HAMPSHIRE COUNTY COUNCIL

Report

Committee/Panel:	Buildings, Land and Procurement Panel
Date:	5 January 2016
Title:	Winchester District Energy Scheme: outcomes of the feasibility study
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Report From:	Director of Economy, Transport and Environment

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1. Summary

1.1. The purpose of this paper is to present the headline findings of a feasibility study investigating the technical and financial viability of a district energy scheme within Winchester.

1.2. This paper seeks to:

- outline the context of the feasibility study and its conclusions in terms of technical and financial scheme viability; and
- outline the key risks associated with both development and delivery of a district energy scheme in Winchester.

2. Contextual information

2.1. In 2013, the Heat Network Delivery Unit (HNDU) was established by the Department of Energy and Climate Change to provide grant funding to local authorities in England and Wales to develop heat network projects.

2.2. In 2014, Hampshire County Council was successful in securing £144,000 from the HNDU to undertake a feasibility study investigating the technical and financial viability of a district energy scheme within Winchester. Parsons Brinckerhoff was appointed to conduct this study.

2.3. The County Council partnered with the University of Winchester and the Royal Hampshire County Hospital in undertaking the study. These organisations' sites present significant heat loads and power demands in Winchester. HM Prison Winchester was also involved as a partner in early discussions around the feasibility of a scheme in Winchester. However, its further involvement was withdrawn by the Ministry of Justice at commencement of the feasibility study due to uncertainty about the future of the prison site. Since the prison represents a significant public sector heat

load in the city, it was still subsequently included in the technical modelling undertaken by Parsons Brinckerhoff although it was not included as a potential key customer in final option development.

2.4. The study was initially tasked with investigating the feasibility of a number of possible schemes based around the County Council's HQ buildings and other County Council and Winchester City Council sites; the University of Winchester buildings and the Royal Hampshire County Hospital site; and combinations of both.

2.5. Following initial technical and financial scoping work, two viable scheme options emerged:

1. A scheme which connects the University of Winchester buildings and the Royal Hampshire County Hospital, delivered by 2019.

2. A scheme which connects the above to County Council HQ buildings by 2019 and provides in the longer term the opportunity for additional loads to connect to the scheme.

2.6. The County Council also further refined its strategic objectives for the development and delivery of a district energy scheme in Winchester. These objectives were agreed as:

- To develop a district energy scheme which facilitates connection to County Council buildings, reducing costs and increasing energy security, from the outset of the project.

- To minimise, where possible, County Council exposure to those scheme risks that it is least able to manage.

- To enable the County Council to invest in the scheme and create a revenue stream to the County Council.

- To enable the County Council to divest from the scheme at a future point in time.

- To enable the County Council to reinvest revenue income if the scheme is high performing in the future expansion of the scheme.

- To realise wider benefits of the investment made in the scheme i.e. CO2 saving, inward investment, and economic development, and enable these benefits to be expanded in the future.

- To enable future expansion of the scheme to align with regeneration and future developments in Winchester with the County Council retaining significant control and governance in determining the nature of the expansion.

2.7. Based on the achievement of these strategic objectives, Option 1 as described above was discounted for further investigation due to its inability to deliver against these objectives.

2.8. Option 2 therefore became the only potential preferred scheme and was analysed both technically and financially by Parsons Brinckerhoff, details of which can be found in the feasibility study attached as Appendix C.

2.9. The study concludes that the Option 2 scheme is technically and financially viable. The financial conclusions of the feasibility study are discussed in section 3 below. However, there are a number of significant risks of the scheme which are present and which are outlined in section 4 of this report.

3. Finance

3.1. The feasibility study concludes that the Option 2 scheme is financially viable (Appendix D). The outline results of the financial modelling are shown below in Table 1:

Table 1:

Capital Expenditure	£9.3m
Surplus	£38m
NPV	£9.7m
Average annual dividends	£0.85m
IRR	9.92%
2019/20 revenue	£190k
2062/63 revenue	£1.48m
Simple Payback	15 years

3.2. The modelling is based on the following assumptions:

- prudential borrowing interest rate of 3.5%
- nominal discount rates[1] of 5.58%
- project term of 45 years (repayments up to 44 years)
- tariffs follow Department of Climate Change predictions on future energy prices
- construction begins in 2018/19, revenue is generated from the first operational year (2019/20)

3.3. The modelling shows that, whilst potentially acceptable as a public sector scheme, the IRR for the Option 2 scheme is at the lower end or below that which might appeal to the private sector delivery market. A significant sum would be required as upfront capital expenditure and the scheme would pay back over a relatively long period.

3.4. The feasibility study demonstrated that the success of the Option 2 scheme would rely heavily on the ability to secure long-term heat and power purchase agreements with the University of Winchester and the Royal Hampshire County Hospital. The financial model is based on these organisations paying no more for their energy than their current tariffs. In order to make a power

[1] Nominal Discount Rate=Real Interest Rate (3%) plus Inflation

purchase agreement an attractive option, a 5 percent discount on power has been modelled and is shown in Table 2. This discount is in line with what is typically offered in similar power purchase agreements. This discount has a negative impact on the overall finances, including reducing the annual dividends.

Table 2:

Surplus	£28m
Average annual dividends	£0.65m
NPV	£6.5m
IRR	9.31%

3.5. Most local authority district energy schemes that have progressed during the last 10 years have benefited from some form of grant funding. Financial modelling undertaken shows how a £1 million cash injection makes the scheme finances more favourable, particularly in terms of IRR and annual dividends. This is shown in Table 3 below.

Table 3:

Surplus	£40m
Average annual dividends	£0.89m
NPV	£9.7m
IRR	10.81%

3.6. However, the likelihood of the provision of grant funding for a scheme such as this is now extremely low. There is currently no government grant funding available for delivery of district energy schemes, and given the current climate of spending cuts, this is unlikely to change. European funding for capital projects is also extremely difficult to access.

3.7. Whilst the financial feasibility indicates a viable scheme, it must also be considered that district energy schemes are large-scale and complex projects to implement, with long lead-in times. Delivery of Option 2 would have significant long-term resource implications for the County Council in terms of staff time and cost, particularly linked with the establishment and maintenance of required management and legal structures.

3.8. At a time of budgetary constraint and with resources currently focused on the achievement of Transformation objectives, the County Council will need to carefully consider the deliverable outcomes and benefits against the financial returns and the level of resource input required to deliver this district energy scheme at this time

4. Key Risks

4.1. District energy schemes are complex, large-scale, capital projects that inherently present risks in both development and delivery. The feasibility study contains a comprehensive risk register and associated mitigating actions for delivery of Option 2 in Winchester.

4.2. In terms of technical and financial viability, significant risks to the delivery of Option 2 at this time include (but are not limited to):

- There is uncertainty surrounding the longer term future of key public sector sites and buildings in Winchester, namely HM Prison Winchester and potentially the Royal Hampshire County Hospital, that are influential on the business case. The future of these sites, and their potential for future re-development should be fully understood before committing to this project.

- Development of a scheme without grant support, an element which has been identified by many local authorities as being critical in allowing them to progress district energy schemes with the required economic return.

- Securing long-term power purchase agreements with the University of Winchester and the Royal Hampshire County Hospital in order to make the scheme economically feasible.

- Gaining planning permission for an energy centre to be sited on the University of Winchester's new student accommodation site (due to air quality issues). It is also likely that the University will proceed with the new accommodation without including the energy centre in the design due to long lead in times for the Winchester District Energy project implementation.

- Heavy disruption to strategic roads in Winchester during construction, particularly the Romsey Road.

- Gaining permissions from Network Rail for the scheme to cross the railway.

- Potential significant delays to capital works due to archaeological restrictions and findings.

- The County Council does not possess the technical or commercial skills necessary to deliver a district energy project of this size and complexity. It is not considered a priority to resource this project, for delivery by 2019, at a time when the organisation is focused primarily on delivery of required Efficiency Savings for 2017.

These risks, and other priorities, threaten the successful deliverability of the scheme. However, they should be kept under review should circumstances change.

5. Recommendations

5.1. That the Buildings, Land and Procurement Panel:

- makes no further recommendations at this time to the Executive Member for Income and Capital Receipts concerning the progression and implementation of a Winchester District Energy scheme;
- asks that the identified risks of the scheme be monitored such that were circumstances to change, such as:
  - the uncertainty over the future of the Public Sector estate in Winchester, in particular the provision of health services
  - the County Council's priorities

  the business case could be reviewed and the Executive Member for Income and Capital Receipts updated as and when appropriate to do so.

CORPORATE OR LEGAL INFORMATION:

Links to the Corporate Strategy

Hampshire safer and more secure for all:	yes
Corporate Improvement plan link number (if appropriate):	
Maximising well-being:	yes
Corporate Improvement plan link number (if appropriate):	
Enhancing our quality of place:	yes
Corporate Improvement plan link number (if appropriate):	

Section 100 D - Local Government Act 1972 - background documents

The following documents discuss facts or matters on which this report, or an important part of it, is based and have been relied upon to a material extent in the preparation of this report. (NB: the list excludes published works and any documents which disclose exempt or confidential information as defined in the Act.)

Document	Location
None	

IMPACT ASSESSMENTS:

1. Equality Duty

1.1. The County Council has a duty under Section 149 of the Equality Act 2010 ('the Act') to have due regard in the exercise of its functions to the need to:

- Eliminate discrimination, harassment and victimisation and any other conduct prohibited under the Act;
- Advance equality of opportunity between persons who share a relevant protected characteristic (age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, gender and sexual orientation) and those who do not share it;
- Foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

Due regard in this context involves having due regard in particular to:

a) The need to remove or minimise disadvantages suffered by persons sharing a relevant characteristic connected to that characteristic;

b) Take steps to meet the needs of persons sharing a relevant protected characteristic different from the needs of persons who do not share it;

c) Encourage persons sharing a relevant protected characteristic to participate in public life or in any other activity which participation by such persons is disproportionally low.

1.2. **Equalities Impact Assessment:**

This report intends to provide Members with an overview of the results of a feasibility study investigating the technical and financial viability of a district energy scheme within Winchester and, as such, an Equalities Impact Assessment has not been considered necessary in the development of the report.

2. Impact on Crime and Disorder:

2.1. This report has no impact on crime and disorder.

3. Climate Change:

3.1. How does what is being proposed impact on our carbon footprint / energy consumption?

The delivery of a district energy scheme in Winchester connected to County Council buildings would have helped the County Council to reduce the carbon footprint of its estate. Since it is being recommended that no scheme is

progressed, the effect on the County Council's carbon footprint / energy consumption will be neutral.

3.2. How does what is being proposed consider the need to adapt to climate change, and be resilient to its longer term impacts?

Since it is being recommended that no district energy scheme in Winchester is progressed, there are no further considerations in relation to climate change adaptation and resilience.