Household waste – Summary data 2016

This release shows the 2016 calendar year summary of household waste data generated and managed by or on behalf of Local Authorities in Scotland. Further information including definition of terms is included in the methodology and glossary.

Key points

Household waste – 2016 calendar year

- The total quantity of household waste generated in Scotland was 2.50 million tonnes in 2016, an increase of 30,181 tonnes (1.2%) since 2015. This is the third consecutive year in which the quantity of household waste generated has increased, although the household waste generated remains 107,779 tonnes (4.1%) less than that generated in 2011.
- For the 2016 calendar year, the household waste recycling rate was 45.2%, an increase of 1.0 percentage points from the 44.2% achieved in 2015. The amount of household waste recycled increased by 37,891 tonnes. Prior to 2014, household waste composted that did not reach the quality standards set by PAS 100/110 was included in the recycling figures. If such waste was included, as in the previous method, the overall recycling rate in 2016 would have been 45.5% an increase of 5.4 percentage points from the 40.1% achieved in 2011.
- For the 2016 calendar year, the total amount of household waste managed by other diversion from landfill was 237,205 tonnes, an increase of 10,815 tonnes (4.8%) from 2015. Prior to 2014, household waste composted that did not reach the quality standards set by PAS 100/110 was excluded from the diversion from landfill figures. If such waste were excluded as in the previous method, the total amount of household waste managed by other diversion from landfill in 2016 would have been 228,774 tonnes, which is 120,943 tonnes (112.2%) greater than in 2011.
- The quantity of household waste landfilled was 1.13 million tonnes in 2016, a decrease of 18,731 tonnes (1.6%) from 2015, and a decrease of 321,984 tonnes (22.1%) since 2011. This is the fifth consecutive decrease in household waste landfilled since 2011.

Data for household waste generated and managed for each local authority by waste type for 2011-2016 and the trends for household waste generated, recycled and managed since 2004 is available from the Household Waste Discover Data tool on Scotland's Environment website.

Annual household waste summary data tables are also available to download in Excel format on SEPA's web site.

Enquiries on this publication to: Contact SEPA Communications Department: 01786 452546.

An Official Statistics publication. These statistics have been produced to the high professional standards set out in the Code of Practice for Official Statistics, which sets out eight principles including meeting user needs, impartiality and objectivity, integrity, sound methods and assured quality, frankness and accessibility. More information on the Official Statistics Code of Practice can be found here at http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html.

Table 1 2016 Scottish Household waste - Summary data

Local Authority	Generated (tonnes)	Recycled (tonnes)	*Percentage Recycled (%)*	Other diversion from landfill (tonnes)	*Percentage Other diversion from Landfill (%)*	Landfilled (tonnes)	*Percentage Landfilled (%)*
Aberdeen City	96,123	37,498	*39.0*	604	*0.6*	58,021	*60.4*
Aberdeenshire	131,863	57,305	*43.5*	1,564	*1.2*	72,995	*55.4*
Angus	58,847	33,371	*56.7*	10,206	*17.3*	15,270	*25.9*
Argyll and Bute	53,684	18,188	*33.9*	8,182	*15.2*	27,315	*50.9*
City of Edinburgh	193,333	86,318	*44.6*	3,424	*1.8*	103,590	*53.6*
Clackmannanshire	27,091	15,306	*56.5*	3,898	*14.4*	7,887	*29.1*
Dumfries and Galloway	79,805	21,291	*26.7*	26,541	*33.3*	31,975	*40.1*
Dundee City	67,998	22,861	*33.6*	40,499	*59.6*	4,638	*6.8*
East Ayrshire	56,433	30,063	*53.3*	5,935	*10.5*	20,437	*36.2*
East Dunbartonshire	55,852	27,085	*48.5*	5,909	*10.6*	22,858	*40.9*
East Lothian	50,874	26,337	*51.8*	86	*0.2*	24,451	*48.1*
East Renfrewshire	47,724	29,010	*60.8*	791	*1.7*	17,923	*37.6*
Falkirk	71,783	36,832	*51.3*	11,229	*15.6*	23,723	*33.0*
Fife	187,746	102,610	*54.7*	8,183	*4.4*	76,955	*41.0*
Glasgow City	216,873	54,552	*25.2*	5,983	*2.8*	156,337	*72.1*
Highland	130,959	58,232	*44.5*	995	*0.8*	71,733	*54.8*
Inverclyde	29,363	15,692	*53.4*	900	*3.1*	12,769	*43.5*
Midlothian	42,636	22,804.4	*53.5*	5,752	*13.5*	14,079	*33.0*
Moray	51,968	30,698	*59.1*	0	*0.0*	21,253	*40.9*
Na h-Eileanan Siar	14,959	3,607	*24.1*	1,929	*12.9*	9,423	*63.0*
North Ayrshire	63,838	35,309	*55.3*	1,916	*3.0*	26,615	*41.7*
North Lanarkshire	160,916	66,207	*41.1*	25,297	*15.7*	69,410	*43.1*
Orkney Islands	10,349	2,007	*19.4*	4,997	*48.3*	2,880	*27.8*
Perth and Kinross	78,730	43,095	*54.7*	8,627	*11.0*	27,008	*34.3*
Renfrewshire	83,661	40,547	*48.5*	22,869	*27.3*	20,245	*24.2*
Scottish Borders	51,921	20,264	*39.0*	955	*1.8*	30,702	*59.1*
Shetland Islands	9,996	787	*7.9*	6,953	*69.6*	2,256	*22.6*
South Ayrshire	56,485	28,190	*49.9*	5,974	*10.6*	22,320	*39.5*
South Lanarkshire	152,533	80,818	*53.0*	0	*0.0*	71,715	*47.0*
Stirling	44,267	24,233	*54.7*	7,835	*17.7*	12,201	*27.6*
West Dunbartonshire	44,936	21,785	*48.5*	4,282	*9.5*	18,869	*42.0*
West Lothian	75,436	36,591	*48.5*	4,893	*6.5*	33,952	*45.0*
Total Scotland	**2,498,981**	**1,129,493**	***45.2***	**237,205**	***9.5***	**1,131,806**	***45.3***

Trends

- The total quantity of household waste generated in Scotland in 2016 was 2.50 million tonnes, an increase of 30,181 tonnes (1.2%) since 2015. This is the third consecutive year in which the quantity of household waste generated has increased, although the household waste generated remains 107,779 (4.1%) less than that generated in 2011 (see Figure 1 below).

Figure 1. Household waste generated in Scotland 2011-2016

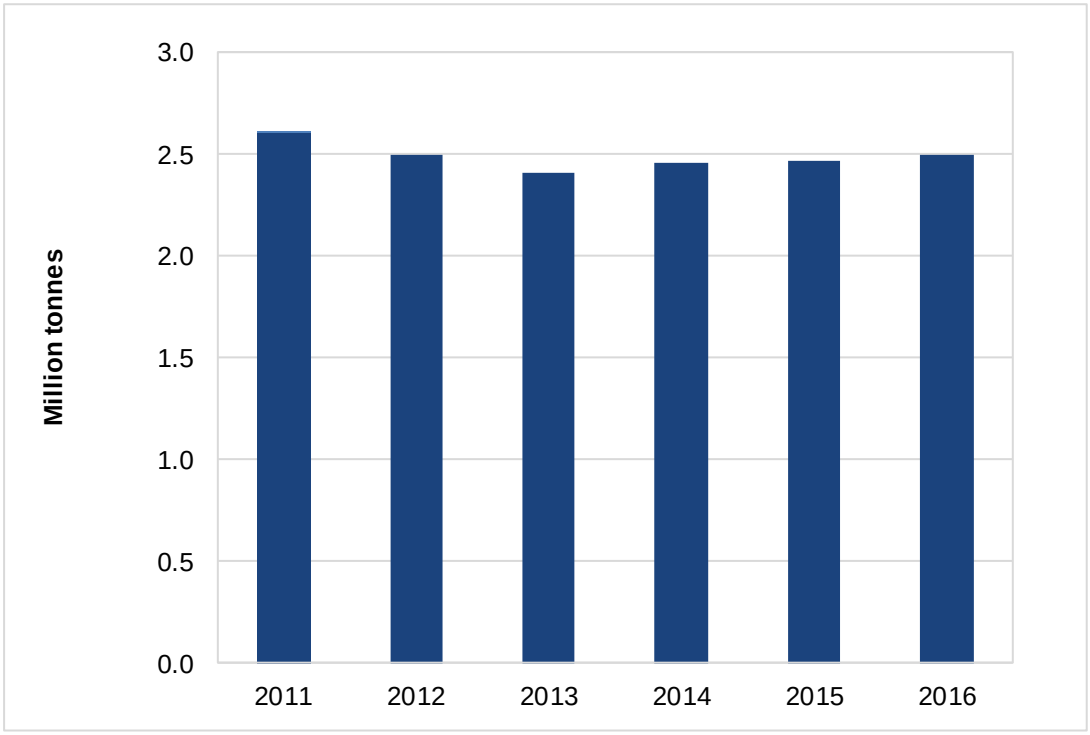


Table 2. Household waste generated in Scotland 2011-2016

Year	Waste generated (tonnes)
2011	2,606,759
2012	2,500,995
2013	2,412,706
2014	2,459,559
2015	2,468,800
2016	2,498,981

- The total tonnage of household waste managed by or on behalf of local authorities in Scotland was 2.50 million tonnes in 2016 (see Figure 2 below). This is an increase of 29,975 tonnes (1.2%) from the 2.47 million tonnes of waste managed in 2015 and a decrease of 108,130 tonnes (4.1%) from the 2.61 million tonnes of waste managed in 2011. The 2014 change in recycling method does not affect the total waste managed, only the breakdown of waste recycled and diverted.

Figure 2. Management of Scottish household waste 2011-2016

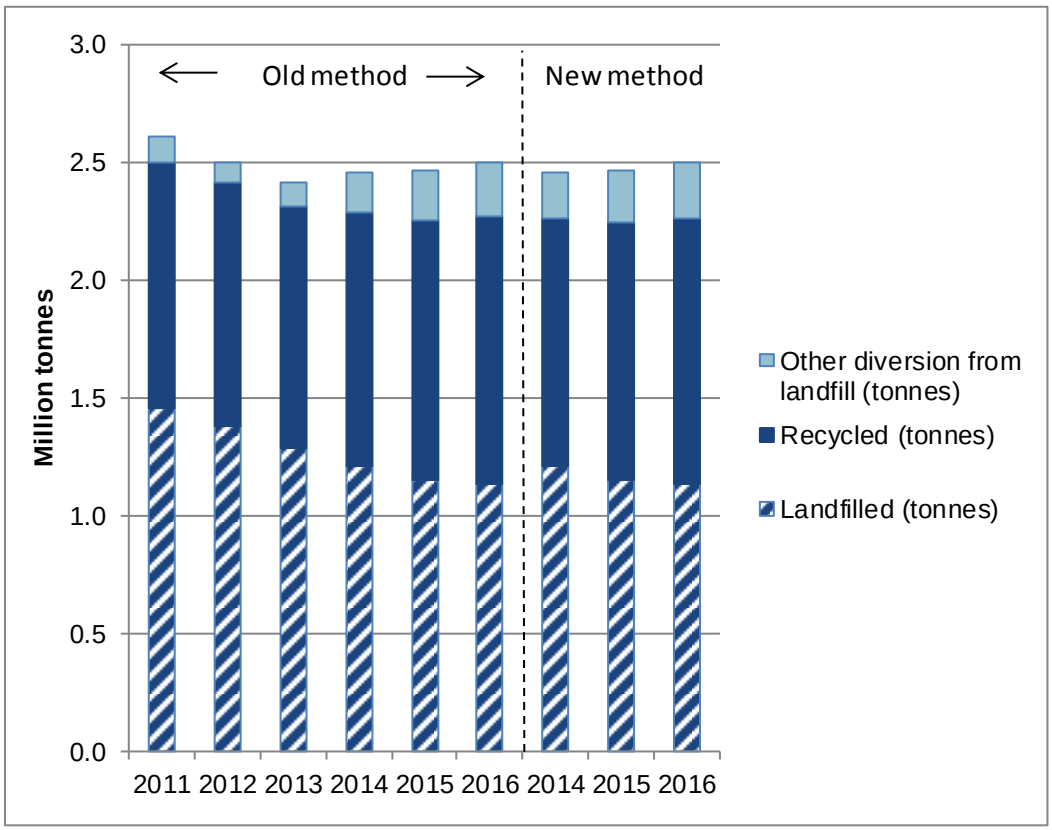


Table 3. Management of Scottish household waste 2011-2016 (tonnes)

Year	Landfilled	Recycled*	Other diversion from landfill	Total Managed[#]
2011 - OLD METHOD	1,453,789	1,045,013	107,831	2,606,633
2012 - OLD METHOD	1,382,153	1,029,150	85,754	2,497,057
2013 - OLD METHOD	1,290,829	1,018,193	104,359	2,413,380
2014 - OLD METHOD	1,212,411	1,072,949	173,477	2,458,838
2015 - OLD METHOD	1,150,537	1,104,114	213,878	2,468,529
2016 - OLD METHOD	1,131,806	1,137,924	228,774	2,498,504
2014	1,212,411	1,053,237	193,190	2,458,838
2015	1,150,537	1,091,602	226,390	2,468,529
2016	1,131,806	1,129,493	237,205	2,498,504

Notes: *Recycled includes waste recycled or reused, and waste composted.
[#]Waste managed excludes treated waste stockpiled prior to final management

Waste Recycled

- Waste recycled includes waste recycled or reused and waste composted. A full description of what this includes is given in the glossary.

- For the 2016 calendar year, the household waste recycling rate was 45.2%, an increase of 1.0 percentage points from the 44.2% recycling rate achieved in 2015. Prior to 2014 household waste composted that did not reach the quality standards set by PAS 100/110 was included in the recycling figures. If such waste was included, as in the previous method, the overall recycling rate in 2016 would have been 45.5%, an increase of 5.4 percentage points from the 40.1% achieved in 2011.

- For the 2016 calendar year, the total tonnage of household waste recycled was 1.13 million tonnes, an increase of 37,891 tonnes (3.5%) from 2015. Prior to 2014, household waste composted that did not reach the quality standards set by PAS 100/110 was included in the recycling figures. If such waste was included, as in the previous method, the total household waste recycled in 2016 would have been 1.14 million tonnes, which is 92,911 tonnes (8.9%) greater than the 1.05 million tonnes of waste recycled in 2011.

Figure 3. Household waste recycling rates in Scotland 2011-2016

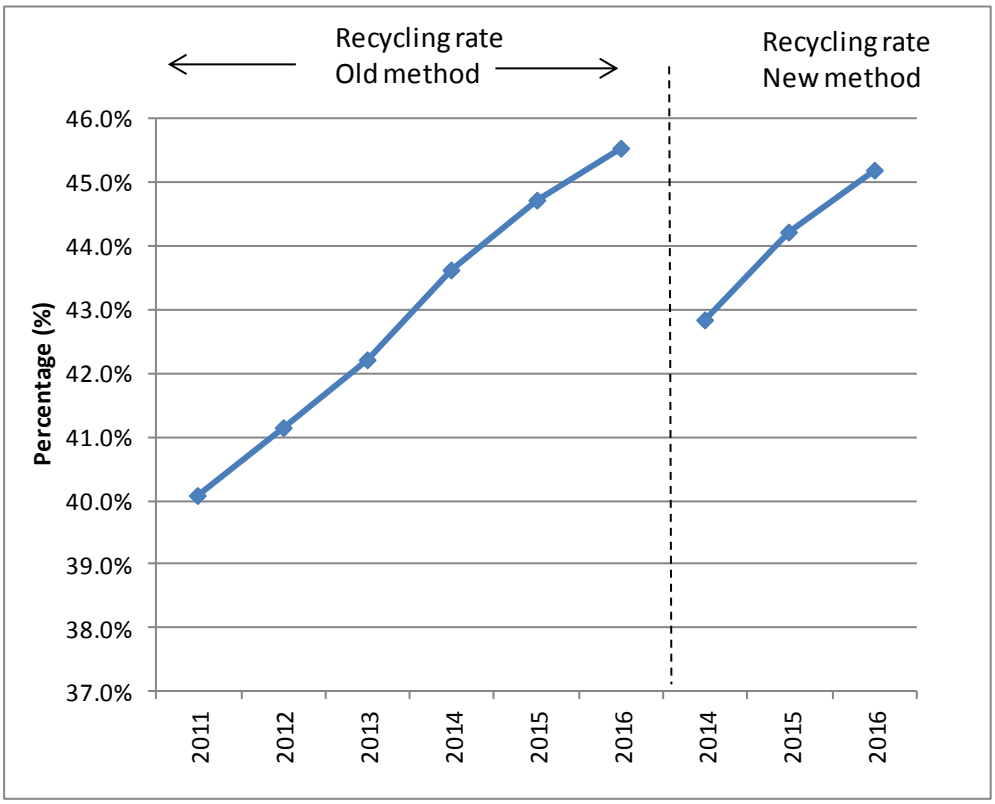


Table 4. Household waste recycling rates in Scotland 2011-2016

Recycling rate	Percentage (%)
2011 - OLD METHOD	40.1%
2012 - OLD METHOD	41.1%
2013 - OLD METHOD	42.2%
2014 - OLD METHOD	43.6%
2015 - OLD METHOD	44.7%
2016 - OLD METHOD	45.5%
2014	42.8%
2015	44.2%
2016	45.2%

Note: recycled includes waste recycled or reused and waste composted

- In 2016 calendar year, household waste recycled and reused made up nearly two thirds (63.9%, see Figure 4 below) of the proportion of household waste recycled with household waste composted contributing the remainder.

Figure 4. Breakdown of Scottish household waste recycled 2011-2016

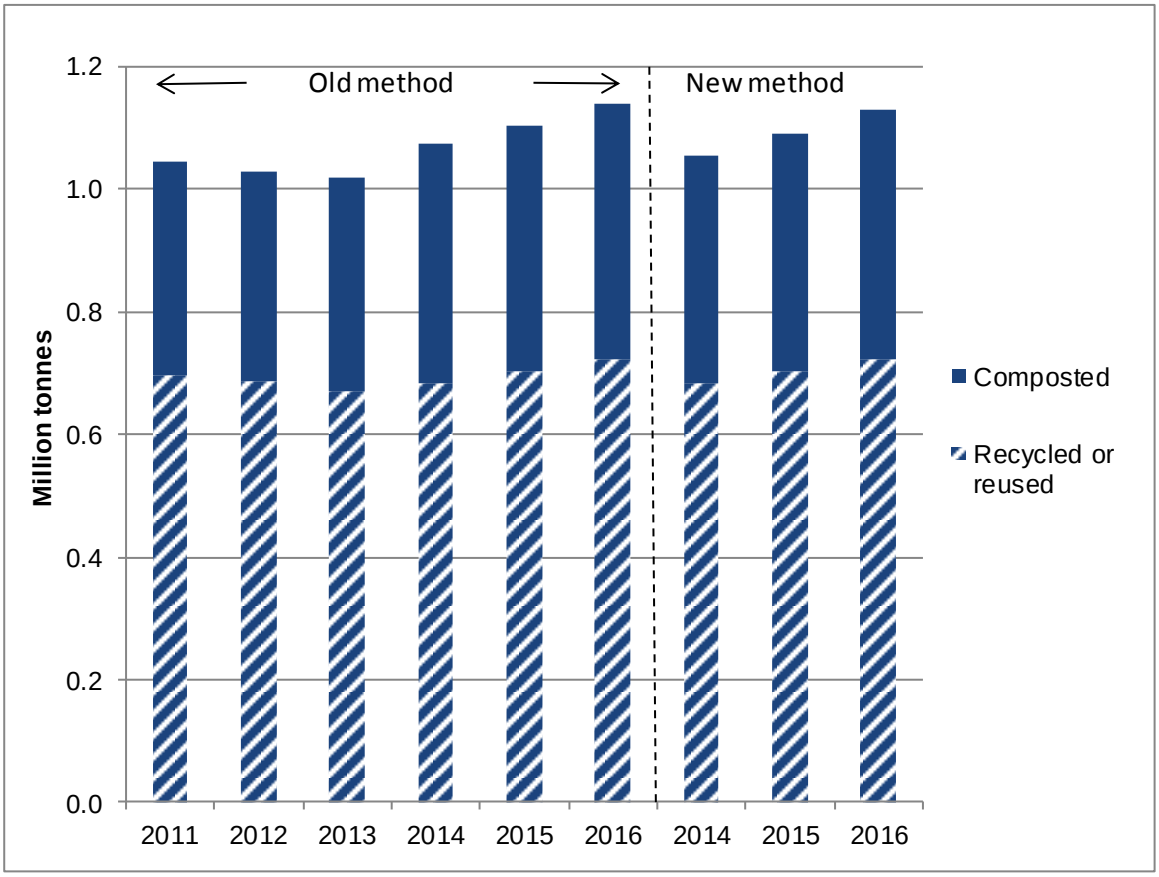


Table 5. Breakdown of Scottish household waste recycled 2011-2016

Year	Recycled + reused	Composted	Total
2011 - OLD METHOD	697,904	347,109	1,045,013
2012 - OLD METHOD	685,648	343,501	1,029,150
2013 - OLD METHOD	669,760	348,433	1,018,193
2014 - OLD METHOD	684,197	388,753	1,072,949
2015 - OLD METHOD	703,152	400,962	1,104,114
2016 - OLD METHOD	721,182	416,742	1,137,924
2014	684,197	369,040	1,053,237
2015	703,152	388,450	1,091,602
2015	721,182	408,310	1,129,493

- The 721,182 tonnes of household waste recycled or reused in 2016 was an increase of 18,031 tonnes (2.6%) compared with 2015 but only an increase of 23,278 tonnes (3.3%) compared with 2011, indicating that the amount of household waste recycled or reused has remained relatively stable during the last five years.

- The main type of household waste recycled or reused were Paper and cardboard wastes (222,871 tonnes,30.9% of all waste recycled or reused, see Figure 5 below). A year on year decrease of Paper and cardboard wastes recycled or reused since 2011 has plateaued, with a 443 tonne (0.2%) increase in the recycling of these materials in 2016.

Figure 5 Scottish household waste recycled or reused by material 2011-2016

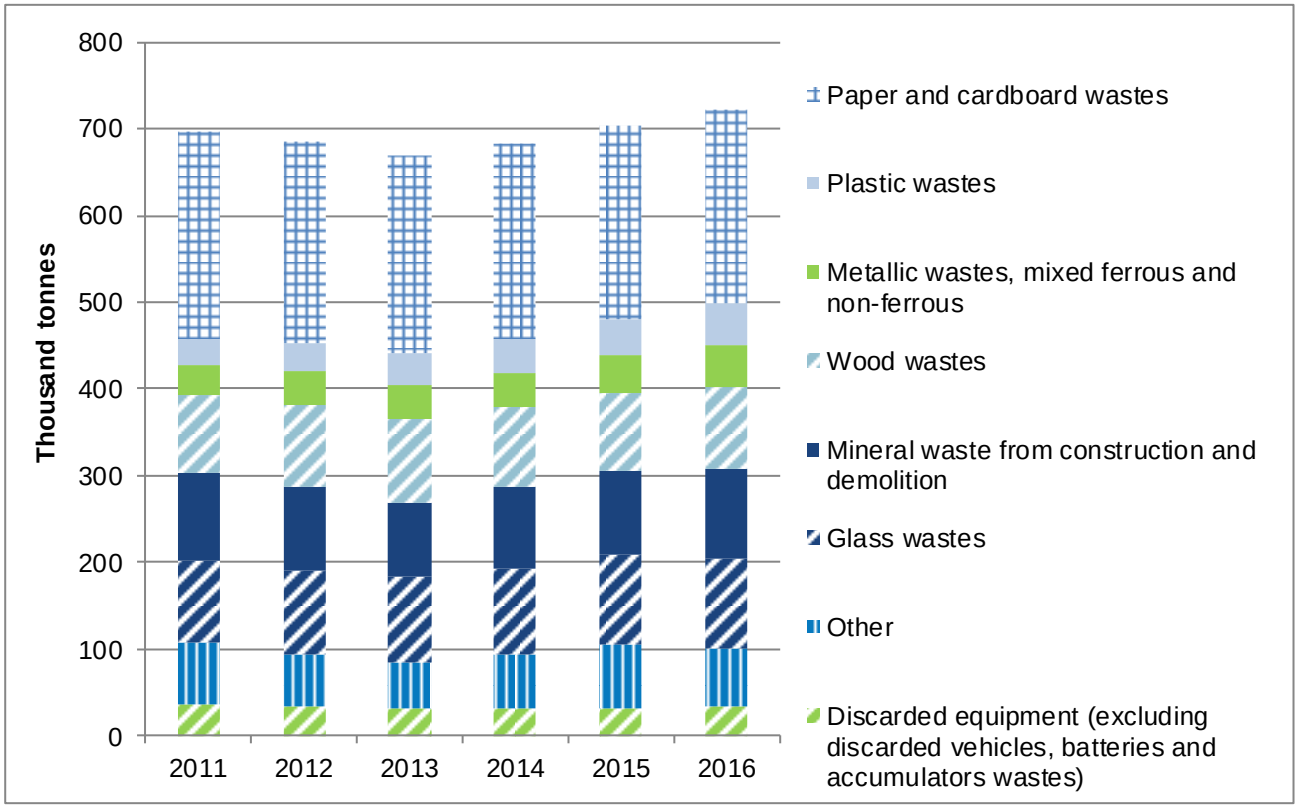


Table 6. Scottish Household waste recycled or reused by material 2011-2016 (tonnes)

Year	Paper and cardboard wastes	Glass wastes	Mineral waste from construction and demolition	Wood wastes	Metallic wastes, mixed ferrous and non-ferrous	Plastic wastes	Discarded equipment (excluding discarded vehicles, batteries and accumulators wastes)	Other	Total
2011	240,346	94,903	101,810	89,002	35,281	29,299	36,616	70,646	697,904
2012	231,776	96,658	96,701	92,403	39,082	34,528	33,743	60,758	685,648
2013	227,924	99,973	84,882	96,827	38,312	38,098	31,368	52,377	669,760
2014	226,491	100,580	93,308	92,323	39,317	39,527	31,748	60,901	684,197
2015	222,427	102,033	97,129	89,210	45,026	41,287	31,742	74,298	703,152
2016	222,871	103,960	102,942	93,898	49,729	46,889	34,377	66,516	721,182

- For the 2016 calendar year, the amount of household waste composted or digested was 408,310 tonnes, an increase of 19,860 tonnes (5.1%) from the 388,450 tonnes composted or digested in 2015. Prior to 2014, household waste composted or digested that attained the quality standards set by PAS 100/110 were included in the composting figures. If such waste was included, as in the previous method, the total household waste composted or digested in 2016 would have been 416,742 tonnes, which is 69,633 tonnes (20.1%) greater than the 347,109 tonnes composted or digested in 2011.

- For the 2016 calendar year, the total tonnage of vegetal wastes composted was 310,064 tonnes, an increase of 6,425 tonnes (2.1%) from 2015. Prior to 2014, vegetal wastes composted that did not reach the quality standards set by PAS 100/110 was included in the composting figures. If such waste were included, as in the previous method, the total vegetal waste composted in 2016 would have been 317,517 tonnes, which is 11,022 tonnes (3.4%) less than the 328,538 tonnes of vegetal wastes composted in 2011. The amount of vegetal wastes composted has been fairly constant from 2011 through 2016, with annual tonnages composted not varying from the average by over 5% over this period.

- For the 2016 calendar year, the total amount of Animal and mixed food waste composted was 94,471 tonnes, an increase of 13,520 tonnes (16.7%) from 2015. Prior to 2014, food waste composted that did not reach the quality standards set by PAS 100/110 was included in the composting figures. If such waste were included, as in the previous method, the total food waste composted in 2016 would have been 95,450 tonnes, which is 77,345 tonnes (427.2%) greater than the 18,104 tonnes of food waste composted in 2011.

- The tonnage of wood wastes composted also increased with an increase of 85 tonnes (2.2%) from 2015 to 2016, and an overall increase of 3,309 tonnes (709.9%) from the 466 tonnes of Wood wastes composted in 2011. There has been no wood recorded as composted at non PAS 100/110 composting facilities. Therefore the wood tonnage composted under the new method is the same as the method prior to 2014.

- In 2016 calendar year, vegetal wastes comprised 76.2% of total household waste composted or digested, a decrease of 18.5 percentage points from the 94.6% composted or digested in 2011. Food waste contributed comprised 22.9% in 2016, an increase of 17.7 percentage points from the 5.2% of total household waste composted or digested in 2011, and wood wastes contributed 0.9% in 2016, an increase of 0.8 percentage points from the 0.1% of total household waste composted or digested in 2011.

Figure 6. Scottish household waste composted by material 2011-2016

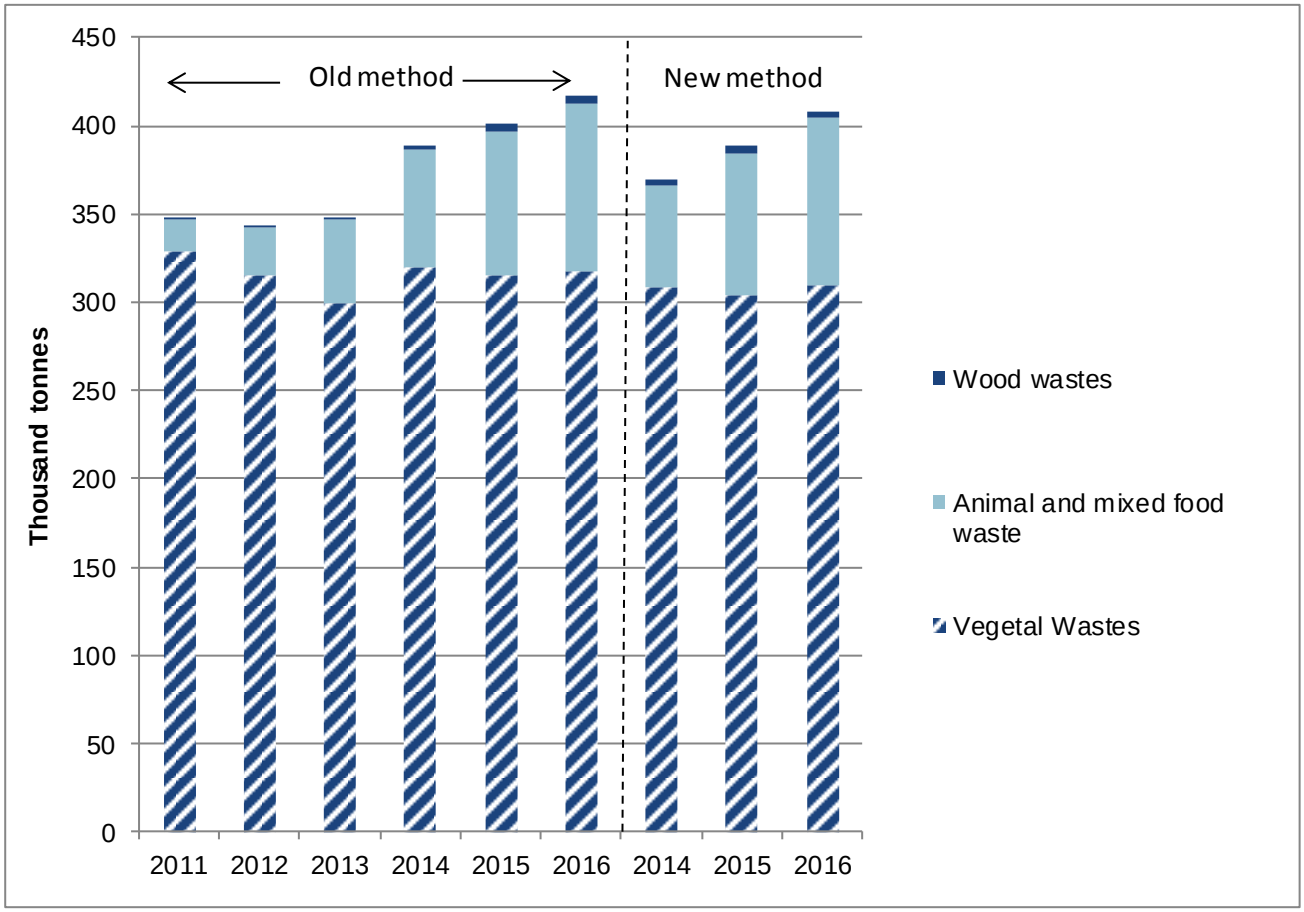


Table 7. Scottish household waste composted by material 2011-2016 (tonnes)

Year	Vegetal Wastes	Animal and mixed food waste	Wood wastes	Total
2011 - OLD METHOD	328,538	18,104	466	347,109
2012 - OLD METHOD	315,751	26,296	1,454	343,501
2013 - OLD METHOD	299,384	47,187	1,861	348,433
2014 - OLD METHOD	319,247	67,029	2,477	388,753
2015 - OLD METHOD	315,754	81,348	3,860	400,962
2016 - OLD METHOD	317,517	95,450	3,775	416,742
2014	308,706	57,858	2,477	369,040
2015	303,639	80,951	3,860	388,450
2016	310,064	94,471	3,775	408,310

Other Diversion from Landfill

- Other diversion from landfill is waste material not recycled or landfilled. A full description of what this includes is given in the glossary.

- For the 2016 calendar year, the total amount of household waste managed by other diversion from landfill was 237,205 tonnes, an increase of 10,815 tonnes (4.8%) from the 226,390 tonnes diverted in 2015. Prior to 2014, household waste composted that did not reach the quality standards set by PAS 100/110 was excluded from the other diversion from landfill figures. If such waste was excluded, as in the previous method, the total amount of household waste managed by other diversion from landfill in 2016 would have been 228,774 tonnes, which is 120,943 tonnes (112.2%) greater than the 107,831 tonnes of other waste diverted from landfill in 2011.

- The 8,431 tonnes of waste managed at non-PAS 100/110 certified composting processes in 2016 was 4,081 tonnes less than in 2015. Since the exclusion of non-PAS 100/110 compost from recycling figures in 2014, waste managed by non-PAS100/110 certified processes has decreased each year from 5.1% of all waste composted in 2014, to 3.1% and 2.0% of all composted in 2015 and 2016.

- The 189,418 tonnes of household waste incinerated in 2016, which includes outputs from incineration such as incinerator bottom ash and metals diverted from landfill, was 14,824 tonnes (8.5%) greater than the 174,594 tonnes incinerated in 2015, and 108,802 tonnes (135.0%) greater than the 80,616 tonnes incinerated in 2011.

- The 39,356 tonnes of waste diverted by other treatments in 2016 was 72 tonnes (0.2%) greater than the 39,284 tonnes of waste diverted in 2015. Other treatments include process loss associated with mechanical and biological treatments (e.g. production of CLO and production of RDF); process loss associated with waste composted that is disposed to landfill; and CLO diverted from landfill.

Figure 7. Other diversion of Scottish household waste from landfill breakdown 2011-2016

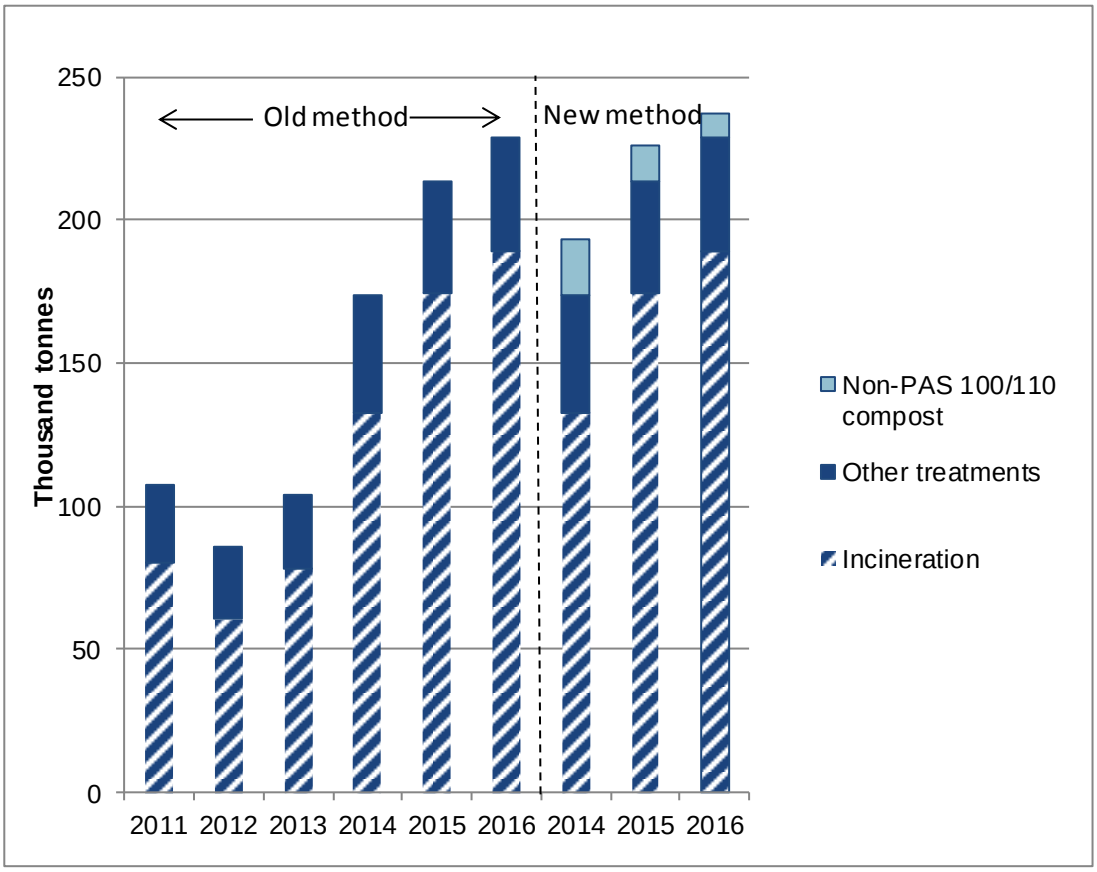


Table 8. Other diversion of Scottish household waste from landfill breakdown 2011-2016 (tonnes)

Year	Incineration	Other treatments	Non-PAS 100/110 compost	Total
2011 - OLD METHOD	80,616	27,215	0	107,831
2012 - OLD METHOD	60,452	25,302	0	85,754
2013 - OLD METHOD	78,258	26,101	0	104,359
2014 - OLD METHOD	132,949	40,529	0	173,477
2015 - OLD METHOD	174,594	39,284	0	213,878
2016 - OLD METHOD	189,418	39,356	0	228,774
2014	132,949	40,529	19,713	193,190
2015	174,594	39,284	12,513	226,390
2016	189,418	39,356	8,431	237,205

Waste Landfilled

- The quantity of household waste landfilled was 1.13 million tonnes in 2016, a decrease of 18,731 tonnes (1.6%) from 2015, and a decrease of 321,984 tonnes (22.1%) since 2011. This is the fifth consecutive decrease in household waste landfilled since 2011. This decrease is due to more waste being recycled but it is also due in part to less waste generated and more waste being diverted from landfill to incineration, and to mechanical and biological treatments such as the production of Compost Like Outputs (CLO) and production of Refused Derived Fuel (RDF).

- For the 2016 calendar year, the household waste landfilled as a percentage of waste generated was 45.3%, a decrease of 1.3 percentage points from the 46.6% of household waste landfilled in 2015 and a decrease of 10.5 percentage points from the 55.8% of household waste landfilled in 2011.

- In 2016, Household and similar wastes comprised 96.5% (1.09 million tonnes) of all household waste landfilled (see Figure 8 below). This is a decrease of 24,304 tonnes (2.2%) of Household and similar wastes landfilled from 2015 and a decrease of 351,226 (24.3%) from 2011.

- Combustion wastes comprised 2.8% of household waste landfilled in 2016. This is an increase of 16.8% of landfilled from 2015, and an increase of 202.3% landfilled from 2011. These wastes comprise mainly of Incinerator Bottom Ash from the incineration of household residual waste.

Figure 8. Scottish waste landfilled by waste category 2011-2016

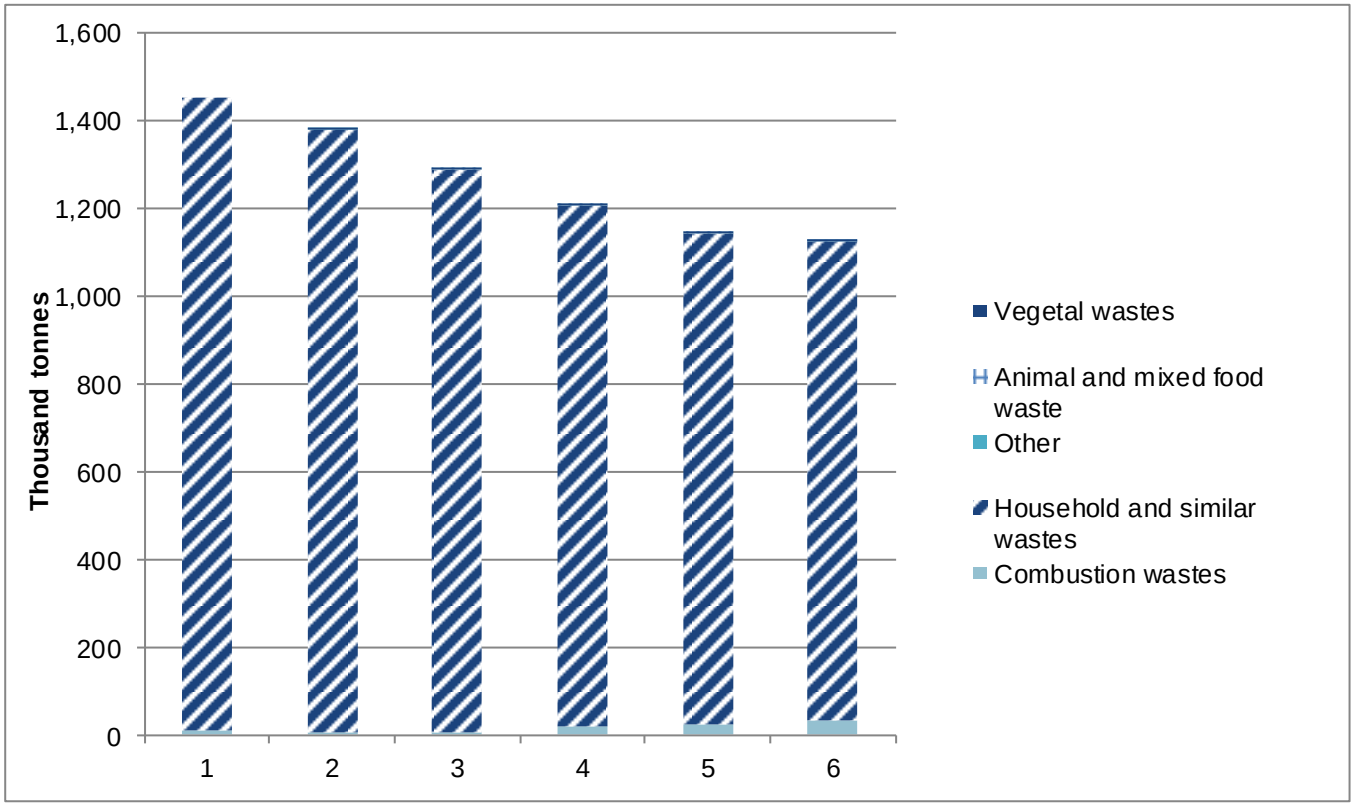


Table 9. Scottish waste landfilled by waste category 2011-2016 (tonnes)

Year	Household and similar wastes	Combustion wastes	Vegetal wastes	Animal and mixed food waste	Other	Total
2011	1,443,265	10,524	0	0	0	1,453,789
2012	1,372,426	8,050	1,333	0	344	1,382,153
2013	1,279,403	8,268	2,074	274	810	1,290,829
2014	1,187,493	19,520	3,654	782	962	1,212,411
2015	1,116,343	27,237	4,744	906	1,307	1,150,537
2016	1,092,039	31,812	5,470	1,366	1,120	1,131,806

DATA USES, FEEDBACK, REVISIONS POLICY, METHODOLOGY, GLOSSARY OF TERMS AND MEASURES, AND REFERENCES

User Statement

Data on household waste generation and management are collected to support policy development and monitor policy effectiveness, particularly the commitments in Making Things Last - A Circular Economy Strategy for Scotland. The data are also used to meet legislative reporting targets on recycling as set out in the Waste Framework Directive (2008/98/EC) and in the Commission Decision establishing rules and calculation methods for verifying compliance with the targets set in the Waste Framework Directive (2011/753/EU). The data are used to fulfil the reporting requirements of the Waste Statistics Regulation (2002/2150/EC). The data are used extensively by local and central government, the waste industry, researchers and the general public.

Feedback

We welcome feedback on the data from all users including how and why the data are used. This helps us to understand the value of the statistics to external users. Please see our contact details at the bottom of the first page of this notice or e-mail: WasteData.Flow@sepa.org.uk.

Revisions Policy

SEPA will provide information about any revisions made to published information in this statistics release and the associated datasets. Revisions could occur for various reasons, including when data from third parties is unavailable or provisional at the time of publishing or if there are subsequent methodological improvements or refinements.

The figures are accurate at the time of publication. However, the data may be updated if further revisions are necessary. Normally these revisions will be published concurrent with the next official release.

Methodology

Data is submitted by all 32 Scottish local authorities using the web-based reporting tool WasteDataFlow.

From 2014, composted wastes that do not reach the quality standards set by PAS 100/110 are accounted for as other wastes diverted from landfill and not as wastes composted, except where waste is processed at a new composting or anaerobic digestion site and the site has indicated they have applied for and are working toward PAS compliance, in which case a 12 month grace period has been applied for the purpose of inclusion of wastes composted or digested in household recycling data. In 2016 there was one new site that met this criterion.

Further details on the methodology used to produce the figures are provided in the "Household waste" section of the annual Waste Data Quality Reports on SEPA's web site. Please note that household waste figures published by individual UK countries may be based on alternative calculation methodologies and as such the figures may not be directly comparable.

There have been no revisions to 2011 – 2014 household data since the previous statistical publication in September 2015.

Release

The release of this publication is in line with release practices specified in the Code of Practice for Official Statistics. The statistics are released at the standard time of 9.30 am on a preannounced weekday date. Pre-release access to the statistics in their final form is provided to Scottish ministers and those on a list of named officials advising them 5 working days before the public release. This is to ensure that at the time of release Scottish ministers are able to comment publicly on the statistics based on a correct understanding of them.

Glossary of terms

BSI PAS 100 / 110 – a national compost benchmark that specifies the minimum requirements for the process of composting, the selection of material from which compost is made, and standards for the compost product quality. PAS 100 is applicable to composting facilities while PAS 110 is applicable to anaerobic digestion facilities. The use of this standard to improve the quality of compost in Scotland became part of Scottish Government policy in 2011, with 2014 being the first year it has been applied to the household official statistics.

Compost like output (CLO) – partially digested waste outputs generated from the biological treatment of residual municipal solid wastes at a process that involves both mechanical and biological treatment. Outputs typically do not conform to composting standards such as PAS 100/110.

Household waste – waste generated by households (see full definition in Paragraph 1.2 of the *Zero Waste Plan - guidance for local authorities* on the WasteDataFlow web site).

Other diversion from landfill – describes the fate of waste material not recycled or landfilled. It includes:

- household waste treated by incineration, including any incinerator bottom ash and metals from bottom ash that are diverted from landfill,
- weight loss that occurs during the composting of waste to PAS 100/110 and non PAS 100/110 compost where the output is landfilled,
- CLO that is not landfilled,
- weight loss that occurs during mechanical and biological treatment processes (e.g. production of CLO and RDF),
- from 2014, any waste composted that has not reached the quality standards set by PAS 100/110 and is not landfilled.

Recycling rate – is defined as waste recycled as a percentage of all waste generated. Note that total waste generated does not equal waste managed due to stockpiled waste which is counted in the generation figures and will be included in waste managed figures for the year when they are managed.

Refuse derived fuel (RDF) –waste separated from residual municipal solid waste with a calorific value suitable for use as a fuel in combustion processes.

Waste composted - is waste recycled by biological treatment through composting at a composting plant or through digestion at an anaerobic digestion facility.

Waste generated - is waste collected by or on behalf of local authorities that is managed within the relevant reporting year. This might include treated waste stockpiled prior to final management.

Waste landfilled –includes all household waste that is disposed of at landfill sites instead of being recycled or diverted from landfill through other methods. It also includes incinerator ash that is landfilled, plus any recycling and composting rejects that occur during collection, sorting or further treatment that go to landfill.

Waste managed - includes all wastes recycled, diverted from landfill and landfilled within the relevant reporting year. This includes stockpiled waste from a previous year sent to final management but excludes treated waste stockpiled prior to final management.

Waste recycled - includes recyclable materials that have been recycled or reused and also biodegradable materials that have been composted or digested. The amount of waste recycled, reused and composted is that accepted by the Reprocessor. As such it excludes any recycling rejects that occur during collection, sorting or further treatment. From 2015, the composting figures using the new calculation methodology do not include any waste composted that has not reached the quality standards set by PAS 100/110.