

Transport and Environment Committee

10am, Tuesday, 2 June 2015

Landfill and Recycling

Item number	7.14
Report number	
Executive/routine	
Wards	All

Executive summary

This report updates the Committee on performance in reducing the amount of waste sent to landfill or sent for recycling in 2014/15. An overview of future potential trends in waste collection and disposal, including financial costs is provided. A summary of the type and volume of complaints relating to waste collection is also detailed.

Total waste arisings in 2014/15 were 1.2% higher than 2013/14, at 220,715 tonnes. This is a reversal of the trend of falling waste arising experienced over the last six years.

Whilst overall waste arisings were higher in 2014/15, waste that was not able to be recycled remained broadly static compared to 2013/14, and the tonnage of waste that was recycled increased by 3%. The overall citywide average recycling rate for 2014/15 was 39.1%.

Links

Coalition pledges	P44, P49, P50
Council outcomes	CO17, CO18, CO19
Single Outcome Agreement	SO4

Landfill and Recycling

Recommendations

It is recommended that Committee:

- 1.1 notes the adjustment of the 2013/14 city recycling rate outlined section 3.1 of this report; and
- 1.2 notes the contents of this report.

Background

- 2.1 At the meeting of the Transport and Environment Committee on 15 January 2013, members requested regular updates on performance in reducing the amount of waste sent to landfill and increasing recycling.

Landfilled Waste and Recycling

- 2.2 Capital Coalition Pledge 49 outlines the Council's commitment towards increasing recycling levels across the city and reducing the proportion of waste going to landfill. This includes targets to reduce annual landfill tonnage to 118,000 tonnes and to increase the percentage of waste that is recycled to 50%.
- 2.3 Significant progress in implementing the changes required to deliver both service improvements and landfill savings have been made, including the implementation of managed weekly collections in September 2012, and the kerbside recycling redesign, which commenced in September 2014 in a five phase roll out.

Complaints

- 2.4 At the meeting of the Transport and Environment Committee on 27 August 2013, members requested that the performance reports also include updates on complaints made about waste services.
- 2.5 There are 237,000 dwellings in Edinburgh which receive multiple refuse and recycling collections. On average there are approximately 90,000 collections a day and 480,000 collections a week. Current complaints targets are based on the number of collections carried out, but are not adjusted for seasonal variation.
- 2.6 The figures also include complaints that may be made in error, for example where a resident has not presented their bin and misses the collection, and then contacts the Council to report a missed collection.

Adjustment to 2013/14 citywide recycling rate

- 3.1 A disposal contract to extract recyclables from the waste deposited in landfill skips at community recycling centres commenced in November 2013. A detailed composition analysis of the waste was undertaken in August 2014, and the amount of recyclate in the waste stream was found to be significantly less than the tonnages established at contract commencement. To maintain robustness and accuracy in the recording of this waste stream, tonnage records were evaluated against the waste composition. Following this review, it was determined that an adjustment was required to the reported 2013/14 recycling tonnages. This adjustment reduced the 2013/14 annual citywide recycling rate from 39.3% reported to the Transport and environment Committee in June 2014 committee, to 38.4%.

Waste Arisings

- 3.2 Prior to 2014/15, the tonnage of total waste had been falling in recent years, with consistent reductions in waste arisings experienced since 2009/10 (Table 1). Given this recent pattern, it was anticipated that waste arisings would fall by approximately 2.2% in 2014/15. Waste arisings, however, increased by 1.2%. This was 7,022 tonnes more than anticipated prior to the start of financial year 2014/15. However, the tonnage of residual waste that was not able to be recycled has remained broadly static. It should be noted that total waste arisings include both domestic and trade customers (external commercial and The City of Edinburgh Council premises), with trade waste estimated to account for approximately 6% of annual arisings.

Year	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15 (predicted)	2014/15 (actual)
Tonnage total waste (waste arisings)	242,220	235,162	231,723	228,883	221,084	218,132	213,693	220,715
% change		-2.9%	-1.5%	-1.2%	-3.4%	-1.3%	-2.0%	1.2%

Table 1: Waste arisings 2008 onwards

Trends in Waste Arisings and demand for the service

- 3.3 Although it is difficult to identify the specific reasons for the increase in overall waste being collected, a number of factors may be contributing to this, including the economic recovery, and increases in the number of new houses built within the city. On average, each new individual dwelling house built within the city not only means that more waste is produced but, that given the current refuse collection services, five separate waste collection streams are required to be provided to the householder (landfill, food, garden, dry mixed recyclate and glass).
- 3.4 Household projection figures published by the National Records of Scotland (NRS) forecast that by 2037, there may be approximately 88,000 more

households in the city than there were in 2012 (figure 1). Over the 25 year period projected, this equates to an average increase of 3,500 households each year.

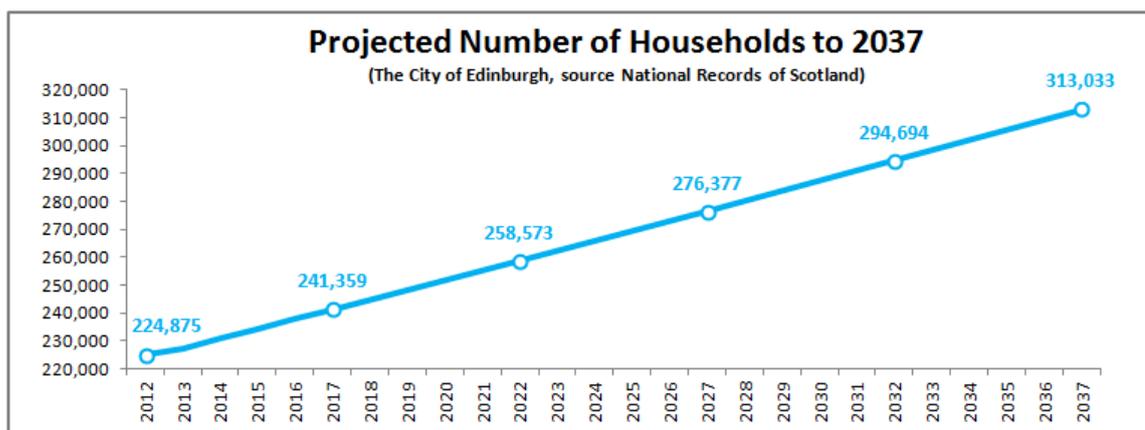


Figure 1 – National Records of Scotland Household projections (source National Records of Scotland, City of Edinburgh Council Area - Demographic Factsheet, last updated 18/12/2014).

- 3.5 Based on the domestic waste arisings observed in 2014/15, it can be estimated that each household in Edinburgh generates, on average, 0.9 tonnes of waste each year. Assuming that this pattern continues, based on the NRS household projections, some 73,500 tonnes more domestic waste may be produced by 2037 than is collected and disposed of today, an increase of approximately 2,900 tonnes per year. On average, a full refuse collection vehicle contains 10 tonnes of waste so, in simple terms, this equates to an additional 290 truck loads of waste being collected and disposed of each year (figure 2).

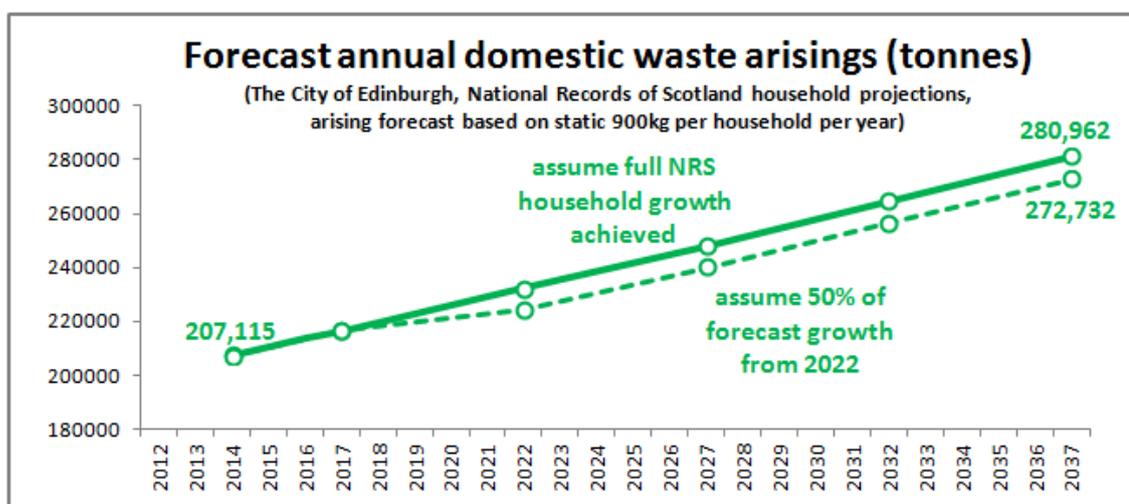


Figure 2 – Estimation of future waste arisings 2014-2035 (based on 900kg per household)

- 3.6 The Housing Land Audit assesses the supply of housing land in Edinburgh, and estimates future completions over a 7 year period. As a comparison to the NRS projections, the current housing audit details 10,371 new households as being planned over the next five years. This equates to an average growth rate of

2,074 households per year which, based on the assumptions outlined in section 3.5, would give an estimated increase of waste arisings of 1,800 tonnes each year (source: annual Housing Land Audit as of March 2015).

- 3.7 As outlined in section 3.3, homeowners that live in individual dwellings are currently provided with five separate waste collections. For each new house built, there is a cost associated with both collecting this waste and disposing of it. Based on current collection and disposal costs, and on current waste recycling rates, it is estimated that for each additional 1,000 houses in the city, it costs approximately £100,800 per year to provide the current waste collection and disposal service.

Landfill

- 3.8 In 2014/15, 134,329 tonnes of waste could not be recycled. Of this, 127,578 tonnes was disposed of via landfill and 6,751 tonnes was diverted as Refuse Derived Fuel (RDF). Waste processed as RDF, whilst it is included in waste arising tonnages, is not counted as recycling or landfill. Whilst a reduction in landfill in 2014/15 was recorded, the tonnage of non-recyclable waste (residual waste) disposed of in 2014/15 was broadly similar to the tonnage in 2013/14, at around 133,531 tonnes, although overall waste arisings in 2014/15 were 1.2% greater than 2013/14.

- 3.9 The City of Edinburgh and Midlothian council are working together to deliver a sustainable solution for the disposal of non-recyclable residual waste which will see the eradication of disposal via landfill by 2018. More information can be found at www.zerowastefuture.com.

Citywide recycling rate

- 3.10 In 2014/15, 86,386 tonnes of waste was recycled, with an overall citywide recycling rate of 39.1%. This continues the improving trend in the citywide recycling rate as detailed in table 2.

Financial Year	Tonnes of waste recycled	Citywide recycling rate%	Increase
2014/15	86,386	39.1%	0.7%
2013/14	83,855	38.4%*	0.5%
2012/13	83,835	37.9%	2.4%
2011/12	81,214	35.5%	2.4%

* this is an adjustment the 2013/14 previously reported to this committee in June 2014, as outlined in section 3.1.

Table 2 – Recycling tonnages and rates 2011/12 to 2014/15

3.11 Waste trends for the period 2006 to 2014/15 are detailed in figure 3, which illustrates the positive trend experienced in the reduction of landfill, and increases in the tonnage of recycled waste collected and the resulting citywide recycling rate.

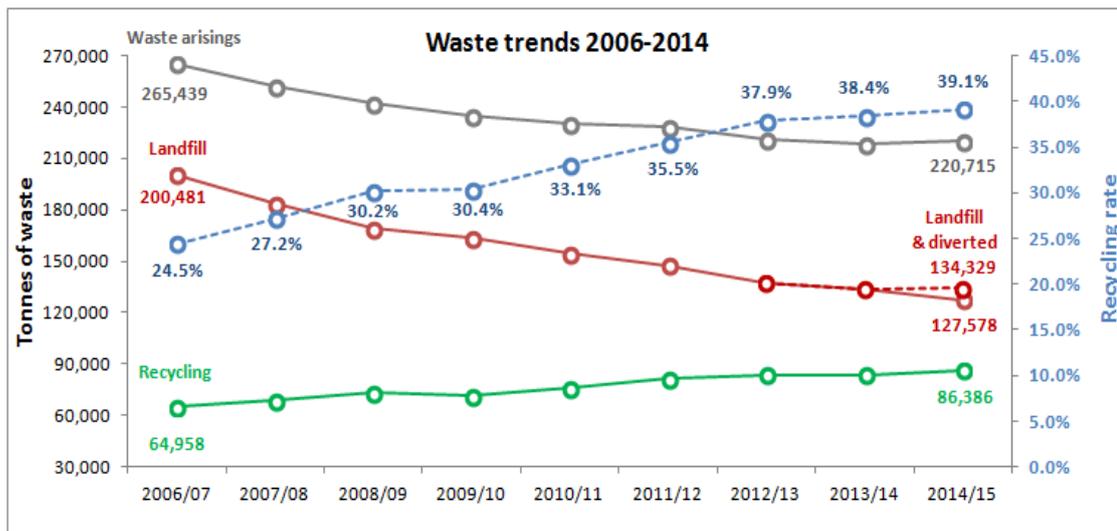


Figure 3 – Waste trends from 2006.

3.12 Waste that is recycled in Edinburgh comes from a number of different sources, as detailed in figure 4. Achieving the coalition pledge recycling rate of 50% is dependant on the tonnage of waste that is recycling via these streams increasing. Based on current performance, achievement of the 50% recycling rate will require 24,000 more tonnes of waste to be recycled than was achieved in 2014/15. Given the number of streams that make up the overall recycling tonnage, this means that recycling tonnages need to increase in more than one waste stream.

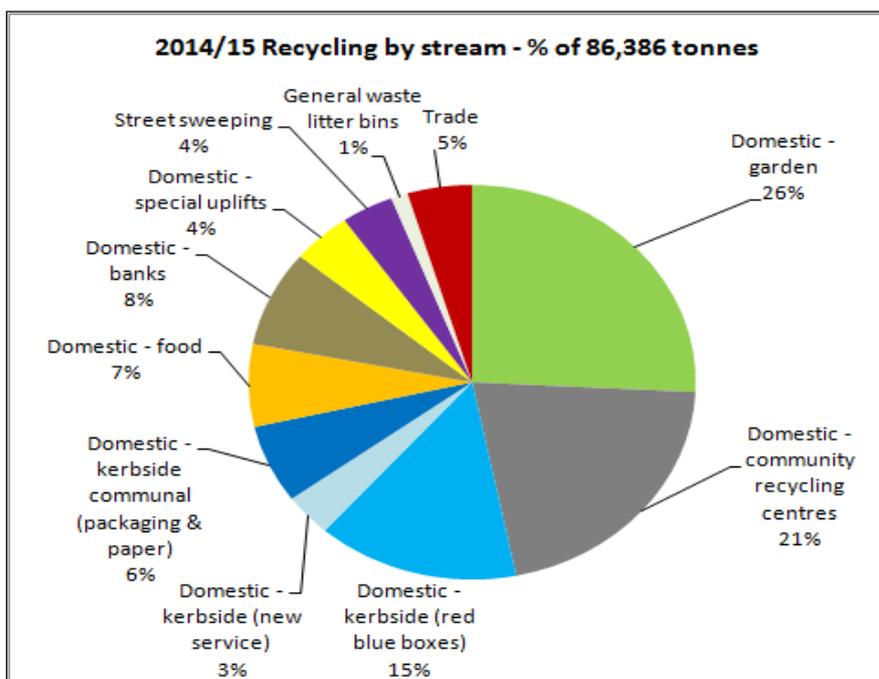


Figure 4 – components of recycling tonnage 2014/15

3.13 The number of households that are served by domestic recycling streams is outlined in table 3. This illustrates that, whilst an individual stream may show significant improvements (for example the new bin/box kerbside service), that to affect significant increases in recycling tonnage requires the engagement of all householders in the city.

Recycling stream	Approx. number of households covered (% of total citywide households)	Contribution to 2015/16 total recycling tonnage (figure 4)	Collection method
Domestic kerbside (flats) Dry mixed recyclate waste recycled at the kerbside (boxes) by flatted home owners	50,000 (21%) Red/blue boxes	15%	Some future provision to be provided by on-street communal
Domestic kerbside (individual households) dry mixed recyclate waste recycled at the kerbside by individual home owners	100,000 (42%) Red/blue boxes		to be phased out in 15/16
	40,000 (17%) New Bin/box service commenced Sept/Nov 2014	3%	fully rolled out to 140,000 by end November 2015
Recycling stream	Approx. number of households covered (% of total citywide households)	Contribution to 2015/16 total recycling tonnage (figure 4)	Collection method
Domestic kerbside communal – (packaging and paper) Dry mixed recyclate waste recycled at on-street communal bins	90,000 (38%)	6%	Large capacity on-street packaging and paper bins
Domestic – food (individual)	148,000 (63%)	7%	Individual kerbside caddies
Domestic – food (communal)	89,000 (37%)		Large capacity on street bins
Domestic - recycling banks (e.g. at supermarket)	237,000 (100%)	8%	available to all
Domestic – special uplifts	237,000 (100%)	4%	available to all

Domestic - community recycling centres	237,000 (100%)	21%	available to all
Domestic – garden waste service	120,000 (51%)	26%	wheeled bins

Table 3 - Contribution of current domestic recycling waste streams to citywide recycling rate.

New kerbside bin/box recycling service

- 3.14 The first three phases of a five phase programme to roll out a new kerbside bin and box recycling service (a replacement to the existing red and blue box service) to 140,000 residents have been undertaken. Phase 1 commenced in September 2014/15, phase 2 in late November 2014 and phase 3 in late March 2015. This is a major change to recycling provision in the city, as the new bin/box service simplifies the recycling process for kerbside residents and increases the range of materials collected.
- 3.15 As can be seen in table 3, the new service contributed to 3% of the tonnage of recycling waste collected in 2014/15, though it should be noted that due to the commencement in three stages from September 2014, that this is not a full year effect. The full roll-out of the service is programmed to be completed in 2015. Phases 4 and 5 are programmed to be undertaken in June 2015 and October 2015 respectively, and it is anticipated that in financial year 2015/16 the new service will have a positive impact on the overall citywide recycling rate of approximately 3%.
- 3.16 As can be seen in Figure 5, residents have engaged positively with the new service, and participation has increased as householders have become more familiar with it. Recycling yields for the new service are 60% higher than when residents were using red and blue boxes, with recycling yields increasing from an average of 1.9kg/household/week to between 3.5 and 4.1kg/hh/wk in March 2015, following the introduction of the new service.

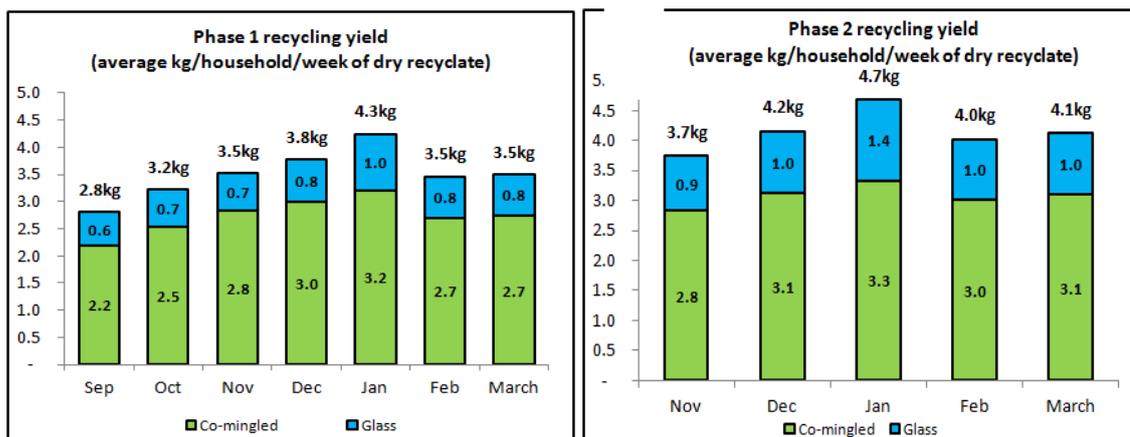


Figure 5 - average recycling yields Phase 1 and Phase 2 households

- 3.17 As part of the new kerbside recycling service, new 140 litre landfill wheeled bins have been introduced to households. This is having a positive effect on reducing

landfill, with landfill tonnages reducing by an average of 27% of their pre-service tonnage in March 2015 (figure 6).

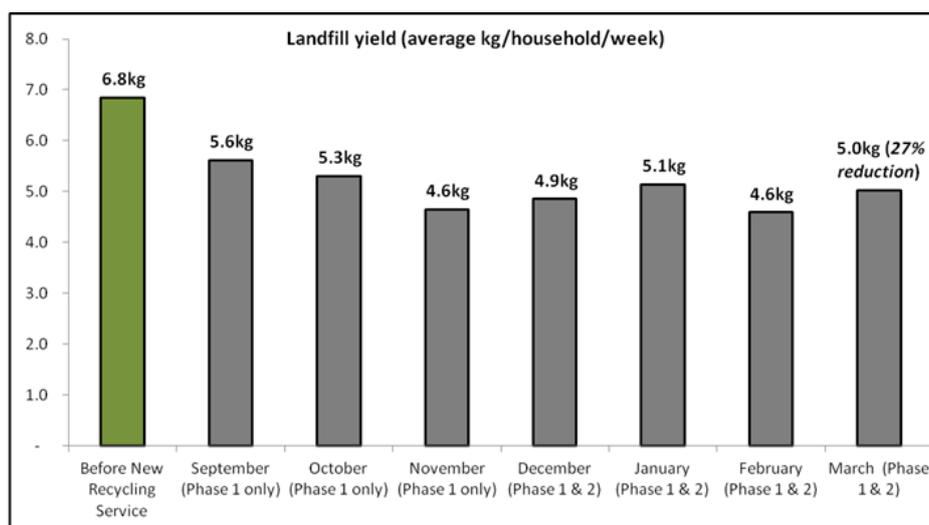


Figure 6 – Average landfill reduction, new recycling service routes

Domestic communal recycling

3.18 While provisions exist which allow people to recycle paper, mixed packaging and food using the on street communal bin system, Waste Services is looking to enhance this service to achieve:

- a better balance in the bin capacity provided for recycling versus landfill;
- combined paper and packaging collections in a single stream, to mirror that used in new service kerbside collection areas; and
- an increase in the number of points at which glass can be recycled on the kerbside.

3.19 Waste Services is currently operating two communal recycling pilots which address these aims. These are programmed to complete in the second quarter of 2015/16 and, once evaluated, it is hoped that this approach can be rolled out across this city. Further information on the pilots can be found on the Council [website](#).

Volatility of recyclate market

3.20 The market for recyclables has been particularly volatile over the last 18 months, and Councils face significant risk given that they are required to collect and dispose of the material. As a result, it is the Council that is primarily impacted when the market shifts. The value of material is linked to costs of virgin materials and global economic growth. In a local context, whilst car users enjoy lower fuel prices at the pump, the low price of oil has decreased the value of collected plastics. Similarly, the paper industry is in steady decline with circulation of newspapers reducing in favour of electronic media. Coupled with recent UK paper mills closures, this has reduced the value of collected paper. It

is anticipated that the current depressed state of the market will endure for 2015 and potentially extend into 2016.

- 3.21 Trade in recycled materials is a global economy, and the UK will always require to export some of the collected material as sufficient recycling capacity does not, and is not likely to exist in the UK. China is a large market for export of materials, given its record of growth. The pressures and volatility in the market can be partly linked to China's Gross Domestic Product (GDP) decreasing from 10% to 7% over the last 5 years and the resultant decrease in demand from China for recycled materials.
- 3.22 It has to be emphasised that this is a key area of risk to the Council. The Council is obligated to provide collections of recyclable materials but cannot influence the availability of the market and the global trading price of materials. When the market is depressed, as it currently is, the impact upon the Council is that the revenue from collected materials suffers. One of the most recent examples was the closure of one of the three remaining papermills in the UK, Aylesford. The closure of the mill in February 2015 led to more paper being immediately available within the recycling market and the value of paper collected through recycling collections reduced from around £50 per tonne to around £30 per tonne. This impact was relatively short lived, and paper prices have started to recover, but this does highlight the risk to the Council from changes within the market.
- 3.23 It is anticipated that the EU's Circular Economy Package proposals, expected to be published in the summer of this year, will include enhanced producer responsibility provisions. The desire to move towards a circular economy recognises that waste volumes have grown significantly since the industrial revolution and has encouraged a culture of consume and dispose of products. The circular economy is based around a recognition that waste is a resource and resources require to be managed more efficiently through the promotion of a culture of reusing, repairing, refurbishing and recycling products rather than disposal and manufacture of a replacement.
- 3.24 Enhanced producer responsibility would mean that the producers of the waste (retailers and manufacturers) would be liable for an element of the cost in managing the waste. The extent of any proposals is yet to be outlined, and there is a risk they may not come to fruition. If however these provisions are put into effect it is reasonable to assume that they may mirror similar provisions that were introduced for waste electrical and electronic equipment. Every retailer of this equipment (ranging from an electric toothbrush to a washing machine) has to contribute towards the cost of disposing of the waste. For the Council, the way in which this works is that this material is collected at our Community Recycling Centres but is uplifted and disposed of at no cost to the Council. The producers bear those costs.

Complaints

3.25 Weekly complaint numbers since 2012 are detailed in figure 7. The service experienced an increase in complaints in August 2014, due to a rise in complaints regarding missed kerbside collections of residual and food waste. To improve route efficiencies in refuse collection, new larger routes were rolled out across both these services in the week commencing 11 August 2014. The food waste service in particular suffered from disruption and experienced high complaint volumes due to a number of factors which included shift changes for crews. Complaints have significantly reduced in the final quarter of 2014/15.

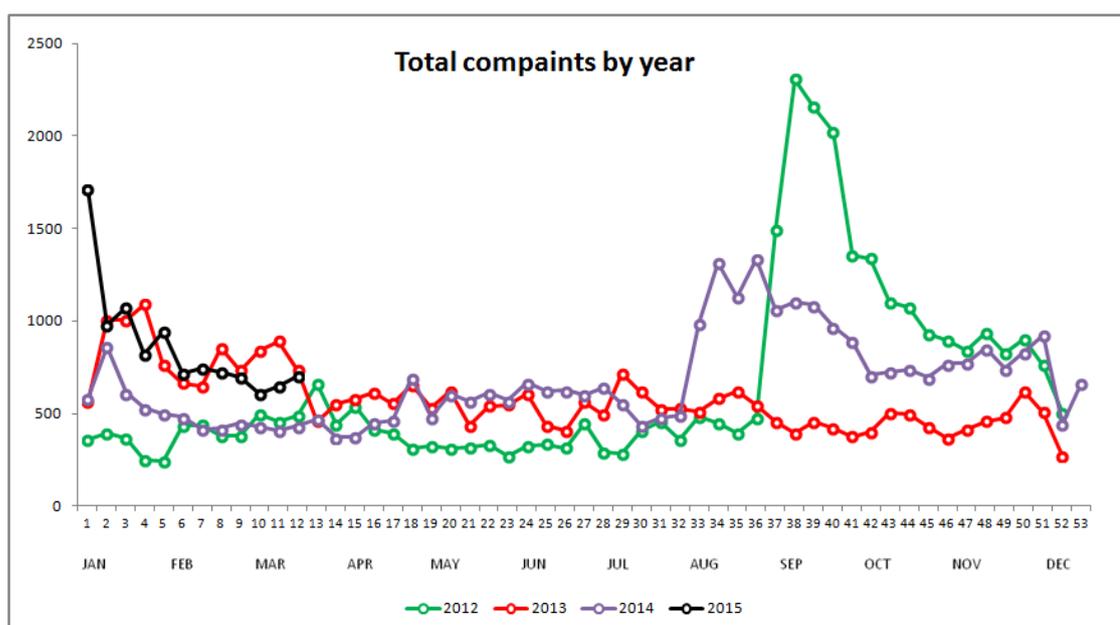


Figure 7 – weekly complaint number 2012-2015

- 3.26 On average in 2014/15, there were 758 complaints a week. With approximately 480,000 collections a week, this translates to 0.16% of collections resulting in a customer complaint.
- 3.27 In 2014/15, the majority of complaints received were regarding the non-collections of waste (94.5%), with complaints regarding conduct of crews (5%) and concerning insurance claims (0.5%) making up the rest.
- 3.28 A breakdown of complaint numbers regarding non-collection of waste by collection stream is detailed in figure 8. As can be seen, complaints regarding the non-collection of individual residual (landfill wheeled bins) and food – individual (food kerbside caddies) were the most common cause for complaint in 2014/15.

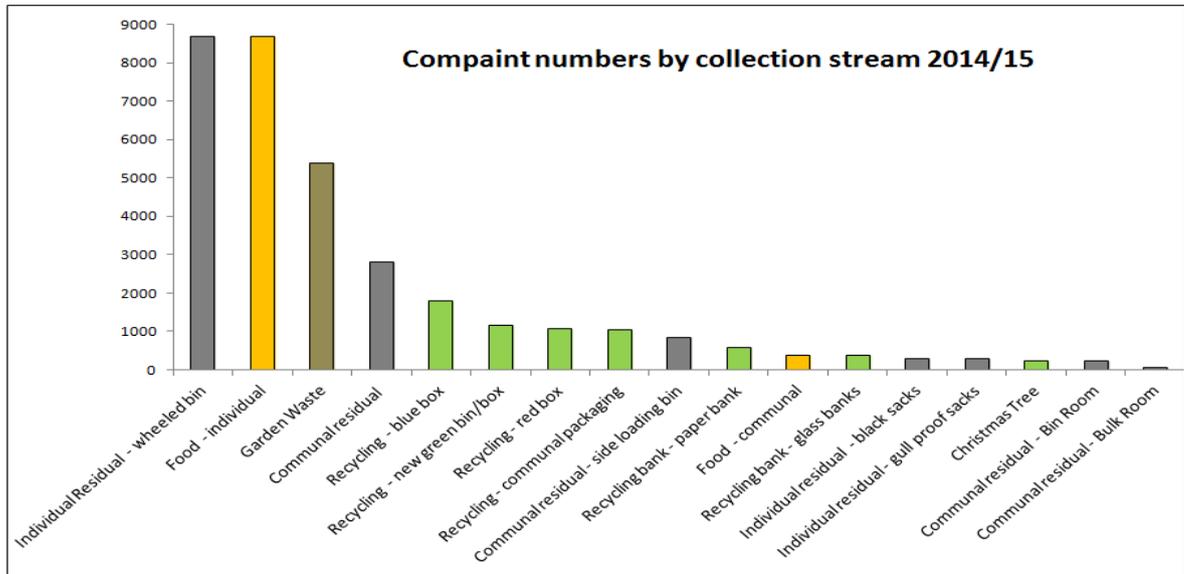


Figure 8 – 2014/15 complaint numbers by collection stream

- 3.29 With 14 landfill wheeled bin routes operating each weekday undertaking an alternative weekly collection, there are approximately 3.6 million collections carried out annually. This equates to a complaint occurring in 0.24% of landfill wheeled bin collections.
- 3.30 With 10 individual food waste routes running each weekday undertaking a weekly collection, there are approximately 7.6 million collections each year. This equates to a complaint occurring in 0.11% of collections.
- 3.31 All complaints are recorded on Confirm, an asset and enquiry management system. Householders are able to raise a complaint via the telephone with the customer contact centre or customer care team, and are also able to notify Waste Services of a missed bin via the external website.
- 3.32 Currently, Waste Services does not differentiate between types of complaints e.g. between complaints from addresses that are known to have been missed for operational reasons, and complaints where a bin has been missed in error. If, for example, collections have been delayed due to a vehicle breakdown, but alternative arrangements have been put in place to complete the route early the next morning, customers are currently able to log a complaint via the website and it will be recorded. Similarly if a customer has not presented their bin at the correct time and missed the collection, they are able to record this as a missed bin complaint and request that this is collected.
- 3.33 Given the way in which complaints are currently recorded, it is difficult to differentiate between these types of complaints and incidents where the bin has been missed in error by the crews. Complaint recording is being looked at, to allow the service to focus reporting and analysis on where bins have been missed in error. Proposals to implement revised reporting in 2015/16 are currently being developed.

Measures of success

- 4.1 Achievement of the Council's targets for increasing recycling and reducing landfill.

Financial impact

- 5.1 Although the tonnage of waste landfilled is forecast to exceed the budget target, the end of year landfill tonnage has reduced by 4.4% compared to 2013/14 performance.
- 5.2 Officers are working to implement budget management measures to offset and mitigate any overspend.

Risk, policy, compliance and governance impact

- 6.1 The information contained in this report is a review of the current performance of landfill and recycling. This report does not impact on any existing policies and no risks have been identified pertaining to health and safety, governance or compliance. Further, there are no regulatory implications that require to be taken into account.

Equalities impact

- 7.1 The Council is meeting its public sector duty to advance equal opportunity for residents to recycle by using a range of communications methods. Written information is available through leaflets and electronic media. Road shows and door knocking visits provide face to face contact with residents and visits from recycling advisers are available on request. All material can be translated on request. Consultation was carried out via demographically representative focus groups and via on line and written questionnaires to ensure that a full and representative range of views were obtained. Assistance with the presentation of recycling and waste containers is available for those who require it to ensure everyone has access to these services. The above has ensured that information is available for all within the equality and rights framework.

Sustainability impact

- 8.1 Increased recycling will help to divert waste from landfill and support the achievement of greenhouse gas reduction targets, and reductions in local environmental impact.

Consultation and engagement

- 9.1 Engagement and communications work is ongoing for the new kerbside recycling service. The Community Engagement team within Waste Services has supported three phases of implementing the new service to 60,000 households, and is focussing on the fourth phase in June 2015 to a further 40,000 households. Support has included comprehensive targeted communications for residents, briefings for key stakeholders and community groups, events, and door to door engagement.
- 9.2 Communications on the new recycling service have been well received by residents. A survey of Phase 2 residents, undertaken in January 2015, found that 84% agreed or strongly agreed that the information they received about the new service was easy to understand. Further, 89% agreed or strongly agreed that they were given all the information they needed about the new service.
- 9.3 Waste Services is supporting each phase of the rollout with recycling advisors working alongside crews on both the recycling and residual routes. This assists in dealing with any immediate issues householders may have, and also to accurately identify householders who would benefit from further guidance in utilising the new recycling service fully.
- 9.4 For areas of high density, such as flats and tenements with shared bins, Waste Services is undertaking two pilot projects which commenced in February 2015 to encourage residents in these areas to recycle more and also to increase the amount of items that can be recycled. This is being supported by the Community Engagement team which is monitoring the two pilot areas, to capture feedback to inform any future changes.

Background reading/external references

N/A

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Links

Coalition pledges	P44 – Prioritise keeping our streets clean and attractive P49 – Continue to increase recycling levels across the city and reducing the proportion of waste going to landfill P50 – Meet greenhouse gas targets, including national target of 42% by 2020
Council outcomes	CO17 – Clean – Edinburgh’s streets and open spaces are 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 Agreement	SO4 – Edinburgh’s communities are safer and have improved physical and social fabric
Appendices	N/A