

Zero Waste: Edinburgh and Midlothian Commencement of Procurement

Transport, Infrastructure and Environment Committee

21st September 2010

1 Purpose of report

- 1.1 To provide an update on the Zero Waste project.
- 1.2 To seek approval to commence procurement of both food waste and residual waste treatment facilities.

2 Summary

- 2.1 The report sets out the background of the Zero Waste Project and the impact of the Scottish Government's recently published Zero Waste Plan.
- 2.2 It sets out the recommendations from the business case, which has been reviewed in light of the new Zero Waste Plan and the Alternative Business Model (ABM) programme. The ABM procurement will result in greater certainty of how much waste will be recycled and how much residual waste will remain for treatment. Taking full account of the new policy context and economic climate, the business case considered options for the procurement for food and residual waste treatment, including affordability and timing considerations and the impact of the Council's existing landfill contract.
- 2.3 The report also seeks approval for the proposed approach to procurement, contract management and site issues.

3 Main report

Background

- 3.1 In 2008 the Scottish Government set a challenging target of 70% of waste being recycled. Edinburgh aims to achieve at least 50% of waste being recycled through kerbside and communal recycling services. The Zero Waste Project is a joint project with Midlothian Council to procure facilities for the treatment of the residual waste. The waste treatment plant, by using a number of technologies, will allow Edinburgh to further increase the amount of residual waste material that can be recycled and achieve the Scottish Government recycling target.

- 3.2 A report on the Council's Recycling Strategy, to be submitted to this Committee on 23rd November 2010, will set out how kerbside and communal recycling services will be developed to achieve the 50% kerbside recycling target.
- 3.3 The Zero Waste Project was last considered by this Committee on 22 September 2009 and by the full Council on 15 October 2009 when the Project Initiation Document (PID), including the governance arrangements and procurement budget, was agreed. Approval was also given for the purchase of a project site at Millerhill. Procurement of the project was placed on hold by the Project Board to await publication of Scotland's new Zero Waste Plan. The Business Case has now been updated to ensure that all new legislative and waste policy developments and changes in the financial environment have been fully considered. The views of the Project's Advisers and Scottish Futures Trust have been taken into account.
- 3.4 The site at Millerhill has now been purchased jointly with Midlothian Council. An application for planning permission in principle for waste treatment facilities is due to be lodged later this year on the completion of an Environmental Impact Assessment and consultation process. It is hoped that a decision will be made before procurement of residual waste treatment commences, which will increase bidder confidence.

Scottish Government Zero Waste Plan

- 3.5 In June 2010 the Scottish Government launched its Zero Waste Plan, the main elements of which will be set out in the Recycling Strategy report referred to in 3.2.
- 3.6 Of particular significance to this project is the Scottish Government's commitment to:
- require the introduction of separate food waste collections by 2013;
 - ban recyclable waste from landfill from 2015; and
 - ban biodegradable waste from landfill from 2017.
- It has also set a target of reducing the amount of waste that can be sent to landfill to 5% of all waste collected by 2025.
- 3.7 The Scottish Government has also capped the amount of waste that can be incinerated at Energy for Waste (EfW) plants to 25% of all waste collected. This aligns with the decision previously taken by Council at its meeting on 15th October 2009, that single process mass burn incineration is not an option for the Zero Waste Project procurement. The effect of the Scottish Government cap means that all residual waste will need to be sent to a waste treatment plant and undergo mechanical and biological treatment (MBT) to recover further materials that can be recycled. The majority of the resulting residue from these treatments can then be used as a fuel in an EfW plant providing it does not exceed the 25% cap. After all these treatments there will still be some residual waste material that cannot be recycled or incinerated and this will still go to landfill, although it is projected that this will be only 5% -10% of all waste.

3.8 The Scottish Waste Aware Group, now part of Zero Waste Scotland, recently carried out an extensive public attitude survey of Edinburgh and Midlothian residents. Between December 2009 and January 2010, 455 residents were surveyed as a representative sample of the population to identify current waste management behaviour as well as attitudes to a range of waste management services. This showed widespread understanding and support for the need to move away from the landfilling of waste and the benefits of using a mix of technologies in order to treat waste as a resource in the future. There was also general support for the proposals for developing the Millerhill site.

3.9 Some of the key findings are:

- 58% said they are actively trying to reduce the amount of waste they produce;
- 65% stated that developing a Zero Waste Parc at Millerhill was either "acceptable" or "very acceptable";
- 77% agreed that the concept of a Zero Waste Parc was either a "very good" or "good" idea;
- 96% agreed utilising heat produced from waste treatment for local homes was a good idea;
- 70% were positive about using Energy from Waste as an alternative to landfill;
- 87% of those surveyed said that the Millerhill site was a suitable location for the proposed development;
- 77% of all those surveyed felt that a small, local facility where waste would not have to be transported great distances would be advantageous.

Waste Treatment Capacity

3.10 A final review and assessment has now been completed by the Project Team and considered by the Project Board.

3.11 The Scottish Government's intention to mandate Councils to introduce separate collections of food waste by 2013 and to send only inert or pre-treated waste to landfill from 2017 gives an added imperative to the Zero Waste Project business case and effectively rules out the 'do nothing' option.

3.12 The landfill ban will apply equally to all commercial and industrial waste as well as municipal waste, and similar bans are under active consideration in England and Wales. The cumulative impact will be an unprecedented increase in demand for waste treatment capacity which cannot be met by existing facilities.

3.13 The impact of this cannot be underestimated. A limited number of technologies and suppliers are currently in operation, all of whom have to source and import the plant and equipment from abroad. As a result there is a very high risk of substantially increased costs as well as shortages and delays, as experienced in the recent past under similar circumstances in Germany. It would therefore be prudent to begin the procurement process at an early date to avoid these increased costs.

Existing Landfill Contract

- 3.14 The Council has an existing Landfill Contract with Viridor for their landfill site at Dunbar to supply a minimum of 110,000 tonnes per year of residual waste up to 2020, or pay a gate fee for any shortfall. As there will still be a small percentage of waste going to landfill it is projected that the annual cost of meeting this contractual shortfall will be £2.5m per annum until the contract expires.
- 3.15 The different options for mitigating the costs associated with the landfill contract are being explored and it is intended to enter into formal negotiations with Viridor on a potential way forward.

Project Scope

- 3.16 The scope of the project, as set out in the PID, was essentially residual waste treatment only. However, in the earlier stages of the Project it was recognised that there was the potential for food waste treatment to be included. Now that collection and treatment of food waste is to be made mandatory and in line with the Council's Environmental Policies, it is intended to widen the scope of the Zero Waste Project to include for the treatment of food waste.
- 3.17 The proposed scope for the Zero Waste Project will complement the waste reduction and kerbside recycling activities of the Councils, by dealing only with the food waste collected and the residual waste left after maximum practicable efforts by the residents and businesses to present material for recycling. The Zero Waste Project will also ensure additional recycling from the remaining waste where practicable.
- 3.18 The Recycling Strategy Report to be brought to the Committee in November 2010 will bring forward proposals for food waste collection pilots and the roll out of this new service on a city wide basis.

Options Appraisal

- 3.19 A detailed options appraisal was carried out by the Project Team to determine the best approach to procurement. To assist in this appraisal, a reference case was developed for an annual tonnage capacity of:
- 30,000 for anaerobic digestion (AD) of food waste;
 - 200,000 for mechanical biological treatment (MBT) of residual waste; and
 - 100,000 for energy from waste (EfW) from fuel prepared by the MBT process.

These tonnages are based on the projected residual waste and the different waste streams that make up the combined total waste collected by Edinburgh and Midlothian, plus some additional capacity to allow for some flexibility in the contract between the Councils and the Waste Treatment Plant operator.

- 3.20 Using this reference model five different options were assessed against the criteria listed below:

- Timing/Delivery
- Difficulty to Procure
- Market Interest
- Impact of Existing Landfill Contract
- Risk of Reliance on Merchant
- Exposure to Risk
- Meeting ZWP

A maximum score of up to 5 points was given to each option under each criteria.

3.21 The five options were as follows:

- Option 1 - To procure food and residual treatment together, with both facilities operational by 2015 or earlier (1 procurement);
- Option 2 - To procure food and residual treatment together, but with phased implementation meaning food waste facilities operational by 2015 and residual treatment by 2017;
- Option 3 - Same as Option 2 but 2 separate procurements;
- Option 4 - To procure a residual project only, with facilities operational from 2017 with a series of short term contracts for food treatment;
- Option 5 - To procure food and residual treatment together, with both facilities operational from 2017.

3.22 In developing the options appraisal and assessment criteria the Project Team factored in the following factors:

- The earliest a Waste Treatment Plan could be built and operational at Millerhill is 2015.
- The Zero Waste Plan timescales for reducing landfill, in particular the 2017 date after which no recyclable or bio-degradable waste can be sent to landfill.
- The different levels of complexity involved in procuring food waste treatment and residual waste treatment and the impact that this has on procurement timescales. In short, because of the limited solutions available for food waste treatment the procurement process is likely to significantly shorter. There are more options and solutions available for residual waste treatment and the competitive dialogue process is likely to be more protracted.

3.23 The results of the assessment out of a total of 35 points were as follows:

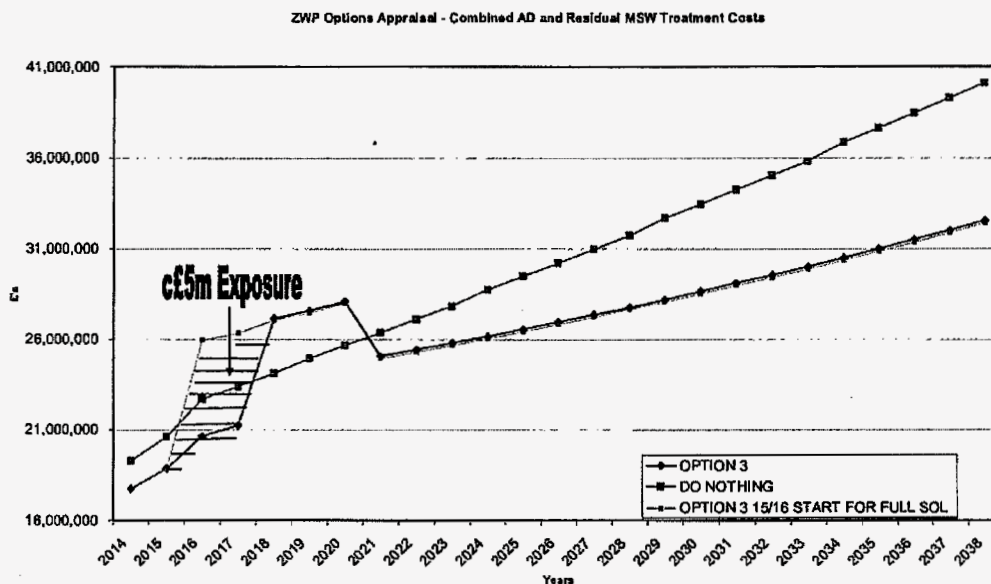
Option	Total Points
Option 1	25
Option 2	24
Option 3	29
Option 4	26
Option 5	26

- 3.24 Option 3, procuring residual waste treatment and food waste treatment separately, where food waste treatment is available as soon as possible and residual treatment by 2017, scored marginally best overall. The principal benefits are that the different treatments can be delivered to coincide with Council priorities and the National Zero Waste Targets. It was considered by the Project Team that this reduced risk outweighed the benefits of any long-term savings that could be realised by combining both treatment streams in one contract. Option 3 also reduces the significant risks of relying on limited treatment capacity elsewhere for food waste.
- 3.25 Until the landfill ban is in place and taking account of potential shortfall payments under the Councils landfill contract, it is unlikely that there is a commercially sound case for treating residual waste before 2017. It is highly likely in the early years that the gate fee for residual treatment facilities will be greater than that of landfill. This is because in these early years the landfill costs, including the increasing costs of a landfill tax, will not be as great as the cost of repaying capital investment and the operational costs of complex technologies.
- 3.26 On cost analysis, taking no account of risks identified above, the options were all assessed to be very close over the life of the project.
- 3.27 While a joint procurement of full residual and food waste treatment system as early as possible provides the best financial solution over the whole life of the contract, the financial pressures arising in the early years include:
- the gate fee at treatment facilities is expected to be greater than the cost of landfill (gate fees for Edinburgh estimated at c£2m per annum at 10/11 prices);
 - payments for shortfall of tonnage delivered under the Viridor landfill contract until 2020 of c£2.5M per annum (10/11 prices).
- 3.28 Given the severe financial pressures on the Councils in the early years, it is proposed that residual waste treatment is operational in 2017 to coincide with the introduction of the landfill ban. In procurement however, it will still be possible to consider earlier commencement dates, but only where this provides

value for money and is affordable e.g. if bidders propose gate fees for the waste treatment plant that are less than the cost of landfill.

The following graph shows the annual treatment costs for the preferred option 3 - two separate procurements (food and residual) - compared to the cost of doing nothing if a landfill ban had not been in place. The hatched area in the graph indicates the likely early years financial exposure, referred to above, that will be avoided by targeting a 2017 operational start date. The £5m exposure relates jointly to Edinburgh and Midlothian Councils of which £4.5m lies with Edinburgh. From 2017 to 2020 there is a similar annual financial exposure but this is unavoidable as the landfill ban will have taken effect.

Graph 1



There is very limited food treatment capacity currently operational in Scotland and there is substantial risk in relying in the long term on market led facilities, when there will be increasing demand and the councils have little control. The Project Team concludes that procuring food waste treatment and residual waste treatment separately, with the Millerhill site as the preferred location, is likely to provide best value for both Councils, particularly given the need to secure treatment facilities for food waste treatment earlier than residual treatment. The earliest possible start date for food waste treatment facilities is anticipated to be 2013.

- 3.14 The likely risk adjusted total contract cost over a 25 year period for the treatment of residual and food waste is estimated at around £750 million. By way of context and comparison the cost of 'doing nothing' (assuming that there was no landfill ban) would be £900m over 25 years.

Procurement Issues

Options Appraisal

- 3.32 Having assessed a number of different contract options, the Project Team has identified the Design, Build, Finance and Operate (DBFO) option as most likely to provide the best value.
- 3.33 While a DBFO contract is recommended there will still be an opportunity to consider an injection of capital from public sources. If this resulted in no need for third party finance then the Design and Build and Design, Build and Operate models could be looked at again, but the other issues which lowered the scoring for these solutions (e.g. less risk transfer and the capacity of councils to borrow) would need to be taken into consideration.
- 3.34 Appendix 1 provides greater detail on the options considered and the assessment criteria used.

Other Procurement Issues

- 3.35 The Project Team is working closely with the ABM Project to ensure a joined up approach (e.g. use of common assumptions on waste flows). A delayed start in the commencement of procurement of the residual waste treatment facility until spring 2011 will allow for a greater understanding of what bidders for the collection services under the ABM procurement are proposing in relation to recycling levels. This will help the Zero Waste Project ensure that facilities are sized accordingly to receive the food and residual waste remaining.
- 3.36 By adopting a flexible, non-prescriptive approach to technology, bidders will have the opportunity to consider all options on a commercial basis and put forward the most cost-effective solutions.
- 3.37 In order to reduce project risks and provide greater certainty of a 2013 start date for food treatment, it is proposed that the Project Team bring forward a costed proposal to the Councils to commence planning, design and construction of the necessary new site access. The costs of bringing forward the access are expected to require funding of at least £2m but this will be confirmed in the near future.
- 3.38 The Councils have already agreed governance arrangements for the procurement stages. A Lead Authority approach is recommended for Contract Management Stage and a Joint Working Agreement is being produced on that basis. As soon as the Councils' Legal Officers have finalised the proposed JWA, a further report will be prepared for Committee proposing the Lead Authority.
- 3.39 To date there has been strong market interest in this high value contract and Scotland's Zero Waste Plan has now provided greater policy clarity. An early procurement on the back of the Zero Waste Plan will be seen widely as a very positive move by the potential bidders.

4 Financial Implications

- 4.1 The project team has provided the Council with project specific costs to allow an affordability assessment, taking into account full systems costs and interfaces with collection services.
- 4.2 The impact on Council budgets cannot be assessed with any degree of precision at this stage, particularly in light of the inextricable links between this project and the Environmental ABM project which will ultimately result in a radical transformation in all aspects of the waste service. The financial business case will be kept under close review by the Project Board and reported back to Committee at key decision points in the project.
- 4.3 Based on current assumptions, a potential pressure for the Council of up to £4.5m per annum has been identified in the years from service commencement (no later than 2017) until 2020 when the Council's landfill contract with Viridor ends. Thereafter the pressure reduces to an estimated £2m per annum. There is, however, no "do nothing" option following the publication of Scotland's Zero Waste plan in June. As the Zero Waste and ABM programmes develop, every effort will be made to reduce the scale of this pressure. Given the degree of uncertainty around the costs of the project, these financial pressures are not currently built in to the Council's long term financial plan. The Council may wish to consider ringfencing an element of the savings achieved through the Environmental ABM project to provide for this pressure.
- 4.4 There maybe some further opportunities to mitigate the gate fee costs for the Millerhill Waste Treatment Plant for example by allowing bidders to treat residual waste from other local authorities. For this reason the OJEU Notice will include reference to waste from third parties including other named local authorities who have expressed an interest in using the facility.
- 4.5 There is very limited capacity in Scotland for food and residual waste treatment. Provision of Millerhill as a preferred site for facilities is considered the most effective way to open up the procurements to suppliers that do not have their own sites in the area and so reduce the risk of reliance on merchant facilities for longer than necessary. The Project Team proposes therefore to bring forward proposals to improve site access to the necessary standards. It is estimated that this will cost £2m - in which case Edinburgh's share can be funded from SfC's Waste capital budget but this will be subject to further report to this Committee.

5 Environmental Impact

- 5.1 The Zero Waste Project has numerous positive environmental benefits as outlined in moving towards the more sustainable management of waste, the reduction of waste disposed of to landfill, the capture of additional recyclables and the capture and supply of renewable energy.
- 5.2 The proposed phasing of procurements and operation of treatment facilities has additional environmental benefits in that it ensures that the maximum effort is focussed on waste reduction and recycling initially, prior to sizing of residual treatment facilities.

6 Conclusions

- 6.1 The Councils will require dedicated treatment facilities as soon as possible to service their long term requirement to separately collect food waste. Residual treatment facilities are required by 2017 in time to comply with the landfill ban. For the reasons given in this report it is necessary to procure two separate contracts.
- 6.2 In line with the Scottish Government's new Zero Waste Plan and taking account of resource availability (i.e. one team delivering two procurements by competitive dialogue) and the need for early delivery of food treatment facilities, it is proposed to stage the commencement of two separate procurements. (Food Waste Treatment October 2010, Residual Waste Treatment spring 2011). This timing will also ensure a better interface with the ABM procurement.
- 6.3 The procurement process to be carried out by the Zero Waste Project Team will maintain close liaison with the ABM Project to reduce interface risks between collection and treatment contracts. The successful contractor for the ABM Contract will be responsible for meeting recycling targets agreed during the procurement process and will deliver all food and residual waste collected to the Millerhill site. The successful contractor(s) under the Zero Waste Project will be required to treat the waste delivered and achieve additional recycling levels to assist the Councils meet the Scottish Government's recycling targets.

7 Recommendations

- 7.1 It is recommended that Committee:
- a) approves the revised scope of Zero Waste: Edinburgh and Midlothian to include treatment of food waste;
 - b) approves two separate procurements be advanced commencing with Food Waste Treatment in October 2010 and Residual Waste Treatment in spring 2011 (with the Project Board considering a final review of costings and affordability carried out immediately prior to commencing procurement of Residual Waste Facilities);
 - c) approves a Lead Authority approach to contract management;
 - d) notes the intention to report to a future meeting on the Lead Authority and on the funding of the site access works at Millerhill.



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8/9/10

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Wards affected City Wide

Single Outcome Agreement No 14 – We reduce the local and global impact of our consumption and production

Background Papers

APPENDIX I

Options Considered and Assessment Criteria Used

The following contract options were identified as being appropriate for comparison:

- Private sector designs and builds with the Councils paying for the asset on completion then operating the facility (DB);
- Private sector designs, builds then operates under a long term contract, with the Councils paying for the asset on completion and for the services as provided (DBO);
- Private sector designs, builds, finances (using corporate or third party finance) and operates under a long term contract with the Councils paying for the services and finance on a monthly basis following completion of the asset (DBFO);
- Councils pay a gate fee for spare capacity in merchant plant(s) on a short term contract (circa 5 years).

These options were then assessed against a list of criteria in a similar manner to the procurement options assessment. Totals were out of 500 with the higher scores representing favoured options.

Food Waste Options

Criteria	Weightings	DB	DBO	DBFO	Merchant
Time to Procure	15	45	45	30	60
Capital Impacts	15	15	15	75	75
Revenue Impacts/Transport	15	45	45	60	75
Contractual arrangement/ Operational Control	15	75	45	60	15
ZWP Policy Compliance	10	50	50	50	30
Community Benefits/Economic Regeneration	9	45	45	45	9
Risk Transfer	6	6	12	30	18
Site Usage/Asset Reversion/Condition on Expiry	6	18	30	30	6
Cost to Procurement/ Complexity	3	12	6	9	15
Market Capacity and Competition	3	12	6	12	6
Flexibility to Accommodate and Costs of Change	3	9	12	15	3
Totals	100	332	311	416	312

Residual Waste Options

Criteria	Weightings	DB	DBO	DBFO	Merchant
Time to Procure	15	60	45	30	60
Capital Impacts	15	15	15	75	45
Revenue Impacts/Transport	15	45	45	60	75
Contractual Arrangement/ Operational Control	15	75	45	60	15
ZWP Policy Compliance	10	50	50	50	30
Community Benefits/Economic Regeneration	9	45	45	45	9
Risk Transfer	6	6	12	30	18
Site Usage/Asset Reversion/Condition on Expiry	6	12	24	24	6
Cost to Procurement/Complexity	3	12	6	9	15
Market Capacity and Competition	3	12	6	15	3
Flexibility to Accommodate and Costs of Change	3	9	12	15	3
Totals	100	341	305	413	279

As can be seen from the tables:

- Merchant capacity scored comparatively poorly, mainly due to the lack of Council ownership/control of the facilities, the lack of future consented sites of sufficient capacity in the area and the loss of opportunity for community benefit/economic regeneration. It was considered that merchant facilities afford Councils limited control over proximity, technology or specification exposing them to greater risks
- DB and DBO also scored comparatively poorly, mainly due to the high capital impact in both cases
- A further factor contributing to the lower score for the DB option was risk transfer as once the facility is complete, the Councils will be responsible for operation, maintenance and defects once the liability period of the DB contractor expires
- Further factors contributing to the lower score for the DBO option were risk transfer (as there is no third party funder carrying out due diligence or incentivising compliant performance), contractual arrangements (as standard form waste contract is based on a full DBFO option) and procurement complexity (as DBO is not a commonly used solution, and may involve the entering into by the Councils of two separate contracts with two entities)
- As the Councils have an identified need on a continuing ongoing basis this lends itself to DBFO, which scored best in comparison to other contract options for both long-term food and residual waste treatment