KERBSIDE RECYCLING SCHEME

Report of the Executive Director of Place

Policy Board Member: Councillor Ian Swithenbank, Streetcare and Environment

**Purpose of report**

To provide the Committee with an overview of the Council’s Kerbside Recycling Service, how it is currently performing and to highlight the key drivers for change that will need to be considered when reviewing the future direction of waste recycling activity.

**Recommendations**

The report is for information.

**Link to Corporate Plan**

This report is relevant to both the Economic Growth and Places and Environment priorities within the Corporate Plan. Maximising the collection, sorting and reprocessing of recyclable materials within Northumberland provides financial and employment benefits, as well as helping to keep the local environment clean and making a positive contribution to tackling global warming and ensuring the best use of finite resources.

**Key issues**

1. Whilst the Council’s existing kerbside recycling service is cost effective, has high user satisfaction ratings and achieves a good recycling rate - there is an understandable public desire for the collection of glass at the kerbside.

2. The Council is already planning to undertake a review of its kerbside recycling service during 2014, including the options available for the collection of glass, in order to comply with the requirements of EU and UK law. This will involve evaluating the technical, economic, environmental and practical options available for the separate collection of paper, metals, plastics and glass.

3. There are significant financial and legislative drivers to increase recycling performance, including the potential to reduce the contractual payments made under the Waste PFI Contract, maximising income generation from sale of recyclables, and the risk of the sharing the financial burden of meeting any EU fines
that could be passed on to local authorities by the Government if the UK fails to meet its obligations to achieve a 50% recycling target by 2020.

4. A compositional analysis study to sample the contents of general household waste bins will be undertaken by the waste service in 2014 to help inform the development and appraisal of options for securing improvements in recycling performance.

5. Whilst there is already an active waste education and awareness raising programme in place, it is recognised that continual reinforcement of recycling messages and advice on what can and can’t be recycled is required to ensure the long term success of the recycling service.

**Background**

1.1 The Council has adopted a ‘twin bin’ kerbside refuse collection and recycling service. This entails households having two 240 litre wheeled bins as standard, one for general household refuse (non-recyclable) and the other for mixed dry recyclable materials, with both bins being emptied once per fortnight on alternate weeks. This arrangement enables the collection costs for refuse collection and recycling to be minimised, as the same staff and vehicles can be used to undertake the collections of both materials. Under this system it is therefore possible to provide a kerbside recycling service to virtually every household in the county, irrespective of whether they live in an urban or rural setting.

1.2 The materials targeted for recycling in the kerbside recycling bin are: paper, card, cardboard, plastic bottles, food and drinks cans/tins and empty aerosols. The collected materials are either:

1.2.1 taken to a waste transfer station (in Alnwick, Berwick and Hexham) where they are then bulked up into articulated trailers for onward transportation to a Materials Recycling Facility (MRF) located at West Sleekburn Industrial Estate, near Stakeford in SE Northumberland or

1.2.2 kerbside recyclables collected from the Morpeth/Belsay/Ponteland area and across the whole of SE Northumberland are delivered directly to the MRF by the Council’s own refuse collection vehicles.

1.3 The MRF at West Sleekburn is a state of the art sorting facility specifically designed to process the ‘mixture’ of recyclable waste collected within Northumberland. It was developed as part of the Council’s Waste Private Finance Initiative (PFI) Contract with SITA Northumberland Ltd at a cost of ~£12m. The facility uses a wide range of waste sorting technology, including overband magnets to remove ferrous metals, eddy current separators to remove aluminium cans/aerosols, as well as near infrared optical scanners and air knives to sort different grades of paper and different types of plastic bottles (PE and HDPE) in order to maximise their market values. The facility does have some manual picking lines, but these are used to help remove large unwanted items and brown cardboard at the front end of the process – to safeguard the equipment from damage; and at the end of the process line as a final ‘polishing’ stage to ensure high quality standards are achieved for the recovered materials. The facility employs around 24 staff and is licensed to process up to 50,000 tonnes of dry recyclable materials per annum.
1.4 The Council does not target shredded paper within the kerbside recycling scheme as the majority of paper mills do not want this material as it is low quality fibre for paper making. It also causes operational problems by falling through conveyors causing blockages/mechanical breakdowns and increased fire risks. Within the West Sleekburn MRF the front end of the sorting process involves the mechanical separation of materials by size using a rotating trommel – similar to a large revolving sieve. Shredded paper falls through the holes in the trommel and is collected along with other non-recyclable materials and sent for energy recovery to the Tees Valley Energy from Waste plant.

1.5 Plastic pots and tubs are not currently recycled by the Council as they are a mixture of different plastics for which there are very limited end markets – the majority of UK mixed plastics are currently exported to other none EU countries where very low labour costs make hand sorting a viable option.

1.6 Glass is not collected within the kerbside bin and instead a comprehensive network of ~160 local glass recycling ‘bring sites’ have been provided across the county at which residents are able to deliver their own glass and sort it into green/brown or clear colours. The collection of glass in these different colours enables it to be used by the glass container manufacturing industry as ‘remelt’ back into new glass containers. This offers the highest environmental benefit from glass recycling activity. Collecting glass all mixed together results in it being predominantly used for less environmentally beneficial applications such, as the creation of secondary aggregates for the construction industry.

**Performance of Current Kerbside Dry Recycling Service**

1.7 Approximately 12.7% of the materials collected via the kerbside recycling bins are removed during the sorting process as ‘contamination’ – these rejected materials are delivered to the Energy from Waste plant and used as a fuel to generate electricity for supply to the National Grid. In 2013/14 a total of 21,373 tonnes of materials were successfully recycled and sold into end markets having been recovered from the kerbside recycling bins and processed via the MRF.

1.8 The majority of the waste recycled via the kerbside bins is paper and cardboard (85%), with plastics accounting for ~8%, ferrous metals ~6% and aluminium ~1%. It is therefore imperative that the facility achieves a high quality standard for paper products to ensure that there is a demand for the recovered paper and it can meet the high input specifications demanded by UK paper mills.

1.9 When considering the overall recycling services provided by the Council, that include both the kerbside recycling bins, local bring recycling sites and various recycling containers located at Household Waste Recovery Centres – the Council performs well against other unitary local authorities. The latest performance information available from the National Waste Data Flow system relates to Q3 in 2013/14. This shows Northumberland achieving a second quartile performance for ‘dry’ recycling of 25.4% coming 35th out of 91 unitaries – ahead of both North Tyneside coming 39th (24.9%) and Newcastle coming 54th (23.4%) (despite both of these Councils collecting glass at the kerbside).

**Kerbside Glass Collections**
The waste service undertakes user satisfaction surveys on an annual basis via the Council’s web page. These surveys consistently show that the refuse collection and recycling service is held in high regard by residents – with the latest figures for 2013/14 showing 86% of respondents being very/fairly satisfied. However, it is acknowledged that one of the most common criticisms of the recycling service in Northumberland is the lack of kerbside collection arrangements for glass.

In 2009 when the new unitary Northumberland County Council was formed it inherited a kerbside glass recycling services that had previously been undertaken by Castle Morpeth Borough Council. The service entailed the fortnightly collection of mixed colours of glass in a 40 litre plastic box. The collection arrangements raised a number of health and safety issues for staff, both through manual handling due to the weight of the boxes, as well as exposure to high noise levels from the repeated tipping of glass bottles into the collection vehicle. Whilst the service was popular with residents it was only provided to ~5,000 households and was very expensive to operate costing over £100 per tonne of glass collected (which at the time only had a resale value of ~£30 per tonne). Given the financial constraints it was not considered economically viable or sustainable to extend the scheme to all residents, and it was therefore discontinued as part of the budget savings in 2009/10.

The majority of Council’s in the north-east initially introduced their kerbside recycling schemes via box collections that had to be hand sorted on the kerbside by collection staff into ‘stillage’ vehicles. These arrangements included glass along with paper and cans – but proved expensive to operate and did not offer adequate capacity. These ‘kerbside box’ schemes were eventually replaced with ‘co-mingled’ recycling collections using wheeled bins. As part of this transition to ‘co-mingled’ collections the Council’s sought to maintain some provision for kerbside glass recycling. These tended to involve the use of a smaller ‘caddy’ container located in the top of the recycling bin. The caddy is removed by the collection crew by hand and tipped into the rear of the refuse collection vehicle. The use of split compartment refuse collection vehicles enables the glass to be collected at the same time as the recycling bin – with the mixed paper, card, plastic bottles etc being tipped into one side of the vehicle and glass into the other. These arrangements have proven to be successful, but it should be noted that they are more expensive to operate than the type of system used in Northumberland, as they have to have bespoke vehicles for recycling collections, the inclusion of glass is highly abrasive creating additional maintenance costs and vehicle downtime, the use of split compartment bodies on the vehicles reduces the payloads which in turn increases costs through the need for more vehicles and/or higher mileages being undertaken to complete collection routes.

At a national level some of the highest performing councils for dry recycling are achieving this by including glass within the mix allowed in the recycling bin. Whilst this is very easy and convenient for households, it does create a number of issues for the onward sorting and processing of the collected materials and their end markets. The sorting plants have to remove the glass and prevent paper and other recycled materials from becoming contaminated with broken shards of glass – otherwise they will fail to meet end user quality specifications and end up having to dispose of the materials as waste. The inclusion of glass also creates significant maintenance issues for the sorting facilities – as broken glass is highly abrasive and causes significant wear and tear on conveyors and other moving parts of the process lines. It should also be noted that as the glass is collected in mixed colours...
and is often contaminated with other materials such as ceramics/pyrex and grit the majority of the recovered materials tend to go into the production of secondary aggregates for use in the construction industry, as they are not suitable for the production of new glass containers. The use of glass as a secondary aggregate has only limited environmental benefits when compared to its use in the manufacture of new glass products, and may prove difficult to justify when applying the EU Waste Directive requirements described in paragraph 1.15

**Education and Awareness Raising Activity**

1.14 Raising awareness and securing the active participation of the public in recycling and waste minimisation activities is vital to the sustained success of recycling services. The Council has an active waste minimisation, education and awareness raising programme that in 2013/14 has entailed the following:-

- Leaflet in every council tax bill which went out in April and also in every new occupier council tax bill for rest of year – 100% coverage therefore 170,000 leaflets advising what should go in each bin
- Rolling programme to put new stickers on household recycling bins in the county - approx. 80% coverage to date therefore (112,000) advising people what should be in recycling bin
- Red tagging of ~3400 badly contaminated recycling bins to advise people what they are doing wrong and what the bin should be used for with ~7% receiving follow up letters & where necessary home visits to reinforce the advice & guidance.
- Over 2,400 school children talked to covering a variety of messages including what to put in recycling bin.
- 500 children and adults given info regarding food waste at Children’s day
- Leaflets regarding recycling and food waste distributed at 4 days of food festivals and 2 days of agricultural shows.
- 600 hits per month on average to web site page which explains about recycling in Northumberland
- 5000 recycling wheels distributed to public and children in schools which identifies outlets for different waste materials for recycling
- promotion of low cost home compost bins
- ran 2 open day events at the West Sleekburn Materials Recycling Facility
- regular press releases and articles in the Council’s Northumberland News magazine

**Key Drivers to Improve Future Recycling Performance**

1.15 All local authorities are required under EU and UK law to provide for the separate collection of paper, plastics, metals and glass by 2015 unless it is assessed as being inappropriate to do so on technical, economical, environmental or practical
grounds. What this means in practice has been subject to Judicial Review. The outcome of this was that the collection of mixed materials (termed co-mingled) is acceptable subject to certain criteria being met. All local authorities that already have or are considering the introduction of 'co-mingled' recycling collection services have to demonstrate that this represents the most technically, economically, environmentally and practicable way of meeting the obligation. This requirement is termed TEEP and the County Council will be undertaking an evaluation of its current recycling service against TEEP later this year. This will include costing out alternative options for the collection of glass.

1.16 It should also be noted that under EU law the UK has to achieve a 50% household waste-recycling rate by 2020. Failure to meet this target could result in the UK being fined (fines being in the order of £500k per day), and the Government has stated that if the UK fails to meet the target it will seek to apportion any fines incurred to those local authorities that have contributed to this failure on an equitable basis. This is a significant risk for local authorities given the scale of the fines that could be applied.

1.17 The Council also has a significant financial incentive through the Waste PFI Contract to increase the proportion of recyclable waste that it collects as a proportion of the overall amount of household waste collected, in order to meet its ‘waste mix’ obligations within the contract and minimise contract payments to SITA, whilst also maximising its potential income from sale of recyclable materials. For example if the Council had been able to capture a further 5.2% of recyclable materials and prevent them from being disposed of via the general household waste bin during 2013/14 it would have avoided ~£590k in PFI Contract payments. With regard to the income from sale of recyclables, SITA has already built in expected income of ~£1.7m per annum for this which acts to reduce the contract charges incurred by the Council. If income exceeds this threshold, then the Council receives 85% of additional income.

1.18 Compositional analysis work is being planned for 2014 to identify and quantify the amount and type of potentially recyclable materials that are present in general household waste bins. This information will be used to review the Council’s existing waste strategy and recycling arrangements and to develop an action plan to target specific materials and households in order to increase recycling performance.

1.19 However, given that the existing recycling and composting rate in Northumberland has remained relatively static at just over 40% for the past 3 years, it will be difficult to improve the performance of the existing arrangements by a further +10% in order to meet the EU’s 50% target by 2020. It is therefore likely that it will prove necessary to also extend the range of materials being recycled. The relative costs, benefits and risks associated with different options to improve recycling performance to achieve a +50% recycling rate will need to be identified and carefully considered by the Council when reviewing its waste strategy.

**Implications**

<p>| Policy | None at this stage – but the Council will need to review its waste recycling services and associated policies during 2014. |</p>
<table>
<thead>
<tr>
<th><strong>Finance and value for money</strong></th>
<th>The existing 'co-mingled' kerbside recycling arrangements are a cost effective way of delivering a recycling service to households across the whole county and offers good value for money taking into account the high user satisfaction ratings and good recycling rates. However, it is acknowledged that further improvements in performance and value for money are required and work is being undertaken to identify a way forward.</th>
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<tr>
<td><strong>Legal</strong></td>
<td>The UK is required to achieve a 50% household waste recycling rate by 2020 under EU law. Failure to do so may lead to fines being levied to the UK Government, which could be passed down to individual local authorities.</td>
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<td><strong>Procurement</strong></td>
<td>None at this stage</td>
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<td><strong>Human Resources</strong></td>
<td>None at this stage</td>
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<td><strong>Property</strong></td>
<td>None at this stage</td>
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<td><strong>Equalities</strong> (Impact Assessment attached)</td>
<td>An EIA has been undertaken when developing the existing kerbside recycling service. Any future changes to the service would need to consider equalities issues, for example the need to provide assisted collections for those people physically unable to present their waste for collection at the kerbside.</td>
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<td><strong>Risk Assessment</strong></td>
<td>The key risks associated with the existing kerbside recycling service are: - failure to sustain active participation from the public, - failure to meet end market quality standards for recycled materials’ - collapse of recycling end markets. These risks would all result in increased costs, lost income, reduced environmental performance and loss of reputation.</td>
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<td><strong>Crime &amp; Disorder</strong></td>
<td>The provision of convenient and accessible recycling services reduces the risk of flytipping. Robust containment and storage of waste and regular, reliable collection arrangements reduce the risk of anti-social behaviour such as rubbish fires and littering.</td>
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<td><strong>Customer Consideration</strong></td>
<td>The existing co-mingled kerbside recycling service is easy and convenient for households to use and requires limited effort to segregate waste for recycling.</td>
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<td><strong>Carbon reduction</strong></td>
<td>The existing waste management arrangements within Northumberland were judged to offer the best practicable environmental option for dealing with the County’s waste when developing the waste strategy for 2003 to 2020.</td>
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Wards

All wards in the County would be affected by any changes to this ‘universal’ service.

Consultation

The Policy Board Member for Streetcare and Environment has been consulted on the content of this report

Background papers:


Report sign off.

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<th>Finance Officer</th>
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