Cheshire East Council

Cabinet

Date of Meeting:	10 November 2015
Report of:	Executive Director Economic Growth and Prosperity
Subject/Title:	District Heating Joint Venture Partner Procurement
Portfolio Holder:	Councillor Don Stockton, Regeneration and Assets

1. Report Summary

1.1 As part of its ambitious Energy Vision, the Council is fully committed to exploring opportunities for renewable and decentralised energy in Cheshire East in order to deliver on its commitments to reduce fuel poverty, increase energy independence, and grow the low carbon sector.

1.2 At the heart of the Council's Energy Programme is the ambition to capitalise on the unique conditions in Cheshire East. The Cheshire Basin is one of only six economically suitable sites in the country for developing deep geothermal energy and preliminary studies indicate that it holds reserves more than 6 times the national heat demand of the UK and has ground/formation water temperatures in the region of 75-110°Cat a depth of 3-5km. As such, the Council has a unique opportunity to deliver low cost, low carbon heat energy to thousands of homes and businesses in the Cheshire region through the use of deep geothermal energy.

1.3 District heating schemes utilising geothermal energy are already a well-established part of the energy supply mix in similar geological settings in Germany and France, providing cost effective decentralised energy. A single geothermal plant can add around 60 permanent jobs to the local community with jobs growth as the network develops. Comparable schemes in Germany now employ more than 9000 direct and indirect jobs in the district heating and geothermal supply chain.

1.4 This report seeks authority to appoint a joint venture partner (JVP) to enter into a contract with the Council to establish a joint venture company (JVC). The JVC will be established as a private limited company. The ultimate aim of the joint venture is to deliver district heating fuelled by a range of renewable energy including but not limited to biomass, solar thermal, solar PV, and geothermal energy.

1.5 The contract provides both parties with the option to end their interest in the JVP after an initial lock in period of 5 years. Following expiry of the lock in period the Council or the JVP can seek to wind up the JVC by mutual consent. Shareholders (i.e. the Council and the JVP) also have the right to transfer or sell their shares to the other shareholder and may only transfer or sell to a third party subject to the terms of the Articles of Association.

1.6 The JVP will not have exclusivity to develop renewable energy projects. It will only be able to pursue projects that have been developed as part of a business plan

which has been approved by the Council and the decision to proceed with individual projects will need to be agreed by partners on a case by case basis.

2. Recommendation

2.1 To confirm the appointment of the preferred bidder to take forward the development of heat networks to deliver heating which maximises renewable energy such as gas CHP, biomass, solar thermal, solar PV, anaerobic digestion and in particular geothermal energy.

2.2 To approve the formation of a joint venture company (JVC) with the preferred tenderer selected through the procurement exercise for a joint venture partner (JVP).

2.3 To authorise that the Chief Operating Officer as Section 151 Officer, in consultation with the Executive Director of Economic Growth and Prosperity, Portfolio Holder for Regeneration and Assets, and Head of Legal Services and Monitoring Officer, to take all necessary and consequential actions arising out of the above recommendation.

3. Other Options Considered

3.1. The Council previously issued a tender via competitive dialogue in 2014 to secure a partner to deliver a geothermal well, in principle to serve the hospital and Bentley at a site in Leighton West. Despite wide publicity and a well attended open day only 3 bids were received all of which were judged to be non compliant and the process was terminated.

3.2. Following specialist legal and technical advice, an Open Procurement process was recommended and adopted.

3.3. The Council continues to explore opportunities for innovative renewable energy from a range of sources and to encourage the private sector to deliver benefit to Cheshire East residents and businesses.

4. Reasons for Recommendation

4.1 The Cheshire Basin is one of only six economically suitable sites in the country for developing Deep Geothermal Energy (DGE). Preliminary studies indicate that the Cheshire basin holds more than 6 times the national heat demand of the UK and has ground/formation water temperatures in the region of 75-110 degrees C at a depth of 3-5km. As such, there is the capacity to deliver low cost, low carbon heat energy to thousands of homes and businesses in the Cheshire region (and beyond) through the use of geothermal energy.

4.2 A heat network can use a wide range of energy sources which ensures their long term resilience. The partnership will seek to maximise the use of renewable energy to move away from fossil fuels and this may include a range of technologies including but not limited to biomass, solar thermal, solar PV and anaerobic digestion.

5. Background/Chronology

5.1 In 2012, a report by global engineering firm Sinclair Knight Merz, entitled 'Geothermal Energy Potential in Great Britain and Northern Ireland', identified the Cheshire Basin as one of only six places in the UK with the potential to supply heat from geothermal resources. Other reports by Arup 2013 and Atkins 2013 confirm the geothermal opportunity in within the Cheshire East Council boundaries. http://www.cheshireeast.gov.uk/business/major_regeneration_projects/geothermal_energy.aspx

5.2 Following a successful funding award from the Department of Energy and Climate Change (DECC) Heat Network Delivery Unit (HNDU) in January 2014, the Council undertook a detailed heat network mapping study to support the development of the Crewe Deep Geothermal Energy Project in the Leighton West area of Crewe. As part of this study, high level heat network mapping identified a peak heat demand of 18.7 MW and a technically feasible heat load (TFHL) of 37,146 MWh/a based on 13 heat nodes. The full study can be viewed at: http://www.cheshireeast.gov.uk/business/major_regeneration_projects/geothermal_energy.aspx

5.3 Following a period of extensive market consultation Cheshire East Council determined that to de-risk the procurement of a geothermal partner it would be appropriate to offer the opportunity as part of the long term development of a district heat network.

5.4 Cheshire East Council has established a Knowledge Transfer Partnership with the University of Keele and has appointed a PhD student to undertake geological mapping in support of the geothermal project aspirations. Current proposals at the Manchester Metropolitan University site for a shallow well will provide useful ground truthing data which could help the KTP partners to de risk the deep geothermal project further.

5.5 In order to realise its ambition for deep geothermal district heating, the Council issued a Prior Information Notice (PIN) on the 6th July 2015 to alert the European market to an opportunity to partner with the Council in a long term joint venture to develop heat networks in the Borough. The procurement sought a partner who could deliver district heating from a range of energy sources including Gas CHP, Biomass, Solar Thermal, Solar PV and geothermal as part of a phased approach based on an agreed business plan to be developed by the partnership.

5.6 The Council advertised the opportunity by a PIN notice on 6th July 2015 and then held a Bidders Information Day on 23 July which attracted 44 attendees. The feedback from the Bidders Information Day was that the timescales were too short so an extension to the procurement timescale was incorporated in to the PQQ. The PQQ was issued on the 17 August 2015, with 31 companies expressing an interest.

5.7 The Council continues to pursue other innovative renewable energy solutions to ensure value for money. The Cabinet decision of 29 September gave delegated authority to the Portfolio Holder and Chief Operating Officer to carry out market engagement and undertake a procurement process to appoint a joint venture partner. The intention of the JV is to deliver a Dry AD plant, or other appropriate technology to treat comingled garden and food waste to produce energy for injection to the grid or supply to an end user. Energy from an AD plant could form part of the supply to a heat network in the long term where there is sufficient heat

demand. The procurement will test the market for the most appropriate technical solutions to treat Cheshire East food and garden waste and the delivery mechanisms to take forward this opportunity.

6. Wards Affected and Local Ward Members

6.1. The location of a geothermal well at Leighton West is currently the preferred site for delivery of geothermal energy. The development of an energy centre and district heat network may originate in other wards within Crewe with geothermal energy being connected in at a later phase.

7. Implications of Recommendation

7.1 Policy Implications

7.1.1 The Project supports directly the Council's key priority: A growing and resilient local economy. It is also prioritised in the Council's Three Year Plan:

- Outcome 2: Cheshire East has a strong and resilient economy;
- Outcome 4: Cheshire East is a green and sustainable place;
- Priority 1 (Local Economic Development); and
- Change Project 1.3 (Investment to support business growth).
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The Project also supports The Council's 'Ambition for All' Sustainable Communities Strategy (2010-2025) by promoting a step change in the local supply of energy.

7.1.2 Cheshire East Energy Framework

Cheshire East Council has an ambitious approach to energy and has subsequently developed an Energy Vision to help address the challenges of energy provision in a low carbon future. The Energy Vision has three key objectives:

1. Affordable Energy – Putting Residents First
2. Growing Energy Businesses – Developing a local energy economy
3. Independent Energy – Secure, decentralised and locally managed energy services

To realise the vision the Council has developed the Cheshire East Energy Framework. It sets out the policy background, strategic framework and business case for a range of renewable energy technologies which could be adopted to achieve the energy vision. Geothermal energy is identified as a key opportunity.

7.2 Legal Implications

7.2.1 The Council has undertaken a legally compliant procurement process for a joint venture partner (JVP) to enter into a contract with the Council to establish a joint venture company (JVC). The ultimate aim of the joint venture is to deliver district heating fuelled in part by deep geothermal energy. Many district heating partnerships have now been established in the UK between the private and public sectors. The private sector needs the security and leverage that the public sector

can bring both to contracts and to the commitment to long term development ambitions in order to secure finance to deliver heat networks.

7.2.2 The JVC will be established as a private limited company with a 51:49 shareholding, with the Council as the minority 49% shareholder. Both shareholders will be able to appoint 2 directors each so the Council will retain equal voting rights at board level but will have minority voting rights at shareholder level. The Shareholders' Agreement provides a significant degree of protection for the Council as a minority shareholder because certain important decisions (as listed in the Shareholders' Agreement) can only be made with the consent of both shareholders.

7.2.3 The intended duration of the contract is 30 years with an option to extend by 25 years at Council's discretion. The length of the contract reflects the timescale required to develop a mature heat network in the current UK market.

7.2.4 The contract provides both parties with the option to end their interest in the JVP after an initial lock in period of 5 years. Following expiry of the lock in period the Council or the JVP can seek to wind up the JVC by mutual consent. Shareholders (i.e. the Council and the JVP) also have the right to transfer or sell their shares to the other shareholder and may only transfer or sell to a third party subject to the terms of the Articles of Association.

7.2.5 The JVP will not have exclusivity to develop renewable energy projects. It will only be able to pursue projects that have been developed as part of a business plan which has been approved by the Council and the decision to proceed with individual projects will need to be agreed by partners on a case by case basis.

7.2.6 Entering in to the joint venture does not commit the Council to any significant expenditure beyond that expended to set up the JVC and secure a JVP. The Council will only incur cost if and when any project has been agreed as part of an approved business plan and where the Council is minded to make an investment (either through the use of its landholdings or investment of capital).

7.2.7 The JVC will be established as a private limited company with the following structure;

- 51:49 shareholding with council as minority shareholder
- Shares in JVC split into two types:
- A shares; and
- B shares
- CEC holds 49 A shares
- JVP holds 51 B shares
- £1 nominal consideration for each share
- Voting rights are 50:50 for directors at board level and 49:51 for shareholders
- The Shareholders' Agreement provides the Council (as minority shareholder) with a significant degree of protection
- CEC can appoint up to 2 directors
- JVP can appoint up to 2 directors
- Business undertaken and transacted by directors
- Alternating and non-voting chair
- CEC can appoint observers to observe board meetings
- CEC and JVP to enter into a Shareholders' Agreement to regulate how the JVC is to be managed
- Monthly board meetings
- Business plan to be agreed within 6 months of contract commencement

- Projects from business plan to be agreed by JVC on case by case basis
- Lock in period for 5 years from date of Shareholders' Agreement (no sale or transfer of shares)
- Dispute resolution by way of senior officers of CEC and JVP. If no resolution then deadlock referred to independent party. If no resolution status quo prevails
- No employees in the first instance

7.3. Financial Implications

7.3.1. The Council will be required to enter in to a nominal shareholding of the new company. There is no capital commitment from the Council to the Joint Venture at this stage. Any contribution by the Council to the JV projects will only be made following development of a detailed business case this could include land, property, grant funding or power purchase agreements.

7.3.2. The total contract value will depend on the terms of a business plan to be agreed by the JVPs. Projects delivered under the JVA are anticipated to range from £1 million to £100 million. The capital costs of drilling 2 deep geothermal wells is estimated to be £17 million.

7.3.3 The JVP will pursue external grant such as ELENA, ESIF, HNDU and will also utilise the private sector partners financial resources & technical expertise to progress development of each and every project.

7.4. Equality Implications

7.4.1. The development of a geothermal district heat network is likely to result in access to decentralised energy for residents of Crewe in the first instance with the opportunity to expand the heat network across other parts of the borough.

7.5. Rural Community Implications

7.5.1. The development of a geothermal district heating has the potential to make a positive impact in rural communities in terms of access to long term, low cost, renewable energy.

7.6. Human Resources Implications

7.6.1. The Joint Venture partnership will require the Council to appoint 2 directors to the new company. However, any project resource requirements would need to be considered on merit and weighed against the business case.

7.7. Public Health Implications

7.7.1. The development of district heating will provide decentralised energy. The use of renewable energy, in particular geothermal baseload will contribute to lower carbon emissions.

7.8. **Other Implications (Please Specify)**

None

8. Risk Management

8.3. **Risk Register**

The primary risk to the council is contractual. The Council is potentially entering in to a 30 agreement to deliver district heating schemes.

The risk is managed by the governance structures of the JVA which are controlled by the Shareholders Agreement and Articles of Association. These contain provisions including:

- The initial lock in period for the JVP is for 5 years. Following expiry of the lock in period the Council or the JVP can seek to wind up the JVC by mutual consent.
- Deadlock provisions are included to address circumstances in which the Parties cannot agree.
- The Council will have the right of veto in relation to any projects, and failure to agree a project will not trigger deadlock provisions or winding up of the JV.

9. Access to Information/Bibliography

9.3. The following reports are referenced in the production of this report:

http://www.cheshireeast.gov.uk/business/Major_regeneration_projects/geothermal_energy.aspx

10. Contact Information

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