ABERDEEN CITY COUNCIL

COMMITTEE	**Zero Waste Management Sub Committee**
DATE	**27th June 2012**
DIRECTOR	**Pete Leonard**
TITLE OF REPORT	**Development of an Outline Business Case (OBC)**
REPORT NUMBER:	

1. PURPOSE OF REPORT

To provide members with an overview of the Zero Waste Management Project Outline Business Case (OBC), it's purpose, and progress to date

2. RECOMMENDATION(S)

That the Sub-Committee:-

Note the requirement for an OBC, and progress made to date

3. FINANCIAL IMPLICATIONS

None from this report

4. OTHER IMPLICATIONS

None from this report

5. BACKGROUND/MAIN ISSUES

5.1 Why do we need an OBC?

The Council's approach to waste management in future is being driven by a number of factors, including:

- The Council's Priority Based Budgeting - 5-year Business Plan
- Compliance with the recently published Waste (Scotland) Regulations 2012
- The Council's Waste Strategy, including future recycling targets
- The Council's preferred future waste collection arrangements
- The Council's existing contract with SITA (UK) Ltd, for waste and recycling
- The Scottish Government's Zero Waste Plan

Taken together, these factors point to the need to collect significantly more recyclable and organic material from a larger number of households, and to sort and treat the material in more sophisticated and cost-effective ways if regulatory targets and the long term objectives of the Waste Strategy are to be met.

The current arrangements for treating and processing waste and recyclables have served the Council well for several years, but will not be capable of handling the new combinations of materials arising from the preferred collection regime, nor be able to meet longer term performance targets, so will have to changed or be replaced.

An OBC is required to set out what needs to be achieved and identify a preferred waste treatment solution that is technically feasible, financially affordable and that will meet essential performance targets now and in future.

The OBC will become the “blueprint” to procure new waste treatment facilities and/or services in future.

5.2 Purpose of the OBC

The OBC will set out the requirements for treating waste and recyclables in the context of national regulatory framework and specific performance targets, alongside the stated objectives of the Council Waste Strategy.

The OBC will identify likely changes in material tonnages and composition over time, and the potential impact of external factors (like housing growth, and the trend towards waste minimisation) that will influence the amount and type of waste to be collected in future.

A range of technical options will be considered and a series of models will be set up to assess their relative performance and cost. Options will then be ranked to identify those that are likely (on the basis of the information currently available) to deliver the most effective long-term solution for the Council.

Ranking will assess the likely technical performance, environmental impact, “deliverablity” and socio-economic benefits of each option, as well as cost.

The availability of potential sites in and around Aberdeen for new facilities will also be assessed. There are no sites in the current local plan specifically allocated for waste treatment or processing activities, such as Energy from Waste facilities, although there are potential sites (designated as “employment land”) within the City boundary available. Detailed planning and regulatory approval to develop facilities on these sites would be required, and some sites may carry a high “planning risk” depending on location and the type and scale of any facility proposed. There is a site allocated in Altens (OP70) designated for Recycling activities and this is the proposed location for a Materials Recycling Facility (MRF)

The best solution will become the “reference case” that will be used as the project model for procurement. The reference case will be subject to more detailed value-for-money checks, and an affordability analysis (conducted in collaboration with ACC Finance) in the context of the Council’s long term budget planning and investment programme.

In Aberdeen’s case, the existence of the SITA contract (due to run to 2025) may offer additional opportunities. The contract is flexible, and so it may be possible to

develop some components of the technical solution within the existing contract. This could significantly reduce procurement costs, and lead to improved facilities being made available much earlier, but at the risk of a narrower choice of technologies, less competitive pricing and challenge by potential competitors.

These opportunities and risks will also be assessed in the OBC.

The OBC will thus:

- Set out what needs to be achieved
- Identify a practical, deliverable, and affordable solution (reference case) [1]
- Demonstrate that the project is worth doing
- Seek to set the project in the context of the Council's long-term planning.

The completed OBC will be submitted to Council for formal approval.

Once approved, it will effectively become the project brief for the waste treatment procurement project.

5.3 OBC Structure

The OBC has been structured around a model document originally developed for the Welsh Government, adapted for use by local authorities in Scotland by the Scottish Futures Trust (SFT).

The OBC is split into 6 sections as follows:

- Background – local context
- Strategic Case – national context
- Economic Case – identification of technical options and costs
- Commercial Case – procurement options
- Financial Case – value-for-money and affordability
- Management Case – Governance and communications

The document was intended for use on large scale, PFI-type contracts but has been simplified for use in Aberdeen based on advice received during a "workshop" session with the SFT in March 2012.

5.4 Timetable

It is anticipated that the OBC will be submitted to the ZWMSC for approval in September 2012.

5.5 Approach

Development of the OBC is being managed in-house, but with specialist input to some sections of the OBC as follows:

[1] Although the OBC will arrive at a reference case, this will almost certainly differ to the final solution arrived at through procurement. The market may offer better/cheaper solutions that are a significant improvement on the reference case, so a different final solution (or solutions) is (are) likely.

- Background / Strategic Cases
    - In-house (Waste Services)
- Economic Case
    - Baseline costs – Waste Services / Finance
    - Identification of process fees/ costs – Technical Advisor (Halcrow)
    - Cost Modelling – Project Co-ordinator (CH4 Associates)
    - Initial ranking – Waste Services
- Commercial Case
    - SITA contract options – Technical Advisor (Brodies)
    - In-house – Procurement
- Financial Case
    - In-house – Finance / Waste Services
- Management Case
    - Governance – Technical Advisor (Brodies)
    - Communications – In-house

5.6 Progress

Development of the OBC is at the following stage:

Background Case - draft complete

Strategic Case - draft Complete

Economic Case

- Cost matrix developed - (Halcrow)
- Initial technical options screened and identified
- Initial technical options modelling / ranked

- Detailed 2nd-stage modelling / ranking in progress

Commercial Case

- Advice on SITA contract scope / flexibility confirmed - (Brodies)
- Advice on payment options within SITA contract confirmed - (Brodies)

- Completion pending conclusion of Economic case

Financial Case

- Validation of base cost model and budget reconciliation complete

- Completion pending conclusion of Economic case

Management Case

- Awaiting completion of Economic/Commercial Cases

5.7 Initial outcomes / findings

As has been highlighted elsewhere in this report, the OBC is currently in the early stages of development, and so the reported findings and costs set out in the report represent a snapshot of work in progress.

The position set out in this report is thus indicative only, and subject to change.

Shortlist

Given the potential to capitalise on the existing SITA contract, the reference case is likely to comprise a group of specific solutions for each of the different waste types collected, rather than a single "catch all" solution.

The initial shortlisting of options done to date suggest that the treatment options fall into two distinct groups:

- **Group 1**: those that (in some cases) could realistically be delivered within the current SITA contract, and
- **Group 2**: those that will may require a more complex procurement. Delivery via the SITA contract may still be possible for some cases, but may be difficult or may carry a higher risk of contractual challenge.

The initial shortlist is summarised in the tables in **Appendix A**.

Indicative "Reference Case"

Initial cost modelling for the options in the shortlist has identified a combination likely to provide the best overall solution for the Council, based on the best information currently available.

This combination is shown in the table in **Appendix B**

Although new-build has been identified as the preferred option, it may be cost-effective to deliver the solutions for processing Green Waste (windrow composting) and Food Waste (in-vessel composting) via the current SITA contract utilising existing facilities outwith Aberdeen, if negotiations can arrive at a competitive market rate.

The solution for recyclables processing will require a significant capital investment in new materials processing facilities able to sort materials, so may not be cost-effective within the current SITA contract. A new-build materials recovery facility (MRF) procured outwith the SITA contract has been identified as the most likely solution at this stage but there is a strong possibility that a best value mechanism can be found to develop this within the SITA contract.

The solution for residual waste is more complex. Building a local Energy-from-Waste (EfW) treatment facility for the relatively low tonnages generated in Aberdeen will be expensive – but the transport costs associated with exporting waste material to larger plants in the UK or Europe is also high. Transport cost

inflation is likely to rise faster than general inflation in future, so this may be a significant cost risk in the long term. Consequently, a local EfW plant may be feasible and at this stage is the preferred option.

Note: The work on cost modelling is being refined and this initial position may change.

Indicative reference case unit costs

Indicative unit costs for the preferred treatment options are shown in **Appendix C**.

These are shown for comparison against the current costs (in the SITA contact) for the same materials, although the match is not exact - for example food waste and green waste are currently processed together in the same plant but the proposals advocate separate processes, in line with the preferred approach set out in the Waste (Scotland) Regulations.

Significant savings should be possible by adopting cheaper processes and locating them closer to (or within) the City in future, to reduce or eliminate transport costs. This will become increasingly important, as transport costs are expected to rise above general inflation in future.

The unit costs do not include the costs of kerbside collection, which are still in development for the new collection regime. Costs for recyclable collections are expected to fall (moving from expensive "kerbsider" vehicles and kerbside sorting, to a co-mingled bin system) but the cost of a new, separate food collection is expected to be high and may cancel out any collection savings.

Unit costs for treatment of residual waste are high, but with Landfill Tax due to rise to £80/tonne by 2014 (in addition to an indexed-linked gate fee + transport cost) the "do-nothing" option is no less expensive, and will fail to meet long term performance targets or comply with legislation.

Costs need to be refined to ensure that the fixed cost of running transfer stations, Community recycling sites and other fixed overheads are accurately captured.

The overall cost to the Council will be set out in the final version of the OBC.

5.8 Next Steps

Further work will be done to improve on cost estimates and ranking to ensure that the best combination of options is identified, to make up the reference case. This will include inclusion of collection costs and other overheads modelled to allow full service cost models to be compared, for each option.

Value for-money and affordability checks will be conducted with the in-house Finance service.

Procurement options and issues will be checked with the in-house Procurement service, and with legal advice relating to the SITA contract provided by external advisors, Brodies

Once these elements are complete the OBC will be finalised and presented first to the Project Board, and then to Council for approval

6. BACKGROUND PAPERS

Aberdeen City Council (2010) Aberdeen City Waste Strategy 2010 – 2025
Aberdeen City Council (2011) Priority Based Budgeting (5-Year Business Plan)
Aberdeen City Council (2012) Waste Collection and Treatment Options Appraisal (Report ZWM/12/004)
Scottish Government (2012) Waste (Scotland) Regulations 2012

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Appendix A

Waste Processing Technical Options

Group 1 – Potential to deliver options economically within SITA Contract

Material	Process	Delivery	Via SITA ?	Commentary	Ref
Green (Garden)	Windrow (open) composting	Existing plant, Aberdeenshire	Yes	Renegotiate existing In-vessel Composting (IVC) contract for Green+ Food Waste, to a Green Waste Windrow contract	G1
	Windrow (open) composting	New plant, Aberdeen	Yes	Negotiate construction of new plant in or near City to reduce / eliminate transport costs. May have higher gate fee if prices negotiated (no direct competition) and because any capital investment by SITA may have to be recovered over a shorter term (by 2025 contract conclusion)	G2
	Windrow (open) composting	New plant, Aberdeen	No	As above, but new plant, procured outwith SITA contract with potentially lower gate fee, as prices may be more competitive and capital costs can be recovered over a longer contract term	G3
Food	In-vessel composting (IVC)	Existing plant, Aberdeenshire	Yes	Renegotiate existing In-vessel Composting (IVC) contract for Green+ Food Waste, to a Food only IVC contract (new regulations require Food processed separately).	F1
	In-vessel composting	New plant, Aberdeen	Yes	Negotiate construction of new plant in or near City to reduce / eliminate transport costs. May have higher gate fee if prices negotiated (no direct competition) and because any capital investment by SITA may have to be recovered over a shorter term (by 2025 contract conclusion)	F2
	In-vessel composting	New plant, Aberdeen	No	As above, but new plant, procured outwith SITA contract with potentially lower gate fee, as prices may be more competitive and capital costs can be recovered over a longer contract term	F3
	Anerobic Digestion (AD)	Existing plant, Perthshire	Yes	AD treatment is Scottish Government preferred technology (includes energy recovery) but a local plant may not be practical / cost-effective for ACC's projected food tonnage. Transport Food to nearest AD plant (Perthshire)	F4

Material	Process	Delivery	Via SITA ?	Commentary	Ref
Recyclables (inc. glass)	Materials Recovery Facility (MRF) inc. glass extraction capability	Existing plant, Central Belt	Yes	Specialist facility required to extract glass (for re-melt) from the proposed co-mingled recyclable waste stream. Nearest processor is in Central Belt.	RC1
	MRF inc. glass	Adapt existing MRF, or build new MRF, Aberdeen	Yes	Negotiate construction of new MRF in or near City to reduce / eliminate transport costs. May have higher gate fee if prices negotiated (no direct competition) and because any capital investment by SITA may have to be recovered over a shorter term (by 2025 contract conclusion)	RC2
	MRF inc. glass	Build new MRF, Aberdeen	No	As above, but new plant, procured outwith SITA contract with potentially lower gate fee, as prices may be more competitive and capital costs can be recovered over a longer contract term	RC3

Group 2 – More complex solution / procurement required.

Material	Process	Delivery	Via SITA ?	Commentary	Ref
Residual	Export raw residual waste	Potential outlet via new SITA plant on Teeside, from 2014	Yes	Negotiate within current SITA contract. Export of untreated waste to a plant in UK is permitted under current legislation. High transport cost, but offset by limited investment required in Aberdeen. Road Transport assumed for costing purposes but transport by sea may also be an option (may require capital investment at Aberdeen docks). Market continuity risk after SITA contract concludes in 2025 Accurate costing is difficult	R1
	Make Refuse-derived fuel (RDF)	Export to Europe	Yes	Negotiate within current SITA contract. Trans-national export of RDF is permitted. Capital investment required in Aberdeen to make RDF + handling costs (baling), transportation to docks, shipping cost, local transport and EfW plant gate fee in Europe. Market continuity risk after SITA contract concludes in 2025 Accurate costing is difficult	R2

Material	Process	Delivery	Via SITA ?	Commentary	Ref
Residual (cont.)	Energy-from-Waste (EfW)	Commission new EfW / CHP plant in Aberdeen	No	Long lead time. EfW plant unlikely to be in operation for 5-10 years from project start up	R3
	<u>Hybrid 1</u> Export Raw waste (UK) Local EfW from year 5+	Short-term export contracts while local EfW plant procured	Export – Yes EfW - No	These options propose short-term infill export contracts, pending delivery of a local EfW solution	R4
	<u>Hybrid 2</u> Export RDF to Europe Local EfW from year 5+				R5

Appendix B

Waste Processing Technical Options

Indicative "Reference Case" – 1st Draft June 2012

Material	Process	Delivery	Via SITA ?	Commentary	Ref
Green (Garden)	Windrow (open) composting	New plant, Aberdeen	Possibly	New plant, procured outwith SITA contract with potentially lower gate fee (capital costs can be recovered over a longer contract term) If delivery within SITA contract can be negotiated at an effective market price, option G2 may also be possible. G2/G3 capital costs less than G1 transport costs	G3
Food	In-vessel composting	New plant, Aberdeen	Possibly	New plant, procured outwith SITA contract with potentially lower gate fee (capital costs can be recovered over a longer contract term) If delivery within SITA contract can be negotiated at an effective market price, option F2 may also be possible. F2/F3 capital costs less than F1 transport costs Option to add all green waste to Food IVC process (to avoid cost of separate food collection) needs to be explored with Zero Waste Scotland – may need approval / regulatory exemption.	F3
Recyclables	MRF inc. glass	Build new MRF, Aberdeen	No	New plant, procured outwith SITA contract with potentially lower gate fee (capital costs can be recovered over a longer contract term)	RC3
Residual	Energy-from-Waste (EfW)	Commission new EfW / CHP plant in Aberdeen	No	Long lead time. EfW plant unlikely to be in operation until 5-10 years from project start up Potentially high transport costs mitigate against export solutions, even as short term in-fill.	R3

Note: these option combinations are <u>early indications</u> of the most cost-effective solution, and may not be the final configuration for the reference case