Cheshire East Council

Cabinet

Date of Meeting: 22 September 2015

Report of: Peter Bates

Subject/Title: Recycling of Garden and Food Waste through Anaerobic Digestion

Portfolio Holder: Councillor Don Stockton, Regeneration and Assets

1. Report Summary

1.1. CEC is exploring the opportunity to develop a Dry Anaerobic Digestion (AD) plant which will allow the cost effective recycling of food waste collected in the existing garden waste bin.

1.2. Food waste recycling through AD would increase council recycling rates, reduce landfill costs and reduce the environmental impacts of landfill including greenhouse gas emissions. Dry AD processing could create an income stream through the sale of energy, either to the grid or directly to an industrial energy user. It would also provide a saleable compost which can be used to improve soil as a by-product of the process.

1.3. A Dry AD facility could cover the processing costs of dealing with food and garden waste which is estimated to amount a £31million saving over the lifetime of the plant (The Council currently spends £1 million a year on garden waste processing).

1.4. Acceptance of 3rd party food waste from schools, hospitals and other institutions could further boost the potential income stream of Dry AD and generate longer term financial and carbon saving benefits through the production of renewable energy.

1.5. The proposed development of a facility would support the recently agreed Waste Strategy to 2030 which has as one of its aims to: “Provide all households with a simple, easy to use, kerbside recycling collection service”. This point was agreed by over 90% of residents who responded to the consultation.

2. Recommendation

2.1. That the Cabinet approve delegated authority for the Portfolio Holder and Chief Operating Officer to carry out market engagement, undertake a procurement process to identify and appoint a joint venture partner. The intention of the procurement is to enter in to a contract with the preferred bidder, who will on the basis of a detailed business case, finance, design, build and operate the facility.

2.2. Further Cabinet approval will be sought to enter into a contract with the preferred bidder following either a competitive dialogue or competitive procedure with negotiation procurement route.

3. Other Options Considered

3.1. A range of food waste collection and treatment options have been considered (WRAP 2012, Ricardo AEA 2014) including In Vessel Composting, wet AD and shipment of waste to facilities outside the borough. The Ricardo AEA report concluded that Dry AD is the best, most cost effective method of treatment where food and garden waste collection is of a suitable scale.

4. Reasons for Recommendation

4.1. That there is a desire from Cheshire East residents for the Council to recycle food waste particularly in the north of the borough where the 2012 citizens panel survey indicated 62% of Knutsford residents agreed a food waste service should be implemented with 44% of all Cheshire East residents wanting a food waste collection.

4.2. Since Gate 1 endorsement of the high level business case, further work streams are being undertaken to update and refine the business case for development and production of a Dry AD facility. This work will set out the necessary volumetric and financial thresholds which would need to be met to ensure a commercially viable plant and the optimum sizing, processing capacity and potential Dry AD fuel sources.

4.3. In order to secure a delivery partner to draw up an investment grade proposal, CEC needs to undertake more detailed market engagement with the limited number of operators in the European Dry AD supplier market. This will test the viability assumptions of the high level business case, explore potential site locations and technical solutions for delivering a Dry AD plant.

4.4. Detailed market engagement will enable CEC to proceed to procurement in November 2015 via either Competitive Dialogue Procedure or Competitive Procedure with Negotiation. The competitive dialogue procedure is similar to the competitive procedure with negotiation insofar as there is dialogue

with bidders followed by a final tender stage. However, a key difference is that the Directive permits negotiation on the final tender in the competitive dialogue procedure.

4.5. The procurement route will be determined following the market engagement phase. This procedure is expected to result in the delivery a Dry AD plant on a specified site by December 2017.

5. Background/Chronology

5.1. In 2011 CEC carried out a survey to gauge residents views on the introduction of a food waste collection service and means of funding a collection service. There was support for the service with some geographical areas being more strongly in favour of food collection.

5.2. Options to introduce a food waste collection service were considered in a report completed by WRAP for CEC in 2012. The report recommended a relevant collection strategy and highlighted that the use of anaerobic digestion could provide a useful technology to enable the council to create value through the production of energy and compost material through this process.

5.3. A Feasibility Assessment, Outline Business Case and Outline Design for a Dry Anaerobic Digestion Facility report were completed by Ricardo-AEA in July 2014 to determine the business case for a scheme. The report reviewed the opportunity for food and garden waste to be treated by Dry AD.

5.4. Gate 1 approval for the progression of a Dry AD business case was received in October 2014.

6. Wards Affected and Local Ward Members

6.1. The location of a plant is yet to be determined and would be subject to a full consultation process. All wards could be affected by any food waste collection that may be implemented to feed a Dry AD facility.

7. Implications of Recommendation

7.1. Policy Implications

7.1.1. Realising value from waste streams is a key objective of CEC's waste strategy. The following high level objectives of the new waste strategy are relevant:

- to continue to exceed national targets for recycling;

- to provide all households with a simple, easy to use, kerbside recycling collection service and work to increase the types of recyclable materials collected;
- to utilise energy generation to process around 40,000 tonnes of kerbside collected organic food and garden waste by sustainable bio technologies such as anaerobic digestion, to generate heat and power;
- ensure that residual waste is managed to support waste prevention, reuse and recycling, minimising waste produced; and
- to reduce disposal to landfill to 0 and achieve 100% disposal to waste to energy generation

7.2. Legal Implications

7.2.1. Both competitive dialogue and competitive dialogue with negotiation procurement routes will enable the Council to engage with potential partners and allow for the submission of innovative approaches to project delivery that the Council may not have considered. These flexible procurement routes take longer than the open procedure because there are rounds of discussions before the final solution and bid is accepted. Twelve months is an average time scale.

7.2.2. It will be necessary to contract with the partner for the delivery of the project as well as set up a company with the partner and enter into a shareholders agreement that will set out the joint venture company's governance arrangements.

7.3. Financial Implications

7.3.1. The council would need to commit capital investment in partnership with a private sector provider in order to make the scheme viable. The total capex figures for a Dry AD facility vary from £10 – £30 million depending on the plant capacity and the assumptions made.

7.3.2. Any contribution from the council would only be made following due diligence on the preferred bidder and the development of a detailed business case.

7.3.3. A Dry AD plant would enable the collection of food waste within the green garden bin therefore negating the need for expensive changes to vehicles and collection rounds. It would cost the Council an estimated £2million to collect food waste separately. 35% of Cheshire East residual bin is currently food waste costing in the order of £110 a tonne to dispose of.

7.3.4. The Dry AD plant removes these costs (estimated to be £31million over the lifetime of the plant), from the Council in processing garden and food waste

with the potential for additional income through accepting food waste from third parties such as schools and hospitals.

7.4. Equality Implications

7.4.1. The development of a Dry AD facility is likely to result in a borough wide scheme recycling of food waste.

7.5. Rural Community Implications

7.5.1. The development of a Dry AD facility has the potential to make a positive impact across all rural communities in terms of the processing of food and garden waste and the opportunity to use agricultural feedstock sources.

7.6. Human Resources Implications

7.6.1. The Dry AD project does not currently require additional resourcing. However, any project would need to be considered on merit and weighed against the business case.

7.7. Public Health Implications

7.7.1. The collection and treatment of food and garden waste in a Dry AD facility will have a positive impact through minimising waste to landfill and producing renewable energy which will contribute to lower carbon emissions. It uses a tried and tested methodology in use throughout Europe.

7.8. Other Implications (Please Specify)

7.8.1. With the surrounding authorities to Cheshire East now collecting food waste and a move from Europe to ban the waste from landfill in the future it is likely that demand for food waste collection will increase. The development of a Dry AD facility will provide a potential disposal route of long term benefit in delivering renewable and decentralised in energy in the borough.

8. Risk Management

8.1. Risk Register

Risk	Reason	Action
Procurement	the Dry AD market is relatively small which may limit the competitiveness and appetite of the market to deliver a JV partnership	CEC have and will continue to engage with the market and advertise the opportunity as widely as possible at the appropriate point in a procurement cycle
Planning	Securing planning permission for a waste to energy use will require detailed sequential testing to determine a suitable site	Ongoing discussions are being held with planning to take in to account site options
Finance	The capex of a facility ranges from £10-£30 million depending on the assumptions made and the detailed costs will only be secured once detailed design phase is reached	CEC will continue to refine the business case and once a partner is secured a cost consultant wil be brought on board
Fuel stock	The availability of consistent quantity of feed stock is critical to the success of a Dry AD facility and this can be impacted by a range of factors including climatic variations	The plant will be sized accordingly and sources of feedstock will need to be secured through the JVA partnership
Feed In Tariff (FIT)	government subsidies for renewable energy generation are likely to decline over time	the financing of the plant will take in to account how any incentives are factored in to the business plan

9. Access to Information/Bibliography

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

- Influence Cheshire East Cheshire East's citizens' panel Autumn 2011 Survey
- BHC002-11X Support to Cheshire East Council - Food waste collections, WRAP 2012
- Feasibility Assessment, Outline Business Case and Outline Design for a Dry Anaerobic Digestion Facility at Pym's Lane, Crewe (Phase 1), Ricardo AEA 2014

10. Contact Information

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