Transport & Environment Committee

10am Tuesday 27 August 2013

Redesign of Recycling Services – Outline Business Case

Item number	7.10
Report number	
Wards	ALL

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Executive summary

Kerbside Recycling Review – Outline Business Case

Summary

This paper presents an Outline Business Case for the Waste Services proposal to move from the existing kerbside recycling provision of red and blue boxes towards a twin stream collection approach for low density housing areas (i.e. properties provided with individual wheeled bins for refuse collection), approximately 139,000 of the City's households. The purpose of the business case is to establish if the proposed redesigned service is affordable i.e. the net cost will not exceed the cost of existing recycling services and satisfies Best Value requirements.

The proposal to change the current method of collection is the culmination of a recycling review project commissioned by Zero Waste Scotland (ZWS), on behalf of the Council, in early 2012. The project has been fully funded through ZWS's Local Authority Support programme.

Approval of the proposed twin stream collection approach will result in positive impacts in the following areas:

- To increase the amount of waste collected for recycling and therefore reduce the amount of material disposed of to landfill;
- Increase the Council's household recycling performance in line with National targets;
- To provide a kerbside recycling service that encourages greater participation from residents by providing increased recycling capacity and simplifying residents' involvement;
- Allows the opportunity to improve and integrate recycling services provided to both high density areas and business waste customers;
- To provide a more holistic waste and resource service by adopting 'same day' collection principles; and
- To maximise the operational flexibility of the service by delivering all services using in-house resources and adopting common vehicles to service low and high density areas and business waste customers.

Approval of the Kerbside Recycling Review Outline Business Case will allow procurement to commence for processing capacity, containers, and the vehicles required to implement the proposed twin stream collection approach which will inform the development of a final full business case.

Recommendations

The committee is asked to:

a) Approve the business case for the redesigned kerbside recycling service for low density housing areas and agree that the service should commence procurement of bins, vehicles and processing capacity.

b) Agree to realign communal recycling provision to reflect the changes in the mix of materials being made in kerbside collections and to expand provision where costs can be contained within current budget.

c) Agree to a further report on options and cost for expanding and enhancing communal recycling services for high density housing areas.

Measures of success

- Recycling increases above 50% from 2014/15 onwards.
- The net cost of the new service does not exceed the cost of the current service.

Financial impact

The key determinant for affordability of the proposed recycling service was that the net cost will not exceed the cost of the existing recycling collections. The net cost is the operational cost of the recycling collections (staff, vehicles etc...) and the cost of processing the recyclable material collected less any income derived from the onward sale of the processed recyclate. The business case modelled three different assumptions regarding income from recycled materials – high income of £30 per tonne, medium income of £15 per tonne and zero income. The business case is based on the medium income assumption of £15 per tonne (the most recent industry benchmarking data gave a median price per tonne for dry recyclate of £26)

When comparing the cost of the redesigned low density kerbside recycling collection on its own the net cost is £736,000 less than the current budgeted net costs. However this does not take into account the one off capital cost of £3.3m for the new bins which will be funded through prudential borrowing repayable over 5 years. When the one off capital costs for new bins are taken into account then the net cost is £47,000 more than current budget in year 1and then £76,000 less in years 2 – 5 and then £736,000 less from year 6 onwards..

It is also intended to expand and improve recycling provision in high density housing (tenements/flats) areas. The cost of expanding and enhancing recycling services in high density areas could be introduced together with service efficiencies to deliver a saving of £90,000 compared to the current budget. There will also be one off capital

costs for enhancing the high density housing recycling provision of £2.66m. As with the low density kerbside service it is intend to fund these capital costs from prudential borrowing repayable over five years. The impact on net costs would be an increase in year 1 of £667,000 and of £609,000 in years 2 – 4 and then a saving on the cost of high rise recycling collections of £90,000 from year 6 onwards. However it should be noted it is intended to phase in the expansion and enhancement of high density housing recycling provision over several years and this will enable the one off capital costs to be spread over out over a longer period rather than being incurred all in year 1.

When assessing the overall service cost of implementing the new recycling collections in both low density and high density housing areas and excluding the one off capital costs it is between 6% and 1.5% less than the existing budgeted service costs depending on which assumption on income from recyclable material is used (high, medium or low income). Taking the combined one off capital costs into account the impact on waste services budgets would be to increase expenditure in year 1 of the redesigned services by £714,000 and by £533,000 in the subsequent four years at the end of which the prudential borrowing costs will have been repaid. From year 6 onwards the redesigned services would cost £826,000 less than the current service (based on the medium income assumption).

The business case also assumes a 7.9% % increase in recycling from the redesigned kerbside service and a 1.8% increase from improvements in the high density communal service and a consequent reduction in landfill costs. If this increase in performance is not achieved the cost of landfill will increase. If the landfill tonnage assumed in the model increases by 10% then costs would increase by £362,975. If performance is exceeded, costs would reduce by the same amount.

Equalities impact

The Public Sector Equality Duty (PSED) general duties will be accommodated through the provision of a service which is easier to use, through the continued provision of assisted collections for those people who require them, and by the use of alternative containers where those are required.

Similar benefits would be expected in relation to the 10 key rights in terms of making the service simpler to use, and flexible in terms of its operation.

Sustainability impact

The provisions of the Climate Change (Scotland) Act 2009 would be met in the following ways:

- The provision of an enhanced recycling service will divert additional waste from landfill which will reduce the carbon impact of managing this waste;
- By moving additional waste materials from landfill to recycling, the enhanced service will deliver wider environmental and economic benefits and so contribute to sustainable development.

Consultation and engagement

Public consultation was held during the first quarter of 2013, using demographically representative focus groups, with residents from both low and high density housing areas.

The Council commissioned research to consult with residents to understand the impact of this change on them and to shape the communications and engagement activities.

The research found that the new service addresses most of the points raised by residents.

More detailed consideration of the research and the recycling communications strategy will be given at a future meeting of the Transport and Environment Policy Review Sub-Committee.

Background reading / external references

Recycling Redesign

Report

Redesign of Recycling Services – Outline Business Case

1. Background

1.1 The Kerbside Recycling Review Outline Business Case (appendix 1) details the Waste Services proposal to move from the existing kerbside recycling provision of red and blue boxes towards a twin stream collection approach for properties provided with individual wheeled bins for landfill waste, approximately 139,000 of the City's households. The Kerbside Recycling Review will also seek to enhance recycling from communal collections.

1.2 In early 2012 the Council, via Zero Waste Scotland's (ZWS) Local Authority Support Programme, commissioned a project to review the existing kerbside dry recycling service provision to low density households. The Council was seeking to identify alternative dry recycling collection options that may better achieve the following objectives:

- Improve upon existing recycling performance and enable the Council to meet its internal 50% recycling target ;
- In achieving the recycling target set out above enable the service to deliver against the savings already associated with achieving the target;
- Provide residents with increased capacity to recycle, particularly to underpin managed weekly collections;
- Appreciates and complements the relationship between ease of use by the public and National policy and legislative issues around quality of collected material and the collection of key materials;
- Consider collection systems that are easier to use and understand by the public subsequently increasing the number using the service and diverting material from landfill;
- Consider alternative collections systems that would offer greater potential for integration with commercial waste and high density housing recycling provision; and
- Offer the potential to realise cashable savings across the waste collection service as a whole.

1.3 The decision to review the existing service is also driven by National policy considerations, namely the Scottish Government's Zero Waste Plan (ZWP) and

Waste Scotland Regulations 2012 (WSR). The latter is the regulatory mechanism designed to implement the policy objectives and aspirations of the ZWP. The WSR sets out a clear requirement for the Council to provide a kerbside recycling service no later than 1st January 2014 and collects five key dry recyclable materials:

- Paper;
- Cardboard;
- Glass;
- Metals; and
- Plastics.

1.4 The existing service is largely compliant with the exception that only plastic bottles are currently accepted for recycling in both low and high density housing areas.

1.5 Following a number of stages within the project to consider a wide range of collection options and a stakeholder workshop to identify the Council's preferred option, the Council then engaged with the recycling industry and Zero Waste Scotland. All these stages culminated in identifying a preferred collection option. Recyclable material is collected in a standard bin and a box (or alternative). Paper, cardboard, mixed plastics, and metals would be collected in the bin. Glass, textiles, small waste electrical and electronic equipment (WEEE), and household batteries would be collected with the box.

1.6 The preference has been presented to both the Transport & Environment Policy Sub-committee (December) and the Transport & Environment Committee (January) at which the preferred collection option was approved, subject to this business case.

2. Main report

Proposed Service

2.1 Waste Services propose to provide individual properties with a service commonly termed within the waste industry as a twin stream service. Properties will be provided with two containers, one a standard size bin and the other a box already provided. Crucially both containers will be collected on the same day on a fortnightly basis with less separation of materials than is currently required by the householder, thus simplifying the service for residents and therefore making participation in recycling easier. The benefit is that more residents participate, the amount of material presented for recycling is increased and as a result the amount of waste presented for landfill disposal is reduced

2.2 In making this change to the existing service it is projected that the tonnages collected (based on industry data collected from other similar schemes) for

recycling through the kerbside scheme and therefore diverted from landfill, should increase by around 11,000 tonnes (from 16,000 tonnes to 27,000 tonnes) representing a significant increase upon existing performance and a saving of approximately £1.1 million.

2.3 In addition to replacing the existing low density kerbside recycling service there is also a need to expand and improve communal recycling provision in high density housing areas. This will involve:

- Changing the mix of materials collected in communal recycling containers in line with the redesigned low density kerbside recycling service. (Cardboard, paper, plastics, metals would be placed in one container and where appropriate and practicable a separate container would be provided for glass.)
- Increasing number of sites for communal and on-street recycling
- Increasing capacity of recycling containers at existing and new locations by using the larger 3200 litre side loading bins where appropriate (phased in over 3 years).

Industry data indicates that performance on landfill diversion from communal recycling schemes is significantly lower than that from kerbside recycling and the business case has therefore assumed a reduction of 3,093 tonnes giving a saving of approximately £309,300 per annum.

Business Case

2.4 The review carried out by AMEC (a waste consultancy firm), via Zero Waste Scotland's (ZWS) Local Authority Support Programme, found that there is a significant risk that without investment in a new dry recycling collection system the Council will fail to achieve its internal 50% recycling target. The Council has already 'banked' the avoided disposal costs related to achieving 50% and there is therefore high risk that a proportion of those savings will not be delivered. If the Council overachieves the 50% target there are associated benefits in respect of further avoided disposal cost savings.

2.5 For the current red and blue box service to perform at the same level it is anticipated that the fortnightly frequency would require to be increased to a weekly collection, therefore doubling the number of resources/cost required for the service to run. Based upon the current rate per tonne paid to the existing contractor the annual spend would need to increase to an estimated £3.2 million

2.6 The review of the kerbside recycling service considered a range of options and compared them in terms of cost, legislative compliance and performance. Fully co-mingled dry recyclate collections, which are generally considered the simplest to use and most cost effective collection system, were ruled out on the basis that they do not comply with the Waste (Scotland) Regulations 2012 (WSR). The WSR require local authorities to collect recyclables in a way that ensures they

are of a quality high enough to prioritise closed loop recycling, meaning that materials are recycled back into the same product type (e.g. glass into new glass containers).

2.7 Twin streams options offered the most cost effective alternative. Options remained as to the mix of material to be collected in each container. A market sounding exercise was undertaken to understand the views of re-processors, enabling the most attractive option to be developed thereby maximising income from the materials. This led to the selection of the preferred solution with plastics, cans, paper and cardboard being collected in a bin and glass being collected in a box.

2.8 There are two methods that can be employed to collect recycling under the preferred solution. The first is to use dual compartment refuse collection vehicles (RCV with pod) that enable the co- collection of food waste with other materials. The Council also considered an alternative model in which each bin is collected on a dedicated vehicle that reduces the requirement to procure non standard RCV's.

2.9 The standard RCV approach offers maximum flexibility in respect of the fleet as it can be used elsewhere within the City on other collections should the need arise. Despite employing more staff, this methodology is more cost effective because it improves the productivity of each crew and reduces the number of spare vehicles required across the refuse collection fleet. Although the RCV with pod approach may be perceived, from a public point of view, to be more efficient given that two materials are collected on the same vehicle, the main drawback of the vehicle was considered to be the location of disposal facilities. A key requirement when using a dual compartment RCV is having disposal facilities for different materials co-located in strategic areas. This is not something the Council currently benefits from and is unlikely to do so until 2017, when the food and residual waste treatment facilities at Millerhill are both due to be operational. By this stage vehicles used on the new collection are likely to require replacement and the decision to use dual compartment vehicles can be revisited.

2.10 The financial model therefore assumes the following:

Week	Collection type	Vehicle
One	Food waste	Small food waste vehicle as used currently
	Residual waste	Refuse Collection Vehicle as used currently
	Garden waste	Refuse Collection Vehicle as used currently

Two	Food waste	Small food waste vehicle as used currently
	Blue bin	Refuse Collection Vehicle as used currently
	Blue box	Small recycling vehicle allowing for colour segregation of glass to comply with WSR.

2.11 When assessing the new recycling service against the existing service the costs of the residual collection have also been taken into account. This is because the new service is projected to recycle more material, therefore diverting more material from the residual collection and reducing the Council's landfill tax burden. Further productivity gains (i.e. by increasing the number of bins serviced per route), that will move Edinburgh more in line with industry norms, have also been taken into account.

2.12 The scenarios also assume enhanced recycling is provided in high density areas. This includes greater use of side loading bins for recycling and residual waste in communal areas. These bins provide more capacity via fewer bins and can be collected more efficiently.

2.13 As part of the development of an affordable business case and to test Best Value requirements, the financial model tested and compared a number of scenarios which are outlined in Table 1 below. This includes three scenarios based on the proposed future service but with differing assumptions on the level of income generated from the sale of the materials collected.

Table 1 – Summary of key scenarios

Scenario	Description
As is	The current service with costs based upon 13/14 budget. The services delivered under contract are shown as a cost per tonne only and none of the resources deployed by external contractors are shown.
Services In-house	Assumes the current services are delivered using in-house resources and 13/14 budget costs. The kerbside dry service is delivered using in-house resources collecting the tonnage estimated for 13/14.
Future in house (bin & a box) - High Income	Projects the costs of the whole service based around a box/bin kerbside dry recycling collection and assumes collections are delivered in-house. Processing/sorting of materials would be provided externally. Assumes a high income (£30 per tonne) from the sale of recycling materials. On high density collections this model assumes that side loading bin collections are extended to cover more properties on residual waste and to replace the 1280 litre bin collections for recycling.

Future in house (bin & a box) - Medium Income	As above with a medium income level for dry recyclables of £15 per tonne.
Future in house (bin & a box) - Zero Income	As above with zero income from the sale of dry recyclables (£0 p/t).

2.14 From the scenarios in Table 1 detailed cost modelling was conducted and is presented in Appendix 2. The key determinant for affordability of the proposed new kerbside recycling service was that the net cost will not exceed the cost of the existing recycling collections. The resulting cost comparison is illustrated in Table 2.

Table 2 – Cost comparison of key future scenarios against cost of existing service

£000s	As Is	Future High Income (£30) (OMB Driver only)	Future Medium Income (£15) (OMB Driver Only)	Future Zero Income (OMB Driver Only)
Low density (kerbside) Net Operational costs	14,984	13,929	14,248	14,566
Variance		-1,022 -6.8%	-736 -4.9%	-418 -2.8%
High density (communal) Net Operational Costs	8,410	8,069	8,320	8,468
Variance		341 -4.1%	90 -1.1%	+58 +0.7%
Total Net Operational Costs	23,394	21,998	22,568	23,034
Variance		-1396 -6%	-826 -3.5%	-360 -1.5%

2.15 The value of materials is linked to recycling commodity markets and can be tracked on a monthly basis. The value of materials can decrease as well as increase and there is consequently a degree of risk that the Council will bear. The level of risk the Council is willing to take will dictate the level of material value to be offered back to the Council. It is recommended that the Council does bear some of the material value risk but seeks to cap any liability in the event of severe market down turn. The implications of this are that the Council would therefore not realise the full potential value of the materials supplied but is

protected in the event of a significant reduction in material values. Should the recycling market improve considerably then this should be reflected in any proposed payment mechanism via some form of 'super profit' arrangement.

2.16 Recycling material prices are published and these figures and the prices achieved by other local authorities, using similar collection systems, have been used for benchmarking purposes. The most recent benchmarking data prepared by WRAP (the government funded Waste Resources Action Programme) in early 2012 gave a median price per tonne for dry recyclate of £26 per tonne. Given the volatility of recyclate prices the most prudent scenario to use in determining affordability of the future in-house service is the one based on the medium income figure (£15 per tonne). This gives an annual net operational cost that is £826,000 less than current service provision.

2.17 In addition to the costs presented in the cost model for the proposed recycling service, there are a number of 'one' off costs that would be incurred during the initial implementation of the proposed recycling service. These implementation costs are presented in Table 3.

Table 3 – Implementation cost for proposed recycling service

RESOURCE	Description	COST
CAPITAL (Containers)		
Low Density (kerbside)		£3,327,200
High Density (communal)		£2,659,099
Total Capital		**£5,986,299**
REVENUE		
Customer Service	additional contact centre costs in relation to anticipated increase in call volumes and customer service staff	£87,000
Operational Contingency	Additional spare vehicles and crew to provide back up and minimise any problems during implementation	£94,000
Total Revenue		**£181,000**
Grand Total		**£6,167,299**

2.18 Given the constraints and demands on the Council's General Services Capital budget it is assumed that the capital costs will need to be met through prudential borrowing funded over 5 years at an additional annual cost of £1.36 million. The impact on waste services budgets would be to increase expenditure in year 1 of the redesigned service by £714,000 and by £533,000 in the subsequent four years after which the prudential borrowing costs will have been repaid. However when comparing the cost of the redesigned low density kerbside recycling collection on its own the total cost is £47,000 more than current budgeted costs in Year 1 and then £76,000 less for the next 4 years. This gives a net saving of £257,000 on kerbside collection costs over the 5 year period. It is the cost of

improving and enhancing communal recycling provision in high density property areas that increases the overall costs for waste services.

2.19 The lower rates of landfill diversion and recycling tonnages for communal recycling results in a lower level both of savings on landfill costs and of income from the sale of recyclable materials leading to a higher net cost in the first five years. The cost of the redesigned recycling service in high density areas is £667,000 more than is currently budgeted in year 1 and £609,000 more for Years 2 – 4.

2.20 Given the significant increase in costs in the business case for the expansion and enhancements to high density communal recycling services it is proposed that further work is carried out on both the timeframe for making the improvements and alternative, lower cost solutions. In the short-term it may be more affordable to re-align the mix of materials that are collected in communal facilities to reflect the proposed changes in the kerbside service (i.e. cardboard, paper, plastics and metals all in the same container), to look at starting to expand the number of communal recycling sites and using communications and engagement with residents to increase participation rates.

Key Dependencies

Transition arrangements

2.21 A key consideration as part of the Review of Recycling is the expiry of existing kerbside recycling contract on 31st January 2015. The incumbent contractor currently provides a kerbside collection and processing service for dry waste recyclates but the remaining contract period has been agreed on the basis of a phased replacement of the current service. The intention is to phase in the new service during 2014. The detailed timetable will be largely dependent on the procurement of bins and the practicalities of storing and distributing such a large number of bins.

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2.22 Following the introduction of managed weekly collections the Transport and Environment Committee acknowledged the impact that antiquated data management systems had on the service during the implementation of those changes. The Confirm OnDemand system approved by Finance and Budget Committee on 21st February will be implemented between September and December 2013. This brings a wide range of improvements including more accurate asset management information, real time service performance information via in-cab devices, better systems integration, enabling more efficient working practices, and comprehensive management information

Conclusions

2.23 The key criterion for affordability of the proposed recycling service was that the net cost will not exceed the cost of the existing recycling collections. This has been met for the kerbside service for low density housing areas. The expansion

and enhancement of the communal recycling service in high density areas will result in significant additional costs in the first 5 years. However there are options for reducing costs or spreading costs over a longer period and these will be the subject of a further report.

2.24 The new kerbside recycling service enables the Council to reduce waste disposed of to landfill and provides a better platform for Waste Services to achieve the 50% recycling target set within the Council.

2.25 The next steps towards implementation will include the procurement of contracts for the processing of materials and supply of vehicles and bins.

3. Recommendations

3.1 The committee is asked to:

a) Approve the business case for the redesigned kerbside recycling service for low density housing areas and agree that the service should commence procurement of bins, vehicles and processing capacity.

b) Agree to realign communal recycling provision to reflect the changes in the mix of materials being made in kerbside collections and to expand provision where costs can be contained within current budget.

c) Agree to a further report on options and cost for expanding and enhancing communal recycling services for high density housing areas.

Mark Turley

Director of Services for Communities

Links

Coalition pledges	P44 – Prioritise keeping our streets clean and attractive
Council outcomes	CO17: Clean – Edinburgh's streets and open spaces are clean and free of litter and graffiti. CO18: Green – We reduce the local environmental impact of our consumption and production. CO19: Attractive Places and Well Maintained – Edinburgh remains an attractive city through the development of high quality buildings and places and the delivery of high standards and maintenance of infrastructure and public realm.
Single Outcome	SO4 – Edinburgh's communities are safer and have improved

Agreement	physical and social fabric
Appendices	Appendix 1 – Redesign of Recycling Business Case Appendix 2 – Redesign of Recycling Financial Model

Kerbside Recycling Review

Project Business Case

August 2013

Executive Summary

In early 2012 the Council, via Zero Waste Scotland's (ZWS) Local Authority Support Programme, commissioned a project to review the existing kerbside dry recycling service provision to low density households. The Council was seeking to identify alternative dry recycling collection options that may better achieve the following objectives than the existing collection service:

- Improve upon existing recycling performance and enable the Council to meet its internal 50% recycling target;
- In achieving the recycling target set out above enable the service to deliver against the savings already associated with achieving the target;
- Provide residents with increased capacity to recycle, particularly to underpin managed weekly collections;
- Appreciates and complements the relationship between ease of use by the public and National policy and legislative issues around quality of collected material and the collection of key materials;
- Consider collection systems that are easier to use and understand by the public subsequently increasing the number using the service and diverting material from landfill;
- Consider alternative collections systems that would offer greater potential for integration with commercial waste and high density housing recycling provision; and
- Offer the potential to realise cashable savings across the waste collection service as a whole.

The current service was introduced in 2005, courtesy of the then Scottish Executive's Strategic Waste Fund (SWF) and helped enable the Council to achieve the current level of recycling performance. More recently the tonnage of material collected for recycling has declined to around 14,500 tonnes from a peak of 16,000 tonnes. This in part can be attributed to national trends of reduced newspaper consumption and the strides made by supermarkets and retailers in reducing the amount of packaging of products.

The decision to review the existing service is also driven by National policy considerations, namely the Scottish Government's Zero Waste Plan (ZWP) and Waste Scotland Regulations 2012 (WSR). The latter is the regulatory mechanism designed to implement the policy objectives and aspirations of the ZWP. The WSR sets out a clear requirement for the Council to provide a kerbside recycling service no later than 1st January 2014 and collects five key dry recyclable materials:

- Paper;
- Cardboard;
- Glass;
- Metals; and
- Plastics.

The existing service is largely compliant with the exception that only plastic bottles are currently accepted for recycling in low density housing areas.

National policy also promotes high quality recycling, specifically maximise the quantity and quality of materials available for recycling and minimise the need for residual waste treatment capacity. Although the current service meets the test of achieving high quality recycling it is not considered to be designed in a way to enable maximising the quantity of recycling collected. It is Waste Services firm belief that an alternative collection method can be introduced that maintains a high quality of materials, maximises the quantity by being easier to use for the resident but also takes account of the budgetary pressures faced by the Council and delivers a service in a more cost effective way.

It is therefore the intention of Waste Services to introduce a re-designed kerbside recycling collection to low density properties. The primary objectives are to increase the amount of material collected for recycling by providing a service that's easier to use and enables the householder to recycle more by providing increased capacity for recycling. The secondary objectives are to more closely align the low density service with that provided for high density or flatted properties and to also enable a convenient recycling service provided to commercial customers.

Following a number of stages within the project to consider a wide range of collection options and a stakeholder workshop to identify the Council's preferred option, the Council then engaged with the recycling industry and Zero Waste Scotland. All these stages culminated in identifying a preferred collection option. Recyclable material is collected in a standard bin and a box (or alternative). Paper, cardboard, mixed plastics, and metals would be collected in the bin. Glass, textiles, small waste electrical and electronic equipment (WEEE), and household batteries would be collected with the box.

The preference has been presented to both the Transport & Environment Policy Sub-committee (December) and the Transport & Environment Committee (January) at which the preferred collection option was approved, subject to this business case.

Following approval for Option 1 detailed cost and resource profiling was undertaken to consider the full cost of waste collection services, accounting for a number of service improvements alongside the introduction of the new scheme. The summary results are presented in Appendix 3.

The cost and resource profiling undertaken to support the preferred option suggests that the new recycling service, coupled with an optimised residual waste service to low density households can be delivered more cost effectively than the current services. The new service also enables the Council to reduce waste disposed of to landfill and provides a better platform for Waste services to achieve the 50% recycling target set within the Council.

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August 2013

Introduction

This document forms the Business Case for Waste Services proposal to move from the existing kerbside recycling provision of red and blue boxes towards a twin stream collection approach for properties provided with individual wheeled bins for landfill waste, approximately 139,000 of the City's housing stock.

The proposal to change the current method of collection is the culmination of a recycling review project commissioned by Zero Waste Scotland (ZWS), on behalf of the Council, in early 2012. The project has been fully funded through ZWS's Local Authority Support programme.

Background

The kerbside recycling service is currently provided to approximately 165,000 properties across the City and is operated by a recycling partner on the Council's behalf in return for a per tonne collected payment. The current rate of payment is £124 per tonne. The 2012/13 spend on this contract is projected to be £1.71M. The Council does not realise any income from the value of the materials collected. The contract with the recycling partner was extended to 31st January 2015.

A significant percentage (85%) of the properties currently offered the service is considered to be low density[1]. The current service comprises a two box collection provided to households and collected on alternate weeks. The blue box is provided for glass and cans and is presented alongside a re-usable bag for paper, a bag for textiles and a small bag for household batteries. The red box is collected on the alternate week and is provided for cardboard and cardboard drinks cartons. Plastic bottles are presented in a bag alongside the red box.

The current service was introduced in 2005, courtesy of the then Scottish Executive's Strategic Waste Fund (SWF), and has helped enable the Council to achieve its current recycling performance level. More recently the tonnage of material collected for recycling has declined to around 14,500 tonnes from a peak of 16,000 tonnes. This in part can be attributed to national trends of reduced newspaper consumption and the progress made by supermarkets and retailers in reducing the amount of packaging of products. The service is anticipated to recover around 14,350 tonnes in 2012/13 and 16,000 tonnes in 2013/14. The projected increase is assumed to be as a result of the recent move towards Managed Weekly Collections, specifically the reduction in the collection frequency of landfill waste. The tonnage anticipated to be recovered in 2013/14 is part of a package of recycling services designed to enable the Council to achieve 50% recycling of all waste by 2014/15.

There is significant risk that without investment in a new dry recycling collection system the Council will fail to achieve its internal 50% recycling target. The Council has already 'banked' the avoided disposal costs related to achieving 50% and there is therefore high risk that a proportion of those savings will not be delivered. If the Council overachieves the 50% target there are associated benefits in respect of further avoided disposal cost savings.

[1] Low density properties are those which are served by an individual bin for non-recyclable (landfill) waste and a kerbside food collection.

It is therefore the intention of Waste Services to introduce a re-designed kerbside recycling collection to low density properties. The primary objectives of the new service are to increase the amount of material collected for recycling by providing a service that's easier to use and enables the householder to recycle more by providing more capacity for recycling. The secondary objectives are to more closely align the low density service with that provided for high density or flatted properties and to also enable a convenient recycling service provided to commercial customers.

Proposed Service

Waste Services propose to provide individual properties with a service commonly termed within the waste industry as a twin stream service. Properties will be provided with two containers, one a standard size bin and the other a box (similar to that currently provided). Crucially both containers will be collected on the same day on a fortnightly basis with less separation of materials than is currently required by the householder, thus simplifying the service for residents and therefore making participation in recycling easier. The benefit is that more residents participate, the amount of material presented for recycling is increased and as a result the amount of waste presented for landfill disposal is reduced and the costs of disposal therefore avoided.

In order to remove some of the barriers to recycling faced by the public the proposed service has been developed with as much operational flexibility in mind as can reasonably be done. Where some properties may not be able to accommodate another full size bins there is a commitment within the service that alternative container options can be provided to encourage participation.

In making the proposed change to the existing service it is projected that the tonnages collected for recycling, and therefore diverted from landfill, should increase to around 27,000 tonnes representing a significant increase upon existing performance.

For the current service to perform at the same level it is anticipated that the current fortnightly frequency would require to be increased to a weekly collection, therefore significantly increasing the number of resources, and therefore cost required for the service to run. Based upon the current rate per tonne paid to the existing contractor the annual spend would need to increase to an estimated £3.35M.

In developing the proposed new kerbside collection system a number of Local and National drivers have been taken into account and are outlined and discussed in the following section.

Strategic Fit: National and Local Policy Drivers

Local Drivers

There are a number of policy drivers that have influenced the review and re-design of a kerbside recycling service. In respect of local drivers there is a desire within Waste Services to provide a kerbside collection that collects as wide a range of materials as possible, is easy to use from a resident's point of view, and finally encourages higher participation and therefore diversion of waste from landfill and improved recycling performance in line with national and internal targets.

From a 'local' perspective the Council's Single Outcome Agreement (SOA) commitment has also influenced the development of the proposed collection service. The provision of a redesigned recycling service which diverts waste from landfill will assist in achieving the following SOA commitments:

12 – We value and enjoy our built and natural environment and protect it and enhance it for future generations.

12(a) – Our environment is protected and enhanced.

14 – We reduce the local and global environmental impact of our consumption and production.

14(a) – Recycling of waste has increased and the amount of waste going to landfill has decreased; and

14(b) – The Council's carbon footprint has reduced.

15 – Our public services are high quality, continually improving, efficient and responsive to local people's needs.

15(a) - Public perceptions of public services have improved; and

15(b) - Public services are more efficient and effective.

The proposed service will increase the amount of waste recycled and therefore reduce the amount of waste being disposed of to landfill. This is achieved by providing a simplified service that is easier to participate in from a resident's perspective. The new service is estimated to divert around 26,000 tonnes. The existing service is projected to divert just in excess of 16,000 tonnes in 2013/14 and, given the frequency of collection, is unlikely to improve. This has a positive outcome in respect of SOA commitment 14(a).

It is anticipated that the new service will also have a positive impact against SOA commitment 14(b), to reduce the Council's carbon footprint. This will be achieved through reducing the Council's reliance upon landfill disposal and through a reduction in the number of vehicles required to deliver the service. The current service requires a minimum of 17 vehicles deployed on a daily basis. The new service requires 11.5 vehicles deployed on a daily basis. The half vehicle is a smaller vehicle and is shared across services.

The survey comprised 13 focus group sessions and was undertaken on behalf of the Council by a research agency. A total of 112 residents, both users and non users of recycling services, took part in

the sessions. The sessions covered a wider range of recycling issues than just the kerbside dry recycling service however part of the sessions focused exclusively on the box service.

At the time the collection of plastics was considered to be a necessary improvement to the service. This feedback has since been addressed and the service now collects plastic, albeit only bottles, alongside the red box.

In summary, the proposed kerbside recycling service will have a positive impact against those key SOA outcomes identified above and enhance existing performance against them.

National Drivers

The current national policy drive, shaped by EU and national legislation and policy, is to find more sustainable ways of managing waste and is the result of a fundamental shift in society's perception from discarding materials as a waste towards regarding materials as a valuable resource. As a result, there is a genuine desire to change from traditional waste management to resource efficiency and reduce the amount of waste being disposed of to landfill via waste minimisation, recycling and composting. It is these legislative and financial drivers that have shaped the vision of the Council, which is to provide an infrastructure and service solution that supports waste minimisation and re-use, high recycling and composting, and the production of energy from the treatment of the remaining waste destined for landfill.

The Scottish Government's Zero Waste Plan (ZWP) underpins this desire and cultural shift from traditional waste management towards resource management. The new approach to achieving Zero Waste for Scotland has been to introduce a number of measures including:

- Mandatory requirements to pre-sort recyclable materials;
- Landfill bans on mixed unsorted waste;
- A limit on the biodegradable content of waste that can be landfilled; and
- A restriction on what can be sent for thermal treatment.

The ZWP also revised recycling and composting targets with the focus for Councils initially changing from all collected waste to household waste. The revised targets are illustrated in the following table:

Date	Activity
1st April 2013	Scottish Government 50% Recycling and Composting target based on tonnage metric.
31st December 2013	Offer dry recyclables collection service and begin roll out of food waste.
	Ban on mixing source segregated materials
	Ban on the landfill and incineration of source segregated materials
31st December	Complete roll out of food waste collections

2015	Requirement to remove dense plastics and metals from residual waste prior to incineration (existing facilities)[2].
1st April 2020	Scottish Government 60% Recycling and Composting target based on tonnage metric.
	EU revised WFD 50% Recycling and Composting target by weight.
	BMW LAS targets still apply.
31st December 2020	Biodegradable waste with a Total Organic Content that is greater than three percent is banned from landfill disposal.
1st April 2025	Scottish Government 5% cap on all MSW to landfill
	Scottish Government 70% Recycling and Composting target based on tonnage metric.

The regulatory mechanism by which these policy aspirations and objectives intend to be delivered are via the Waste Scotland Regulations 2012 (WSR). The WSR contain a range of measures designed to deliver these objectives and are more wide ranging than being just related to the collection of kerbside dry recyclables. This business case only outlines those regulatory requirements that relate to the proposed new recycling collection.

The Waste (Scotland) Regulations 2012 introduce a series of regulatory measures to:

- maximise the quantity and quality of materials available for recycling and minimise the need for residual waste treatment capacity;
- move residual waste management up the waste hierarchy so as to extract resource value from those materials we can't recycle;
- create the market certainty needed to support investment by businesses in the recycling, materials reprocessing and waste management sector; and
- improve public confidence in recycling to help reaffirm Scotland's position as a recycling nation.

The Waste (Scotland) Regulations 2012 were passed by the Scottish Parliament in May 2012. The regulations make the following provisions in relation to the Council and the collection of dry recyclables.

- Businesses to present metal, plastic, glass, paper and card for separate collection from 1 January 2014;

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- Local authorities to provide a minimum recycling service to householders comprising the collection of paper, cardboard, glass, metals, and plastics no later than 1st January 2014; and

- A ban on any metal, plastic, glass, paper, card and food collected separately for recycling from going to incineration or landfill from 1 January 2014;

At the current time the existing low density service is not considered compliant in respect of the range of materials currently collected at the kerbside. The service only accepts plastic bottles for recycling and would therefore need to expand to collect all plastics no later than 31st December 2013 to ensure compliance with the WSR.

The proposed kerbside service ensures the Council will be compliant with the regulatory requirements outlined above, enables the Council to meet and potentially exceed its own 50% recycling target, and reduces the Council's landfill tax burden.

Key Objectives & Outputs

The key objectives in introducing the new recycling collection service can be considered as being:

- To provide an easy to use and understand kerbside recycling service to residents of Edinburgh;

- To increase the amount of material collected for recycling and therefore positively impact upon overall recycling performance in line with National and Council targets;

- To introduce a collection system that is delivered using in-house resources and allows for closer integration of vehicles across the service to increase flexibility in service delivery;

- To introduce a collection system that provides the opportunity for closer integration with services provided to flats and businesses; and

- To provide a service that is compliant with the requirements of National legislation.

It is generally recognised that kerbside recycling services encourage high participation where the range of materials collected exceeds five and the service is relatively simple for the householder to use. The current service, arguably, does not fulfil the latter point as the blue box and bags are collected on the first week and the second box, with different materials, is collected on the alternate week. Furthermore the boxes are collected on different days to the other containers provided for non-recyclable, garden, and food wastes.

The proposed service seeks to simplify recycling at the kerbside. Two containers will be provided to each individual household and both containers will be collected on a fortnightly frequency and on the same day. As far as possible the collection day will be the same as that for the other kerbside waste services provided by the Council. An example is outlined in the table below:

Proposed Service	
Week 1 (Same day collection)	**Week 2 (Same day collection)**

Landfill waste & Food waste	Dry Recycling waste, Food waste, Garden waste
Current Service	
Week 1 (Same day collection)	**Week 2 (Same day collection)**
Landfill waste & Food waste	Food waste & Garden waste
Week 1 (Different day collection)	**Week 2 (Different day collection)**
Blue box, Re-usable bag, textile bag	Red box, sack for plastics, bag for batteries

The range of materials collected under the new service will also increase when compared to the current 'baseline' of materials. In addition to those currently collected all types of plastic will be accepted and small electrical items will also be recycled.

The existing service is projected to recover 14,350 tonnes in 2012/13 and 16,072 tonnes in 2013/14. Despite the recent downward trend in tonnages collected it has been assumed that the recent move to a Managed Weekly Collection system will account for the projected increase for 2013/14 given that it will be the first full year of the change being implemented. The tonnage diverted from the kerbside service in 2013/14, in conjunction with other recycling initiatives, projects the Council achieving 46%. Without investment in the proposed recycling service the Council is at significant risk of not achieving 50% recycling in 2014/15.

The shortfall in tonnage approximately comprises 8,400 tonnes and, assumed at £115 per tonne for landfill disposal, would cost the Council in the region of £1M for disposal and the Council's internal recycling target would not be met. The service would also be unable to deliver the savings associated with achieving 50% recycling.

The proposed service is estimated to allow the Council to divert the additional 8,400 tonnes, therefore avoiding the landfill disposal costs, and potentially provide an income per tonne for the materials collected. The proposed service can therefore help deliver 50% recycling and the associated savings that have already been identified within the Council.

As far as possible it is the intention to mirror the new low density collection in areas of high density housing. Currently residents in flats use a communal recycling and waste collection system. Residents can recycle paper in blue lidded communal bins and packaging materials (plastic bottles, cans, cardboard and drinks cartons) in green lidded bins. It would be intended that one of the bins would be changed to accept the same materials as the 'traditional blue bin' provided to low density households. The potential to provide a communal container for glass needs to be more closely considered with internal stakeholders due to long standing concerns over noise and safety issues. It should however be noted that the WSR requires the Council to provide the opportunity to recycle glass in a manner that achieves the same yield of material as would be collected at the kerbside. In high density areas the only way in which this regulatory requirement can be achieved is through the provision of on-street glass banks similar to those provided to similar housing in Glasgow.

The WSR also places a regulatory requirement on businesses to separate waste for recycling. As such it is wholly conceivable that the Council will be approached by existing and new customers requesting a recycling collection. The current kerbside box service does not lend itself well to business waste recycling but the proposed service improves this by providing more capacity in a more traditional container that is arguably easier to store.

Options Appraisal

At the commencement of the recycling review project a number of potential collection options were given detailed consideration. In all twelve collection options were considered and the cost and resource implications of each option was modelled. An internal workshop filtered the 12 options down to the Council's 2 preferred options:

Option 1: Paper, cardboard, metals, and plastics are collected in a bin. Glass is collected in a box (or similar container). Small electrical items, household batteries and textiles can be collected alongside either the bin or the secondary container; or

Option 2: Paper and cardboard is collected in a box (or similar container) whilst glass, plastics, and metals are collected in a bin. Textiles, small electrical items, and household batteries can again be collected alongside either the bin or secondary container.

Following identification of the 2 options the recycling industry was engaged with to establish a preference for either Option. Overwhelmingly the industry's preference is for Option 1 as the mix of materials is easier to process. There are limited reprocessing options for the mix of materials in Option 2, particularly the glass, metals and plastics, which could severely restrict competition at tendering. It is currently understood that even sourcing processing capacity that can recover the glass from the other materials it is highly likely that potentially 90% of the recovered glass would go to aggregate production rather than new bottles or jars but this should be tested at procurement. When considering this alongside the Scottish Government's recently published Waste Hierarchy Guidance there is significant risk that glass sent for aggregate processing may not be counted towards recycling performance.

From a Council perspective **Option 1** holds significantly less risk than Option 2.

Shortly following engagement with the recycling industry a presentation was delivered to the Transport & Environment Policy Sub-committee, at which support was indicated for the Council's preferred option, **Option 1**. A committee report was submitted to Transport & Environment Committee on the 15th January, at which approval was sought and granted to develop this full business case as the next stage in developing Option 1.

The considered strengths and weaknesses of Options 1 and 2 are contained within **Appendix 1**.

Collection Options

In respect of the collection of Option 1, there are two methods that can be employed. The first is to use dual compartment Refuse Collection Vehicles (RCV with pod) that enable the co- collection of food waste with other materials.

Week 1: Food waste and non-recyclable waste are collected on the same vehicle (requires new RCV vehicles);

Week 2: Food waste and the dry recycling bin contents are collected on the same vehicle (as above – new RCV vehicles). The glass stream is collected on the same day but on another vehicle (requires new vehicles). Garden waste is collected on a separate vehicle.

The Council can also consider an alternative collection model that reduces the requirement to procure non standard RCV's.

Week1: Food waste is collected on a dedicated vehicle (existing fleet). Residual waste continues to be collected on a standard RCV (existing fleet).

Week 2: Food waste is collected on a dedicated vehicle (existing fleet). Glass is collected on a dedicated vehicle (requires new vehicles). The 'blue bin' contents are collected on a standard RCV (utilising existing fleet if available otherwise additional vehicles are required). Garden waste is collected on a separate vehicle.

An internal workshop was held to consider the strengths and weaknesses of the two collection options identified. These can broadly be considered as those shown in the table below:

Vehicle type	Standard RCV	Dual Compartment RCV
Strengths	Maximises flexibility across collection types throughout the City; Larger vehicle capacity than alternative allows for more efficient route sizes; Increased vehicle availability on hire market if needed.	Removes need for standalone food collection; Perceived to be more efficient in collecting 2 materials on 1 vehicle; Only requires two vehicles in street on collection day.
Weaknesses	Approach requires 3 vehicles in street on collection day; Perceived to be less efficient than the RCV/Pod option (in respect of vehicle numbers accessing streets on any one day); Approach still requires standalone food waste collection; Possible perception that recycling just disposed of in landfill because of the vehicle type collecting it.	Increased annual maintenance costs; Higher purchase cost; Reduced availability on hire market where breakdowns occur; Also requires replacement of vehicles on residual waste collection with pod; If Pod is not specified to correct size it reduces efficiency of collection; Subject to disposal locations of materials, will likely incur additional transport costs for bulk haulage; Restricted capacity of back end reduces

		opportunity to maximise route sizes; Vehicle has been trialled and Union concerns raised about operative safety.

The standard RCV approach offers maximum flexibility in respect of the fleet as, with the exception of OMBs, it can be used elsewhere within the City on other collections should the need arise. It was felt that the RCV/pod approach would be perceived, from a public point of view, to be more efficient given that two materials are collected on the same vehicle. The main drawback of the dual compartment vehicle was considered to be the location of disposal facilities.

A key requirement of the approach using a dual compartment RCV is having disposal locations in strategic areas. This is not something the Council currently benefits from and is unlikely to do so until 2017 when vehicles used on the new collection are likely to require replacement anyway. The logistical impact upon the service of not having strategic tipping locations could be quite significant. As an example, on week 1 the vehicle collects residual waste and food waste. Residual waste would be taken to Powderhall and food waste would also be tipped at Powderhall. Once the Council's food waste treatment facility is operational at Millerhill the food waste would then require to be backhauled to Millerhill, incurring the transport costs. On week 2, and subject to the location for tipping the recycling materials, the Council will need to tip the food waste at the same location as the dry recycling. The food waste would then need to be backhauled to Millerhill, again incurring additional transport costs. The use of a standard RCV avoids the issues around logistics.

The table below summarises the logistical issues associated with the use of a dual compartment vehicle. The dual compartment vehicle collects both residual and food waste on the same vehicle and as the table below highlights it is unlikely that using this type of vehicle wouldn't be suitable until 2017, when disposal locations are more strategically located.

	2013/14	2015	2017
Food Waste	Cumbernauld via Powderhall	Millerhill, Midlothian	Millerhill, Midlothian
Residual Waste	Dunbar via Powderhall	Dunbar via Powderhall	Millerhill, Midlothian

Dry Recycling	MRF, direct delivered or via Powderhall	MRF, direct delivered or via Powderhall	MRF, direct delivered or via Millerhill/alternative

Flexibility of collections

The workshop also considered how the service can be considered as 'user friendly' and encourages high participation at the kerbside. This session focused upon the range of alternative containers available on the market that could be offered as an alternative to the standard box/bin.

It was considered that the best approach, should the service be contacted by someone who cannot accommodate a box/bin, would be to arrange a visit to consider alternative options. This could conceivably lead to properties in any one street presenting different containers (from re-usable bag to bin) and the vehicle would therefore need to be specified to allow for emptying of a range of container types.

It was acknowledged that a number of properties, approximately 30,000, are currently served by the existing box collection but are unlikely to be suitable for the bin/box collection. It was generally agreed that these properties should be surveyed with a view to developing the most appropriate collection solution.

In both cases the current and future issues around the quality of glass and how it can be maintained it is likely that the Council would need to respond by introducing a standalone glass collection. Industry intelligence and advice from ZWS suggests that the collection of glass mixed is unlikely to be able to meet the quality requirements of closed loop[3] recycling, certainly amongst Scottish processors.

The likely requirement to provide a standalone glass collection that maintains colour segregation at the kerbside does increase the annual operational costs to the Council. It would be worthwhile investigating the potential for any third party funding support to offset the additional costs. ZWS were offering funding support to introduce colour segregated kerbside collections in the 2012/13 financial year. It has not been confirmed whether this support package will be available when the proposed new collection is introduced but the opportunity to explore third party funding support should not be discarded, particularly as the proposed new service complements ZWS policy in respect of the colour segregation of glass.

Preferred Option

Having considered the relative strengths and weaknesses of the vehicle options available to deliver the new service, the preferred method of collection is Option 1 – to utilise standard RCV's. The service would therefore be structured in a manner similar to the example below:

Week	Collection type	Vehicle
One	Food waste	Small food waste vehicle

[3] Closed loop recycling, in the example of glass, relates to glass being recycled back into bottles and jars.

	Residual waste	RCV
	Garden waste	RCV
Two	Food waste	Small food waste vehicle
	Blue bin	RCV
	Blue box	Small recycling vehicle

Cost Appraisal

The summary results of the cost and resource profiling exercise to support this business case are attached at **Appendix 2**. An element of due diligence needs to be undertaken by the Council's finance officers although unit costs have been sourced from the Council where possible and industry information has been used to supplement costs the Council is unable to provide. Both the 'as is' and future cost models have been developed in conjunction with Council Officers to ensure accuracy of assumptions and are based upon 2013/14 budgets.

If the Council does not make any significant change to the existing kerbside recycling service there is significant risk that the internal 50% recycling target will not be achieved and the associated landfill savings will not be achieved. The new service provides a better platform to achieve 50% recycling and also provides an enhanced recycling service in high density areas, as required by the WSR. The service across both low and high density areas is mirrored in respect of materials recycled so provides an equality of service regardless of housing type.

The costs of the new recycling service have been modelled based upon the use of standard RCV's and incorporated within the wider service costs. The summary costs of both the 'baseline' service and the 'future' service are provided at **Appendix 2**.

A number of different scenarios have been profiled; 'As is' to capture the current service, the cost of all current services if delivered in-house (Services in house), the cost of the 'future' scenarios. The latter scenarios have been modelled assuming 3 cost profiles depending upon the potential value of recycling materials collected. The value of the materials will depend upon undertaking a procurement exercise.

The net operational cost of the 'As is' service is estimated to be £23.394M per annum. The future service, inclusive of an enhanced recycling service in high density areas, assuming an income of £30 per tonne for dry recycling materials is estimated to cost £22.602M p.a. A service with a medium income (£15 per tonne) is estimated to cost £23.172M, and likely to provide a better platform to achieve the Council's 50% recycling target compared to the 'As is' scenario.

When assessing the new recycling service against the existing service the costs of the residual collection must also be taken into account. This is because the new service is projected to recycle more material, therefore diverting more material from the residual collection and reducing the Council's landfill tax burden. Considering the net operational costs of the residual and dry recycling collections in the 'As is' scenario the estimated annual cost equates to £10.8M. The Future service,

assuming a medium income, equates to £10.1M, a saving of around £740K. The cost differential is largely down to more material being diverted from landfill towards recycling. This cost gap will only increase as the landfill tax escalator continues to take effect.

Each of the new services does see an increased cost in respect of a like for like comparison of high density services, largely as a result of increased service operational costs such as staff and vehicles. Each of the future scenarios contains a presumption that the Council moves towards increased use of side loading bins and vehicles (OMB's) for both recycling and residual wastes. The reasons for this is that for each set of paper and packaging recycling bins, 1 OMB could be substituted and provide increased capacity. This would allow for a mixed glass bin to be sited alongside, therefore increasing the range of recycling options in high density areas. Although there may be noise concerns around the siting of glass recycling bins in on-street areas the WSR clearly sets an expectation that glass, among other materials, recycling must be provided no later than 1st January 2014.

The cost and resource profile does not assume the potential for any external funding, such as from Zero Waste Scotland, associated with enhanced recycling services. It is recommended that the Council opens and maintains dialogue with ZWS over potential funding opportunities subject to the new service being approved.

There are additional capital costs required for each of the new services and these are associated with expenditure on new bins, for both low and high density services.

Procurement Strategy – Commercial Considerations

There are two key procurement exercises that need to be undertaken following approval to proceed. Both are critical to the ongoing and long term success of the proposed new service.

The first procurement exercise is to identify and secure the appropriate number and specification of vehicles to deliver the service. This exercise will be undertaken in conjunction with internal procurement, fleet service, and the fleet workshop to determine the vehicle specification. It is intended to involve existing collection staff with co-design teams as a key part in the fleet procurement process, particularly in developing the technical specification for the new collection vehicles.

The second procurement exercise is to identify and appoint a materials recovery and recycling partner. Due to the way in which materials will be collected there is a requirement to appoint a suitably experienced Materials Recovery Facility (MRF) for the recyclables to be delivered, sorted, and the value extracted.

The procurement will be undertaken in line with the Public Contracts (Scotland) Regulations 2012.

It is currently envisaged that the Restricted Procedure will be used to appoint the recycling partner. The contractual requirement is not complex enough to warrant use of the Competitive Dialogue procedure but the Restricted procedure and the Pre Qualification Questionnaire (PQQ) stage will ensure the Council appoints a partner with the required track record to ensure a high quality of recycling is achieved and maintained throughout the contract duration. Ensuring high quality

materials are collected and processed is a pre-requisite of both National policy and legislation and the Council therefore needs to be comfortable that those companies bidding to become the Council's partner are suitably experienced. Recent engagement with the industry suggests that no less than a 3 year contract duration (with or without extensions) is favoured.

Given that the proposed collection comprises two material streams, traditional blue bin and glass, it is proposed that the contract is split into two lots. The first lot will be to accept and process the blue bin contents whilst the second lot will be for the glass, small electrical equipment, household batteries and textiles. Bidders will therefore be afforded the position to bid on either or both lots subject to their ability to process it. The associated timescales are included in the attached extract from the Project Plan.

With regard to the second lot, the potential bidders ability to colour sort glass and supply no less than 90% to remelt applications should be a critical factor. If a potential bidder can commit and guarantee the ability to accept mixed glass and access remelt markets the Council would not need to introduce a colour segregated collection and would therefore benefit in terms of reduced operational costs. It may therefore be an effective strategy to develop the second lot within the contract to provide an option for bidders to either commit to taking mixed or colour segregated glass.

Following the PQQ stage a minimum of 5 companies will be issued with Invitation to Tender (ITT) documents.

The Council's strategy with regard to this particular procurement needs to focus in two key areas. The first area is that the appointed partner has the capability to demonstrate that materials can be processed and recovered in a manner that ensures the materials processed meet a high quality. This needs to be tested by providing bidders the opportunity to demonstrate that robust auditing of incoming and outgoing materials is undertaken, along with a sampling regime. A commitment to achieving future MRF quality standards, currently being developed by the Scottish Government, would be valued highly.

The second area is with regard to enabling the Council to realise some of the material's economic value. The value of materials is linked to recycling commodity markets and can be tracked on a monthly basis. The value of materials can decrease aswell as increase and there is subsequently a degree of risk that the Council will bear. The level of risk the Council is willing to take will dictate the level of material value to be offered back to the Council. It is recommended that the Council does bear some of the material value risk but seeks to cap any liability in the event of severe market down turn. The implications of this are that the Council would therefore not realise the full potential value of the materials supplied but is protected in the event of a significant reduction in material values. Should the recycling market improve considerably then this should be reflected in any proposed payment mechanism via some form of 'super profit' arrangement.

The ITT documents will clearly outline the Council's position and invite bidders to propose a transparent pricing mechanism, linked to published market values, that recognises the Council's risk position but does allow for a share of material value.

It is recommended that the Council evaluate on the basis of a 60:40 split between price and quality. The financial aspect, both in terms of potential income to the Council but limiting liability around market risk will be a key element for evaluation. In addition, ensuring the appointed partner has robust quality control mechanisms in place, at both input and output stages, to ensure the processing of high quality materials is a key consideration in respect of National policy and legislation.

Stakeholder Communications

A robust strategy needs to be developed with colleagues from the Council's corporate communications department. The introduction of this service represents a significant change for the Council and the final, key, recycling roll out having recently introduced food waste collections and moved residual collections from weekly to fortnightly. As a result it represents a good opportunity to re-launch the service as a whole package and place increased emphasis upon recycling services rather than residual waste services.

There are a range of stakeholders, both internal and external, that require to be engaged with on an ongoing basis throughout the project lifecycle.

Internal Stakeholders

The key internal stakeholders can be considered as:

- Senior Management;
- Elected Members;
- Neighbourhoods;
- Corporate Communications;
- Finance
- Improve It programme; and
- Zero Waste Project team.

The way in which internal stakeholders are engaged with, and the frequency of engagement, will vary according to their influence over the project and the level of interest in the project. Those parties considered as having high influence and high interest would be Senior Management, Elected Members and Finance. These groups need to be fed project progress information on a regular basis face to face.

The remainder of the list can be considered to be those with a lower level of influence over the project but a high level of interest. To recognise that level of interest a monthly briefing note should be circulated that outlines project progress.

In respect of Corporate Communications they will need to be engaged with on a more frequent basis as they will play a key part within the project team in developing communications methods and materials at pre and post service launch.

External Stakeholders

The key external stakeholders can be considered to be:

- The public;
- Community Groups/Community Councils; and
- Zero Waste Scotland.

Community groups, councils and local newspapers will have a high interest in the project and could potentially have a key role in the project by supporting it within their local communities. As such they should therefore be regularly updated on progress.

The public will have a high interest but need to be engaged with in a different way to the other listed external stakeholders. The method and timing of communications on a mass scale will be guided by communications colleagues. Subject to this business case, a full communications strategy will be developed.

Zero Waste Scotland will have a keen interest in the progress of the project, being low power but having a high interest. As such they should be updated on progress on a regular basis, particularly if the Council has sought and received funding to support the introduction of the service.

Conclusions and Recommendations

It is recommended that the Council agrees to implement the proposed new recycling service and notes the positive impacts it is anticipated to have in the following areas:

- To increase the amount of waste collected for recycling and therefore reduce the amount of material disposed of to landfill;
- Increase the Council's household recycling performance in line with National targets;
- To provide a kerbside recycling service that encourages greater participation from residents by providing increased recycling capacity and simplifying residents involvement;
- Allows the opportunity to examine options for greater integration with recycling services provided to both high density areas and business waste customers;
- To provide a more holistic waste and resource service by adopting 'same day' collection principles and where possible collecting materials on the same vehicle; and
- To maximise the operational flexibility of the service by delivering all services using in-house resources and adopting common vehicles to service low and high density areas and business waste customers.

Next Steps

Subject to gaining approval to advance the introduction of a new kerbside recycling service, the next initial stages are proposed to be as follows:

- Appoint a project team to oversee delivery throughout the project lifecycle;
- Commence the procurement process for a materials recovery and recycling partner;
- Hold a number of internal workshops with key project stakeholders to develop a project implementation plan; and
- Undertake public consultation on the proposed new service to identify how the service can respond to barriers to participation.

Appendix 1

Strengths & Weaknesses of Options 1 & 2

The strengths and weaknesses of Options 1 & 2 can be considered as being those illustrated in the table below.

Collection Option	Strengths	Weaknesses
Option 1	Glass is collected separately so ensures higher quality of glass and other materials.	A standalone glass collection may not be suitable for flatted properties
	Will provide an income stream to the Council. Value will vary subject to market conditions	Health and safety implications around the weight of glass containers and noise issues need to be managed
	A range of reprocessing options for both material streams so allow for increased competition when tendering	Income level cannot be guaranteed as subject to market conditions
	Could be offered to commercial customers as recycling package	
	Arguably better contains wind-blown litter than option 2 as lighter items are contained within a bin.	
	Provides increased capacity for recycling to residents and simplifies the system	
	Complies with regulatory requirements in terms of the range of materials	
Collection Option	Strengths	Weaknesses
Option 2	Will provide an income stream to the Council. Value will vary subject to market conditions	Mixed glass is collected with other materials which will affect the quality of the materials.
	Provides increased capacity for recycling to residents and simplifies the system	Risks around quality and end use of glass are significant and may lead to loss of recycling performance
	Complies with regulatory requirements in terms of the range of materials	Limited reprocessing options locally so reduced competition when tendering
	Could be offered to commercial customers as recycling package	Income level cannot be guaranteed as subject to market conditions
	Mix of materials better suited for flatted areas	Health and safety implications around the weight of paper and cardboard containers

Option 2 was designed with 'container' materials (metals, plastics, glass) being collected together as one material stream before being sent for sorting. It was understood at that time that a large

national waste company, with a local base, intended to make significant investment in equipment with the ability to optically sort glass into 3 colours and supply that glass to be recycled into new bottles and jars. It is more recently being suggested that sorting glass into the 3 colours and achieving a quality allowing it to be made into new bottles and jars is not possible and glass would therefore likely go to aggregate production. All Councils have recently received a letter from the Scottish Government that suggests glass collected and used for production of aggregate may not be counted as recycling tonnage as the environmental value of this recycling route is similar to simply sending glass to landfill. This is reinforced by the recent consultation on the proposed Waste Hierarchy Guidance. Pursuing Option 2 therefore holds significant risk for the Council.

Given the likely inability of processors to recover the glass and return it to the re-melt industry this Option was effectively discarded. **Option 1** therefore became the Council's preferred option for the collection of dry recyclables.

Appendix 2

Summary Cost and Resource Profiling

August 2013

Service element	As is			Services In-house			Future in house (Optimised) High			Future in house (Optimised) Medium			Future in house (Optimised) Zero			OMB Driver only (Medium)			RCV only (Medium)		
	Low Density	High Density	Total	Low Density	High Density	Total	Low Density	High Density	Total	Low Density	High Density	Total	Low Density	High Density	Total	Low Density	High Density	Total	Low Density	High Density	Total
Tonnage collected	102989	58466	161454	102989	58466	161455	107770	53643	161413	107770	53643	161413	107770	53643	161413	107770	53643	161413	107770	53643	161413
Number of vehicles (exc spares)	20	13	33	48	17	64.5	31	24	55	31	24	55	31	24	55	31	24	55	31	26	57.0
Number drivers (excludes cover staff)	39	23	62	67	28	95	62	47	109	62	47	109	62	47	109	62	47	109	62	52	114
Number loaders (excludes cover staff)	78	36	114	134	41	175	124	54	178	124	54	178	124	54	178	124	32	156	124	70	194
Number supervisors (excludes cover staff)	6	6	12	8	8	16	10	4	14	10	4	14	10	4	14	10	4	14	10	4	14
Total staff	**123**	**65**	**188**	**209**	**76.5**	**285.5**	**196**	**105**	**301**	**196**	**105**	**301**	**196**	**105**	**301**	**196**	**83**	**279**	**196**	**126**	**322**
Operational Costs: (£)																					
Container replacement cost	£ 219,957	£ 116,811	£ 336,768	£ 258,432	£ 174,730	£ 433,162	£ 347,291	£ 228,264	£ 575,555	£ 347,291	£ 228,264	£ 575,555	£ 347,291	£ 228,264	£ 575,555	£ 347,291	£ 228,264	£ 575,555	£ 347,291	£ 99,262	£ 446,553
Staffing cost	£ 3,064,293	£ 1,659,865	£ 4,724,158	£ 5,163,069	£ 1,977,682	£ 7,140,751	£ 4,891,686	£ 2,586,387	£ 7,478,073	£ 4,891,686	£ 2,586,387	£ 7,478,073	£ 4,891,686	£ 2,586,387	£ 7,478,073	£ 4,891,686	£ 2,094,247	£ 6,985,933	£ 4,891,686	£ 3,071,832	£ 7,963,518
Vehicle lease costs	£ 807,945	£ 525,714	£ 1,333,659	£ 1,605,895	£ 675,254	£ 2,281,149	£ 1,071,083	£ 999,092	£ 2,070,175	£ 1,071,083	£ 999,092	£ 2,070,175	£ 1,071,083	£ 999,092	£ 2,070,175	£ 1,071,083	£ 999,092	£ 2,070,175	£ 1,071,083	£ 1,093,260	£ 2,164,343
Vehicle running and standing costs	£ 535,217	£ 314,004	£ 849,221	£ 867,019	£ 396,266	£ 1,263,285	£ 741,162	£ 543,314	£ 1,284,476	£ 741,162	£ 543,314	£ 1,284,476	£ 741,162	£ 543,314	£ 1,284,476	£ 741,162	£ 543,314	£ 1,284,476	£ 741,162	£ 667,371	£ 1,408,533
Spare vehicles & overheads (includes cost of spare vehicles and cover staff)	£ 928,014	£ 718,185	£ 1,646,199	£ 1,445,529	£ 900,934	£ 2,346,463	£ 1,324,334	£ 930,159	£ 2,254,493	£ 1,324,334	£ 930,159	£ 2,254,493	£ 1,324,334	£ 930,159	£ 2,254,493	£ 1,324,334	£ 817,967	£ 2,142,301	£ 1,324,334	£ 970,971	£ 2,295,305
Sub total operational	**£ 5,555,425**	**£ 3,334,579**	**£ 8,890,004**	**£ 9,339,944**	**£ 4,124,866**	**£ 13,464,810**	**£ 8,375,556**	**£ 5,287,216**	**£ 13,662,772**	**£ 8,375,556**	**£ 5,287,216**	**£ 13,662,772**	**£ 8,375,556**	**£ 5,287,216**	**£ 13,662,772**	**£ 8,375,556**	**£ 4,682,884**	**£ 13,058,440**	**£ 8,375,556**	**£ 5,902,696**	**£ 14,278,252**
Revenues(£):	£ -	-£ 223,268	-£ 223,268	-£ 641,846	-£ 327,564	-£ 969,411	-£ 730,751	-£ 377,103	-£ 1,107,854	-£ 411,996	-£ 215,838	-£ 627,834	-£ 93,241	-£ 54,573	-£ 147,814	-£ 411,996	-£ 215,838	-£ 627,834	-£ 411,996	-£ 215,838	-£ 627,834
Gate Fees / Service Provider Payment (£):	£ 4,490,338	£ 1,818,077	£ 6,308,416	£ 2,395,817	£ 1,495,561	£ 3,891,378	£ 2,282,544	£ 1,054,982	£ 3,337,526	£ 2,282,544	£ 1,054,982	£ 3,337,526	£ 2,282,544	£ 1,054,982	£ 3,337,526	£ 2,282,544	£ 1,054,982	£ 3,337,526	£ 2,282,544	£ 1,054,982	£ 3,337,526
Landfill Tax	£ 4,439,148	£ 3,129,560	£ 7,568,709	£ 4,439,148	£ 3,129,560	£ 7,568,709	£ 3,604,008	£ 2,518,404	£ 6,122,412	£ 3,604,008	£ 2,518,404	£ 6,122,412	£ 3,604,008	£ 2,518,404	£ 6,122,412	£ 3,604,008	£ 2,518,404	£ 6,122,412	£ 3,604,008	£ 2,518,404	£ 6,122,412
Haulage	£ 499,404	£ 350,747	£ 850,151	£ 603,704	£ 350,747	£ 954,451	£ 398,118	£ 279,611	£ 677,729	£ 398,118	£ 279,611	£ 677,729	£ 398,118	£ 279,611	£ 677,729	£ 398,118	£ 279,611	£ 677,729	£ 398,118	£ 279,611	£ 677,729
Bulking	£ -	£ -	£ -	£ 240,692	£ -	£ 240,692	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -	£ -
Gross Operational costs	**£ 14,984,316**	**£ 8,632,963**	**£ 23,617,280**	**£ 17,019,306**	**£ 9,100,734**	**£ 26,120,040**	**£ 14,660,226**	**£ 9,050,519**	**£ 23,710,745**	**£ 14,660,226**	**£ 9,140,213**	**£ 23,800,439**	**£ 14,660,226**	**£ 9,126,449**	**£ 23,786,675**	**£ 14,660,226**	**£ 8,535,881**	**£ 23,196,107**	**£ 14,660,226**	**£ 9,755,693**	**£ 24,415,919**
Net Operational costs	**£ 14,984,316**	**£ 8,409,695**	**£ 23,394,012**	**£ 16,377,460**	**£ 8,773,170**	**£ 25,150,629**	**£ 13,929,475**	**£ 8,673,416**	**£ 22,602,891**	**£ 14,248,230**	**£ 8,924,375**	**£ 23,172,605**	**£ 14,566,985**	**£ 9,071,876**	**£ 23,638,861**	**£ 14,248,230**	**£ 8,320,043**	**£ 22,568,273**	**£ 14,248,230**	**£ 9,539,856**	**£ 23,788,085**
Capital costs																					
Container purchasing & delivery costs	£ -	£ -	£ -	£ -	£ -	£ -	£ 3,327,200	£ 2,659,099	£ 5,986,299	£ 3,327,200	£ 2,659,099	£ 5,986,299	£ 3,327,200	£ 2,659,099	£ 5,986,299	£ 3,327,200	£ 2,659,099	£ 5,986,299	£ 3,327,200	£ 871,000	£ 4,198,200
Total one-off capital costs (£)	**£ -**	**£ -**	**£ -**	**£ -**	**£ -**	**£ -**	£ 3,327,200	£ 2,659,099	**£ 5,986,299**	£ 3,327,200	£ 2,659,099	**£ 5,986,299**	£ 3,327,200	£ 2,659,099	**£ 5,986,299**	£ 3,327,200	£ 2,659,099	**£ 5,986,299**	£ 3,327,200	£ 871,000	**£ 4,198,200**