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Report title: To agree the procurement of a new Contract for Electricity generation from Landfill Gas at Bellhouse Closed Landfill Site	
Report to: Cabinet	
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Date: 24 November 2020	For: Decision
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County Divisions affected: Stanway and Pyefleet	

Confidential Appendix

This report has a confidential appendix which is not for publication as it includes exempt information falling within paragraph 3 of Part 1 of Schedule 12A of the Local Government Act 1972, as amended.

1. Purpose of Report

- 1.1 Essex County Council is responsible for the safe management of Landfill Gas at Bellhouse Closed Landfill Site (the Site). We have previously managed this by generating and selling electricity from the site but the arrangements need to be reviewed. This report outlines the options for safe management of landfill gas and requests that the Cabinet agree to procure a new long-term contract for landfill gas management at the Site.

2. Recommendations

- 2.1 Agree to undertake a competitive procurement process to appoint a provider to manage and generate energy from the Landfill Gas at the Bellhouse closed landfill site for an initial period of 20 years, with the option to extend for a further five-year period, using the evaluation criteria in paragraph 3.16 of the contract.
- 2.2 Agree that the Cabinet Member for Environment and Climate Action may award the contract.

3. Context

- 3.1 The Council is responsible for the safe management of landfill gas at the Site which closed to waste in 1999. The Site is currently in the process of being converted to a public open space by the installation of protective covers over gas extraction wells and burying of the parts of the landfill gas collection pipelines that are still laid on the surface of the Site. The Council is responsible for paying the cost of this.

- 3.2 The Council is also responsible for all regulatory aspects of the Site and the holder of the Environmental Permit with the Environment Agency. The Council leases the landfill site from Tarmac plc and the generation compound site from a local farming trust.
- 3.3 The previous contract for the management of landfill gas between the Council and Bellhouse Energy Limited (BEL) expired on 31 March 2019. Under the Agreement, BEL generated electricity from the gas and exported it to the national power grid via a connection on the generation compound. The energy generated was then sold and 4% of the gross revenue was paid to the Council by BEL by way of a royalty. Circa 60% of the gross revenue from the Site came from electricity sales to the National Grid and 40% came from government subsidy in the form of Renewable Obligation Certificates (ROCs).
- 3.4 In return for the payment of a royalty of 4%, the Council permitted BEL access and a licence to occupy the generation compound and the landfill site for the purposes of maintaining and generating energy from the landfill gas on the Site.

About the Renewable Obligation (RO) accreditation

- 3.5 The generation compound is accredited under the Renewables Obligation Scheme. The Site accreditation expires on 31 March 2027. It is currently unclear as to whether the site will continue to be accredited if BEL has no involvement in the Site. Further detail on this is included within the Confidential Appendix.

About the Interim arrangements

- 3.6 The Agreement with BEL came to an end in 31 March 2019. However, the Council agreed to give BEL a maximum period of 6 months to vacate the Site. BEL therefore had until 30 September 2019 to exit the Site. BEL's exit from the site required the removal of their gas engines and disconnection from the grid connection on the generation compound. Due to a delay in BEL securing their disconnection from the power grid at the generating compound, the exit process was completed on 12 December 2019. The gas collection system, which collects the gas generated by the landfill feeding the gas engines to be converted into electricity remained on site, as this is owned by the Council.
- 3.7 On 1 April 2019 the Council entered into an interim arrangement with Enovert Ltd to manage the landfill gas. Enovert Ltd manage an active landfill site adjacent to the Council's site. Enovert similarly use their equipment to generate electricity for sale to the National Grid via their generation station, which is managed by their contractor, EDL. The Council connected its landfill gas collection system to Enovert's system on the adjacent landfill site and Enovert pays the Council a royalty based on revenue from electricity generation.

About the connection to the National Grid

- 3.8 Critical to the commercial viability of any future contract that generates and sells electricity is securing an affordable connection to the national grid, and

specifically the electricity distribution network which is operated in Essex by UK Power Networks (UKPN).

- 3.9 Until recently, the grid connection agreement was between BEL and UKPN. However, with effect from 1 April 2019, the Council signed a Connection and Use Agreement with UKPN for the grid connection located at the generation compound. BEL's right to use the connection expired upon expiry of their license to occupy the Site on 31 March 2019.

Proposal

- 3.10 It is anticipated that the Council will need to manage landfill gas (which includes methane, carbon dioxide and other gases produced from the site) for the next twenty years. This is a current requirement of the Environmental Permit issued with respect to the site.
- 3.11 A landfill gas generation forecast for the Site shows that gas generation reached its maximum during the year 2000 and we are therefore well into the decline phase. While there are inherent uncertainties in forecasting landfill gas generation rates, a review of the generation forecast indicates the Site is expected to generate landfill gas at commercially viable levels for a number of years and therefore procurement of a long-term contract is believed to be advantageous to the Council and potential tenderers. This assertion has been tested with suppliers in a market engagement exercise.
- 3.12 At present we have an interim in place but a longer term arrangement is needed. It is therefore proposed that we procure a new Contract for the management of and generation of energy from Landfill Gas at the Site. It is proposed that the specification would include:
- Design, supply, operate and maintain landfill gas utilisation plant and ancillary equipment for the generation and sale of electricity;
 - Operate and maintain the landfill gas collection field to allow landfill gas utilisation and safe environmental control;
 - Operate within the boundaries of the Environmental Permit for the Site that places certain responsibilities and obligations upon the Council; and
 - Operate within the boundaries of the planning consent for the generating station.
- 3.13 The procurement will be for an agreement for management of and generation of energy from landfill gas at the site, for a period of 20 years with an option to extend for a further 5 years.
- 3.14 Environmental compliance and safety need to be a priority. The Council remains liable for the control and management of the closed landfill site in perpetuity. The Council will grant a licence to the appointed bidder to occupy

the generation compound and the Site to manage and operate the landfill gas collection system including the following key elements:

- Obtaining the necessary consents to operate the landfill gas utilisation system and plant
- Design, specification, installation, operation and maintenance of landfill gas utilisation and control plant and ancillary equipment
- Manage the Site to maximise the income from electricity sales, whilst balancing the level of gas extraction to ensure safe operating conditions and maintenance of the Landfill Gas to comply with the requirements of the Environmental Permit for the Site
- Monitoring and management of the Site to ensure that the environmental risk posed by the Site is managed in line with statutory requirements, all available guidance, good industry practice and complies with the Site's Environmental Permit and associated Planning Consents.

3.15 In return for the licence and access to the Landfill Gas, the appointed bidder will pay the Council a royalty based on a percentage of gross electricity sales revenue.

3.16 The Council will evaluate the bid based on 60% Price and 40% Quality. Quality questions will cover topics including:

- Credentials in Landfill Gas management
- Approach to installation, commissioning and energy generation
- Approach to operational management and maintenance
- Contingency and management plan in the event of service disruption
- Approach to innovation

3.17 The procurement will also invite proposals for further development of the Site. These will not be evaluated as part of this tender process but will ensure that the Council is able to vary the Contract to include any initiatives included by bidders in their responses. This recognises that the grid connection secured by the Council was sized to allow for peak gas generation from the Site in 2000. This will mean that the new Landfill Gas energy generation station is unlikely to fully utilise the existing grid connection capacity and there may be opportunities to utilise the spare capacity in other ways e.g. renewable generation.

4. Options

Procurement Options

Option 1: Do Nothing – Continue with the current arrangement with Enovert

- 4.1 The Environment Agency has informed the Council that it is content with the interim arrangement between the Council and Enovert Ltd on an interim basis, it has currently expressed the view that would not be supportive of this option as a long term solution. If the Council were to continue with the arrangement with Enovert Ltd on a long term basis, the Council would need to undertake further discussions with the Environment Agency. Should these fail the Council could face enforcement action from the Environmental Agency if it was considered that it was failing to comply with the requirements of the permit granted for the Site. Given the view of the Environment Agency, this does not appear to be a viable option.

Option 2: Enclosed gas flare on the Site

- 4.2 The Council appoints a contractor to supply and install a compliant enclosed gas flare on the existing Generation Compound which connects to the current gas collection system on Site. The Council would be responsible for the operation of the flare in conjunction with the existing gas collection and flare system on the Site.
- 4.3 Whilst this option would provide for adequate landfill gas management, which is required by the Environmental Permit for the Site it is not the most economically or environmentally sustainable option for the Site's post-closure phase. The market engagement has indicated that there is sufficient gas generation to facilitate commercial energy generation. Further, this option is unlikely to be acceptable to the Environment Agency whose guidance is that landfill gas must be treated and used to the highest extent possible. The main product from flaring landfill gas is carbon dioxide which has less detrimental impact on the environment compared to methane emissions; but in comparison to gas engines, flaring is far less efficient at combusting landfill gas. The Environment Agency are therefore unlikely to approve this as a long term option to manage the landfill gas on the Site. Further, the Council would need to secure a new Planning consent which cannot be guaranteed. This option could therefore lead to enforcement action by the Environment Agency, if the Council were to implement this option without their approval.

For these reasons, Option 2 is not recommended.

Option 3: Procure a new long term Contract for Landfill Gas Management (Recommended Option)

- 4.4 Undertake a competitive tender process for a new contract to manage and generate energy from the Landfill Gas at the Bellhouse closed landfill site. The appointed contractor would be responsible for design, specification, installation, operation and maintenance of landfill gas utilisation and control plant (including any ancillary equipment) which would then be connected to the current landfill gas collection system. The contract would be for a period 20 years with an option to extend for 5 years incentivising the contractor to invest in and secure the long-term future of landfill gas management on the Site, whilst ensuring that the Council is able to manage the Site and the Landfill Gas in accordance with

the requirements of the Environmental Permit beyond the point at which the gas is lucrative.

Option 4: The Council invest and operates its own system

- 4.5 The Council procures an operator to install, maintain and operate the gas management system on behalf of the Council. The Council invests in the generating equipment and the revenue from the sale of energy generation would be retained by the Council. The net impact to the Council would take account of operating and capital costs.
- 4.6 This option is not recommended. Investing in energy from landfill gas generation is a long-term investment that carries risk. The Council would be responsible for design, specification, installation, operation and maintenance of landfill gas utilisation and control plant and ancillary equipment at a scale it does not have past experience of. Furthermore, in the absence of the RO accreditation on the Site (which is currently unclear) there is not a commercial rationale for pursuing this option. The financial implications are set out in section 5 below.

5. Financial implications

- 5.1 Due to the serious nature of option 1, no financial implications have been reflected or considered, as it does not appear to be a viable option for the Authority.
- 5.2 Option 2 – Flaring is the simplest compliant route to managing the duties of the Council to the gas generated from the closed landfill. This is a cost only solution, without any opportunity to generate a return from the gas. Over the 20-year term the Net Book Value (“NBV”) of managing the gas control and flaring is calculated at a cost of c.£1.04m.
- 5.3 Option 3 removes the financial risk to the Council of procuring and operating the Site. Until the procurement is run the value is unknown. Early market engagement has encouraged strong interest in delivering a positive return for the Council. A detailed sensitivity analysis is shown in the confidential appendix of ranges expected from bidders.
- 5.4 Option 4 over the 20-year term delivers a negative NPV of £447,000, a saving of c.£597,000 on the do minimum Option 2 but still a cost to deliver the compliance on site.
- 5.6 This project is included within the current Medium Term Resource Strategy (MTRS) iteration, as the in-house solution with Renewals Obligation Certificate on a phased approach.
- 5.7 A review of the financial implications will be carried out once the procurement exercise has been completed.

6. Legal implications

6.1 In order to comply with relevant legislation, the Site must:

- a) hold an environmental permit issued in accordance with the Environmental Permitting (England and Wales) Regulations 2010 ("EPR 2010").
- b) comply with Schedule 9 of the Environmental Permitting (England and Wales) Regulations 2010, which applies to all waste operations and include the requirements for the regulator to implement any waste management plans and to ensure compliance with Article 9(1) of the Waste Framework Directive regarding the prevention of waste.
- c) comply with Schedule 10 to the EPR, which applies to all landfill sites and includes requirements for the regulator to ensure that the provisions of the Landfill Directive 1999 are complied with.
- d) comply with the section 34 Environmental Protection Act 1990 duty of care, this is explored further below).

6.2 Section 34 of the Environmental Protection Act 1990 imposes a duty of care on anyone handling controlled waste to take all reasonable steps to ensure that the waste:

- a) Is not disposed of unlawfully, without a permit or in breach of any permit, or treated, kept or disposed of in a way that causes pollution or harm.
- b) Does not escape from a person's control; and
- c) Is only transferred to an authorised person and accompanied with a written description that enables the transferee to know enough about it to deal with it properly and avoid breaching their permit or section 33(1).

6.3 The Contract to be procured by the Council is a mix of works and services. There are works required to install the generation equipment, but also services to be undertaken to safely manage the Landfill Gas, and the Site more generally. As well as the sale of any electricity generated.

6.4 The procurement of a services contract will be governed by the Public Contracts Regulations 2015, rather than the Concession Regulations 2016. The overriding purpose of the contract is the safe management of the Landfill Gas on the site in accordance with the Environmental Permit. The generation of electricity from the Landfill Gas is a secondary element and a mechanism for payment for the management of the Site.

6.5 The duties relating to the compliance with the Environmental Permit and all relevant legislation remains with the Council, these duties are non-delegable and so there is no element of risk transfer from the Council to the selected provider, as is the case with Concession arrangements.

- 6.6 Concession Contracts governed by the Concession Contracts Regulations 2016 should not exceed five years unless this is formally justified by the contracting authority. This is to ensure that Concession arrangements do not continue beyond the period in which the Concessionaire is able to recoup their capital investment. The proposed contract for the Bellhouse Landfill Site is more akin to a PFI arrangement, without external financing, than a Concession arrangement.
- 6.7 The competition requirements of the Public Contracts Regulations 2015 are much more stringent than those of the Concession Contracts Regulations 2016. By complying with them the Council will therefore be complying with a higher threshold of competition and transparency by procuring a services contract in accordance with the Public Contracts Regulations 2015.

7. Equality and Diversity implications

- 7.1 The Public Sector Equality Duty applies to the Council when it makes decisions. The duty requires us to have regard to the need to:
- (a) Eliminate unlawful discrimination, harassment and victimisation and other behaviour prohibited by the Act. In summary, the Act makes discrimination etc. on the grounds of a protected characteristic unlawful
 - (b) Advance equality of opportunity between people who share a protected characteristic and those who do not.
 - (c) Foster good relations between people who share a protected characteristic and those who do not including tackling prejudice and promoting understanding.
- 7.2 The protected characteristics are age, disability, gender reassignment, pregnancy and maternity, marriage and civil partnership, race, religion or belief, gender, and sexual orientation. The Act states that 'marriage and civil partnership' is not a relevant protected characteristic for (b) or (c) although it is relevant for (a).
- 7.3 The equality impact assessment indicates that the proposals in this report will not have a disproportionately adverse impact on any people with a particular characteristic.

8. List of appendices

Appendix 1 – Equality impact assessment
Appendix 2 - Confidential appendix

9. List of Background papers

None