

Key messages

# Sustainable waste management



Prepared for the Auditor General for Scotland and the Accounts Commission  
September 2007

# Key messages

## Introduction

**1.** Collecting household waste is a vital and universal council service. In recent years there has been significant new investment intended to bring about major changes in waste management.

**2.** The overall aim of the study is to review the work of councils, the Scottish Environmental Protection Agency (SEPA) and the Scottish Executive in reducing the amount of waste being sent to landfill. We make recommendations designed to make managing waste more economic, efficient and effective.

**3.** We collected information from all 32 councils and visited six of these for more detailed enquiries. We also interviewed the Scottish Executive, SEPA and other relevant public and private bodies.

## Key messages

**1** Significant progress has been made in meeting interim recycling targets. The percentage of municipal waste which is recycled and composted has risen from seven per cent in 2001/02 to 25 per cent in 2005/06. But the rate varies considerably between councils. The system offering the best value for money will depend upon the level of recycling required. Co-mingled collections appear to achieve higher recycling rates.

**4.** The Executive sets targets for increasing recycling and composting to help achieve the EU targets for reducing the amount of biodegradable waste that goes to landfill. Nationally, rates of recycling and composting have grown from seven per cent in 2001/02 to 25 per cent in 2005/06 and the interim recycling target has been met (Exhibit 1).

**5.** Recycling rates vary across councils in Scotland, from ten per cent in Dumfries & Galloway to 40 per cent in Clackmannanshire. Eleven councils recycle more than 30 per cent; ten recycle less than 20 per cent. These variations reflect demographic factors, such as the challenges involved in making recycling facilities available in tenement and high-rise properties and in remote areas. They also reflect councils' success in bidding for finance from the Strategic Waste Fund (SWF).

**6.** There are currently 67 different recycling schemes in operation across Scotland using 41 types of receptacle, collecting differing combinations of 20 materials. The host of separate collection schemes can be broadly categorised into three main systems (some councils use a combination of systems):

- Source segregation – where users put recyclables into separate containers.
- Kerbside sort – where material is sorted as it is collected.
- Co-mingled collection – where recyclables are collected together and sorted afterwards.

**7.** The average cost of the collection service is broadly similar across the three systems. But the amount of recyclable material that people put out varies. On average, a householder puts out 1.43kg of recyclable waste per week when they are provided with separate containers for each material, and this rises to 1.98kg for material sorted at the kerbside. With co-mingled collections this rises to 2.35kg per week. This suggests that the co-mingled system has some advantages over the others in terms of the amount of recyclable materials that can be collected.

**8.** However, the need to continue to increase recycling rates makes it important for councils to evaluate current systems before new systems are introduced or modifications made to the current systems. A review of kerbside recycling should form a fundamental part of any Best Value review of waste management services and should include subjecting them to market testing.

**9.** Continued increases in recycling rates depend on the attitudes and willingness of the general public to continue increasing their commitment to recycling. The Scottish Waste Awareness Group (SWAG) has found that the Scottish public participate in recycling more than ever before and are willing to recycle more material. Participation in recycling has increased from 50 per cent of people in 2002 to 81 per cent in 2006.

**10.** Evidence from SWAG reveals that public participation in kerbside recycling schemes has increased overall from 33 per cent to 66 per cent, although participation varies from 90 per cent for people living in semi-detached homes to 64 per cent for people living in flatted properties. The continued growth in recycling and composting may be sufficient for councils to achieve the 2010 Landfill Directive target. However, new facilities for treating waste that is not recycled are required to meet the 2013 target. This will become more difficult because of the increasing amount of waste being generated by households in Scotland.

**11.** The EU Landfill Directive targets require a sharp reduction in sending waste to landfill, and additional facilities for treating waste that isn't recycled (known as residual waste) will be required if these targets are to be achieved. Currently 1.54 million tonnes of biodegradable municipal waste (BMW) goes to landfill sites.

**12.** The Landfill Directive targets are aimed at reducing the amount of BMW going to landfill to 1.3 million tonnes by 2010, 0.88 million tonnes by 2013 and 0.62 million tonnes by 2020. But achieving the targets is made more difficult because the total amount of municipal waste generated in Scotland has been rising by 1.25 per cent a year over the long term and is expected to continue to rise. At this current annual growth rate, the total waste generated could increase from around 3.3 million tonnes now to around 4.3 million tonnes by 2020.

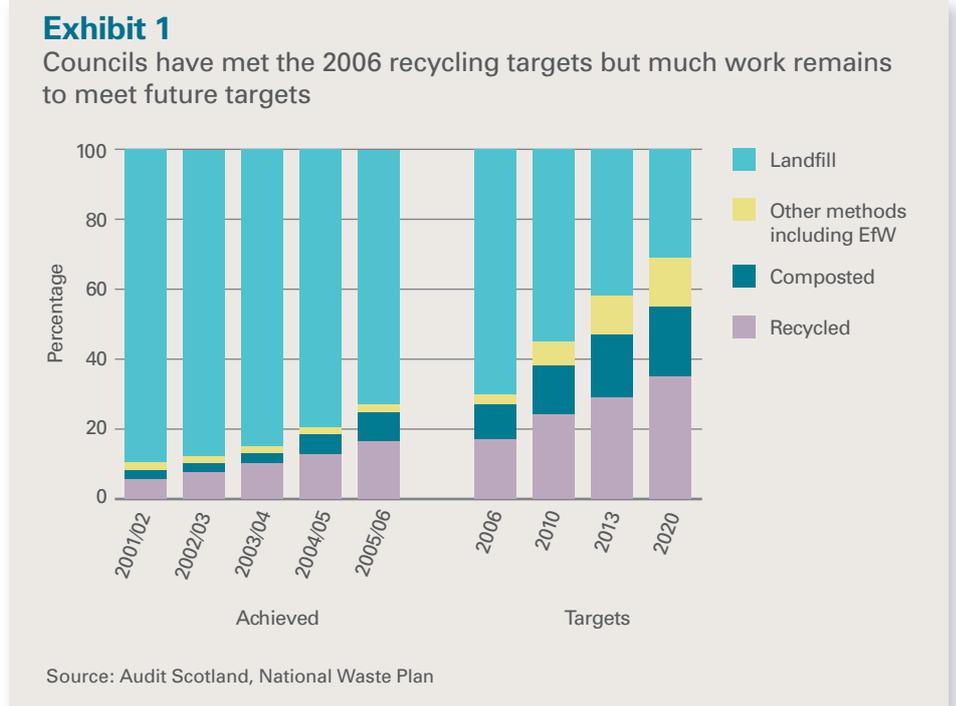
**13.** Options for the treatment of waste which is not recycled include Energy from Waste (EfW), Mechanical Biological Treatment (MBT), Anaerobic Digestion (AD) and in-vessel composting (IvC). These facilities will vary from small industrial units (in-vessel composting) to large industrial plants such as for EfW.

**14.** There are currently very few of these facilities available in Scotland. Dundee and Shetland Islands have EfW plants, Eilean Siar has an MBT plant and Dumfries & Galloway are in the process of commissioning one.

**2** The slow progress in developing facilities to treat waste that is not recycled means there is a significant risk that EU Landfill Directive targets may not be met, in particular the 2013 target. Early delays and a lack of organisational capacity within councils and the Executive to deliver change have slowed progress.

**15.** Delays have occurred in making progress towards developing new facilities for treating waste that is not recycled. This means that such facilities are unlikely to be operational in time to meet the 2013 Landfill Directive target.

**16.** In 2000, SEPA established 11 Area Waste Groups, bringing together councils and other public bodies, to develop Area Waste Plans (AWPs). These plans provided a good strategic framework but were slow to get



going because of the work required to involve the people and groups whose input was needed.

**17.** In 2003, these plans were collated into a National Waste Plan (NWP). The Executive took responsibility for funding and delivering the NWP but the plan has not been updated since 2003 (Exhibit 2). In 2003, the Executive asked councils to draw up costed Implementation Plans for delivering AWP's including the development of new facilities for treating residual waste. Progress in achieving the desired outcomes has been slow, particularly in relation to residual waste facilities, due to:

- a lack of organisational capacity in councils to put together bids to the SWF to the standard required by the Executive
- a lack of organisational capacity in the Executive to process the bids quickly
- early guidelines to councils did not properly describe the information the Executive required to evaluate the bids. This meant that bids from councils varied considerably in structure and content, making it difficult for the Executive to compare bids

- splitting the implementation of the National Waste Plan into two phases provided a clear focus on putting in place kerbside recycling schemes. However, this delayed investment in facilities to treat waste that is not recycled.

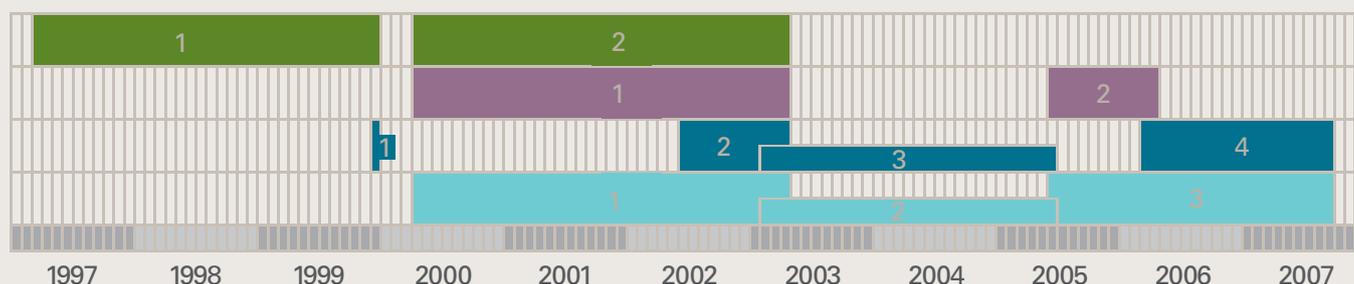
**18.** Estimates prepared for the previous administration indicate that Scotland needs plants capable of treating annually 1.14 million tonnes of waste that is not recycled by 2020. Additional costs for supporting this are estimated to be £34 million a year in 2012/13 rising to £48 million a year in 2019/20.

**19.** To ensure economies of scale for major infrastructure developments, in June 2006 the Executive asked Area Waste Groups to put together Strategic Outline Cases for treating waste that is not recycled. The Executive has not yet responded to these proposals.

**20.** In March 2007, the Executive announced funding of £12.6 million and £8.4 million to two council groupings, Edinburgh, Lothians and Borders, and North and South Lanarkshire, which put forward more detailed Outline Business Cases.

## Exhibit 2

Progress in delivering sustainable waste management has been slow



### SEPA

1. Produce National Waste Strategy (NWS)
2. Produce Area Waste Plans (AWPs) and National Waste Plan (NWP)

### Area Waste Groups

1. Produce AWP and NWP
2. Produce Strategic Outline Cases (SOCs) and Outline Business Cases (OBCs)

### The Executive

1. Adopt NWS
2. Produce NWP (with SEPA)
3. Evaluate and fund SWF Phase 1 bids
4. Evaluate SWF Phase 2 bids

### Individual councils

1. Involvement in Area Waste Groups (AWGs) with other stakeholders
2. Produce implementation plans (SWF Phase 1 bids). Introduce separate collections
3. From late 2005 involvement in SOCs and OBCs

Source: Audit Scotland

**21.** The Executive has sought revised proposals from the two council groupings by 30 September 2007. This leaves a timeframe of four-and-a-half years for councils to progress from this stage to having operational facilities in place to meet the 2013 Landfill Directive target. This compares to the Scottish Executive estimate that it may take around six years from the outline business case stage to facilities becoming operational.

**22.** In addition, the overall treatment capacity of these two projects is planned to be 500,000 tonnes a year, compared to an estimated requirement of 820,000 tonnes to achieve the 2013 Landfill Directive target, a shortfall of 320,000 tonnes.

**23.** The combination of timescales and the capacity delivered by the two planned schemes, suggests that it is unlikely that enough facilities for treating waste that is not recycled will be in place to meet the 2013 Landfill Directive target.

**24.** The lead time for procurement of facilities will depend on whether councils have secured suitable waste management sites. Councils own or lease sites for around two-thirds of planned waste facilities. This means that the costs and time taken to secure facilities in some areas will be significantly greater than others. Selecting sites for waste facilities is often delayed by the extent of public debate which is provoked and there are potential planning complexities as a result of recent changes to planning legislation.

**3** The increases in the amount of recycling have led to increased costs. The cost of SWF funding for increased recycling will rise from £89 million currently, to achieve a 25 per cent recycling rate, to an estimated £271 million in 2020 to achieve 55 per cent recycling. Over this period waste management expenditure by councils will need to grow from £351 million in 2005/06 to an estimated £580 million in 2019/20 per year if targets are to be met.

**25.** Scottish Executive investment, through the Strategic Waste Fund (SWF), has been growing year-on-year since 2000 and reached £89 million in 2005/06. Cumulative investment over that period is £201 million. The Executive has targeted funding to achieve the 25 per cent national recycling target. Overall spending on waste management by councils in 2005/06 reached £351 million.

**26.** Councils vary in the amount they spend on waste management per household with half of councils spending between £130 and £159. Variations arise largely from differences in geography, the number of households covered by separate recycling collections and whether the council owns its own landfill site.

**27.** The cost of increasing recycling rates will continue to rise, as councils collect additional but less valuable materials such as food waste, and as recycling efforts are extended from 'quick wins' in areas where it is relatively cheap to introduce separate collections (eg, suburban estates),

to areas where separate collections are more expensive (eg, tenements and high-rise housing and in rural areas). These factors eventually limit the economic viability of recycling schemes. The Executive estimated that the cost of SWF support for recycling could rise from £89 million per year to achieve the present 25 per cent recycling rate, to an estimated £271 million per year in 2020 to achieve 55 per cent recycling, with the total waste management expenditure by councils rising to an estimated £580 million per year in 2020.

**4** Councils, the Scottish Government and other agencies need to work more effectively together to make rapid progress in waste minimisation, recycling and waste treatment to achieve the Landfill Directive targets. There is an urgent need to build organisational capacity within councils and in the Scottish Government to achieve this.

**28.** Managing waste effectively is a major policy challenge. Public and private bodies, nationally and locally, must take sustained action to improve services and encourage people to change their behaviour. The challenge facing councils and the Scottish Government in the near future is to ensure that the facilities required for the treatment of waste that is not recycled are in place on time to meet Landfill Directive targets. In addition, while the public has begun to embrace the concept of recycling, councils and the Scottish Government will need to continue to work with citizens, for example through continuing SWAG campaigns, to reduce the amount of waste produced.

### Key recommendations

**29.** Councils and the Scottish Government should undertake a technical evaluation of kerbside recycling systems to identify the most cost-effective systems to achieve the levels of recycling required to meet the Landfill Directive targets.

**30.** The Scottish Government should encourage councils to adopt a more consistent approach to recycling using a small number of best practice schemes.

**31.** Councils should work together to standardise the type of containers they use and adopt a common colour coding system across Scotland.

**32.** Councils should ensure that their current waste management systems offer Best Value by conducting option appraisals before extending their recycling schemes. Option appraisals should include market testing as a way of demonstrating best value.

**33.** The Scottish Government and councils should work together to reach a decision on the facilities required for treating waste that is not recycled to achieve the 2010, 2013 and 2020 Landfill Directive targets. An action plan showing the milestones in this process should be published as a matter of urgency.

**34.** The Scottish Government should work in partnership with councils, SEPA and other agencies to ensure the effective procurement of facilities for treating waste that is not recycled including:

- setting up a recognised pool of staff with procurement expertise to ensure that expertise gained in early projects can be usefully employed in later procurement exercises
- ensuring that the lessons learned from completed projects are passed on
- coordinating the procurement of facilities for treating waste that is not recycled.

#### Note:

Prior to September 2007 the Scottish Administration was generally referred to as the Scottish Executive. It is now called the Scottish Government. When dealing with the earlier period this report refers to the Scottish Executive. Recommendations for the future refer to the Scottish Government.

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ISBN 978 1 905634 76 7      AGS/2007/7

This publication is printed on uncoated paper, made from 100% post consumer reclaimed material.