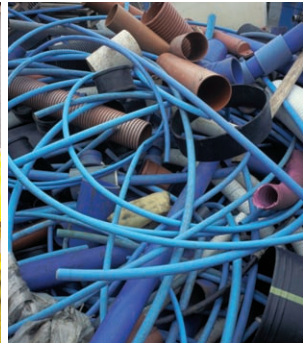
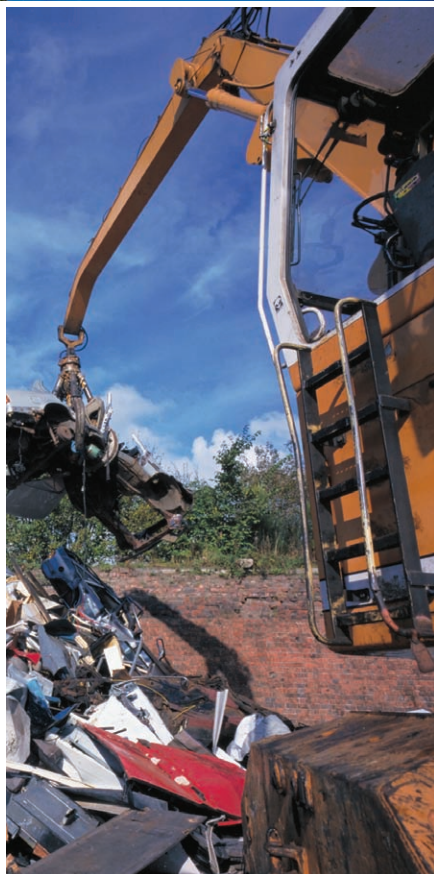


Waste Data Digest 9: Key facts and trends

Published 2009





Reduce
Lugháich

PLASTIC B



YES PLEASE

- ✓ Fizzy drink bot
- ✓ Water bottling
- ✓ Juice bottles
- ✓ Milk bottles
- ✓ Detergent bot

Please make sure yo
plastic bottles have o
of these symbols on t
bottom.

 Recycle.nhs.uk

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Introduction

Welcome to SEPA's *Waste Data Digest: Key facts and trends* booklet.

SEPA has produced an annual Waste Data Digest since 2001. It deals with data collected by, or on behalf of, SEPA on controlled waste in Scotland. A review in 2008 resulted in the creation of a new format for the digest where it is presented in two parts:

- *Waste Data Digest: Key facts and trends* – an A5-sized booklet with tables, graphs and text dealing with high-level facts and trends.
- *Waste Data Digest: Data tables* – online excel tables presenting detailed annual data on municipal, commercial and industrial wastes.

The *Key facts and trends* booklet focuses on more than twenty key topics over time. It is divided into four main sections: waste arisings, recovery, disposal and incineration, and includes data on municipal, commercial and industrial wastes. For most topics the trends span five years, but for some only four years data are available. The latest data reported covers the calendar year 2007. However, in some instances, only financial year information is available and this is reported for 2007/2008.

This booklet and previous Waste Data Digests are available in PDF format on SEPA's website: www.sepa.org.uk/waste/waste_data_1/waste_data_digest.aspx

The *Waste Data Digest: Data tables* and the tables from previous digests are available in Excel format on SEPA's website:

www.sepa.org.uk/waste/waste_data_1/waste_data_digest.aspx

Some of the key points in the booklet are:

- The quantity of controlled waste produced in Scotland was 20.69 million tonnes in 2007. There is currently no clear trend in the data.
- The Scottish Government's target of zero growth in municipal waste by 2010 appears to be achievable. Waste managed by local authorities has remained reasonably stable over the last four years with 3.41 million tonnes handled in both 2004/05 and 2007/08.
- After a long period of decrease, the quantity of controlled waste landfilled in Scotland showed an increase in 2007 (7.37 million tonnes). More information is necessary before this increase can be identified as the start of an upward trend.
- In 2007/08 Scottish local authorities landfilled 1.37 million tonnes of biodegradable municipal waste, meeting the 2007/08 target of landfilling less than 1.44 million tonnes on BMW set by the (then) Scottish Executive.

The next Key facts and trends booklet reporting 2008 and 2008/2009 waste data is due to be published in spring 2010.



Important information

These notes are provided to help you understand the booklet better.

List of waste management sites

A list of waste management facilities sites in Scotland is available on the SEPA website at www.sepa.org.uk/waste/waste_data/site_capacity__infrastructure.aspx

Municipal waste

The definition of municipal waste changed in April 2006 (see the Supporting information section for more details). To allow meaningful conclusions to be drawn concerning trends in municipal waste it has been necessary to rework data from previous years to match the new definition. As a result, tonnages for years prior to 2006/2007 may differ from those published in previous Waste Data Digests. The tonnages in the Waste Data Digest are correct according to the definition that existed at the time.

The collected municipal waste tables that were published previously in the *Key facts and trends* have been replaced with one table entitled 'Municipal waste managed in Scotland'.

Reporting years

Normally data are reported by calendar year but in some instances only financial year data are available. The financial year runs from 1 April to 31 March and is shown as (for example) 2007/08.

Rounding

Please note that where the sum of the figures in a table does not equal the total it is due to rounding.

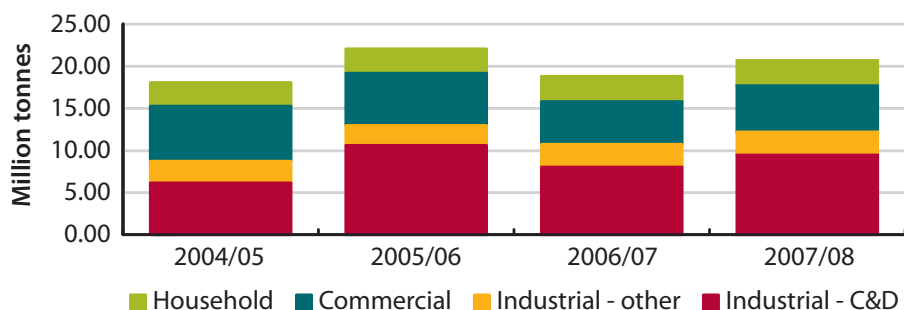
Scottish Executive

The Scottish Executive was established in 1999 and since August 2007 has been officially referred to as the Scottish Government. Throughout the booklet where reference is made to the Scottish Executive the term 'the (then) Scottish Executive' is used.

Updates

Some data tables have been updated since they were originally published in the Waste Data Digest to provide more robust data.

Total controlled waste arisings in Scotland 2004/05 - 2007/08



Million tonnes

Waste type	2004/05	2005/06	2006/07	2007/08
Household	2.80	2.89	3.00	3.00
Commercial	6.54*	6.21*	5.07	5.48
Industrial - other	2.58*	2.36*	2.71	2.75
Industrial - C&D	6.15*	10.61*	8.03*	9.46
Total	18.07	22.07	18.80	20.69

* Updated data

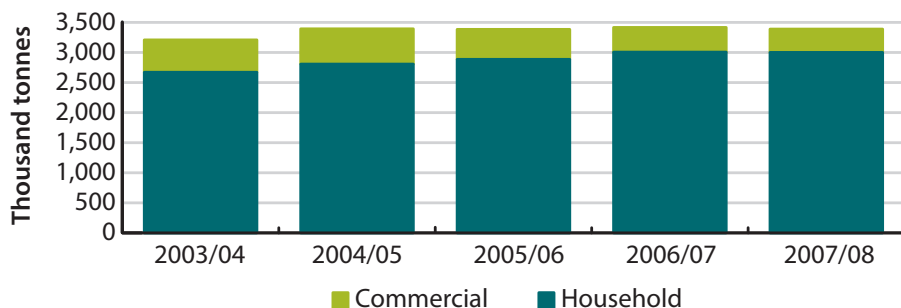
The total controlled waste arisings in Scotland in 2007/08 was 20.69 million tonnes, an increase of 2.62 million tonnes (14.5%) between 2004/05 and 2007/08.

The most significant change was in construction and demolition waste, which increased by 53.8% from 6.15 million tonnes in 2004/05 to 9.46 million tonnes in 2007/08. Household waste increased by 7.1% between 2004/05 and 2007/08, but the annual growth has been slowing over this period. There was a decrease of 16.2% in commercial waste between 2004/05 and 2007/08. Overall there has been no clear trend in the arisings.

The amounts of construction and demolition waste arisings from 2004/05 to 2006/07 have been revised. This follows from the development of an improved methodology for calculating arisings which produces more accurate data.

Controlled waste is all waste as defined in the Controlled Waste Regulations 1992. SEPA collects waste data by a variety of means. WasteDataFlow is used for municipal waste data reporting. Commercial and industrial waste data are obtained from quarterly returns from all licensed/permitted waste management sites, special waste consignment notes, and annual returns from certain activities exempt from waste management licensing. SEPA has also carried out two national business waste surveys, and has published a number of reports for selected waste streams and industry sectors.

Municipal waste managed in Scotland 2003/04 - 2007/08



Waste type	Tonnes				
	2003/04	2004/05	2005/06	2006/07	2007/08
Household	2,671,847	2,807,170	2,885,695	3,005,866	3,001,154
Commercial*	537,687	585,673	497,960	409,989	388,273
Other non household*	64,904	13,757	30,529	21,192	24,275
Total	3,274,437	3,406,601	3,414,184	3,437,046	3,413,702

* Includes mixed industrial.

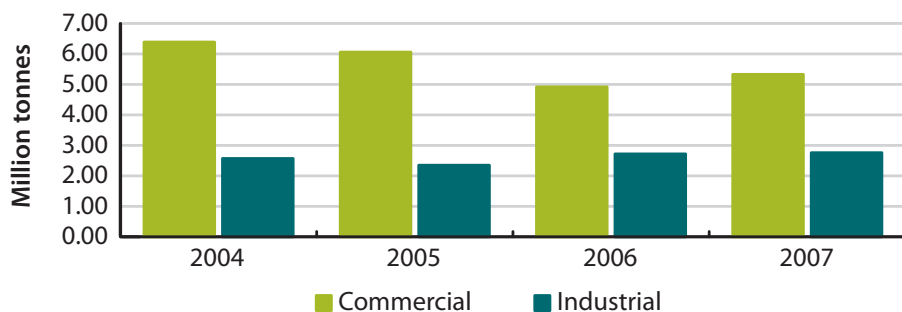
The amount of municipal waste managed by Scottish local authorities in 2007/08 was 3.41 million tonnes. Between 2003/04 and 2007/08 there was an increase of 139,000 tonnes (4.3%), which equates to an average annual growth of 1%.

In 2003, the (then) Scottish Executive set a target that the growth in municipal waste should cease by 2010. This was restated by the Scottish Government in 2008 as part of its plans for a zero waste Scotland. Available data indicates that the current growth rate is slowing and that this target may be achieved. Projecting annual growth rates of 0%, 0.5% and 1% forward to 2019/20, municipal waste would then be 3.41, 3.62 and 3.84 million tonnes respectively.

Between 2003/04 and 2004/05 there was an unexpectedly large rise of 3.9% in the municipal waste managed in Scotland. No specific reasons have been identified for this, although it does coincide with the pilot reporting year for the Landfill Allowance Scheme which may have resulted in better reporting.

Municipal waste is all waste for which a local authority makes arrangements. Certain exceptions are defined in the Landfill Allowance Scheme (Scotland) Regulations 2005, Scottish Executive Guidance: March 2007. Supporting information on the definition of municipal waste and on the Scottish Government's targets for municipal waste can be found on pages 31 and 32.

Business waste produced in Scotland 2004 - 2007



Million tonnes				
Waste type	2004	2005	2006	2007
Commercial	6.39	6.06	4.92	5.33
Industrial*	2.57	2.35	2.72	2.76
Total	8.96	8.41	7.64	8.09

* Does not include waste from construction sector.

Business waste produced in Scotland has fallen by 10% since 2004, from 8.96 million tonnes in 2004 to 8.09 million tonnes in 2007.

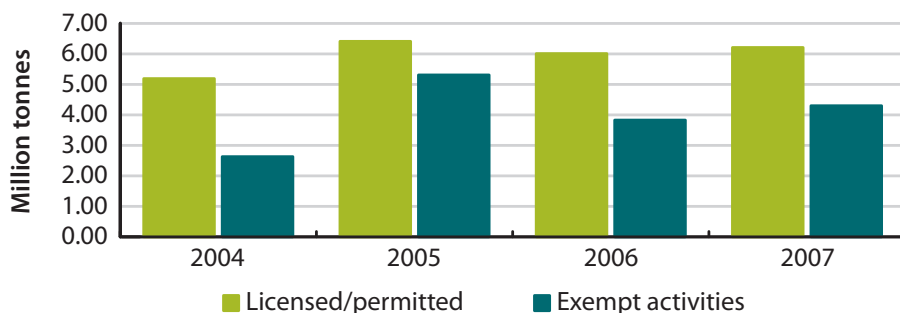
There was no clear trend in the quantity of commercial waste produced annually over the period. It fell by 23% between 2004 and 2006 but then increased by 8% between 2006 and 2007. Industrial waste showed less variation, with an increase of 7% between 2004 and 2007.

Business waste is waste produced by all businesses, including public sector organisations and commercial and industrial companies, such as factories, utility and transport companies, shops, offices, hotels, restaurants, schools and hospitals. In this section business waste does not include construction and demolition waste.

There was no statutory requirement for commerce and industry to make data returns to SEPA on the waste they produce. This has led to two national business waste surveys being carried out for 2004 and 2006 data. The returns were statistically analysed and grossed up to produce overall totals for Scotland. Figures for 2007 were estimated based on the 2006 data and 2005 figures were estimated using data from the 2004 survey. As a result of the low response rate to the surveys, the figures have a large confidence interval associated with them.

All commercial and industrial sectors were included in the surveys with the exception of agriculture, forestry and construction in both 2004 and 2006. The fishing, and mining and quarrying sectors were excluded in 2004.

Construction and demolition waste managed by waste facilities in Scotland 2004 - 2007



Million tonnes

Site type	2004	2005	2006	2007
Licensed/permitted	5.19	6.41	6.01	6.21
Exempt activities	2.63*	5.31*	3.83*	4.30
Total	7.82	11.72	9.84	10.51

* Updated data

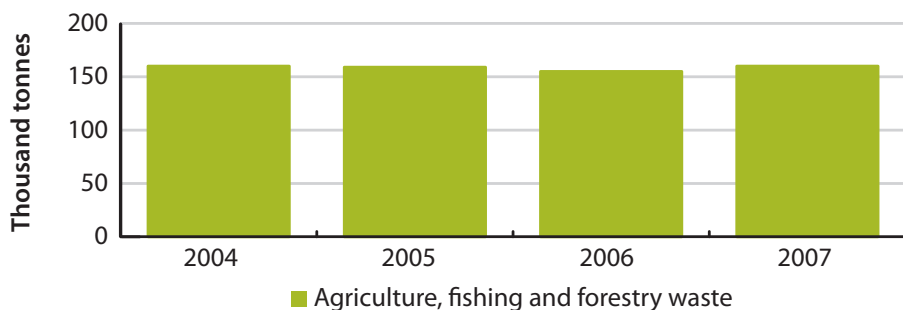
The amount of construction and demolition waste managed in Scotland rose by 34.4% to 10.51 million tonnes between 2004 and 2007. The predominant waste type in all four years was non-hazardous mineral waste, which amounted to 7.32 million tonnes in 2007.

Much of the increase was due to a large rise in the quantity managed by exempt activities. This grew from 2.63 million tonnes in 2004 to 4.30 million tonnes in 2007, an increase of 63.5%. A number of factors could have contributed to this rise: an increase in the quantity of construction and demolition waste arising, more exempt sites registering, and improved data analysis. Apart from 2004, construction and demolition waste managed by licensed/permitted waste management sites has been relatively stable at around 6.2 million tonnes a year.

The quantities of construction and demolition waste managed by exempt activities from 2004 to 2006 reported in the previous Key facts and trends has been revised due to the development of an improved methodology which produces more robust and accurate data.

Construction and demolition wastes typically include soils, concrete, bricks, glass, wood, plasterboard, asbestos, metals and plastics and are classified under Chapter 17 of the European Waste Catalogue List of Wastes (EWC 2002). Depending on their nature, these wastes are managed either at licensed/permitted waste management sites or certain exempt activities registered under paragraphs 9 and 19 of the Waste Management Licensing Regulations.

Agriculture, fishing and forestry waste produced in Scotland 2004 - 2007



Million tonnes

Waste type	2004	2005	2006	2007
Agriculture*	151,309	150,600	147,919	152,919
Fishing†	4,994	4,786	3,770	4,118
Forestry‡	3,257	3,267	3,274	3,284
Total	159,560	158,653	154,963	160,321

* Includes aquaculture.

† Sea fishing. Excludes fish waste disposed of at sea.

‡ Excludes plant material left in situ.

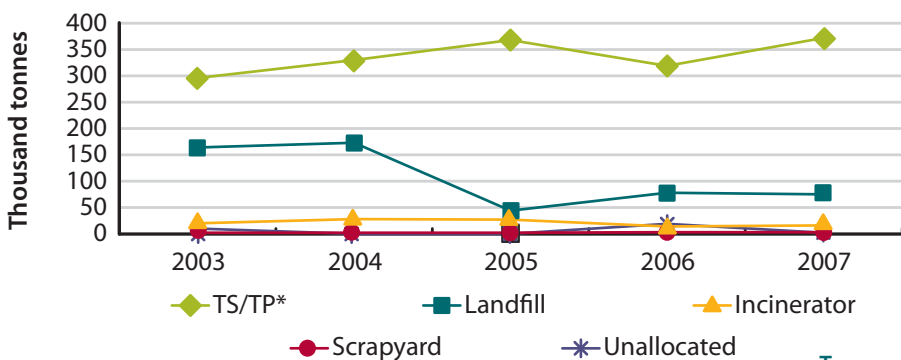
Waste from the agriculture, fishing and forestry sectors in Scotland stayed relatively stable between 2004 and 2007 at around 158,000 tonnes a year. The most significant change was a 3.5% increase between 2006 and 2007.

An increase in agricultural waste of 3.4% between 2006 and 2007 to 153,000 tonnes ended a decline in tonnages since 2004. Differences in the amount of waste produced each year are related to changes in the overall area of agricultural land and to crop and livestock production. Overall, fishing waste has declined by 17.5% since 2004. This is linked to a reduction in the number of fish landed at Scottish ports over these years. Forestry waste has remained fairly constant during this period at about 3,300 tonnes.

Data from the Scottish Agricultural Census were used to produce estimates of waste arisings from farms, based on parameters such as crop and livestock production. Wastes arising from aquaculture, which are included in agriculture, were determined from fish mortality data. Models were used to estimate waste arising from fishing and forestry.

Agricultural wastes include packaging, plastics, redundant machinery, tyres, oils, batteries, fencing, building materials, scrap metal, unused pesticides and veterinary medicines and spent sheep dip. Fishing wastes that arise at ports usually consist of broken nets, packaging waste and waste oils. Typical wastes produced by the forestry sector are oil, batteries, chemicals, metal, packaging and general mixed wastes.

Special waste consigned to waste management facilities in Scotland 2003 - 2007



Destination type	2003	2004	2005	2006	2007
TS/TP*	296,265 [†]	330,316	368,157 [†]	318,528	371,535
Landfill	163,600 [†]	172,832	44,425	78,185	75,320
Incinerator	19,507	27,892	27,403	13,810	16,237
Scrapyard	1,990 [†]	2,093	2,377	2,501	2,945
Unallocated [‡]	9,555 [†]	491	99	18,871	1,901
Total	490,919	533,624	442,460	431,895	467,938

* Transfer station/treatment plant.

[†] Updated data.

[‡] Unable to identify destination type.

In 2007 approximately 468,000 tonnes of special waste were consigned to waste management facilities in Scotland.

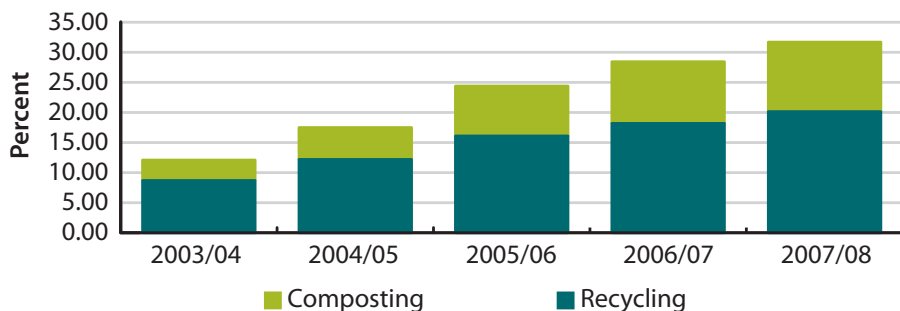
Of the waste managed in Scotland, 83% was produced in Scotland, 8% was produced outside Scotland and 9% had an unknown geographical origin. In addition to the Scottish produced waste managed in Scotland, just over 103,000 tonnes of waste produced in Scotland were managed at sites in England and Wales. This represents about 20% of all Scottish special waste. Overall, special waste represents about 2.5% of the total controlled waste produced annually in Scotland.

There was no clear trend in the quantity of special waste sent to waste management facilities between 2003 and 2007. Much of the variability can be explained by the variations in the quantity of contaminated soils managed. In 2003 and 2004 there were large construction projects that generated considerable quantities of contaminated soils.

The quantity landfilled decreased in recent years as a result of the Landfill (Scotland) Regulations 2003. A major change affecting the landfilling of special waste was the cessation of the co-disposal of special and non-special wastes in landfills.

Special wastes are wastes that pose particular risks to human health and the environment. In the rest of the UK they are referred to as hazardous waste.

Municipal waste recycling and composting rates for Scotland 2003/04 - 2007/08



	Percent				
Activity	2003/04	2004/05	2005/06	2006/07	2007/08
Recycling	8.70	12.20	16.10	18.19	20.15
Composting	3.40	5.30	8.30	10.25	11.55
Total	12.10	17.50	24.40	28.44	31.70

Scotland recycled and composted 31.7% of its municipal waste in 2007/08. This was a significant increase from a recycling and composting rate of only 12.1% in 2003/04. For individual local authorities, four recycled or composted more than 40% of their waste, 21 recycled or composted more than 30%, five recycled or composted more than 20% and only two recycled or composted less than 20%.

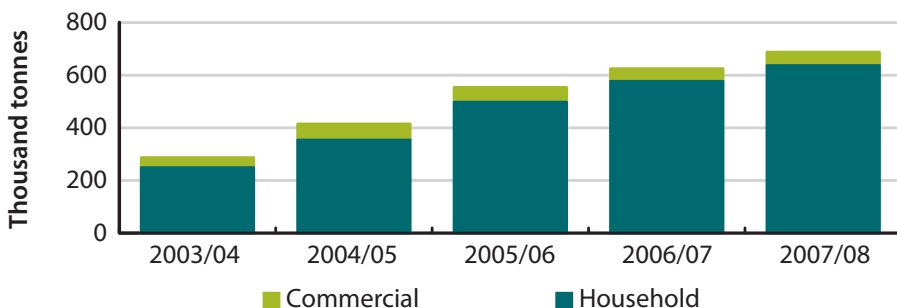
This increase reflects the work carried out by local authorities to implement their recycling and composting plans in conjunction with the National Waste Plan 2003 and the Strategic Waste Fund monies allocated by the (then) Scottish Executive.

Although the recycling and composting rate continues to increase, its speed is beginning to slow. The target of 30% by the end of 2008 will be achieved, but the 40% target for the end of 2010 will be challenging. Future targets have been set by the Scottish Government as part of its plans for a zero waste Scotland. The targets apply to Scotland as a whole and none have been set for individual local authorities.

SEPA calculates the recycling and composting rate in accordance with the definitions set out in the Landfill Allowance Scheme (Scotland) Regulations 2005, Scottish Executive Guidance: March 2007.

Details on the municipal waste targets are given on page 32.

Municipal waste recycled in Scotland by household and commercial breakdown 2003/04 - 2007/08



	Tonnes				
Waste type	2003/04	2004/05	2005/06	2006/07	2007/08
Household	249,081	354,287	498,478	576,855	636,559
Commercial	37,886	60,716	55,942	48,434	51,463
Total	286,967	415,003	554,419	625,289	688,023

The quantity of municipal waste recycled by Scottish local authorities in 2007/08 was 688,000 tonnes. This represents an annual increase of approximately 63,000 tonnes (10%) over the 2006/07 total.

In 2007/08 nearly two and a half times more waste was recycled than in 2003/04. For household waste the increase in recycling was 156% and for commercial waste it was 36%.

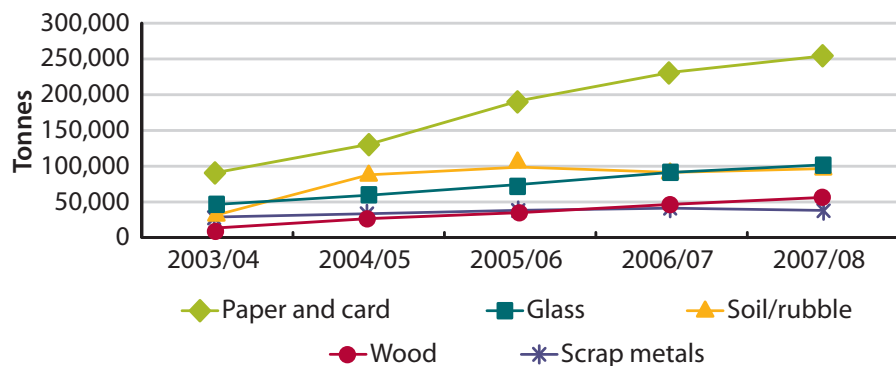
In recent years, local authorities have introduced numerous schemes to encourage recycling including improved kerbside collections, increased numbers of recycling centres and points, and publicity campaigns. Additionally, some local authorities have started to send residual waste collected for disposal to material reclamation facilities to separate out any materials suitable for recycling.

The increase in household recycling has been reflected in a corresponding drop in the quantity of waste disposed of. The smaller increase in commercial waste recycling is thought to be due to an increasing number of local authorities that were unable to estimate the quantity of commercial waste they collected. In these cases the total amount had to be reported as household. In addition, some local authorities introduced tighter restrictions and stronger enforcement at recycling centres to reduce the amount of commercial waste deposited.

The improvement in recycling by local authorities has been largely driven by the need to meet the targets set by the Scottish Government and the (then) Scottish Executive.

Details on the municipal waste targets are given on page 32.

Municipal waste recycled in Scotland - breakdown by material 2003/04 - 2007/08



The quantities of materials recycled by local authorities vary considerably. The graph on this page shows the five most frequently recycled materials and the one on the following page five other commonly recycled materials.

The total quantity of materials recycled by Scottish local authorities in 2007/08 was over 680,000 tonnes. The five most frequently recycled materials made up about 80% of the overall total recycled; of these, paper and card accounted for over 37% and glass for 15%.

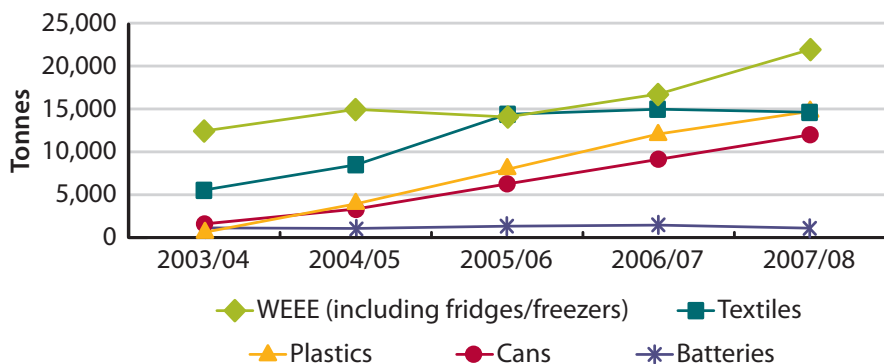
Between 2003/04 and 2007/08 the quantity of material recycled increased by 400,000 tonnes (140%) from the 2003/04 total of 286,000 tonnes. Certain materials have shown particularly high growth rates over this period: plastics have increased by over 23 times; steel and aluminium cans by seven and a half times; and wood by four times.

The main collection methods for recyclable materials are household and commercial kerbside collections, recycling centres, recycling points (such as sites at supermarkets), and materials recovered at sorting facilities. There were 173 recycling centres and 2,964 recycling points operated by Scottish local authorities in 2007/08.

The increase in recycling has been largely driven by the need to meet the (then) Scottish Executive's targets for recycling and composting. Further targets were set by the Scottish Government in 2008 as part of its plans for a zero waste Scotland.

Details on the municipal waste targets are given on page 32.

Municipal waste recycled in Scotland - breakdown by material 2003/04 - 2007/08



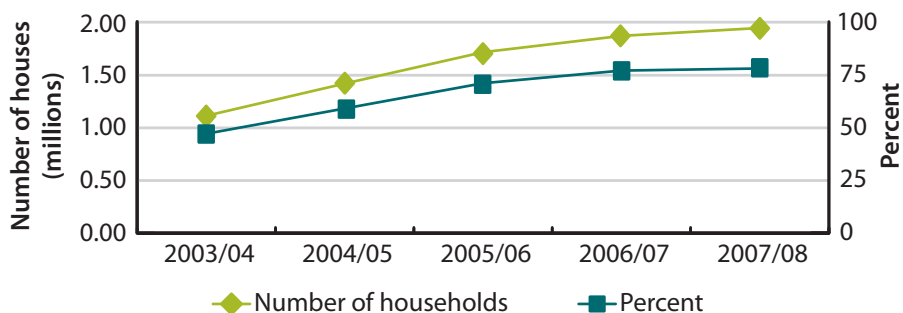
Material	2003/04	2004/05	2005/06	2006/07	2007/08
Paper and card	91,406	130,557*	191,816	231,354	254,206
Glass	46,669	59,457	74,563	91,441	101,930
Soil/rubble	32,070	87,973	98,773	91,365	96,631
Wood	13,755	26,759*	35,138	46,693	56,387
Scrap metals	29,007	33,629	38,408	41,334	38,208
Residue from incineration	10,709	10,286	15,975	12,913	14,990
Plastics	627	3,939	7,963	12,083	14,715
Textiles	5,558	8,484	14,377	14,971	14,618
White goods/WEEE†	10,873	3,866	4,343	6,724	12,500
Cans	1,603	3,336	6,263	9,129	11,987
Fridges/freezers	1,566	11,087	9,716	10,017	9,422
Batteries	1,140	1,076	1,339	1,465	1,108
Other‡	41,086	34,623	55,346	53,475	57,779
Total	286,069	415,072	554,020	622,966	684,481

* Updated data

† Waste Electrical and Electronic Equipment.

‡ 'Other' includes books, furniture, mineral oils, vegetable oils, paint, fluorescent tubes and aluminium foil.

Number of households receiving a kerbside recycling and composting collection in Scotland 2003/04 - 2007/08



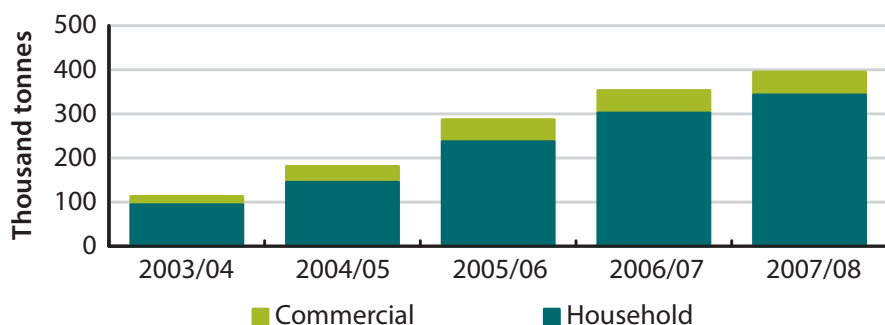
	Households				
	2003/04	2004/05	2005/06	2006/07	2007/08
Total number of households in Scotland	2,364,156	2,388,686	2,412,472	2,425,252	2,458,966
Households offered a kerbside recycling or composting collection	1,114,809	1,421,188	1,719,226	1,873,974	1,948,945
% of households	47	59	71	77	79

In 2007/08, over 79% of Scottish households were offered a kerbside collection of one or more materials for recycling or composting. This compares with 47% in 2003/04. In 2007/08 all 32 Scottish local authorities collected dry recyclables, 30 collected green waste for composting and 15 provided the service to more than 90% of their households. This is the same as in 2006/07.

Using the Audit Scotland classification of local authorities as rural, mixed or urban, there were considerable differences in the kerbside recycling rates of these three classes in 2007/08. On average, rural authorities offered a service to 81% of households, mixed authorities to 91% and urban authorities to 67%. In all classes at least three local authorities offered more than 90% of the households in their area a kerbside collection service with rural authorities showing the greatest variability. The principal challenge for urban authorities is the provision of effective kerbside recycling services to the large number of tenements and high rise blocks in these areas.

Kerbside collection is only one of several means for collecting materials for recycling. The others include recycling centres and points and material reclamation facilities.

Municipal waste composted in Scotland 2003/04 - 2007/08



	Tonnes				
Waste type	2003/04	2004/05	2005/06	2006/07	2007/08
Household	94,455	144,956	236,529	301,778	342,713
Commercial	19,488	35,759	49,764	50,589	51,703
Total	113,943	180,715	286,293	352,367	394,416

In 2007/08 approximately 394,000 tonnes of waste were composted by Scottish local authorities compared with 114,000 tonnes in 2003/04. This represents an increase of three and a half times over this period. However, the annual increase in the quantity of materials composted has reduced over the last three years; between 2004/05 and 2005/06 it was 106,000 tonnes but between 2006/07 and 2007/08 it was only 42,000 tonnes.

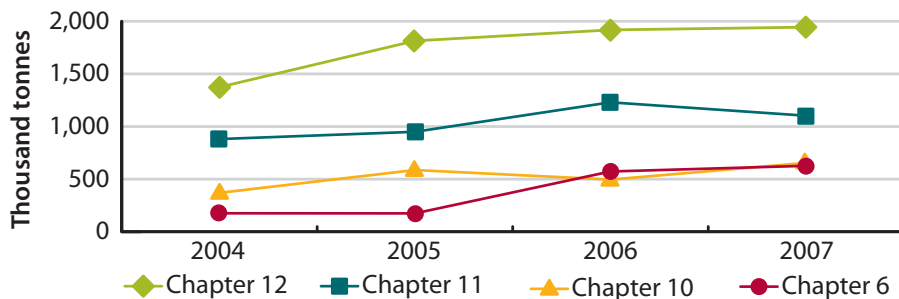
Approximately 61% of households were offered a kerbside collection of green waste by their local authority in 2007/08.

Much of the increase in composting was due to green waste, which had previously been included by households in the general kerbside refuse collection, now being sent for composting. Additionally, it is likely that some materials, previously composted or burnt at home, were included by households in local authority collections.

Composting can involve a weight loss. The quantities in this section refer to the weight of the waste sent for composting rather than the weight of material resulting from the composting process. Some material resulting from composting is used as daily cover at landfills. This is considered to be disposal and therefore the weight of this material has been subtracted from the figures in the table.

Local authorities use composting to reduce the amount of biodegradable waste going to landfill. The main collection methods were from kerbsides and at recycling centres.

Controlled waste treated at licensed/permitted waste management sites in Scotland 2004 - 2007



The quantity of waste treated at waste management facilities in Scotland increased by 73.4% between 2004 and 2007 to 5.93 million tonnes. The graph on this page shows the four largest waste streams and the graph on the following page shows the remaining waste streams.

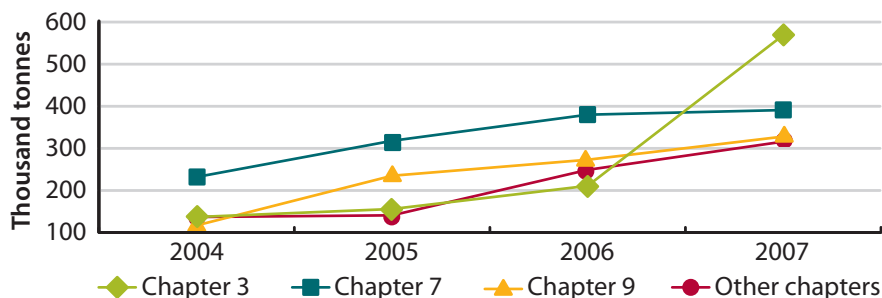
The different materials treated at Scottish waste management facilities vary considerably in quantity. The main waste streams treated in 2007 were mineral wastes, including construction and demolition waste (1.94 million tonnes); common sludges, including sludges from sewage treatment and from the purification of drinking water (1.10 million tonnes); mixed ordinary wastes (0.65 million tonnes); and metallic wastes, including ferrous and non-ferrous scrap (0.63 million tonnes).

The increase in waste treated can be partly explained by the requirements of the Landfill (Scotland) Regulations 2003 which enacted the Landfill Directive (1999/31/EC) into Scottish law. Among its requirements is that landfills can only take wastes that have been pre-treated. Treatment can, amongst other things, reduce the volume and biodegradability of waste sent to landfill helping industry reduce disposal costs and local authorities meet landfill directive targets for municipal waste.

Waste can be treated by physical, chemical or biological processes in order to produce a material that is suitable for reuse, recycling, further processing or safe disposal.

Supporting information on EWC-STAT codes can be found on page 30.

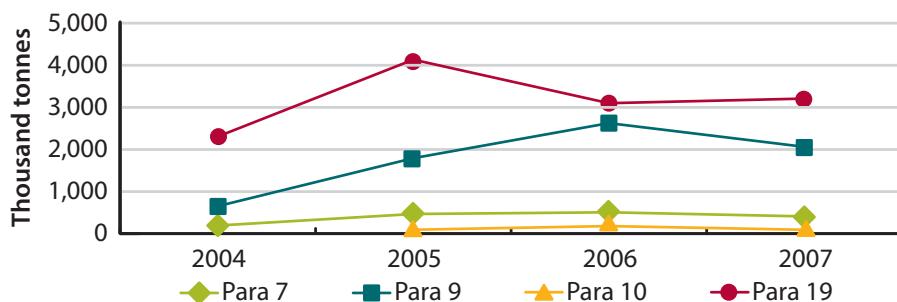
Controlled waste treated at licensed/permitted waste management sites in Scotland 2004 - 2007



Waste type by EWC-STAT* chapter code	2004	2005	2006	2007
3 Other chemical wastes	136,718	155,634	211,018	569,390
6 Metallic wastes	176,205	175,393	573,490	627,460
7 Non-metallic wastes	231,764	318,297	380,126	391,231
9 Animal and vegetal wastes	117,033	235,187	273,442	328,315
10 Mixed ordinary wastes	370,047	586,789	495,551	654,631
11 Common sludges	880,574	949,865	1,230,384	1,103,213
12 Mineral wastes	1,374,412	1,814,447	1,917,771	1,944,165
Other chapter codes	136,081	140,806	249,388	315,565
Total	3,422,834	4,376,418	5,331,170	5,933,970

* European Waste Catalogue for Statistics - see page 30 for further information.

Waste managed by relevant exempt activities in Scotland 2004 - 2007



Exemption paragraph	2004	2005	2006	2007
Paragraph 7	193,775*	467,602*	508,436*	410,823
Paragraph 8	-	104,380*	26,194*	34,943
Paragraph 9	653,875*	1,793,710*	2,625,603*	2,063,001
Paragraph 10	-	93,609*	181,414*	93,010
Paragraph 12	-	80,557*	27,291*	11,412
Paragraph 19	2,307,933*	4,134,478*	3,099,909*	3,208,507
Total	3,155,583	6,674,337	6,468,848	5,821,696

* Updated data

The amount of waste handled by relevant exempt activities in Scotland increased by 84.5% between 2004 and 2007, from 3.16 million tonnes to 5.82 million tonnes. This may be due to an increase in the quantity of construction and demolition waste arisings and more exempt activities being registered and/or managing more waste.

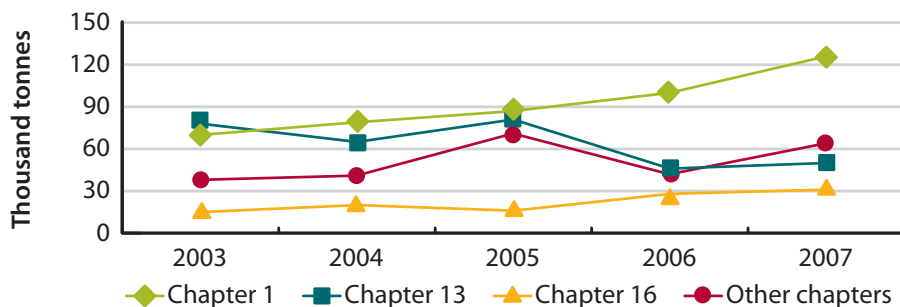
The amounts of waste handled by relevant exempt activities from 2004 to 2006 have been revised. This follows the development of an improved methodology for the calculation of waste handled by these activities which produces more robust and accurate data.

Relevant exempt activities are those with a statutory requirement to report data to SEPA. In 2004 this requirement related to paragraphs 7, 9 and 19 only but was extended to include paragraphs 8, 10, 12 and 46 in 2005. In this period there were no paragraph 46 exemptions in Scotland. There are no statutory reporting requirements for the remaining exempt activities.

Exempt activities are lower risk waste management activities, such as certain reclamation and recycling activities that are not usually seen as a threat to the environment or human health.

Supporting information on exempt activities can be found on page 31.

Special waste consigned to treatment plants in Scotland 2003 - 2007



Waste type by EWC* 2002 chapter code	Tonnes				
	2003	2004	2005	2006	2007
Chapter 1	70,050	78,685	87,122	99,522 [†]	125,974
Chapter 7	15,096	16,089	20,849	8,676	9,067
Chapter 13	77,908	65,348	80,971	46,495	50,471
Chapter 16	15,478	20,423	16,374	28,416 [†]	31,025
Chapter 19	755	6,437	22,382	6,941	5,230
Other chapter codes	22,265	18,677	27,516	26,723 [†]	49,919
Total	201,552	205,659	255,214	216,772	271,686

* European Waste Catalogue

[†] Updated data

The quantity of special waste consigned (sent) to treatment plants in Scotland in 2007 was approximately 272,000 tonnes. The principal waste streams treated were mining and mineral wastes, including waste from the oil production (chapter 1) and oil and oil/water mixtures (chapter 13). There was no apparent trend in the overall total amount of special waste consigned. However, there was a clear upward trend in the quantity of mining and mineral wastes being treated.

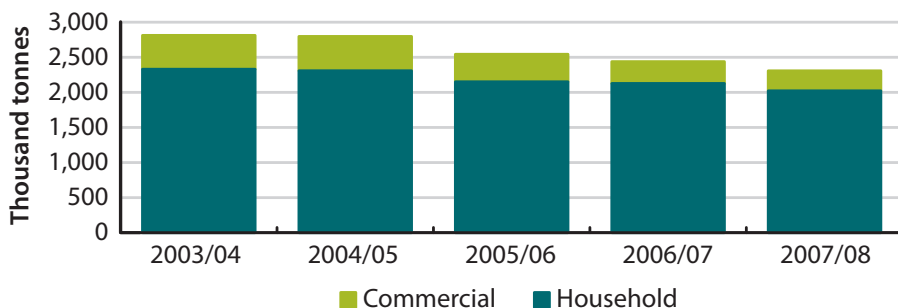
The waste managed by treatment plants in Scotland includes not only waste originating in Scotland but also from England, Northern Ireland and Wales. In 2007, 88% originated in Scotland, 6% from outside Scotland and for 6% the origin was unknown.

Special waste can be treated by physical, chemical or biological processes in order to produce a material that is suitable for reuse, recycling, further processing or safe disposal. Treatment processes may reduce the hazardous nature, biodegradability or volume of a waste, or simply involve the physical separation of materials.

Special wastes are wastes that pose particular risks to human health and the environment. In the rest of the UK they are referred to as hazardous waste.

Supporting information on the European Waste Catalogue (EWC) 2002 chapter codes can be found on pages 29 and 30.

Municipal waste disposal in Scotland by household and commercial breakdown 2003/04 - 2007/08



	Tonnes				
Waste type	2003/04	2004/05	2005/06	2006/07	2007/08
Household	2,329,555	2,307,855	2,151,025	2,127,231	2,021,881
Commercial	482,473	488,824	391,994	310,958	285,107
Other non household	62,609	13,757	30,529	21,108	24,275
Total	2,874,637	2,810,436	2,573,548	2,459,297	2,331,264

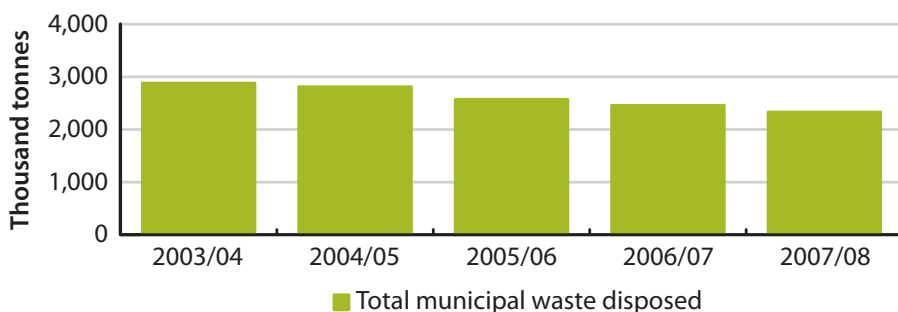
On this page and the following, information is presented on municipal waste disposed of by Scottish local authorities. This page shows the waste split by source and the next shows the waste split by disposal method. The total tonnages for the three years 2003/2004 to 2005/2006 show small differences. This is due to the exclusion of co-mingled industrial waste from the table on this page. Work is being undertaken to resolve this before the publishing of next year's document.

In 2007/08, approximately 2.33 million tonnes (68%) of the municipal waste managed by Scottish local authorities were disposed of. Of this, 87% originated from households and 13% from commercial premises.

Between 2003/04 and 2007/08 the quantity of household waste landfilled decreased by 13% and commercial waste by 41%. The decrease in household waste may be accounted for by waste that was previously disposed of now being recycled or composted. However the drop in commercial waste cannot be completely explained by the increase in commercial waste recycled or composted. During the period 2003/04 to 2007/08 the total amount of commercial waste managed by local authorities dropped by 28%. This has also contributed to the fall in commercial waste disposed.

Details on municipal waste targets are given on page 32.

Municipal waste disposed of in Scotland 2003/04 - 2007/08



Disposal type	Tonnes				
	2003/04	2004/05	2005/06	2006/07	2007/08
Landfill	2,808,589	2,737,968	2,493,538	2,398,433	2,256,661
Incineration*	73,137	74,192	80,418	60,931	74,603
Other	0	458	492	27	0
Total	2,881,726	2,812,618	2,574,448	2,459,391	2,331,264

* Incineration with energy recovery

In 2007/08, approximately 2.33 million tonnes (68%) of the municipal waste managed by Scottish local authorities were disposed of. Landfilling was the principal method of disposal, accounting for about 97% of the waste with the remainder being incinerated with energy recovery.

Between 2003/04 and 2007/08 the quantity of municipal waste disposed of decreased by 550,000 tonnes (19%). This reduction can be explained by the drop in the waste landfilled. There was little change in the amount of waste incinerated with much of the annual variability due to incinerator 'down-time'.

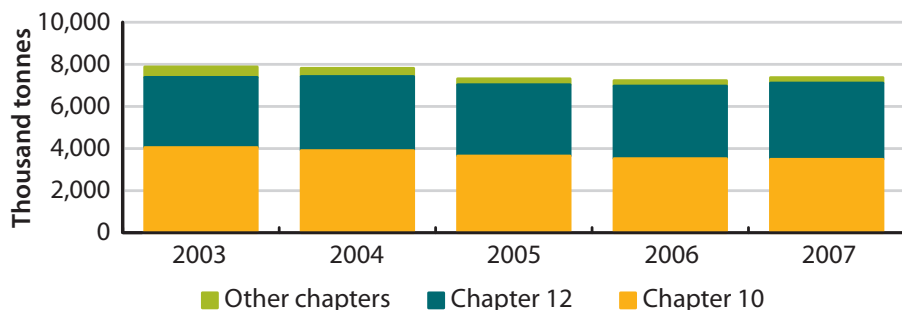
In January 2008 the Scottish Government set targets for municipal waste landfilling and energy from waste as part of its plans for a zero waste Scotland. Approximately 66% of municipal waste was landfilled in 2007/08 making the achievement of the target for 2010, of no more than 56% landfilled, challenging.

The decrease in the waste disposed of resulted mainly from the need to meet the targets set by the (then) Scottish Executive to reduce the amount of biodegradable municipal waste landfilled and to increase the amount of municipal waste recycled and composted.

There were two incinerators with energy recovery in Scotland licensed to manage municipal waste during this period: one in Dundee and the other in the Shetland Islands.

Details on the municipal waste targets are given on page 32.

Controlled waste disposed of to landfill in Scotland 2003 - 2007



Thousand tonnes

Waste type by EWC-STAT* chapter code	2003	2004	2005	2006	2007
3 Other chemical wastes	74.32	39.62	24.82	24.13	24.31
7 Non-metallic wastes	103.70	54.14	31.76	34.64	21.03
9 Animal and vegetal wastes	101.43	105.93	63.71	31.46	27.61
10 Mixed ordinary wastes	4,049.10	3,905.03	3,648.24	3,523.33	3,491.95
11 Common sludges	36.50	25.12	91.09	59.26	41.76
12 Mineral wastes	3,333.90	3,520.37	3,387.42	3,448.18	3,621.61
Other chapter codes	181.08	164.66	69.68	108.05	143.56
Total	7,880.03	7,814.87	7,316.72	7,229.05	7,371.83

* European Waste Catalogue for Statistics

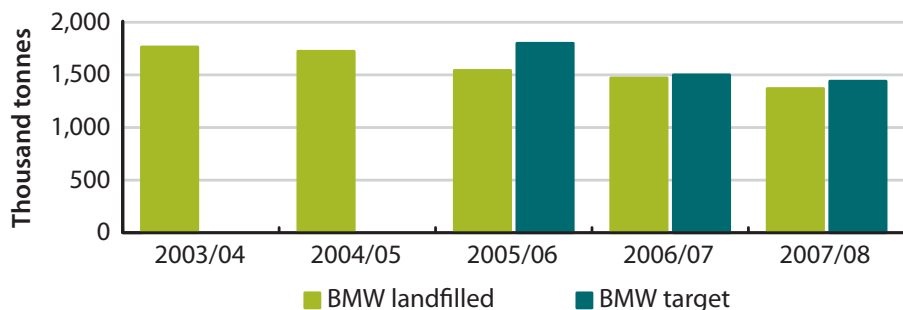
The quantity of controlled waste landfilled in Scotland in 2007 was 7.37 million tonnes. The growth in waste landfilled between 2006 and 2007 was the first annual increase since the early 1990's. More data will be required before it can be identified as the start of an upward trend.

In 2007, the main waste streams landfilled were mineral wastes (including construction and demolition waste) and mixed ordinary wastes (including municipal waste). Together these waste streams comprised 96% of the total. About 30% of waste landfilled originated from households and the rest was produced by commerce and industry.

Much of the overall decrease can be explained by reductions in municipal and special wastes landfilled in this period.

The (then) Scottish Executive set targets for reducing the quantity of biodegradable municipal waste sent to landfill by local authorities until 2009/10. These helped drive down the municipal waste landfilled. In January 2008, the Scottish Government set additional targets for the landfilling of municipal waste which should help continue this reduction. No equivalent targets have been set for commercial and industrial wastes.

Biodegradable municipal waste landfilled by Scottish local authorities 2003/04 - 2007/08



	Tonnes				
	2003/04	2004/05	2005/06	2006/07	2007/08
BMW* target	-	-	1,800,000	1,500,000	1,440,000
BMW landfilled	1,765,108	1,724,273	1,541,555	1,471,026	1,369,614

* Biodegradable municipal waste

Around 1.37 million tonnes of biodegradable municipal waste (BMW) were landfilled by Scottish local authorities in 2007/08. This met the 2007/08 target of landfilling less than 1.44 million tonnes of BMW set by the (then) Scottish Executive.

Twenty-five local authorities met their annual permitted landfill allowances in 2007/08; this was a decrease from the 27 meeting their allowances in 2006/07. The permitted landfill allowances included the amount allocated to them plus any unused allowances banked from the previous year. To help reach these targets, local authorities recycled more biodegradable waste (such as paper, textiles and cardboard) and introduced, or increased, green waste and kitchen waste collections for composting or treatment.

BMW is the fraction of municipal waste that will degrade within a landfill, giving rise to methane emissions. It includes food waste, green waste, paper and cardboard.

The Landfill Directive aims to reduce the negative effects of landfilling waste. The UK government identified the maximum amount of BMW that the UK can landfill for certain target years up to 2020, and a proportion of these were allocated to Scotland. In 2005, the (then) Scottish Executive assigned annual BMW landfill allowances to each Scottish local authority until the 2009/10 financial year.

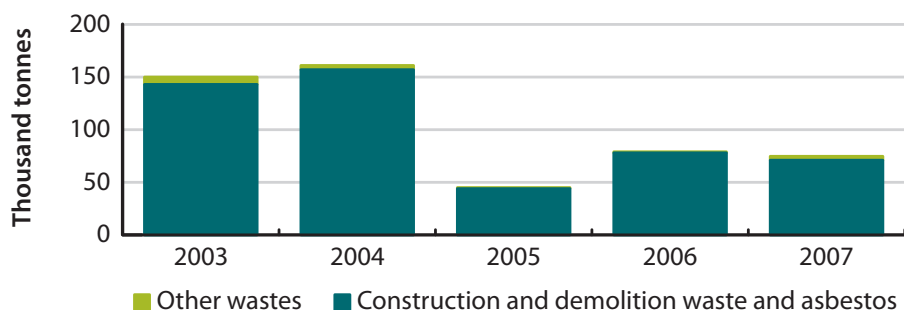
The BMW targets to 2020 are:

A maximum of 1.32 million tonnes in 2009/10

A maximum of 0.88 million tonnes in 2012/13

A maximum of 0.62 million tonnes in 2019/20

Special waste landfilled in Scotland 2003 - 2007



Tonnes

Waste type by EWC* 2002 chapter code	2003	2004	2005	2006	2007
Chapter 1	1,260 [†]	5,753	28	9	114
Chapter 13	6,818	3,773	151	140	138
Chapter 17	142,845	156,891	43,724	77,454	71,060
Chapter 19	7,234	3,921	51	417	3,655
Other chapter codes	5,443 [†]	2,494	471	165	352
Total	163,600	172,832	44,425	78,185	75,319

* European Waste Catalogue

† Updated data

In 2007 approximately 75,000 tonnes of special waste were landfilled in Scotland, 94% of which was construction and demolition (C&D) waste (EWC chapter 17). Much of the variability in the quantities of special waste landfilled between 2003 and 2007 can be explained by the variations in the amount of contaminated soils arising from large construction projects.

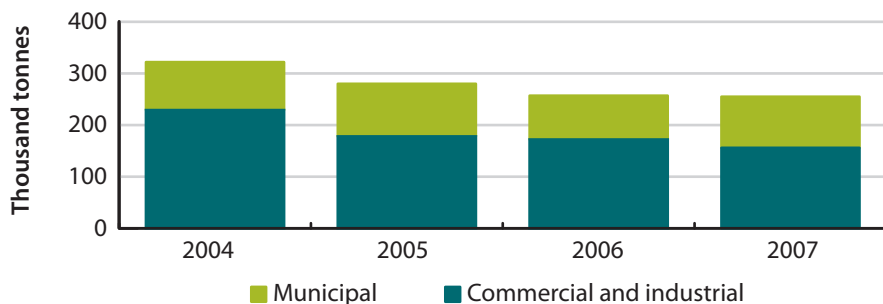
The waste landfilled in Scotland includes not only waste originating in Scotland but also waste sent from England, Northern Ireland and Wales. In 2007, 94% originated in Scotland, 4% from outside Scotland and 2% where the origin was unknown.

There was one landfill site in Scotland licensed to accept hazardous waste in 2007 and an additional 14 non-hazardous sites were permitted to accept bonded asbestos waste, as stable non-reactive hazardous waste, consigned in a separate cell.

The types and quantities of special wastes landfilled are controlled by the requirements of the Landfill (Scotland) Regulations 2003, which came into force in April 2003. Specific wastes such as liquid, explosive, corrosive, oxidising, highly flammable or flammable waste, infectious waste and other clinical waste from medical or veterinary establishments are banned from landfills.

Supporting information on EWC 2002 chapter codes can be found on pages 29 and 30.

Waste managed by incinerators and co-incineration plants in Scotland 2004 - 2007



Waste type	Tonnes			
	2004	2005	2006	2007
Municipal	93,142	102,333	85,279	98,590
Commercial and industrial*	228,790	177,598	172,096	155,563
Total	321,932	279,931	257,375	254,153

* The commercial and industrial waste incinerated does not include any collected as part of municipal waste collection.

Waste managed by incinerators and co-incineration plants in Scotland decreased by 21% between 2004 and 2007, from 322,000 tonnes to 254,000 tonnes.

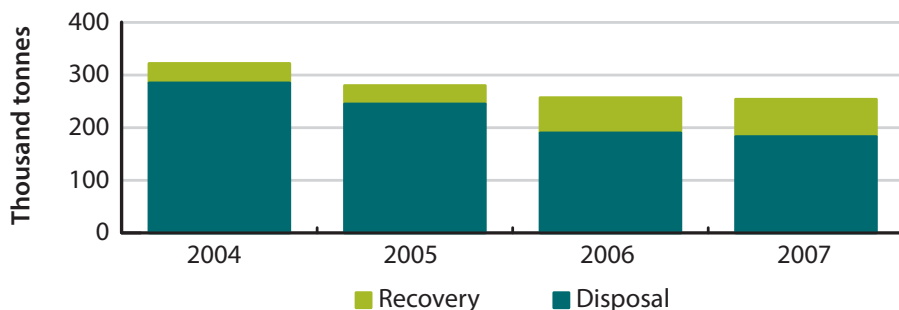
Municipal waste inputs to incinerators increased by 6% between 2004 and 2007, which accounted for 3% of the total municipal waste managed in Scotland in 2007. There were two municipal waste incinerators with energy recovery.

Commercial and industrial waste managed by incinerators and co-incineration plants decreased by 32% between 2004 and 2007. This reflects the decrease in the number of plants handling commercial and industrial wastes from 20 in 2004 to 12 in 2007. Of these, 10 were incinerators and two were co-incineration plants.

The tonnages of waste incinerated in Scotland from 2004 to 2006 reported in the previous Key facts and trends documents have been revised in order to reflect the total amount of municipal waste input to incinerators.

Incineration is the thermal treatment of wastes with, or without, recovery of the combustion heat generated. This includes the incineration of waste as well as other thermal treatment processes such as pyrolysis, gasification or plasma processes. The main purpose of a co-incineration plant is the generation of energy or the production of material products. It either uses wastes as a regular or additional fuel or it thermally treats waste for the purposes of disposal.

Waste incinerated broken down by recovery and disposal 2004 - 2007



Waste type	Tonnes			
	2004	2005	2006	2007
Recovery	37,104	35,000	66,903	71,297
Disposal	284,828	244,931	190,472	182,856
Total	321,932	279,931	257,375	254,153

In 2007 the total amount of waste managed by incinerators and co-incineration plants in Scotland was 254,000 tonnes. Of this waste 71,000 tonnes (28%) were recovered and 183,000 tonnes (72%) were disposed.

Between 2004 and 2007 there has been an increase in the amount of waste recovered and a steady decline in the amount disposed. Waste recovered by incinerators and co-incineration plants increased by 92% between 2004 and 2007. This was largely due to the reporting of the co-incineration of sewage sludge from 2006 onwards. Over the same period the amount of waste disposed of by incinerators and co-incineration plants fell by 36%. This reflects a decrease in the number of incineration plants for disposal from 18 in 2004 to 10 in 2007.

Waste incineration for recovery covers the incineration and co-incineration of waste in power stations and industrial incineration facilities in order to use the energy for the generation of heat or electricity. Waste incineration for disposal covers the incineration of waste where the main purpose of the incineration is the thermal treatment of waste in order to reduce the volume and the hazardousness of the waste, and to obtain an inert product that can be disposed of.

Supporting information

Audit Scotland classification of local authorities

Audit Scotland classifies Scottish local authorities as rural, mixed or urban.

Rural	Mixed	Urban
Aberdeenshire	Angus	Aberdeen City
Argyll & Bute	Clackmannanshire	Dundee City
Dumfries & Galloway	East Ayrshire	East Dunbartonshire
Eilean Siar	East Lothian	City of Edinburgh
Highland	East Renfrewshire	Falkirk
Orkney Islands	Fife	Glasgow City
Perth & Kinross	Inverclyde	North Lanarkshire
Scottish Borders	Midlothian	Renfrewshire
Shetland Islands	Moray	West Dunbartonshire
	North Ayrshire	
	South Ayrshire	
	South Lanarkshire	
	Stirling	
	West Lothian	

European Waste Catalogue List of Waste (EWC 2002)

EWC 2002 is a harmonised, non-exhaustive list of waste types established by the European Commission. It categorises wastes based on a combination of what they are, and the process or activity that produces them.

The use of EWC 2002 codes to describe waste on waste transfer notes in Scotland has been statutory since April 2004. The majority of statutory waste data returns received by SEPA, including licensed/permitted site returns, exempt activity returns and special waste consignment notes require waste to be classified according to the EWC 2002.

It is divided into 20 chapters, most of which are industry-based, although some are based on materials and processes. Each chapter is represented by a two-digit code between 01 and 20 and comprises one or more subchapters; each subchapter is subdivided into individual waste types.

EWC 2002 chapter codes and abbreviated descriptions

01 Mining and minerals	11 Metal treatment and coating processes
02 Agricultural and food production	12 Shaping/treatment of metals and plastics
03 Wood and paper production	13 Oil and oil/water mixtures industry
04 Leather and textile production	14 Solvents
05 Petrol, gas and coal refining/ treatment	15 Waste packaging, wiping cloths
06 Inorganic chemical processes	16 Wastes not otherwise specified
07 Organic chemical processes	17 Construction and demolition waste
08 Paints, varnish, adhesive and inks	18 Human or animal health care
09 Photographic industry	19 Waste/water treatment and water
10 Thermal process waste (inorganic) and asbestos	20 Municipal and similar commercial

European Waste Catalogue for Statistics (EWC-STAT)

The EWC-STAT is a (mainly) substance-oriented statistical classification of waste. There are 13 categories represented by a two-digit code between 01 and 13. These are subdivided into individual waste types.

A table of equivalence allows wastes coded in the EWC 2002 coding system to be converted into the EWC-STAT coding. However, because of the way the coding system operates, it is not possible to do the reverse conversion.

EWC-STAT category and waste type

01 Chemical compound wastes	08 Discarded equipment
02 Chemical preparation wastes	09 Animal and vegetal wastes
03 Other chemical wastes	10 Mixed ordinary wastes
04 No longer used	11 Common sludges
05 Health care and biological wastes	12 Mineral wastes
06 Metallic wastes	13 Solidified, stabilised or vitrified waste
07 Non metallic wastes	

Exempt activities

There are 48 activities that are exempt from waste management licensing, although they are still subject to statutory controls to prevent environmental pollution and harm to human health. The following paragraphs are required to provide information to SEPA on the types and quantities of waste managed by them if requested.

- Paragraph 7 - The treatment of land for agricultural benefit or ecological improvement
- Paragraph 8 - The storage and spreading of sludge
- Paragraph 9 - The reclamation or improvement of land
- Paragraph 10 - Reception and treatment of specified waste at a water treatment works
- Paragraph 12 - Composting
- Paragraph 19 - Waste for construction and other "relevant work"
- Paragraph 46 - The burning of plant tissue or wood at a dock

Municipal waste definition

The current definition is set out in the Landfill Allowance Scheme (Scotland) Regulations 2005: Final Guidance, Scottish Executive, March 2007. Collected municipal waste is all waste for which the councils make arrangements, with the exclusion of: abandoned vehicles; road maintenance waste; commercial waste that is delivered to local authority owned or run landfill sites where the local authority has no part in the collection or disposal arrangements that have led to this delivery; industrial waste collected from industrial premises and taken for disposal or treatment separately from any other waste; and construction and demolition waste that is collected and taken for disposal or treatment separately from any other waste. Bricks and rubble taken to civic amenity sites must be included in collected municipal waste.

Municipal waste targets

To assist with its plans for a Zero Waste Scotland the Scottish Government has set targets for certain years for the percentages of municipal waste recycled and composted, landfilled and incinerated with energy recovery.

Year	Energy from Waste (%)*	Landfilling (%)*	Recycling (%)**
2010	4	56	40
2013	14	36	50
2020	25	15	60
2025	25	5	70

* Maximum target

† Minimum target

‡ Includes composting

Zero waste

Zero Waste is a concept which is increasingly being adopted internationally. Zero Waste is about reducing the unnecessary use of raw materials, sustainable design of products, preventing waste, and recovering value from products and materials when they reach the end of their lives through recycling, composting or energy recovery.

Useful SEPA web pages

Commercial and industrial waste information can be found at:

www.sepa.org.uk/waste/waste_data_1/commercial__industrial_waste.aspx

European Waste Catalogue List of Waste (EWC 2002) and European Waste Catalogue for Statistics (EWC-STAT) information can be found at:

www.sepa.org.uk/waste/waste_data/reporting_definitions_and_term/coding_systems.aspx

Exempt activity information can be found at:

www.sepa.org.uk/waste/waste_data/statutory_data_returns/exempt_activity_data_returns.aspx

Municipal waste information can be found at:

www.sepa.org.uk/waste/waste_data_menu/municipal_waste.aspx

Special waste information can be found at:

www.sepa.org.uk/waste/waste_data/statutory_data_returns/special-hazardous_waste_data.aspx

Zero Waste information can be found at:

www.sepa.org.uk/waste/moving_towards_zero_waste.aspx

Additional copies of this publication can be obtained through the SEPA website at:

www.sepa.org.uk/about_us/contacting_sepa/by_email.aspx

Glossary

Biodegradable waste	Waste that is capable of undergoing anaerobic (oxygen poor) or aerobic (oxygen rich) decomposition, such as food or garden waste and paper and cardboard.
Co-incineration plant	A co-incineration plant is a plant whose main purpose is the generation of energy or production of material products, and which uses waste as a regular or additional fuel, or in which waste is thermally treated for the purpose of disposal.
Commercial waste	Waste arising from premises that are used wholly or mainly for trade, business, sport, recreation or entertainment, excluding household and industrial waste [as defined in Environmental Protection Act 1990, section 75 and schedule 4 of the Controlled Waste Regulations 1992 (as amended)].
Composting	The controlled biological decomposition and stabilisation of biodegradable materials (such as organic garden and kitchen wastes) under predominantly aerobic conditions to produce a humus-rich, sanitised and stabilised product that can be beneficial to soil.
Construction and demolition waste (C&D)	Arising from the construction, repair, maintenance and demolition of buildings and structures.
Controlled waste	Household, industrial and commercial waste or any such wastes that require a waste management licence for treatment, transfer or disposal (as defined by Environmental Protection Act 1990, section 75).
Disposal	Any of the operations provided for in Annex II A of the Waste Framework Directive. This includes incineration and landfilling.
Energy from waste (EfW)	The recovery of energy value from waste by burning the waste directly, or by burning a fuel produced from the waste.
Exempt activity	An activity involving waste materials that is exempt from licensing because it meets the requirements detailed in Regulation 17 of the Waste Management Licensing Regulations 1994, as amended by the Waste Management Licensing Amendment (Scotland) Regulations 2003.

Green waste	Includes vegetation and plant matter from household gardens, local authority parks and gardens.
Household waste	Waste from domestic properties including waste from caravans, residential homes and premises forming part of an educational establishment or part of a hospital or nursing home [as defined in Environmental Protection Act 1990, section 75 and schedule 1 of the Controlled Waste Regulations 1992 (as amended)].
Incineration plant	Any stationary or mobile technical unit and equipment dedicated to the thermal treatment of wastes with or without recovery of the combustion heat generated.
Incineration with energy recovery	Incineration with the recovery of energy in the form of power and/or heat.
Industrial waste	Waste from a factory (within the meaning of the Factories Act 1961) or from any premises used for, or in connection with: <ul style="list-style-type: none"> • provision of public transport; • public supply of gas, water, electricity or sewerage services; • provision to the public of postal or communication services. [as defined in Environmental Protection Act 1990, section 75 and schedule 3 of the Controlled Waste Regulations 1992 (as amended)].
Kerbside collection	Any regular collection of recyclable or compostable materials from premises. Excludes collection services delivered on demand.
Landfill	A waste disposal site for the deposit onto or into land.
Materials reclamation facility	A facility to process wastes for the purpose of recovering useful materials using a variety of processes to separate out different materials.
Municipal waste	Further details available in the Supporting information section.
National Waste Plan	Published by SEPA in 2003. The framework for delivering the National Waste Strategy. The Plan is currently under review.

Recovery	Any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy.
Recycling	Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.
Recycling centre/ Civic amenity site	A manned site for depositing recyclates. Recycling centres usually accept a wider range of waste materials than Recycling points and can include other facilities, such as normal household waste disposal.
Recycling point/ bring sites	An unmanned site with a container, or a collection of containers, for depositing recyclates, eg at a supermarket.
Special waste	Any waste which is hazardous waste as defined by Article 1(4) of the Hazardous Waste Directive
Thermal treatment	A broad generic term covering processes that involve the use of heat to treat waste.
Transfer station	A site to which waste is delivered for sorting and compacting prior to transfer to another place for recycling, treatment or disposal.
Waste	Any substance or object in the categories set out in Annex I of the Waste Framework Directive (2006/12/EC) which the holder discards or intends or is required to discard.
Waste arisings	The amount of waste generated in a given locality over a given period of time.

www.sepa.org.uk

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08/09 400