion in early 2017. The cost is anticipated to be in the region of £140,000 per annum and will be part of the capital cost of deliver the scheme.

Property/Other

54. 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:

55. 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') subject to complying with any other statutory requirements such as the Housing Act 1985. The use of the **Page 218** subject to a number of pre and post

commencement limitations, none of which are considered to apply in this case.

56. The Housing Acts 1985 gives the council the powers to undertake these changes. Under s105 of the Housing Act 1985 the Council is permitted to introduce changes to the management of the housing service following a period of consultation with residents. Where Leaseholders may be affected by any changes the Council will be required to undertake consultation under the Commonhold and Leasehold Reform Act 2002. A consultation plan will be developed alongside the further development of the proposal.

Other Legal Implications:

57. The Thornhill DH 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

58. As mentioned in the main body of the report the delivery of a District Heating 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.
59. 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. 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.
60. In March of 2013 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: Bitterne

SUPPORTING DOCUMENTATION

Appendices

- 1. Offer Letter from Vital Energi
- 2. Offer Letter from npower

Documents In Members' Rooms

- 1. None

Equality Impact Assessment

Do the implications/subject of the report require an Equality Impact Assessment (EIA) to be carried out. Yes

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)
1. None.	

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Southampton City Council
Ground Floor West Wing
Civic Centre
Southampton
SO14 7LY

FAO: Nick Cross

Date: 27/10/14

Our ref: VQ13335

Dear Sirs,

Re: Thornhill Community Heating Network

We are pleased to provide our proposal for the design, build, operation and maintenance of a new biomass and natural gas fired community heating network for the Thornhill community in Southampton, as follows:

1. Consortium

This proposal should be read in conjunction with proposals provided separately by our consortium partners: -

- MITIE Property Services, who will be undertaking the internal heating system installations or heating system modifications to serve 904 properties. For clarity the price for these MITIE Property Services heating system works have been included within this proposal letter.
- nPower who will be providing ECO funding for the project and will also provide certain sub-contractor / supplier services, working as a sub-contractor to MITIE Property Services or Vital Energi. For clarity the price for works to be undertaken by nPower have been included within this proposal letter, but the ECO contribution towards the project has not been shown in this proposal letter.

2. Scope

The scope of our proposal includes: -

- > Design, supply, installation and commissioning of a new energy centre building including foundations, building, roadways, and boundary fencing, all on the plot of land adjacent to the Eastpoint Centre, Bursledon Road, Thornhill, Southampton
- > Design, supply, installation and commissioning of an energy centre including 1 No wood chip fired biomass boiler rated at 990kW, 3 No gas fired boilers rated at 2MW, 2 No 100m³ thermal stores, building management system, circulation pumps, pressurisation unit, flues and chimney, associated mechanical and electrical works
- > Design, supply, installation and commissioning of an underground heating network, consisting of pre-insulated pipework to connect to 54 No apartment blocks
- > Design, supply, installation and commissioning of primary heat substations for the P1 blocks only
- > Design, supply, installation and commissioning of riser and lateral pipework to connect to serve 904 properties
- > Internal heating systems within the properties will be designed by Vital Energi, but installed and commissioned by MITIE Property Services, to serve 904 properties

- > Supply of heat interface units with integral heat meter for installation by MITIE Property Services, but commissioning onto the network by Vital Energi
- > Supply, installation and commissioning of Tenant pre-payment systems
- > Operation and maintenance services for a 30 year term: -
 - o Including operation, planned and reactive maintenance, life cycle repairs and replacements, metering and billing
 - o Our operation and maintenance scope includes the energy centre, the heat network, risers and laterals up to and including the HIUs and heat metering systems
 - o We have excluded maintenance of the heating systems within the flats

3. Charges

Our charges will be: -

- > For the design, supply, installation and commissioning works detailed above £12,459,465 (twelve million, four hundred and fifty nine thousand, four hundred and sixty five pounds)
- > For operation and maintenance services £310,363 per year (three hundred and ten thousand three hundred and sixty three pounds)

Our charge for design, supply, installation and commissioning works includes some provisional sums, as detailed in Appendix 1.

The above charges will be subject to VAT at the applicable rate.

4. Basis of Proposal

Our proposal is submitted as a firm offer, however due to programme constraints we have been unable to complete all of the design activities necessary to firm up all elements of our proposal. Where necessary we have allowed our estimate of likely cost and have shown these as provisional sums within our charges above, and will firm up these up fully during the next development stages. These include:

- > Detailed site investigation to be undertaken, which could impact: -
 - o Building layout, orientation and foundation design for the energy centre
 - o Routing for the underground heat network
 - o Disposal of any contaminated excavations
- > Planning application and air dispersion modeling to be submitted, which could impact:
 - o Building design and architectural finish
 - o Chimney height
- > Utility connection applications to be submitted, which could impact: -
 - o Cost for electricity, water, sewerage and gas connections to the Energy Centre
- > Iconic architectural features or specialist landscaping requirements
- > Local Highways particular costs for 278 requirements (traffic lights/ signaling etc.)

5. Terms and Conditions

Our offer is subject to contract, and has been based on our understanding of the: -

- > Proposed contractual structure, as per our discussions with your colleague Colin Rowland, Luke Mann from Utilyx and Bevan Britten
- > Works undertaken as per programme attached as Appendix 3, assuming that works are completed in an uninterrupted period and based on a normal weekday working of 40 hours/week
- > Allocation of responsibilities and risks as shown in the risk matrix which we have shared with you previously (via Utilyx), also attached for reference as Appendix 8

We have previously issued a draft project development agreement, and we assume that this will be executed to form the basis for us to proceed with the further development works up to execution of formal design and build and O&M contracts.

6. Supporting Information

We have provided the following supporting information, which we hope you will accept is commercially sensitive. In this respect, we trust that the following appendices will not be made available publically:

- > Appendix 1 – Capital cost breakdown
- > Appendix 2 – Operating cost breakdown
- > Appendix 3 – Indicative construction programme
- > Appendix 4 – Community heating network drawing
- > Appendix 5 – Drawing of typical heating systems layout in properties
- > Appendix 6 – Energy centre block plan layout and location
- > Appendix 7 – Schedule of properties Included in this proposal
- > Appendix 8 – Risk matrix

I hope that this document provides all of the information that you need at this stage. We would welcome the opportunity to meet with you to present our proposals. If you have any questions, please do not hesitate to contact me.

Yours faithfully



Nick Gosling
Director of Energy Strategy

M: 07887 416550

Cc: Luke Mann, Utiyx
Lee Elliott, MITIE Property Services
Nick Gardner, nPower

Appendix 1 – Capital Cost Breakdown

COMMERCIALLY SENSITIVE INFORMATION

Item	£ Excl VAT
1. Preliminaries and Design	988,321
2. Energy Centre Construction	771,863
3. Biomass Boiler System	398,498
4. Energy Centre Mechanical Works	688,121
5. Energy Centre Electrical Works	314,589
6. DH Distribution	2,838,602
7. HIUs to Dwellings	1,180,060
8. Tenant Pre-Payment system	562,695
9. Heat Sub Stations to 3 No Tower Blocks	67,355
10. Provisional Sums	265,000
11. Temporary Boiler	60,000
12. Risers and Laterals	1,672,407
13. Internal Heating Systems	2,651,954
Grand Total	12,459,465

Provisional Sums (included in table above)

Item	£ Excl VAT
1. Incoming gas supply	50,000
2. Incoming mains cold water supply	20,000
3. Incoming electricity supply	100,000
4. Incoming communications	5,000
5. Drainage	15,000
6. Architectural enhancement	75,000
Grand Total	265,000

Appendix 2 – Operating Cost Breakdown

COMMERCIALLY SENSITIVE INFORMATION

Item	£/Year Excl VAT
1. Management and Supervision	5,769
2. Operations	46,886
3. Energy Centre Maintenance	55,750
4. Heat Network Maintenance	17,071
5. HIU, Heat Meter and Pre-Payment System O&M	114,769
6. Life-cycle replacements	70,119
Grand Total	310,363

Appendix 3 – Construction Programme

COMMERCIALLY SENSITIVE INFORMATION

Please refer to separate attachment reference: VE Thornhill Proposal Oct 2014 – Appendix 3 - Programme

Appendix 4 – Community Heating Network Drawing

COMMERCIALLY SENSITIVE INFORMATION

Please refer to separate attachment reference: VE Thornhill Proposal Oct 2014 –Appendix 4 – DH Network Drawing

Appendix 5 – Drawing of typical heating systems layout in properties

COMMERCIALLY SENSITIVE INFORMATION

Please refer to separate attachments reference: VE Thornhill Proposal Oct 2014 –Appendix 5.1 to 5.11, which provide schematics and layout drawing for the heating systems in the typical block constructions

Appendix 6 – Energy centre block plan layout and location

COMMERCIALLY SENSITIVE INFORMATION

Please refer to separate attachment reference: VE Thornhill Proposal Oct 2014 –Appendix 6 – Energy Centre Drawing

Appendix 7 – Schedule of Properties Included

COMMERCIALLY SENSITIVE INFORMATION

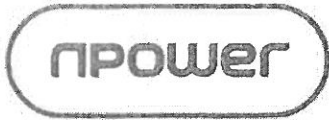
Please refer to separate attachment reference: VE Thornhill Proposal Oct 2014 –Appendix 7 – Schedule of Properties Included

Appendix 8 – Proposed Risk Matrix

COMMERCIALLY SENSITIVE INFORMATION

Please refer to separate attachment reference: VE Thornhill Proposal Oct 2014 –Appendix 8 – Risk Matrix

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West Midlands B91 3ES
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27 October 2014

Thornhill - Community Heating Scheme

Dear Nick,

As a result of developing the proposed community heating project at Thornhill, Southampton npower would be looking to provide funding to this scheme as part of its CSCO (Carbon Savings Community Obligation part of the Energy Company Obligation).

The projects lifetime carbon savings (and hence CSCO funding) have been determined using detailed SAP analysis. Based upon this analysis npower is able to confirm that for the proposed community heating project at Thornhill it would be looking to provide CSCO funding of up to £4,19m.

The funding offer is subject to the final confirmation of the projects specification and that the anticipated level of carbon emissions reduction is achieved and approved by Ofgem.

It should be noted that this CSCO funding offer is conditional on external wall insulation (EWI) measures being completed at the following properties:

- I. EWI measures to the 3 high rise (P1) developments at Meredith, Hightown and Dumbleton Towers – (a total of 305 flats); and
- II. EWI measures to 9 of the P3 properties currently not insulated - 118 to 138 Lydgate Road, 140 to 160 Lydgate Road, 162 to 182 Lydgate Road, 226 to 246 Lydgate Road, 280 to 300 Lydgate Road, 334 to 354 Lydgate Road, 1 to 21 Tunstall Road, 23 to 43 Tunstall Road and 45 to 65 Tunstall Road - (a total of 99 flats)

We can also advise that our SAP analysis has been undertaken using SAP 2012 (this is a new Ofgem requirement where all projects scheduled for completion after March 2015 are to be determined using SAP/RdSAP 2012 software).

Finally it should also be noted that Ofgem is currently consulting on the insulation conditionality affecting district heating projects. One such outcome could have it that DECC/Ofgem may decide to

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Windmill Hill Business Park
Whitehill Way, Swindon
Wiltshire SN5 6PB
Registered in England
and Wales no. 3892782

waive the insulation conditionality highlighted above – so improving the overall economics of this project.

Yours Sincerely

A handwritten signature in black ink, appearing to read "Nick Gardner". The signature is fluid and cursive, with the first name "Nick" and last name "Gardner" clearly distinguishable.

Nick Gardner

Energy Services


Equality and Safety Impact

The **public sector Equality Duty** (Section 149 of the Equality Act) requires public bodies to have due regard to the need to eliminate discrimination, advance equality of opportunity, and foster good relations between different people carrying out their activities.

The Equality Duty supports good decision making – it encourages public bodies to be more efficient and effective by understanding how different people will be affected by their activities, so that their policies and services are appropriate and accessible to all and meet different people’s needs. The Council’s Equality and Safety Impact Assessment (ESIA) includes an assessment of the community safety impact assessment to comply with section 17 of the Crime and Disorder Act and will enable the council to better understand the potential impact of the budget proposals and consider mitigating action.

Name or Brief Description of Proposal	Thornhill District Heating Scheme
Brief Service Profile (including number of customers)	Creation of a new District Heating Scheme in Thornhill providing heating and hot water to 904 properties across 54 Housing blocks. 694 properties are currently electrically heated which is expensive and uncontrollable. 400 ‘non-traditional’ properties will also benefit from external wall insulation, new windows and roofs to improve the thermal performance of the buildings. The public realm around the three tower blocks will also be redesigned and improved to provide for enhanced and useable public space to improve these neglected areas in keeping with other projects already undertaken. Total project budget will be approx. £21m of which £4.19m will be contributed through grant funding from the Energy Company Obligation (ECO).
Summary of Impact and Issues	<ul style="list-style-type: none"> • Improve the quality of over 900 homes through the provision of a new, efficient and controllable heating and provide external cladding to over 400 of those properties which are some of the hardest to heat in the city;
Potential Positive Impacts	

	<ul style="list-style-type: none"> • Tackle the fuel poverty suffered by households in one of the most deprived wards within Southampton by giving residents more control over the cost they pay to heat their homes; • Improve the health and wellbeing of over 900 families by improving their thermal comfort and reducing damp, mould and condensation which are all recognised to have long term impacts on health; and • Deliver opportunities for development of skills, training and employment in the local area through our ECO Partners supply chain and commitment to the local economy.
Responsible Service Manager	Geoff Miller, Housing Investment Manager
Date	6 November 2014

Approved by Senior Manager	Nick Cross, Head of Housing Services
Signature	
Date	6 November 2014

Potential Impact

Impact Assessment	Details of Impact	Possible Solutions & Mitigating Actions
Age	The scheme will include some supported housing and general needs flats occupied by residents over 60 and it will improve the ability for them to have affordable and controllable heating and hot water ensuring their health and wellbeing is supported. Keeping warm in older age significantly reduces the risk of CPD.	

Disability	<p>There will significant building work and pipe laying across the estate which may present a hazard to those with mobility issues.</p> <p>The public realm surround the tower blocks will be improved enhancing access to residents with a disability to the public space</p>	Safe systems of work and Highways standards applied to ensure trenches, holes and other hazards are appropriately fenced off.
Gender Reassignment	none	
Marriage and Civil Partnership	none	
Pregnancy and Maternity	Some of the building work will include activity that generates dust.	Agreed access arrangements with residents to ensure impacts are minimised to all vulnerable residents
Race	none	
Religion or Belief	none	
Sex	none	
Sexual Orientation	none	
Community Safety	The areas around the tower blocks will be improved to make them more attractive and safer places for residents.	
Poverty	<p>Thornhill is one of the most deprived wards in Southampton. Providing a cheaper and more controllable heating and hot water system to 904 properties will help reduce both fuel and child poverty giving residents more disposable income for their families.</p> <p>£21m investment in the local area will support significant opportunities for training, skills and employment for residents.</p>	<p>SCC will ensure that the Operate and Maintain contract for the heating and hot water retains utility costs at below those which a resident could achieve independently.</p> <p>An Employment and Skills plan will be developed to maximise the opportunities for local residents.</p>
Other Significant Impacts	Being harder to heat the 400 properties of 'non-traditional' construction tend to suffer more with damp, condensation and	

	<p>mould which are potentially detrimental to health. The new heating and insulation of these properties should dramatically reduce the incidents of such issues occurring improving the health of the residents.</p>	
	<p>There will be significant building and construction work across the estate for up to two years which will be disruptive to everyday life</p>	<p>Significant time will be invested in community consultation and engagement throughout the project and specific resources are being allocated from the Council and the Contractor to manage the access processes needed during the project with a view to keeping the disruption to the lowest level possible.</p>