



**The City of Edinburgh Council**

**Edinburgh's Waste & Recycling Strategy 2010 -2025**

Waste Services

Services for Communities

October 2010

## ***Executive Summary***

This strategy sets out a high level plan to manage Edinburgh's waste in the coming years. It seeks to build on the work which has been carried out to enhance the range of opportunities to prevent waste at source, to reuse where practicable, to recycle that which cannot be avoided, and to extract value from the remaining mixed waste stream so that the use of landfill is minimised.

It sets out the Council's aim to deliver a recycling rate of at least 50% by 2015, and by 2017 see the development of a Zero Waste Facility in partnership with Midlothian Council. This will mean that waste not collected specifically for recycling will no longer go direct to landfill but will first be treated to extract additional recycling or other value. Collectively these will produce a recycling rate of at least 60% by 2017.

It aims to consolidate the ongoing work already being carried out to:

- Increase access to recycling services;
- Increase the range of materials collected for recycling, and;
- Maximise participation in waste prevention, reuse and recycling through behavioural change.

Ultimately it aims to reduce the impact that Edinburgh's citizens and businesses have on the environment and support moves away from the use of landfill as the main route to manage waste.

## ***Introduction***

The city of Edinburgh is a beautiful city known around the world. It continues to thrive through an ever growing number of new businesses, visitors and homes. This brings with it the challenge of managing the city to remain a clean, safe and environmentally friendly centre – a place which people and businesses want to both stay in and return to.

Edinburgh's growth, tourism and economic success mean that an increasing quantity of waste is produced through every day living, working and leisure. This has to be collected, sorted and disposed of safely. This is a complex, expensive process which happens 24 hours a day, all year round. To do this Edinburgh needs to think ahead and plan its response to increasingly challenging environmental standards and targets for both the collection and disposal of the city's waste.

To make this happen, the City of Edinburgh Council has set a key objective of making Edinburgh a cleaner and greener city. This is a challenge that requires the Council to play its part, but also requires the efforts of residents, businesses and other city organisations. By increasing recycling and reducing how much we all send to landfill sites we have and will continue to develop a range of waste services that meet Edinburgh's unique needs. For example, increasing the range of materials that can be recycled and also working closely with our customers to increase their participation in our schemes reduces the city's dependence on expensive landfill costs and meets national environmental targets.

How the city works with others matters. We recognize the success and benefits of working collaboratively to deliver our goals. Not only are we improving how our services work together across the council, we are also continuing to develop projects with our neighbouring authorities and local community organisations. Some of the benefits of this style of working have meant that:

- The City of Edinburgh and Midlothian Councils are working together to procure residual waste treatment facilities which will deliver a step change in our journey towards Zero Waste.

- We work in partnership with community sector organizations to deliver waste minimisation initiatives, including projects to reduce waste at source, such as home composting, and to reuse waste such as the Reuse Cabins at our Community Recycling Centres.
- Cleanliness in the city has improved since the introduction of Neighbourhood Partnerships and has only been possible through close working with Neighbourhood teams. While this improvement is to be celebrated we have set our sights on further improvement and will look to support greater innovation in order to achieve this.

Public satisfaction with our recycling and refuse collection services is good, however we know that perception of our services is linked to the value for money they achieve and this will be an increasing factor as we move into a period of constrained finances.

There is scope to deliver efficiency savings particularly in refuse collection. Therefore some of our major projects relate to improving productivity in our in-house refuse collection service. Further savings are also targeted through the reduction of the amount of waste sent to landfill which will reduce landfill tax payable as well as moving us towards our Zero Waste Targets.

Above all the Council is committed to a Zero Waste Vision for the city which is in line with the Scottish Government's objective to move away from waste as a problem to be managed, to an important source of resources.

This strategy will require to be reviewed regularly to reflect changing circumstances, such as changes to the composition of the waste collected. It is proposed to review progress annually and to carry out more strategic reviews where appropriate, eg if new legislation or targets are introduced which would materially affect the strategy.

## ***Managing Edinburgh's Waste Challenges***

The people who live, work and visit Edinburgh produce the city's waste – the Council collects and disposes of it. Both need to play their part and work towards keeping Edinburgh clean and green.

The City of Edinburgh Council delivers its waste collection and disposal duties through Services for Communities, Waste Services. This team, based at Murrayburn Road Depot and other locations across the city, provides waste minimisation initiatives, recycling services, refuse collection and disposal, as well as a number of dedicated support services to the city's Neighbourhood Areas including graffiti removal, chewing gum removal and litter bin siting services.

## ***Why We Now Need a Waste Strategy***

In recent years the way we all think about waste has changed substantially with more emphasis on diverting waste from landfill, avoiding waste at source, and seeing what we used to regard as "waste" as a resource.

The City of Edinburgh Council now needs to review its current plans and think carefully about what needs to be done over the next 15 years to make sure the Council can continue to manage waste successfully, meet its national targets and contribute to the on-going long term success of the city.

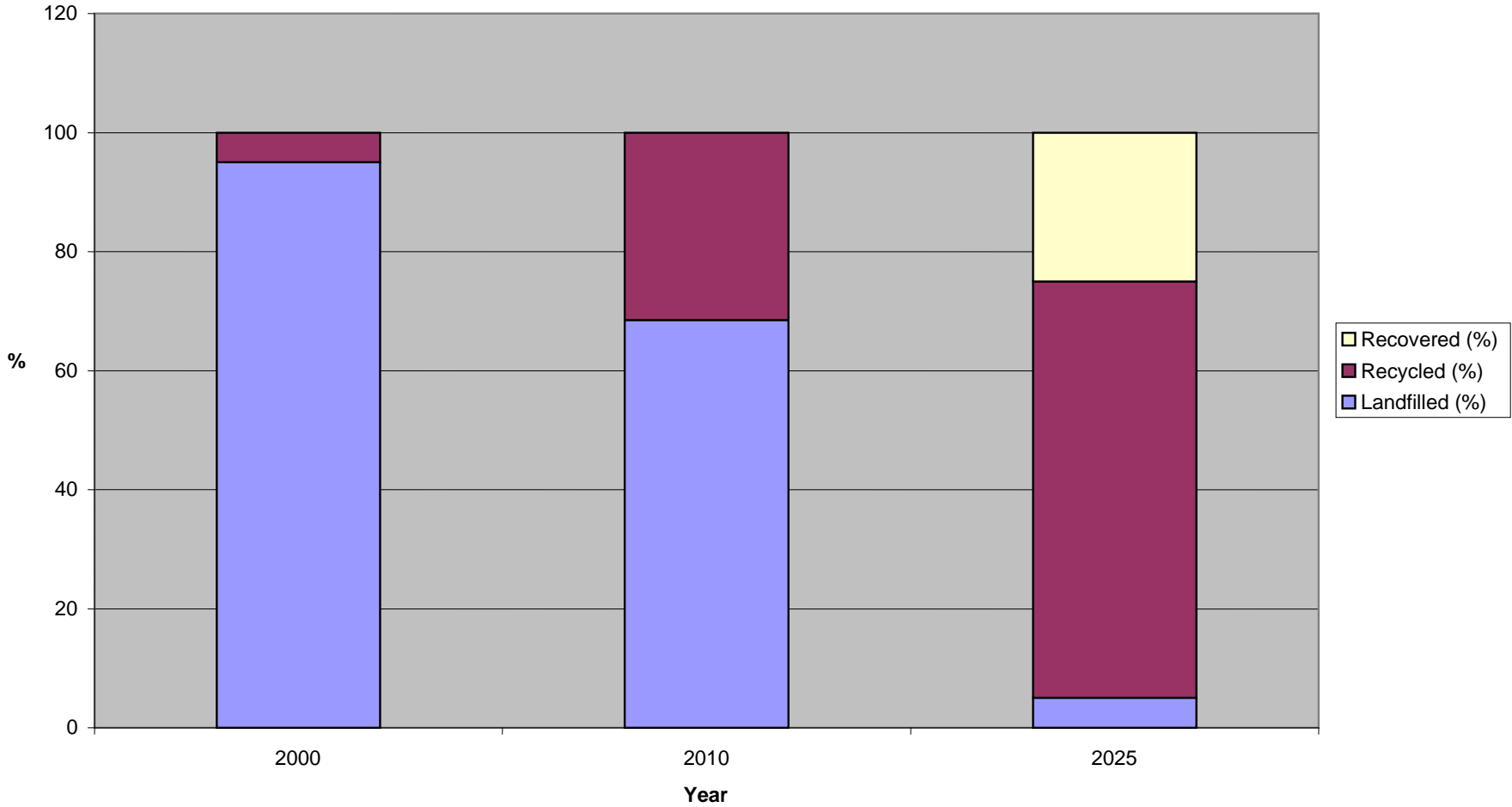
European environmental and waste targets limiting the use of landfill are becoming increasingly stringent, with targets to limit the use of landfill, while the Scottish Government's Zero Waste Plan, published in June 2010, will be a key driver which directs the use of a number of measures which the Council's strategy needs to reflect, including:

- The provision of food waste collections for all households by 2013;
- The expected ban on the landfill of recyclable waste by 2015, and biodegradable waste by 2017, so that mixed waste not collected separately for recycling will require to be treated in a suitable facility prior to landfill;
- The use of a 'carbon metric' as a means to measure the relative environmental benefits of different recycling processes;
- Commercial waste collectors (including Councils) will develop segregated recycling collections for their customers by 2013, with specific recycling targets to be set for this waste stream.

A further driver will be the continued use of financial drivers to make recycling more attractive than landfill - Landfill Tax is increasing by £8 per tonne per year, and will reach £80 per tonne by 2014/15.

In brief the City of Edinburgh Council is in the middle of a journey which will see a complete reversal of how we have historically managed our waste so that no more than 5% is landfilled, and at least 70% is recycled.

Waste to Landfill Versus Waste Recycled or Recovered



## ***Sending Less Waste To Landfill –Better For The Environment and Your Pocket***

The recycling rate in Edinburgh has already increased substantially, and currently stands at more than 30%. At the same time there has been a reduction in the level of waste growth and, as recycling has increased, a reduction in the use of landfill from 244,000 tonnes in 2001 to 155,200 tonnes by 2009.

In 2007/08 (the most recent year for which data was published) Edinburgh had the lowest household waste arising in Scotland.

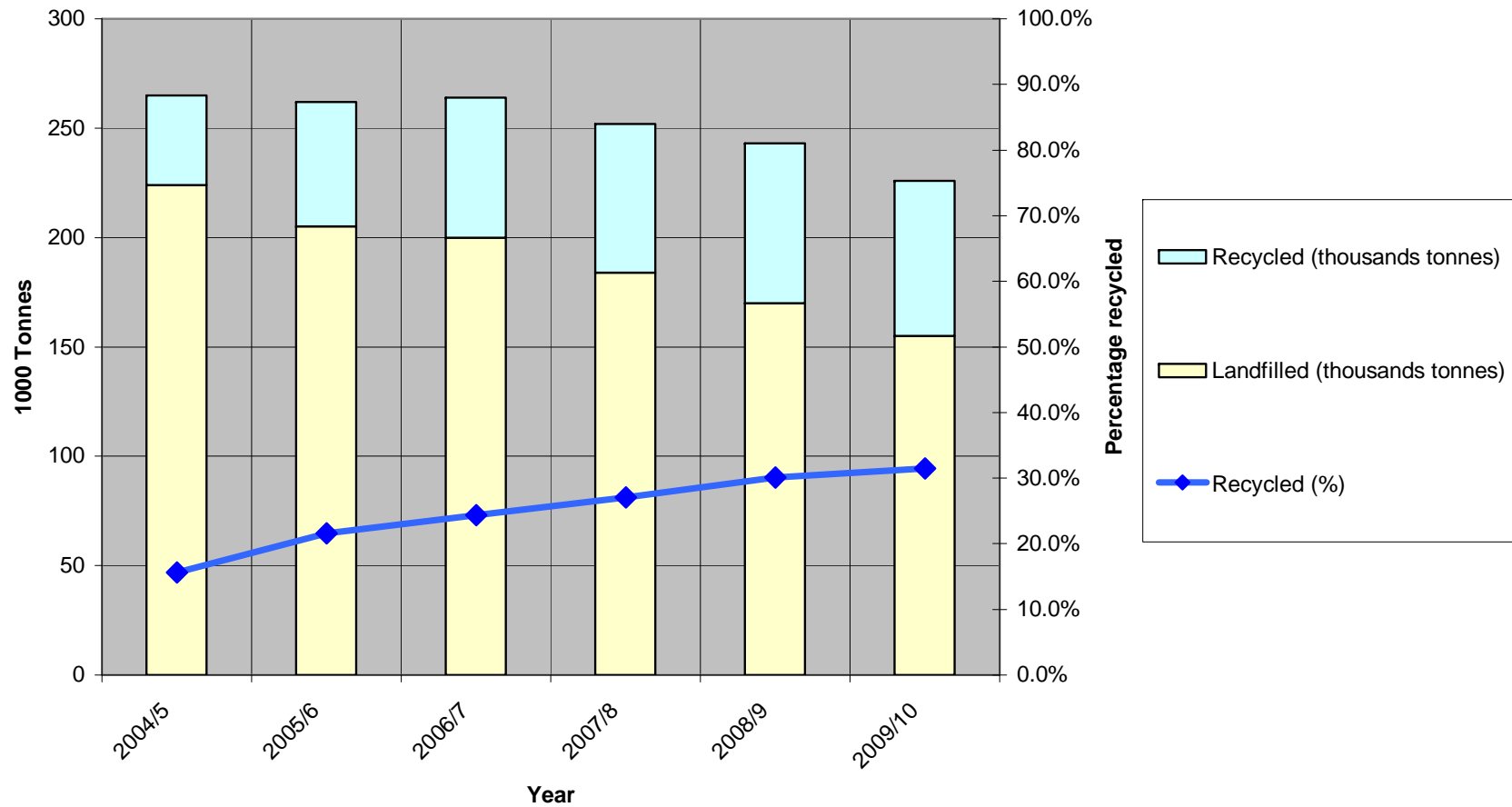
These improvements have taken place incrementally with the introduction of a range of new services, so that the recycling rate now stands at more than 30%:

- Ongoing support for a range of community sector organisations, to support the prevention and reuse of waste at source, examples including Changeworks, The Bike Station and Colinton Community Compost;
- Kerbside 'dry' recycling collection (for paper, card, cans, textiles and glass) to more than 135,000 households, collecting more than 14,000 tonnes of materials per annum;
- Garden waste collection to 120,000 households with gardens, diverting almost 20,000 tonnes of materials annually from landfill for processing into compost;
- A convenient network of high density recycling points, particularly targeted to provide a recycling service to those flatted properties where there may be limited capacity to store recyclate in the home, or where access to collect is challenging;
- The conversion and redevelopment of all Civic Amenity Sites into dedicated Community Recycling Centres, and the opening of a new site at Sighthill- the new look sites now divert in excess of 60% of the materials collected for reuse or recycling;



- Materials collected by the Special Uplift collections of bulky waste are now sorted for recycling and 55% is now diverted from landfill;
- Specialist recycling of street sweepings to divert a further 7,200 tonnes from landfill each year;
- Reduction of waste landfilled from 244,000 tonnes per annum in 2001 to 162,000 tonnes per annum in 2008;
- Ongoing community engagement initiatives support the delivery of the strategy, including the Waste Action Grants Programme, the Education Cabin at Seafeld Community Recycling Centre and the Edinburgh campaign.

### CEC Waste Statistics



This strategy will allow Edinburgh to build on the success of managing waste over many years and the Council remains committed to meeting its current obligations with regard to these targets. In addition the Council has signed up to additional targets and challenges to reduce its carbon footprint and the City's plans to reduce the use of landfill will support these.

## ***Edinburgh's Challenge***

The Council's challenge is to build on the success of what has been delivered to date, to minimize the use of landfill, and to maximise the prevention of waste at source, encourage reuse, and expand recycling. However it must ensure that in doing so it remains able to meet the needs of a diverse range of stakeholders and offers value for money services.

There are a range of factors which act at a local level to impact on the recycling rate, the amount of waste produced and ways in which an individual authority needs to meet its targets. In particular Edinburgh's social, demographic and geographic factors such as income, size of family and age will affect the types of waste produced by different households, and how much of that is recyclable. Some parts of Edinburgh's population are highly mobile and this presents challenges for the City of Edinburgh Council in terms of communication and engaging communities.

According to the 2001 Census, the proportion of flatted dwellings in Edinburgh was one of the highest among UK cities. It is more challenging to communicate with large numbers of residents in high density areas and to provide a kerbside collection service for people living in blocks of flats. Because of this, participation in recycling tends to be lower than average nationally, although the amount of waste produced per household is also likely to be lower.

Edinburgh City Centre is a place where people live, as well as work, and a World Heritage Site. This presents particular challenges both in terms of balancing the competing priorities of the different stakeholders, and in terms of providing a comprehensive recycling service.

The frequencies of the different collection systems and the capacities of the different containers play a part. There is no 'one size fits all' approach which can be used for a city with Edinburgh's character, but the overall aim is to provide recycling of as wide a

range of materials as possible to the maximum number of households. The Council has already worked hard to develop tailored solutions to meet these challenges, e.g. by introducing a tenement recycling service.

Going forward, there are ongoing uncertainties around the volume and weight of waste arisings that the Council will handle in the coming years. These will be affected by actions taken by retailers, Government and individuals to reduce their own waste quantities, competition for the trade waste service, the economic impact following the recession, and the impact of new recycling schemes. Not all of these are directly under the control of the Council but they will certainly impact on the performance of the schemes the Council offers, and must be regularly reviewed.

Finally a number of external factors will impact on the choices made by both the Council and the people of Edinburgh in moving towards a more sustainable City. Household growth is expected to continue in Edinburgh, although the scale of this is currently unclear as a result of the economic slowdown. In parallel the Council is currently forecasting that its total budget will decline by at least £94 million by 2013. This means it is imperative that the Council continues its ongoing drive to deliver more for less.

Planning ahead for the coming 15 years to understand not only what we have to do but also how we will do it is an essential step to help us overcome these challenges. In short the Council needs a waste strategy to guide it through the first quarter of the 21st Century.

### ***Public Satisfaction With Services and Changes***

It is worth reflecting that Edinburgh's Waste Services continue to be well received by the public with recent Neighbourhood Surveys recording satisfaction with recycling services at 80%, and with refuse collection at 87%. It will remain a constant challenge to retain and improve this level of satisfaction while residents, businesses and visitors adapt to their changing responsibilities in collecting, separating and disposing of their waste.

## ***How Well Are We Performing?***

Edinburgh's current recycling rate appears to compare well with other Councils who may face similar challenges (Appendix 1).

The Council recently took part in a Scottish Government funded nationwide waste analysis by Zero Waste Scotland (Summary Appendix 2, and below). This showed that the current recycling collections are extremely good at collecting newspapers and magazines, glass and garden waste, but the 'capture rates' for other materials were lower. This pattern is seen in other areas of the country but also shows where there is scope to encourage further recycling.

Capture Rates for Recyclable and Compostable Materials	Capture Rate (% Weight of Total Arisings)
Newspapers and Magazines	73
Other Paper	31
Cardboard	28
Plastic Bottles	8
Packaging Glass	68
Metal Cans	22
Garden Waste	79
Wood	30

A number of actions were suggested to achieve this, including targeting food waste (which could not previously be collected) and commercial waste. Both of these are proposed in this strategy. A recent study by Keep Scotland Beautiful (now also part of Zero

Waste Scotland) suggested that 81% of people in Edinburgh recycle already, and that approximately two thirds would be prepared to recycle food waste if a collection was offered.

### ***What is Our Strategy?***

Our Strategy comprises two main elements:

- We will maximise the use of recycling services to increase the amount of waste collected for recycling through kerbside collection, recycling points and Community Recycling Centres so that by 2015 we divert at least 50% from landfill;
- We will work in partnership with Midlothian Council to develop facilities for the treatment of the remaining mixed waste, so that we are able to extract additional recyclable materials, and make sure that ultimately we landfill no more than 5% of our waste.

A range of activities will be used to deliver these objectives. These can themselves be grouped into three main areas:

- Increasing the number of people who have convenient access to recycle the full range of materials;
- Expanding the range of materials collected for recycling;
- Increasing the level of participation in the schemes offered.

Waste Services is currently being reviewed under a process called 'Alternative Business Models' (ABM) which allows the Council to consider how it can most effectively provide services in the future. This will shape the detailed delivery of the service and the outcome will be known by the end of 2011, but many activities are already under way and some of the main ones are listed below.

## ***Increasing Access To Recycling***

In areas with traditional kerbside collections, ie where people have access to an individual bins, the vast majority now has access to kerbside recycling collections. Although Recycling Advisory Officers will continue to engage residents to make maximum use of these, eg by agreeing collection points where recycling boxes can be presented if streets are otherwise inaccessible, the majority of effort to increase access to recycling will be targeted towards flats where there are communal collection systems.

New build flats are now designed to include recycling facilities as well as residual waste collections, and the guidance given to developers has already been enhanced to include the provision of containers to collect food and textiles for recycling. These will be further updated as new opportunities to recycle are developed.

Work is ongoing to enhance the recycling provision in the existing housing stock. Consultation with residents is used to agree locations for 'on site' recycling provision alongside the existing communal collection bins with the aim to offer all such households a recycling service by the end of 2011.

Approximately 60,000 households make use of on-street communal bins to collect their waste and recyclable materials. In many areas where there are restrictions on the number of bins sited on a particular street, there is a need to review the relative capacities provided for residual waste versus recycling so that recycling can be made as convenient as possible. This will be carried out on an ongoing basis throughout 2011 and 2012.

A consultation has commenced in the City Centre with a view to finding alternatives to the use of black bags to collect waste. In those parts of the City Centre where the housing stock is of too high a density to make kerbside recycling practicable, alternative services will be investigated.

Commercial waste services for Trade Waste customers are already offered in partnership with LEEP recycling, and through the provision of a commercial waste site at Seafeld Community Recycling Centre. However the refuse analysis highlights that just three recyclable materials – paper, cardboard and food - account for almost two thirds of the commercial residual waste stream. The current review of the Trade Waste service will seek to enhance the recycling offer to commercial customers in order to maximize uptake of recycling opportunities.

### ***Expanding the Range of Recyclable Materials***

Food waste is the biggest single untouched recyclable waste stream. This was not included in the original recycling collections due to the lack of specialist treatment available to process this material. While there remains a shortage of capacity nationwide the picture is improving.

In spring 2011, a pilot food waste collection will commence in parts of East Edinburgh and the City Centre. This will offer weekly food collections to households in selected areas alongside the kerbside recycling box service, and communal containers collected twice weekly for selected flats. Once the performance of these schemes is evaluated it is proposed to expand these services to cover the whole city by the end of 2013, and to develop solutions for commercial Trade Waste customers.



The range of materials collected at the kerbside will be expanded to include plastic bottles from early 2011; moreover the contract for processing the contents of packaging recycling points is being retendered with the aim to expand the range of materials collected at recycling points and Community Recycling Centres to include mixed rigid plastics, eg plastic tubs and trays.

Although a number of pilots have previously been introduced to encourage the recycling of litter, more remains to be done to make sure that litter can be recycled 'on the go' (the term used to refer to waste arising at locations such as parks, shopping areas and public transport). Opportunities to develop local, tailored solutions to target these materials will be developed. One major initiative which has already taken place is the letting of a contract to ensure that the waste from mechanical street sweeping vehicles is no longer sent to landfill but is diverted for reprocessing to allow recycling.

### ***Increasing Participation- Driving Behavioural Change***

If Edinburgh is to meet the highest recycling targets set down for 2025, what we collect for recycling, collection frequencies and broader participation in waste initiatives across the city will need to be reviewed. This will mean collections of more recyclable materials as outlined above, reducing the amount of waste being sent to landfill or for other treatments, developing participation in waste initiatives across the city while minimising the cost of the overall service to meet the challenges of Council savings targets.

Education, community engagement and communication are key to this. The Council's existing environmental campaigns have recently been refreshed under the new Edinburgh brand and this will be used in future communications.

The Council already seeks to engage and educate residents about what happens to their waste, and how they can help to reduce its impact. It has developed a Community Action Grants programme to support local initiatives to prevent, reuse and recycle materials, and has a dedicated Education Cabin at Seafield Community Recycling Centre.

It also works closely with a range of organisations, both locally and nationally, to drive home the Reduce, Reuse, Recycle message and make all parts of it relevant to citizens.

Tailored communication programmes and initiatives will continue to be used to encourage use of waste prevention techniques, as well as services to reuse or recycle waste which cannot be avoided. These may involve working with other stakeholders such as universities or landlords to maximise participation in the services provided, while incentive schemes will be developed to 'reward' the desired behaviour. These will build on the current, more traditional, methods of engaging communities, eg by attending community events.

The refuse analysis has shown the wide variations in recycling activity which can take place among different materials. For example the services offered to recycle paper and cardboard have equal coverage, yet 73% of newspapers and magazines are collected for recycling compared with just 28% of cardboard. Approximately 29% of the remaining mixed household waste consists of items which could have been recycled. Clearly it is not enough just to offer people services - we need to move towards a culture where using the recycling service is the automatic first choice.

The opportunities to recycle will become wider and more convenient, and the capacity provided for recycling will increase. In particular, it is proposed to offer all households a weekly food collection, and it is expected that where households have access to the full range of kerbside recycling collections they will have less need for the current capacity provided for mixed waste – more than 70% of the waste will be recyclable.

Reducing this capacity provides an incentive to maximize use of the recycling collections, while discouraging the financial and environmental waste associated with landfill. Nationwide many Councils now collect mixed waste every two weeks, and the evidence is that it is an effective and workable system which encourages recycling.

The introduction of this system in Fife reduced the amount of residual mixed waste by 10% and led to 19% more being recycled. This pattern is seen in other areas, although the results vary depending on the number of households involved, and the range of materials collected for recycling. In Edinburgh –where such changes would only apply to households in areas with individual bins and kerbside recycling collections- an impact of 5-6% extra recycling would be more realistic. In each case, a weekly collection of food waste will be maintained, and we will not reduce the capacity provided for waste overall.

## ***Case Study***

The City of Edinburgh and Midlothian Councils share very similar collection systems for both kerbside recycling and residual waste streams, using wheeled bins for mixed household waste and garden waste and two kerbside recycling boxes for the collection of paper, glass, cans and other materials, but in the areas where these operate:

- In Edinburgh residual waste is collected every week, and in Midlothian every two weeks;
- In Edinburgh the two recycling boxes are collected on alternating weeks, while in Midlothian they are collected every week;
- In Midlothian the system collects approximately 50% more for recycling than in Edinburgh.

This pattern is seen across the country (both in Scotland and other parts of the UK), although the impact varies from place to place depending on the recycling service offered, and the percentage of households covered by such a scheme. In Edinburgh for example such a scheme would not be applicable in areas where refuse and recyclable materials are collected in communal containers, eg tenements and other blocks of flats.

Nevertheless the highest levels of recycling are only likely to be achievable if such a scheme is introduced where practicable to drive behavioural change.

## **Treatment of the Remaining Waste**

The Council recognises that there are limits to what individuals can do at home, at work, and elsewhere, and not all items are recyclable. There will still be mixed waste left which currently goes straight to landfill.

Under the joint project being developed in partnership with Midlothian Council, a new waste treatment facility will be operational by 2017 which will see mixed household and commercial waste being reprocessed before landfill. This will have the effect of diverting additional materials for recycling, increasing the recycling rate by at least 10%, while much less will remain to be landfilled. This project is known as the Zero Waste Project.

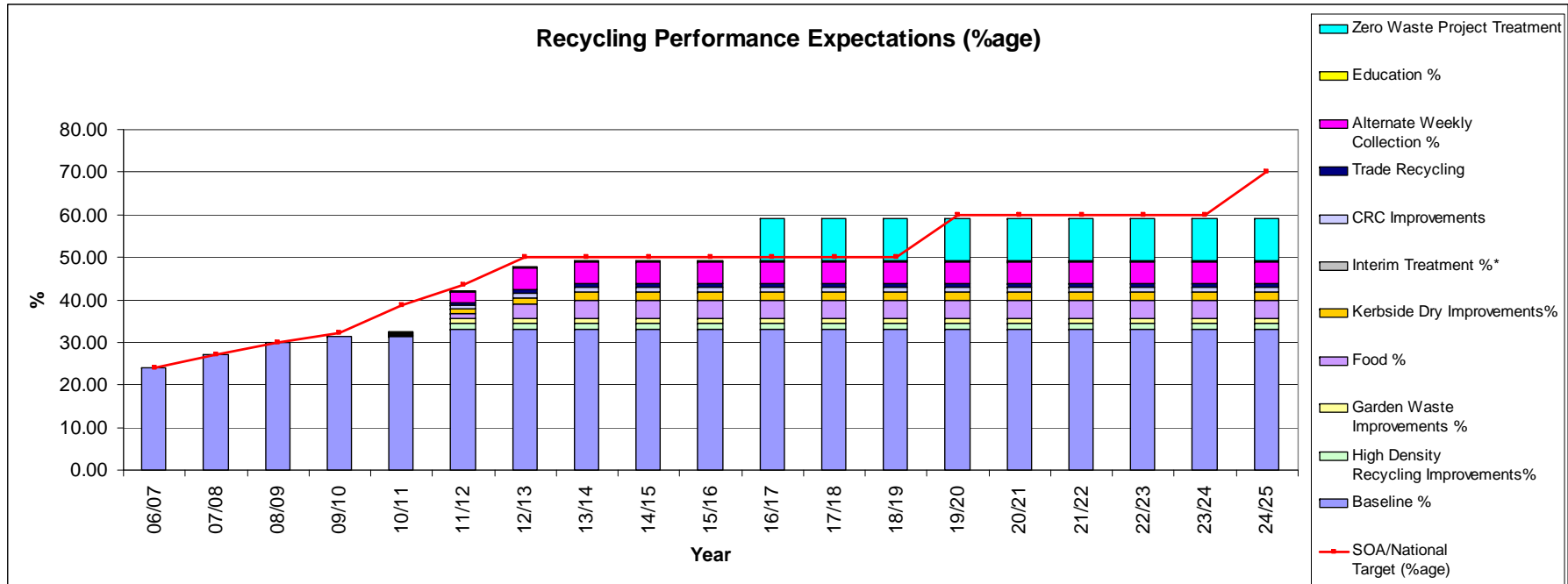
## **When Will This Be Delivered?**

The high level aim of this strategy is to deliver a recycling rate of at least 50% by 2015. The majority of the schemes which will deliver this are already under way, and will be phased in across the City by 2013.

Two key milestones are:

- the conclusion of the ABM process in late 2011, which will provide detailed implementation plans for the future shape of collection services for both waste and recycling services;
- the development of the joint treatment facility with Midlothian Council by 2017.

The Recycling Performance Expectations diagram shows the impact of the substantial changes which will be taking place:



Collectively these schemes will aim to deliver a combined recycling rate of at least 60% by 2017. However beyond this point the Council will continue to drive up the recycling rate further. A conservative approach has been taken to modeling the impacts of the schemes; however the external changes which will impact on the composition of the waste stream will impact on performance, eg the work of the packaging and newspaper industries to make these materials lighter may mean that the amount of waste collected falls, but the percentage which is recyclable may decrease overall. These factors mean that the Strategy must be kept under regular review.

## Costs

Following the establishment of the Strategic Waste Fund by the previous Scottish Executive, local authorities were able to invest in recycling services, and this has led to the improvements made over the last 10 years. These funds are now built into the financial allocations Councils receive from the Scottish Government with further funding agreed until 2012 through the Single Outcome Agreement.

Nevertheless at a time of serious economic uncertainty, all local authority budgets face severe pressure in the coming years, and Edinburgh is no exception. A significant driver is the increasing cost of Landfill Tax (the Landfill Tax Escalator) to dispose of waste which has helped to better align the financial and environmental objectives of diverting waste to landfill. This means that from 2009/10, to 2014/15, if the recycling rate stayed the same, the amount of Landfill Tax paid by the Council would increase by more than £6 million. In addition, the cost of landfill will also increase in line with increases in fuel costs and inflation. Overall, increasing the recycling rate to 50% would mean that the Council would avoid a forecast additional £4.4 million per annum in disposal charges by 2013/14.

Increasingly it will make financial sense to invest in collecting materials for recycling rather than disposal although at higher rates of recycling the marginal costs (and practicality) of each extra percentage recycled will be greater than the achieving this through sending mixed waste for treatment.

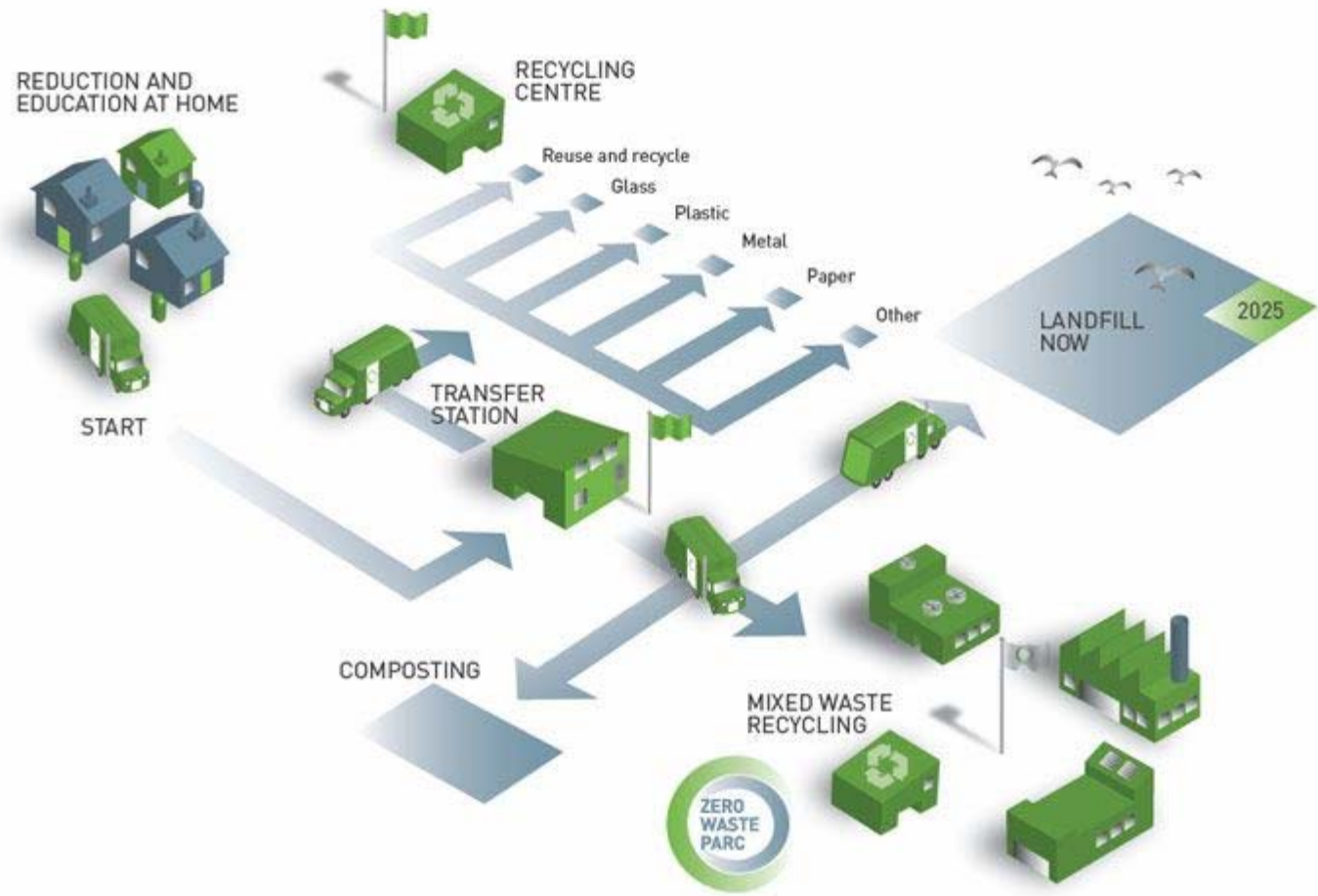
A balance between the two will be required and this optimum balance is being explored through the ABM process, and through the development of the Zero Waste Project. The latter project suggests that the cost of landfill will exceed that of sending mixed waste for treatment by 2017.

Regardless of the outcome of these two projects, ongoing efficiency savings will be sought, eg through the use of software technology to improve both vehicle utilization and the efficiency of collection rounds so that fuel and carbon emissions can be minimized. These will be used to free up funding to deliver the necessary collection improvements associated with the delivery of enhanced recycling systems.

## ***Conclusion***

This strategy outlines the journey being undertaken by Edinburgh's Waste Service. A great deal of progress has already been particularly in tackling waste growth and enhancing opportunities to recycle. Much more remains to be done, as new opportunities arise to recycle a wider range of materials. This strategy demonstrates how the Council will achieve these objectives, against a challenging backdrop of financial constraints, by developing services which reflect the specific physical and demographic features of our City.

Edinburgh's waste follows a complex journey which begins with individuals, households and businesses collecting and sorting their own waste. It ends with waste being re-used, recycled, treated and disposed. The following diagram charts that journey:





The overall themes of this strategy are:

- preventing waste at source
- enhancing recycling services to maximize recycling as close to source as possible
- maximising the value of the remaining waste
- driving efficiencies across the service
- engaging communities.

The activities outlined will be subject to ongoing and regular review to ensure they achieve their sustainability objectives and continue to demonstrate best value.

## ***Bibliography and Further Reading***

The following reports were used to inform and develop this strategy and further information can be found in the full reports available from the organizations in question.

### **The City of Edinburgh Council Documents General**

Edinburgh Partnership Single Outcome Agreement 2009-12

Strategic Service Plan, Services for Communities 2009-12

### **The City of Edinburgh Council Documents Specific**

Operational Service Plan Waste Services 2009-12 (in prep.)

Operational Service Standards (in prep)

Internal Report Food Waste

Internal Report Dry Recycling

Report by Scottish Waste Awareness Group: Public Attitudes to Waste in Edinburgh

Report by REMADE Scotland Study of Options to Increase Recycling Rates for the City of Edinburgh, August 2007

Report by REMADE Scotland: Recycling Options Appraisal, City of Edinburgh Council, February 2010

Report by WRAP Scotland: The Composition of Municipal Solid Waste in Edinburgh, January 2010

Community Recycling Centres: Customer Research Summary, December 2010

Kerbside Collection and Recycling of Dry Recyclables Workshop Results, December 2008

## **External Documents**

National Waste Plan (Scotland)

Area Waste Plan Lothians and Borders: [http://www.sepa.org.uk/waste/waste\\_publications/waste\\_plans.aspx](http://www.sepa.org.uk/waste/waste_publications/waste_plans.aspx)

## **Reports by REMADE Scotland**

Kerbside Collections Factors for Success

Recyclate Recovery: An Analysis of Scottish Recycling Schemes 2006/07

Recyclate Recovery: An Analysis of Scottish Recycling Schemes 2007/08

## **Reports by WRAP**

Alternate Weekly Collections Guidance:

[http://www.wrap.org.uk/local\\_authorities/research\\_guidance/collections\\_recycling/alternate\\_week.html](http://www.wrap.org.uk/local_authorities/research_guidance/collections_recycling/alternate_week.html)

Analysis of Kerbside Dry Recycling Performance in England 2007/08:

[http://www.wrap.org.uk/local\\_authorities/research\\_guidance/collections\\_recycling/benchmarking.html](http://www.wrap.org.uk/local_authorities/research_guidance/collections_recycling/benchmarking.html)

Food Waste Collection Guidance: [http://www.wrap.org.uk/local\\_authorities/research\\_guidance/food\\_waste/index.html](http://www.wrap.org.uk/local_authorities/research_guidance/food_waste/index.html)

Kerbside Recycling, Indicative Costs and Performance:

[http://www.wrap.org.uk/local\\_authorities/research\\_guidance/collections\\_recycling/kerbside\\_recycling.html](http://www.wrap.org.uk/local_authorities/research_guidance/collections_recycling/kerbside_recycling.html)

## ***Appendices***

Appendix 1 Comparisons With Other Cities

Appendix 2 Waste Analysis

Appendix 3 Table of Activities

## ***Appendix 1 Comparisons with Other Cities***

Comparisons with other similar areas must be treated with caution due to the different waste streams, housing stocks and demographic factors, and in particular different ways of calculating recycling rates in different countries. Broadly though, Edinburgh's recycling rate has improved to the extent that it is now similar to, or higher than, current recycling rates in other large cities.

### **Recycling Rates in Scottish Cities**

Scottish recycling rates are calculated using Municipal Waste (Household and Commercial Waste)

City	Recycling Rates	Percentage of Flatted Housing
Aberdeen	25.0 %	50.9 %
Dundee	38.4 %	53.3 %
Edinburgh	30.7 %	59.7 %
Glasgow	20.3 %	70.0 %

Sources:

Recycling Rates SEPA October 2008 – September 2009 Rolling Year

Housing Types: Census 2001

## Recycling Rates in English and Welsh Cities

English and Welsh recycling rates are calculated using Household Waste only. This means they are likely to be slightly overestimated compared to the Scottish cities.

City	Recycling Rates	Percentage of Flatted Housing
Bath and North East Somerset	43 %	19.3 %
Birmingham	26 %	21.8 %
Bristol	37 %	26.2 %
Cardiff	27 %	18.5 %
Leeds	26%	17.5 %
Liverpool	26 %	17.5 %
London (all boroughs)	25%	46.9 %
Manchester	22 %	26.4 %
Newcastle	32 %	29.5 %
Nottingham	29 %	19.9 %
Sheffield	27 %	17.6 %

Various sources: Councils, WRAP, letsrecycle.com.

## Recycling Rates in Other Large Cities

Recycling Rates in other countries are calculated using a variety of methodologies and may not be fully directly comparable.

City	Country	Recycling Rate	Source
Oslo	Norway	27-30 %	<a href="http://www.C40cities.org">www.C40cities.org</a>
Gothenburg	Sweden	33 %	<a href="http://www.C40cities.org">www.C40cities.org</a>
Copenhagen	Denmark	23.5 %	REMADE 2007
Amsterdam	Netherlands	16 - 25%	Various quoted online
Antwerp	Flanders, Belgium	61.5 %	Flemish Environment Agency
Ghent	Flanders, Belgium	61.8 %	Flemish Environment Agency
Leuven	Flanders, Belgium	71 %	Flemish Environment Agency

## ***Appendix 2 Waste Analysis***

In order to target resources efficiently it is important to know what is in the waste streams handled by the Council.

Almost 90% of the municipal waste stream arises directly from households, (including 7% from litter collections) and it is here that the majority of opportunities for improvement are likely to arise.

Edinburgh has been participating in the household waste analysis carried out by WRAP (Waste and Resources Action Programme) which has analysed the composition of a range of discrete waste arisings in different Council areas, including the residual household waste, kerbside recycling and commercial waste streams.

An analysis of the household residual waste stream can be used to assess where opportunities best lie for the removal of further recyclable material in this, the main waste stream. By comparing the different proportions of key materials in the residual and recycling streams it is also possible to assess the 'capture rates' of these materials as a measure of how effective these schemes are.



The following Table from the WRAP analysis shows the percentages of different materials in the residual household waste, both collected at the kerbside and at Community Recycling Centres

Composition (percentage by weight) of residual MSW streams in Edinburgh Residual household collected waste		Residual waste arising at household waste recycling centre
Newspapers & magazines	3.1	1.0
Other paper	8.6	3.3
Cardboard	5.2	1.1
Plastic film	4.3	0.7
Plastic bottles	3.5	0.3
Other plastic packaging	4.5	0.6
Other dense plastic	1.3	7.8
Textiles & footwear	3.0	11.1
Wood	3.6	2.7
Furniture	1.0	12.4
Disposable nappies	3.2	0.0
Other Combustibles	6.8	25.0
Packaging glass	3.7	0.4
Other glass	0.6	0.6
Rubble (C&D waste)	1.4	10.5
Other non-combustibles	1.6	2.1
Metal cans	2.0	0.0

Other metal	1.7	7.7
Food/kitchen waste	35.6	0.9
Garden waste	2.0	7.6
Other organics	0.6	0.1
Hazardous Household Waste	0.2	1.1
Waste Electrical & Electronic Equipment	0.3	2.6
Fines	2.1	0.5
Total	100.0	100.0

WRAP has also calculated the capture rates of key recyclable items:

Capture rates for recyclable and compostable materials	Capture rate (t % of total arisings)
Newspapers & magazines	73
Other paper	31
Cardboard	28
Plastic bottles	8
Packaging glass	68
Metal cans	22
Garden waste	79
Wood	30

The results clearly demonstrate that the existing schemes are highly effective at capturing newspaper and magazines, glass and garden waste. In particular, the kerbside garden waste collection was collecting 90% of the available garden waste and the kerbside paper collection was collecting 66% of available newspapers and magazines. However for the different schemes collectively the capture rates of materials such as metal cans, cardboard, mixed paper and plastic bottles was lower.

WRAP report that these results are consistent with their analyses for other specific local authorities, and with wider scale analyses carried out e.g. in Wales. This suggests both that the results are robust and that Edinburgh's schemes appear to broadly perform at least as well as other schemes.

One key factor to note is the percentage of food and kitchen waste in the residual waste stream (35.6%) which was not targeted for recycling originally. The implementation of a food waste collection will be a significant source of additional recyclate.

## **Conclusion**

On this analysis, while the existing schemes appear to perform well, targeted action on certain specific waste streams would help to build on this performance.

In summary, WRAP's analysis makes the following recommendations:

- The Council should target specific parts of the household residual stream for which recycling services are already provided, specifically other paper and cardboard;
- The Council should target food waste for recycling;
- The Council should further target Trade Waste streams, in particular paper and cardboard;

- There may be further scope to drive up recycling rates at Community Recycling Centres (there is no one material in huge quantities but the following comprise between 5 and 15% of the residual stream - dense plastics, textiles and footwear, furniture, rubble, metals and garden waste.

Although other waste streams are much smaller WRAP note that there are opportunities to target these for further diversion of Trade Waste in particular.

	Trade Waste	Litter	Bulky household Waste	Schools waste	Park and garden waste
Newspaper and magazines	7.2	7.6	-	2.9	8.9
Other paper	18.8	7.3	-	21.2	6.1
Cardboard	13.8	8.2	0.1	9.8	7.3
Plastic film	7.7	5.9	-	6.9	4.3
Plastic bottles	3.9	7.7	-	3.3	5.9
Other plastic packaging	4.4	3.6	-	6.2	4.0
Other dense plastic	1.0	1.1	0.3	1.4	1.3
Textiles and footwear	1.3	1.9	0.1	0.7	2.1
Wood	0.2	0.6	0.0	0.8	0.1
Furniture	-	0.5	43.5	-	0.0
Disposable nappies	1.0	1.4	-	-	0.0
Other combustibles	3.8	10.0	11.8	1.9	14.5
Packaging glass	3.9	8.1	0.0	0.8	18.7

Other glass	0.4	0.3	0.1	0.1	1.1
Rubble (C+D waste)	0.4	0.2	0.4	0.4	0.0
Other non combustibles	0.5	0.6	0.4	0.3	1.7
Metal cans	2.7	3.6	-	1.8	3.1
Other metal	1.9	2.6	1.7	0.9	2.0
Food/kitchen waste	20.9	12.8	-	27.8	10.8
Garden waste	1.8	5.9	0.1	4.4	2.2
Other organics	2.3	5.1	-	5.0	2.7
Hazardous Household Waste	0.1	0.1	0.1	0.3	0.0
Waste Electrical & Electronic Equipment	0.5	3.6	41.3	1.0	0.5
Fines	1.5	1.5	-	2.5	2.7
TOTAL	100.0	100.0	100.0	100.0	100.0

It should be noted that there are practical barriers to providing such services- the Council's Trade Waste customers are often small premises with limited scope to store segregated waste streams.

Nevertheless it would in principle be possible to further target Trade Waste -either through the Council's relationship with LEEP Recycling or by other means, with specific collections for different types of customers, such as paper and card collections for offices and shops, and food waste collections for cafes and restaurants.

### **Appendix 3 Table of Activities**

This table is included to demonstrate the wide range of initiatives being developed to improve waste services in Edinburgh. It is not intended to be fully comprehensive, and will evolve over time as the Strategy is developed.

Waste Services' Objectives	What We Need To Do	How We'll Do It	Now	2015	2020
Clean	Provide a prompt, responsive open space maintenance service to remove litter, graffiti, fly tipping and street cleaning.	Containers used for all waste streams  Recycling banks replace and augment litter bins  Ongoing liaison with Neighbourhoods to minimize waste to landfill	Recycling On The Go projects (parks, barrow beats, Transport hubs)  Recycling street sweepings	Ongoing expansion of Recycling of On the Go	

Waste Services' Objectives	What We Need To Do	How We'll Do It	Now	2015	2020
Green	Continue to work with citizens, visitors and businesses in the City to increase recycling, reduce landfill and help contribute to a greener environment.	<p><b>REFUSE COLLECTION</b></p> <p>Use of strategic transfer points</p> <p>Cleaner vehicles used more efficiently (one visit per street)</p> <p>Radically changed operational fleet to service containers</p>	<p>Rezoning and rerouting</p> <p>Developing flat 5-day shift option</p> <p>Extending use of containers in world heritage site</p> <p>Develop demonstration projects in Old/New Town</p> <p>Develop collection systems for new housing developments</p>		

Waste Services' Objectives	What We Need To Do	How We'll Do It	Now	2015	2020
Green	Continue to work with citizens, visitors and businesses in the City to increase recycling, reduce landfill and help contribute to a greener environment.	<p><b>TRADE WASTE</b></p> <p>Segregated waste streams in Trade Waste</p> <p>Incentivised Trade Waste recycling through variable charging</p> <p>Tie trade into more recycling initiatives</p>	<p>Agree price increases</p> <p>Need to chase more income - more customers</p> <p>Development of relationship with LEEP Recycling Ltd</p> <p>Develop Trade recycling for Council premises and schools</p>	Development of enhanced commercial recycling offer	



Waste Services' Objectives	What We Need To Do	How We'll Do It	Now	2015	2020
Green	Continue to work with citizens, visitors and businesses in the City to increase recycling, reduce landfill and help contribute to a greener environment.	<p><b>RECYCLING</b></p> <p>All waste streams segregated at home / business place</p> <p>Weekly waste collections – different items collected each week</p>	<p>Review existing recycling services</p> <p>Retender current service seeking options to add plastics and switching both boxes to weekly.</p> <p>Increase recycling performance of existing schemes</p> <p>Deliver themed roadshows to support recycling services and waste</p>	<p>Food waste kerbside collection</p> <p>Commence introduction of realigned service with optimised recycling collections and moves to alternate weekly collections of residual waste (complete by 2013/14).</p>	

			<p>minimisation initiatives</p> <p>Consider ways to increase the capture of WEEE outwith CRCs</p> <p>Develop and implement a recycling incentive schemes</p> <p>Develop and maintain exemplary web pages</p>		
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Waste Services' Objectives	What We Need To Do	How We'll Do It	Now	2015	2020
Green	Continue to work with citizens, visitors and businesses in the City to increase recycling, reduce landfill and help contribute to a greener environment.	<b>DISPOSAL</b> Powderhall no longer necessary	Refurbishment of plant  Management of Reuse Cabins at Community Recycling Centres		
Green	Continue to work with citizens, visitors and businesses in the City to increase recycling, reduce landfill and help contribute to a greener environment.	<b>TREATMENT</b> Using Millerhill and/or an other treatment centre Employees offered a full range of recycling facilities in all buildings	Development of a Zero Waste Project to treat residual waste arisings prior to landfill.	Treatment facility will be operational from 2014/15, with direct delivery to landfill ceasing at this time.  Development of enhanced commercial recycling offer	

Waste Services' Objectives	What We Need To Do	How We'll Do It	Now	2015	2020
Safe	Ensure waste is properly contained	Develop tailored solutions for those areas where waste is collected in sacks.			
Well-Maintained	Ensure our bins and containers are in good working order	Improved appearance of containers and improved maintenance	Develop targeted programmes for communal bin refurbishment	Develop targeted programmes for communal bin refurbishment	Develop targeted programmes for communal bin refurbishment
Well-Informed	Provide information to our customers to promote our services.	<p>Easy to use, robust and up to date information</p> <p>Employees are ambassadors for the Council</p> <p>Greater levels of enforcement to emphasise personal responsibility</p> <p>Targeted campaigns for specific materials and changes to collection systems</p>	<p>Review policies.</p> <p>Targeted campaigns to increase capture rates</p>		

Waste Services' Objectives	What We Need To Do	How We'll Do It	Now	2015	2020
Well-Engaged	Consult all citizens and businesses to enable us to shape the services to meet local needs.	A strongly supportive and participative council	<p>Consultation with residents</p> <p>Support of elected members</p> <p>Maintain community Waste Action Grant programme</p> <p>Engage the next generation through visits to schools and expanding the range of service available to schools</p>		

			<p>Ongoing participation in Community Events</p> <p>Maintain the activities of Recycling Advisory Officers</p>		
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Outline recycling targets for the initial years of the strategy are summarised below. These show the performance delivered by ‘front end’ recycling collections including kerbside recycling, recycling points and Community Recycling Centres, as well as the forecast contribution of treating residual waste under the joint project with Midlothian Council.

Year	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
‘Front end’ recycling %	32.5	42.1	47.5	50	50	50	50
Combined performance (including waste treatment) %	32.5	42.1	47.5	50	50	50	60