

<b>Report of</b>	<b>Assistant Director of Policy and Corporate</b>	<b>Author</b>	<b>Michael Woods</b>
<b>Title</b>	<b>Northern Gateway Heat Network : Project and Finance Update</b>		
<b>Wards affected</b>	Highwoods & Mile End		

## 1. Executive Summary

- 1.1 The Northern Gateway Heat Network is a flagship project for low carbon heat generation of its type in the UK and has the support of the Department of Business, Industry and Industrial Strategy (BEIS) Heat Network Project (HNIP). This report sets out an update of the finances after commercialisation activities have taken place, further due diligence work and development of the project over the last year.
- 1.2 A business case has previously been agreed by Cabinet which outlined the full financial details of the scheme as at March 2017, including the £3.3m grant from BEIS, £200k commercialisation monies from BEIS and a loan to the Council's wholly-owned energy company Colchester Amphora Energy Limited (CAEL) from CBC of £2.5m.
- 1.3 Since these decisions, and as part of the due diligence work, a number of significant changes have occurred either within the project or linked to it. The result is that an increase in the size of scheme and the proposed accommodation heat requirements means that the capital cost of the project has risen, although income levels have risen too.

## 2. Recommended Decision

- 2.1 To approve the additional Capital expenditure of £720K for the increased scheme size, as outlined in the confidential annex table 1 attached to this report, which will need to be met by the Council under the current approved delivery structure.
- 2.2. To note the good progress made on the project to date including the imminent final drawdown of the BEIS grant.
- 2.3 To note the financial and risk implications for the Council arising from the updated project including the need to finance the additional capital costs from Council budgets.
- 2.4 Agree that further financial review of the project is brought back to the Council once design and construction tenders are returned.

### **3. Reason for Recommended Decision**

3.1 To allow the Heat Network to deliver to the ambitions of the emerging Local Plan for the Northern Gateway, and in particular section CC1:

*(v) Supporting opportunities to deliver decentralised energy systems, particularly those which are powered by a renewable or low carbon source. Supporting connection to an existing decentralised energy supply system where there is capacity to supply the proposed development, or design for future connection where there are proposals for such a system.*

*(vi) Requiring development in the Northern Gateway and East Colchester to connect to, or be capable of connecting to the district heating scheme where there is capacity to supply the proposed development and where it is appropriate and viable to do so.*

3.2 The increase in heat sales allow a higher rate of return.

3.3 To continue to show leadership across the Borough for the implementation of low carbon heat in new developments.

### **4. Alternative Options**

4.1 One option would be to retain the capital expenditure envelope for the heat network project that was approved by Cabinet in March 2017, which could be achieved by reducing the size of the scheme. By removing a significant proportion of the low density housing (which would have to be connected to the gas network) leading to reduced pipe network costs and a subsequent reduction in heat demands/sales there would be a smaller energy centre with less capital costs.

4.2 Whilst this would reduce some costs it would also remove the Council's ambition to bring forward a very low carbon housing development scheme. It is not feasible to remove any part of the health care facilities as they are hungry in heat demand which is high income producing for the network and vital for overall viability. Removing elements of the scheme could also impact upon overall financial sustainability and directly upon rates of return for the project as there are general increases in costs of delivering the project since March 2017 and these have been offset by the increase in heat sales.

## 5.0 Background Information

- 5.1 Cabinet approved the full business case for the development of the Colchester Northern Gateway Heat Network on 15 March 2017 with a capital expenditure of £5.9 million including the £3.3m construction grant from BEIS, £200k commercialisation monies from BEIS and a loan to CAEL from CBC of £2.5m.
- 5.2. The Northern Gateway Heat Network is 1 of 9 pilot schemes funded by Department of Business Energy and Industrial Strategy (BEIS) through Heat Network Investment Project (HNIP) grant funding, across the country and has national significance due to the innovative use of ground water to generate heat. The Council and CAEL have consulted with, and will continue to have an ongoing dialogue with, BEIS; who see the scheme in Colchester as having the potential to be “rolled” out on a more national basis following the completion of the scheme. Whilst the technology within the scheme is more used widely in Europe and is very successful in generating localised heat, its use in the UK is new.
- 5.3 Since March 2017 and following the finalisation of some significant changes within or linked to the project, further due diligence has been carried out. This has led to the creation of a detailed energy model for the heat demand from all the buildings in the proposed development, which has been redefined and an accurate cost model developed.
- 5.4 The impact of these changes, whilst generally positive for the Council as landowner, has led to an increase in capital costs for the planned heat network. These cost increases are outlined below;
- The original proposed care development land is now under offer as part of a larger site to a Healthcare provider which will make a significant contribution to the Northern Gateway area. This use has a higher heat demand than the previous care uses and will consequently lead to higher upfront capital costs but importantly will also lead to higher annual revenues for the network.
  - A larger accommodation schedule on the land south of Axial way (which is mainly additional commercial floorspace arising from the recent master planning work) is positive as it means future increased lettable space for CBC as landowner but it does require a larger heat network so capital costs will increase.
  - The disappointing abstraction results of the first borehole test has led to further a borehole being required as part of the operation of the network, which has increased costs
  - 16 % increase in connections over the past 12 months leading to higher pipe network costs and more connection charges
  - Higher allowance for electrical systems & addition of security, fire & gas detection
  - Increase in thermal store size for increased heat demand
  - Evolved layouts of housing through the site master planning process have led to higher pipe network cost
- 5.5 Under the new structure (approved by Cabinet in January 2019) the majority of the increased costs must sit within the Council-owned part of the project, in the Energy Centre and pipe network. CAEL will own the heat pump and the boreholes, and operate the scheme, so will absorb the cost of the additional borehole, as required to be able to claim Renewable Heat Incentive (See Confidential Annex, Table 2).

## **6.0 The Due Diligence Process**

- 6.1 The work in defining the new proposed scheme and cost model has been largely carried out by appointed specialists for the project, WSP Ltd who are a large engineering consultancy with significant experience of heat networks and Woodward Energy Consulting Ltd who have over 30 years of experience in district heating systems and have worked directly for BEIS.
- 6.2 The commercialisation work and due diligence for the project over the past 12 months has included the following activities;
- Excavation of the first borehole
  - Legal and financial advice on the ability to claim Renewable Heat incentive for the project
  - Legal and financial advice on the loan arrangements between CAEL and CBC
  - Review and refinement of the financial model, project costs and programme
  - Development of detailed design for the heat network for planning application submission in February.
  - Regular reports to BEIS on the grant funding has led to the imminent draw down of the final tranche of BEIS funding
- 6.3 Further work will take place to validate the assumptions of the financial model and its inputs as information comes available through the tender process for the design and installation of the scheme.
- 6.4 The Councils own financial team will continue to carry out due diligence on the viability and sustainability of the current proposals.

## **7.0 Financial implications**

### **7.1 Rate of Return on the project**

- 7.1.1 In the March 2017 Cabinet paper the stated total rate of return for the Council was 7.34%. The proposed increase in the size of the scheme comes with higher costs but also higher income and a higher projected rate of return on investment of 7.8% based on a 25 year model period and 8.4% based on a 40 year model period.

### **7.2 Revenue Consequences**

- 7.2.1 The additional capital costs of the scheme will have a revenue impact upon the Council which has been outlined in the confidential appendix attached to this paper.

### **7.3 Capital Strategy**

- 7.3.1 The revised scheme and costings requires a greater level of investment than first envisaged, an increase of £720k. This additional cost is not covered by grant, so the additional funds will need to be found from within the Council's overall capital financing resources for 2019/20. This will require the amendment of the capital strategy agreed as part of the 2019/20 budget by Council last month. The anticipated increases in income and improved rate of return on the Council's investment are attractive. The actual rate of return achieved should be calculated after allowing for the capital costs of replacing plant and equipment in due course.

## **8.0 Strategic Plan References**

- 8.1 The project relates directly to the vision, themes and objectives of the [Strategic Plan 2018-21](#) of “Encourage green technologies through initiatives such as SMART Cities” of which district heating with a low carbon heat source is an example, and the emerging Local Plan 2017-2033 Policy CC1: Climate Change which specifically mentions the Northern gateway.

## **9.0 Consultation**

To date no public consultation has been carried out but the project will form part of public consultation for planning consent for the Northern Gateway south side development.

## **10.0 Equality, Diversity and Human Rights implications**

- 10.1 Under the Equality Act 2010, Section 149, a public authority must, in the exercise of its functions, have due regard to the need to:
- eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under this Act;
  - advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it; and
  - foster good relations between persons who share a relevant protected characteristic and persons who do not share it.
- 10.2 The recommended decision will have no disproportionate impact on any protected group.

## **11.0 Publicity Considerations**

- 11.1 The Heat Network project is part of the wider Northern Gateway development and will be included the “communication plan” for the whole development. Additionally, there will be some primarily B2B publicity communication to companies / groups interest the heat network delivery and particularly those companies who have expressed interested in becoming suppliers of services and equipment to the scheme. When an installation contractor is selected and ground breaking occurs for the Energy Centre a more specific and intense communication programme on the Heat Network will commence.
- 11.2 There continues to be much interest in the technology being used on a national and international scale, so the scheme features in a number of trade publications and marketing and publicity being disseminated by BEIS.

## **12.0 Community Safety Implications**

- 12.1 None

## **13.0 Health and Safety Implications**

- 13.1 Normal health and safety standards will be complied with during the construction process and operation

## 14.0 Risk Management Implications

14.1 The following risks have been identified in respect of the whole project;

Risk	Consequence	P	I	Total	Mitigation	Action Owner	Start Date
<b>RHI and State Aid issues complexity</b>	Not able to receive RHI & higher financial return with RHI are not met.	2	4	8	Consultation with HNIP and OFGEM, RHI pre-registration.  Careful development & monitoring of budget.	MW	May 2018
<b>Complexity of contractual arrangements</b>	Increased administration costs, unforeseen contractual issues	2	2	4	Appropriate legal and technical advice and strong contract management. CAEL is ultimately owned by CBC.	MW	May 2018
<b>Borehole 2 &amp; 3 abstraction rate below target rate</b>	Scheme not viable using Ground Source heat pump	2	3	6	Use of different technology (CHP plant)	MW	March 2017
<b>Construction costs rise</b>	Would reduce the levels of returns	2	3	4	Contingency and robust procurement process	MW	Feb 19
<b>Utilities connections &amp; miscellaneous risks</b>	See Confidential annex table 3	2	2	2		MW	Mar 17
<b>Northern Gateway south side build programme delay</b>	Not meeting BEIS HNIP programme targets. Sales targets in financial model not met	3	3	9	Early programme development and monitoring	CATL	Feb 19
<b>Brexit</b>	Change in predicted costs	2	2	4	Robust procurement process	MW	Jan 2019