



To: The Leader and Executive Councillor for Strategy:
Councillor Tim Bick

Report by: Simon Payne, Director of Environment

Relevant scrutiny committee: Strategy & Resources
8/7/2013
Scrutiny
Committee

Wards affected: All Wards

DISTRICT HEATING SCHEME - APPOINTMENT OF CITY COUNCIL REPRESENTATIVES ON SPONSORS BOARD & PROJECT UPDATE Key Decision

1. Executive summary

- 1.1 The City Council is continuing to work with the University of Cambridge to explore the potential for a city centre district heating scheme. The Council is about to sign a memorandum of understanding with the University, and establish a sponsors board.
- 1.2 The Council will have three members on the board, but only one vote. This report seeks agreement to appoint those members, and on how the single vote will be operated.
- 1.3 This report also provides an update on progress with the project and the next steps in its development.

2. Recommendations

The Executive Councillor is recommended to:

- i) Approve the draft Memorandum of Understanding at Appendix A
- ii) nominate two members from the largest Group on the Council (including at least one Executive Councillor), and to ask the Leader of the largest opposition Group to nominate one member, to represent the City Council on the Cambridge District Heating Scheme Sponsors Board.
- iii) agree that the City Council's vote in the District Heating Scheme Sponsors Board shall be used by the Executive Councillor, taking account of the views of the City Council's representatives on the Board.

- iv) Note the update on progress with the project and proposed way forward.
- v) Delegate authority to the Director for Environment to submit a bid for external funding to support development of the proposal from the Department for Energy & Climate Change.

3. Background

- 3.1 The City Council has been exploring the potential for district heating in the city centre of Cambridge for a number of years, informed by the Cambridge Renewables Infrastructure Study and the Decarbonising Cambridge report. These studies assessed a variety of low carbon and renewable energy technologies and their suitability for use in Cambridge and suggested that district heating was likely to be one of the most viable large scale methods for reducing the city's carbon footprint through increasing the use of low carbon and/or renewable energy.
- 3.2 A district heating scheme would involve building a heat centre (effectively a small power station) and connecting that through new, heavily insulated underground pipes to major heat using buildings in the city centre, thereby generating the heat those buildings need more efficiently than the current situation of each building having its own boiler.
- 3.3 In the first instance it is assumed the heat centre would use natural gas. In due course it should be possible to convert to running on a more renewable fuel source (such as biomass or biogas) depending on constraints such as cost, technical compatibility, air quality issues and supply of raw materials.
- 3.4 Electricity would also be generated through the Combined Heat and Power process. Both the heat and electricity generated would be sold to the customers connected to the network, thereby generating a financial return to cover the capital costs (currently estimated by the consultants to be around £22m, but subject to change depending on site location/pipe costs etc.).
- 3.5 It is proposed that a joint venture (Energy Supply Company or similar) would be established to procure the design, build and operate the scheme.
- 3.6 Previous studies by consultants Aecom and Ernst & Young have suggested that, in their opinion, such a scheme would be viable for public sector partners. The most recent consultant's report (by Verco) confirms that the high capital costs of installing such a scheme in the

historic city centre contribute to an estimated internal rate of return (irr) of around 6%, which would not be sufficient to attract private sector investment, but could still be considered viable for public sector partners.

This rate of return remains an estimate which is subject to a number of variables and sensitivities, not least around the location of the energy centre.

- 3.7 A part of the City Council's Mill Road Depot has been identified as one possible location for the Energy Centre. There will need to be a process to determine whether the Council wishes to use its land for this purpose, and if so what value would be put on that land as part of the Council's contribution to the cost of the scheme. Given the site's location within the conservation area, there would be air quality issues if it were proposed to switch to biomass or biogas in due course that may entail further costs/constraints.
- 3.8 The development of the project has been reported to this scrutiny committee previously in January and October 2012. Through the development of the project, an informal partnership has developed with the University of Cambridge, which has indicated a willingness to work jointly with the City Council to bring the project forward. The University would be a significant user of the heat and power produced by the scheme, along with (to a lesser degree) a number of the University colleges, and the City Council itself.
- 3.9 The City Council's budget 2013 allowed for funding of £50,000 for both 2013/14 and 2014/15 to support further development work, including the employment of a project manager to drive the project forward. The University has indicated a willingness to contribute the same amount to the development costs, subject to agreeing and signing a Memorandum of Understanding to formalise the partnership as we move into a more advanced stage of the project.
- 3.10 Legal teams from the University and City Council have therefore worked on and developed the draft Memorandum of Understanding (MoU) attached at Appendix A. This is based on the City Council's standard template, and sets out the purpose of the partnership and how it will operate.

It is recommended that the Executive Councillor agree the draft Memorandum of Understanding.

- 3.11 As part of the MoU, a Sponsors Board is proposed, to provide overall strategic oversight and direction to the Project. Decisions to commit the Council's resources would remain with the Council's normal decision-making processes. The Board is to include three representatives from the City Council. On proportionality lines, it is proposed that this includes two representatives nominated by the Executive Councillor (including at least one Executive Councillor), and one nominated by the Leader of the largest opposition group.
- 3.12 **It is recommended that the Executive Councillor nominate two members from the largest Group on the Council (including at least one Executive Councillor), and ask the Leader of the largest opposition Group to nominate one member, to represent the City Council on the Cambridge District Heating Scheme Sponsors Board**
- 3.13 The Memorandum of Understanding explains that the two partners (the University and the City Council will have one vote each on the Sponsors Board.
- 3.14 To ensure clear and transparent exercise of Executive functions in this partnership, it is **recommended that the Executive Councillor agree that the City Council's vote in the District Heating Scheme Sponsors Board shall be used by the Executive Councillor, taking account of the views of the City Council's representatives on the Board.**

3.15 Update on project

The consultancy Verco has recently been engaged by the Low Carbon Development Initiative to produce a "Development Manual" for the Cambridge District Heating Scheme. It aims to provide clear guidance on how to take the project forward from its current feasibility stage to a live project.

The report was developed through a process that included a workshop with members and officers from the City Council and representatives of the University of Cambridge. Earlier technical and commercial work on the project was also reviewed and revisited. The Verco manual raises a number of technical, legal and financial issues that need to be resolved and proposes an outline project programme and plan of activity required to bring the project forward.

It also sets out the benefits of the scheme:

- Financial (a return on the initial capital outlay)
- Economic (benefits of a large capital investment in the economy),
- Improved security of energy supply,
- carbon reduction,
- reduced Carbon Reduction Commitment liabilities for the University and
- the benefits of establishing a strategic partnership between the two organisations.

It also identified a number of risks:

- energy centre location,
- future plans to extend the network or convert to renewable fuels (and associated costs, benefits & constraints, e.g. air quality),
- potential to add customers such as commercial customers e.g. hotels and retail,
- financial viability,
- “private wires” to transmit the electricity and technical / regulatory issues arising,
- quantity and attribution of carbon reductions - estimated by the consultants to be around 540 tonnes of CO₂ per annum on the City Council estate and 5,800 tonnes per annum on the University estate,
- CRC liability,
- energy costs,
- internal resources & capability in the partner organisations,
- the complex decision making processes,
- project governance,
- procurement,
- budget/cost control,
- construction challenges and disruption,
- resources required for development phase,
- planning and consenting (time and complexity, not least in conservation / air quality area),
- political support,
- public support, and
- availability of capital funding.

Critical tasks in the plan include:

- Operationalise the partnership between the university and council, signing the MoU and establishing project and sponsor boards
- Put in place the required resources, including project management and technical support
- Resolve location of the energy centre and sign up key consumers

- Resolve outstanding legal issues and agree delivery structure and procurement pathway
- Develop business plan and secure investment

The timeline in the manual identifies a number of key milestones at which a decision to continue with the project or halt can be taken by the Sponsors Board. These decisions would be informed by the further technical work described in the document to reduce risks and test feasibility. For instance, if a site for the heat centre could not be found, or if the rate of return did not look so positive once the financial model has been re-run, it might make sense to halt the project.

As mentioned above, the scheme as a whole has been assessed by consultants to be viable at this stage, but the business case for the City Council to proceed will need to be re-examined once a number of key uncertainties and sensitivities have been resolved in the next phase of the project.

4. Implications

(a) Financial Implications

The Verco development manual identifies potential development costs of around £350,000. The City Council has currently budgeted for £100,000 of this spread over the two years 2013-15 which will allow the project to be developed up to the procurement phase. The University has indicated that it will match this figure on signature of the MoU.

Consideration is currently being given to other funding sources to support the development of the project. The Director for Environment recently met with officials from the Department for Energy & Climate Change who indicated that they anticipate having a fund nationally to support development of schemes such as this within the next year. If this is confirmed in the Spending Review, civil servants have indicated that we would have a reasonable chance of bidding for a further funding for the development phase up to cover the consultants' anticipated costs.

The consultants emphasised that the costs on a project like this are subject to significant fluctuation – for the City Council, the procurement of external expertise on procurement, legal, and financial matters would be key elements to ensure that the joint venture was established, and the business model set up in a way that optimised the financial return and minimised the risks to the Council.

If the City Council proceeds to implementation it would need to borrow a significant sum to contribute to the capital costs of building the scheme. If the City Council were an equal partner in the venture, on current estimates this would mean borrowing around £11m.

Depending on the business model agreed nearer the time, the scheme is expected to generate a financial return to the Council either by way of reduced energy bills or as a share of the profits generated by selling heat and power to the scheme's customers.

The extent of this return is subject to a number of the risks set out above, e.g. the ability to secure long term customers for the scheme's heat and power, at prices which are attractive compared to the market but still generate sufficient profit (which in turn is impacted by wholesale fuel costs). There may be various tax or regulatory issues associated with this business, which are identified in the Verco report as needing resolving.

As mentioned above, if the Council's land at Mill Road were to be used as the location of the Energy Centre, an appropriate value for this use would need to be determined and taken into account as part of the City Council's contribution to the overall cost of the scheme.

(b) Staffing Implications

The project has currently consumed a proportion of the time of a number of staff, including the Director of Environment and Head of Corporate Strategy. In order to drive the project forward, a project manager will need to be employed by one or other of the partners, accountable ultimately to the Sponsors' Board. An interim project manager may be recruited to maintain momentum while a more permanent resource is recruited. The project manager would need to develop a full implementation plan, with identified resources allocated to carrying out each essential task in the plan (e.g. identifying where external expert resource would need to be procured).

Other staff time would need to be committed, from legal, financial, procurement, planning and facilities services through the development phase.

(c) Equal Opportunities Implications

An EqIA has been completed. Officers have not identified any specific adverse/differential impacts arising from this scheme at this stage.

(d) **Environmental Implications**

This scheme will have a high positive impact on the environment through reductions in the city's carbon footprint (primarily on the University's estate). It is currently estimated that the City Council buildings that are proposed to be connected to the network (including Parkside Pools, Guildhall, Mandela House, Corn Exchange would see a 14% reduction in their carbon footprint, i.e. 540 tonnes of CO₂ per annum, if using natural gas in the District Heating Scheme.

It is recommended that further work is done to assess this scheme more rigorously in terms of carbon reduction, for example to identify the cost per tonne of carbon reduction or the net present value. This should help make an assessment of how this scheme compares to other potential methods for reducing carbon in the city.

(e) **Procurement**

This project will present significant and complex procurement challenges. It is highly likely that the partnership will need to procure external expert procurement advice, not least with regard to the differing obligations each faces under EU regulations.

(f) **Consultation and communication**

As the project is still in a feasibility testing phase, there has been no public consultation to date. There has been consultation with potential users such as the colleges.

The Verco development manual includes advice on communications, and emphasises the importance of explaining the purpose and benefits of the scheme to residents and stakeholders in the run-up to and during an implementation phase, not least given the potential disruption to the city centre road network while the pipe network is being installed.

(g) **Community Safety**

No immediate community safety implications identified to date.

5. Background papers

These background papers were used in the preparation of this report:
Equality Impact Assessment

Verco Cambridge City District Heating Development Manual

6. Appendices

Appendix A Draft Memorandum of Understanding

7. Inspection of papers

To inspect the background papers or if you have a query on the report please contact:

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