Scottish Household waste – summary data 2019

This release shows the 2019 calendar year summary of household waste data generated in Scotland and managed by or on behalf of Scottish local authorities. Information on the methodology used to prepare this release and a definition of terms is in the methodology and glossary at the end of this document.

Key points

Scottish Household waste – 2019 calendar year

- The total amount of household waste generated in Scotland was 2.4 million tonnes (Table 1) in 2019, an increase of 17 thousand tonnes (1%) from 2018.
- For 2019, the Scottish household waste recycling rate was 44.9%[1], an increase of 0.2 percentage points from the 44.7% (Table 1) rate achieved in 2018. The amount of household waste recycled between 2018 and 2019 increased by 12 thousand tonnes to 1.1 million tonnes.
- The amount of Scottish household waste landfilled in 2019 was 0.76 million tonnes, a reduction of 273 thousand tonnes (26%) from 2018, and a reduction of 696 thousand tonnes (48%) since 2011. This is the eighth consecutive decrease in household waste landfilled, and the first time that the amount of household waste landfilled is less than one million tonnes.
- For 2019, the total amount of Scottish household waste managed by other diversion from landfill was 577 thousand tonnes, an increase of 278 thousand tonnes (93%) from 2018. Most of the diverted waste in 2019 was managed by incineration (79%, 454 thousand tonnes), an increase of 233 thousand tonnes from 2018.
- The carbon impact is a measure of the whole-life carbon impacts of waste, from resource extraction and manufacturing emissions, right through to waste management emissions. The carbon impact of Scottish household waste generated and managed in 2019 was 5.7 million tonnes of carbon dioxide equivalent (TCO2e,

[1] Recycling rates refer to Scotland's national measure which differs from the Waste from households measure published in Defra's UK Statistics on Waste. For further information about the differences refer to the Methodology section on page 20.

Table 1), which is the equivalent to 1.0 TCO2e per person (Table 2). This was a decrease of 94 thousand TCO2e from 2018, and a reduction of 1.1 million TCO2e from 2011.

Summary data tables are also available to download in Excel format on SEPA's web site.

Enquiries on this publication to: SEPA Communications Department: media@sepa.org.uk

This is an Official Statistics publication. These statistics have been produced to the high professional standards defined in the Code of Practice for Official Statistics, which sets out fourteen principles under the pillars of Trustworthiness, Quality and Value. More information on the Official Statistics Code of Practice can be found here: http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html.

Lead statistician: Peter Ferrett

Table 1. Scottish Household waste generated and managed in 2019 - summary data[2]

Local Authority	Generated (tonnes)	Recycled (tonnes)	*Percentage Recycled (%)*	Other diversion from landfill (tonnes)	*Percentage Other diversion from Landfill (%)*	Landfilled (tonnes)	*Percentage Landfilled (%)*	Carbon Impact (TCO2e)	*2018 Recycled (Percentage)*
Aberdeen City	84,643	42,230	*49.9*	27,407	*32.4*	15,005	*17.7*	*180,260*	*47.3*
Aberdeenshire	122,830	54,018	*44.0*	2,618	*2.1*	66,195	*53.9*	*310,947*	*43.4*
Angus	52,541	31,058	*59.1*	18,782	*35.7*	2,702	*5.1*	*100,813*	*54.7*
Argyll and Bute	46,901	18,101	*38.6*	6,975	*14.9*	21,825	*46.5*	*117,899*	*37.8*
City of Edinburgh	192,070	74,177	*38.6*	109,305	*56.9*	8,587	*4.5*	*471,188*	*38.8*
Clackmannanshire	25,473	14,125	*55.4*	7	*0.0*	11,342	*44.5*	*53,323*	*56.3*
Dumfries and Galloway	76,786	22,672	*29.5*	34,467	*44.9*	19,647	*25.6*	*209,440*	*27.4*
Dundee City	65,259	25,074	*38.4*	35,664	*54.7*	4,521	*6.9*	*149,839*	*35.8*
East Ayrshire	55,097	29,300	*53.2*	4,705	*8.5*	21,092	*38.3*	*119,102*	*51.8*
East Dunbartonshire	52,692	29,145	*55.3*	13,258	*25.2*	10,290	*19.5*	*110,998*	*54.6*
East Lothian	49,979	27,644	*55.3*	14,664	*29.3*	7,672	*15.4*	*106,233*	*53.1*
East Renfrewshire	48,609	32,953	*67.8*	1,103	*2.3*	14,561	*30.0*	*94,538*	*66.2*
Falkirk	70,032	37,134	*53.0*	2,233	*3.2*	30,665	*43.8*	*153,946*	*50.8*
Fife	174,977	77,856	*44.5*	18,847	*10.8*	78,275	*44.7*	*387,425*	*51.1*
Glasgow City	252,148	62,201	*24.7*	66,481	*26.4*	123,466	*49.0*	*744,090*	*24.6*
Highland	124,689	51,442	*41.3*	9,391	*7.5*	63,857	*51.2*	*297,898*	*42.7*
Inverclyde	27,698	14,944	*54.0*	1,771	*6.4*	10,984	*39.7*	*58,006*	*56.0*
Midlothian	40,610	20,643.4	*50.8*	15,600	*38.4*	4,367	*10.8*	*91,551*	*58.2*
Moray	47,186	27,829	*59.0*	0	*0.0*	19,357	*41.0*	*87,796*	*57.4*
Na h-Eileanan Siar	13,710	2,817	*20.5*	1,892	*13.8*	9,001	*65.7*	*36,485*	*23.1*
North Ayrshire	60,322	33,988	*56.3*	10,028	*16.6*	16,307	*27.0*	*132,847*	*54.6*
North Lanarkshire	149,977	60,462	*40.3*	57,764	*38.5*	31,751	*21.2*	*361,416*	*43.7*
Orkney Islands	10,428	1,962	*18.8*	5,217	*50.0*	2,676	*25.7*	*26,999*	*21.1*
Perth and Kinross	74,293	39,172	*52.7*	4,275	*5.8*	30,845	*41.5*	*141,893*	*51.7*
Renfrewshire	81,461	43,211	*53.0*	24,764	*30.4*	13,467	*16.5*	*180,557*	*49.2*
Scottish Borders	52,300	25,718	*49.2*	11,517	*22.0*	15,064	*28.8*	*123,166*	*38.8*
Shetland Islands	9,648	1,653	*17.1*	6,084	*63.1*	1,912	*19.8*	*29,253*	*10.5*
South Ayrshire	52,639	30,351	*57.7*	5,169	*9.8*	17,120	*32.5*	*108,980*	*52.6*
South Lanarkshire	146,941	68,135	*46.4*	41,761	*28.4*	37,044	*25.2*	*337,048*	*44.3*
Stirling	42,504	23,292	*54.8*	179	*0.4*	19,034	*44.8*	*87,065*	*54.1*
West Dunbartonshire	39,905	17,871	*44.8*	4,040	*10.1*	17,994	*45.1*	*95,008*	*43.5*
West Lothian	77,444	45,095	*58.2*	20,831	*26.9*	11,518	*14.9*	*158,982*	*65.2*
Total Scotland	**2,421,790**	**1,086,275**	***44.9***	**576,795**	***23.8***	**758,141**	***31.3***	***5,664,990***	***44.7***

[2] Note: The carbon impact of mixed residual household waste is based on a national waste composition study and therefore does not reflect any difference in waste composition which may exist between Local Authorities.

Table 2. Scottish Household waste generated and managed per person in 2019 - summary data[3]

Local Authority	Generated (tonnes per person)	Recycled (tonnes per person)	Other diversion from landfill (tonnes per person)	Landfilled (tonnes per person)	Carbon Impact (TCO2e per person)
Aberdeen City	0.37	0.18	0.12	0.07	0.79
Aberdeenshire	0.47	0.21	0.01	0.25	1.19
Angus	0.45	0.27	0.16	0.02	0.87
Argyll and Bute	0.55	0.21	0.08	0.25	1.37
City of Edinburgh	0.37	0.14	0.21	0.02	0.90
Clackmannanshire	0.49	0.27	0.00	0.22	1.03
Dumfries and Galloway	0.52	0.15	0.23	0.13	1.41
Dundee City	0.44	0.17	0.24	0.03	1.00
East Ayrshire	0.45	0.24	0.04	0.17	0.98
East Dunbartonshire	0.49	0.27	0.12	0.09	1.02
East Lothian	0.47	0.26	0.14	0.07	0.99
East Renfrewshire	0.51	0.34	0.01	0.15	0.99
Falkirk	0.44	0.23	0.01	0.19	0.96
Fife	0.47	0.21	0.05	0.21	1.04
Glasgow City	0.40	0.10	0.11	0.20	1.18
Highland	0.53	0.22	0.04	0.27	1.26
Inverclyde	0.36	0.19	0.02	0.14	0.75
Midlothian	0.44	0.22	0.17	0.05	0.99
Moray	0.49	0.29	0.00	0.20	0.92
Na h-Eileanan Siar	0.51	0.11	0.07	0.34	1.37
North Ayrshire	0.45	0.25	0.07	0.12	0.99
North Lanarkshire	0.44	0.18	0.17	0.09	1.06
Orkney Islands	0.47	0.09	0.23	0.12	1.21
Perth and Kinross	0.49	0.26	0.03	0.20	0.93
Renfrewshire	0.45	0.24	0.14	0.08	1.01
Scottish Borders	0.45	0.22	0.10	0.13	1.07
Shetland Islands	0.42	0.07	0.27	0.08	1.28
South Ayrshire	0.47	0.27	0.05	0.15	0.97
South Lanarkshire	0.46	0.21	0.13	0.12	1.05
Stirling	0.45	0.25	0.00	0.20	0.92
West Dunbartonshire	0.45	0.20	0.05	0.20	1.07
West Lothian	0.42	0.25	0.11	0.06	0.87
Total Scotland	**0.44**	**0.20**	**0.11**	**0.14**	**1.04**

[3] Note: The carbon impact of mixed residual household waste is based on a national waste composition study and therefore does not reflect any difference in waste composition which may exist between Local Authorities

Trends

- The total amount of household waste generated in Scotland in 2019 was 2.4 million tonnes, an increase of 17 thousand tonnes (1%) from 2018. This follows a 2% decrease between 2017 and 2018. Overall there has been a general fluctuation of waste generated between 2.4 and 2.5 million tonnes since 2012.

Figure 1. Household waste generated in Scotland 2011-2019

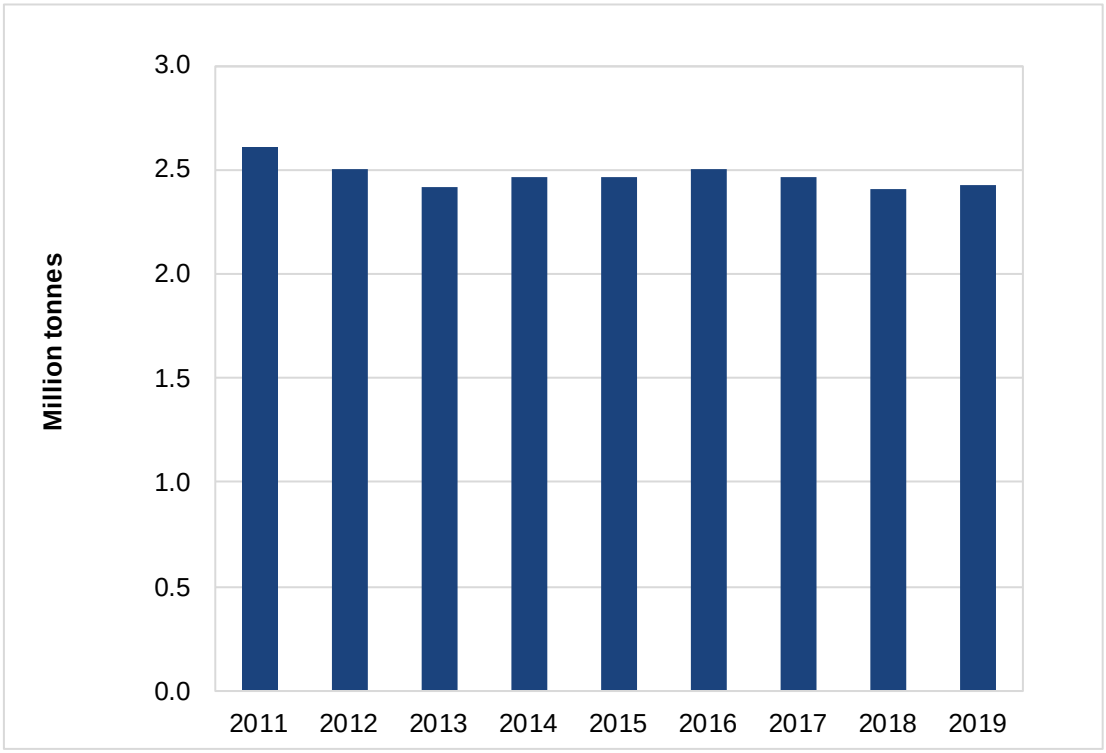


Table 3. Household waste generated in Scotland 2011-2019

Year	Waste generated (tonnes)
2011	2,606,759
2012	2,500,995
2013	2,412,630
2014	2,459,558
2015	2,468,781
2016	2,498,978
2017	2,460,820
2018	2,405,246
2019	2,421,790

Figure 2. Household waste managed in Scotland 2011-2019

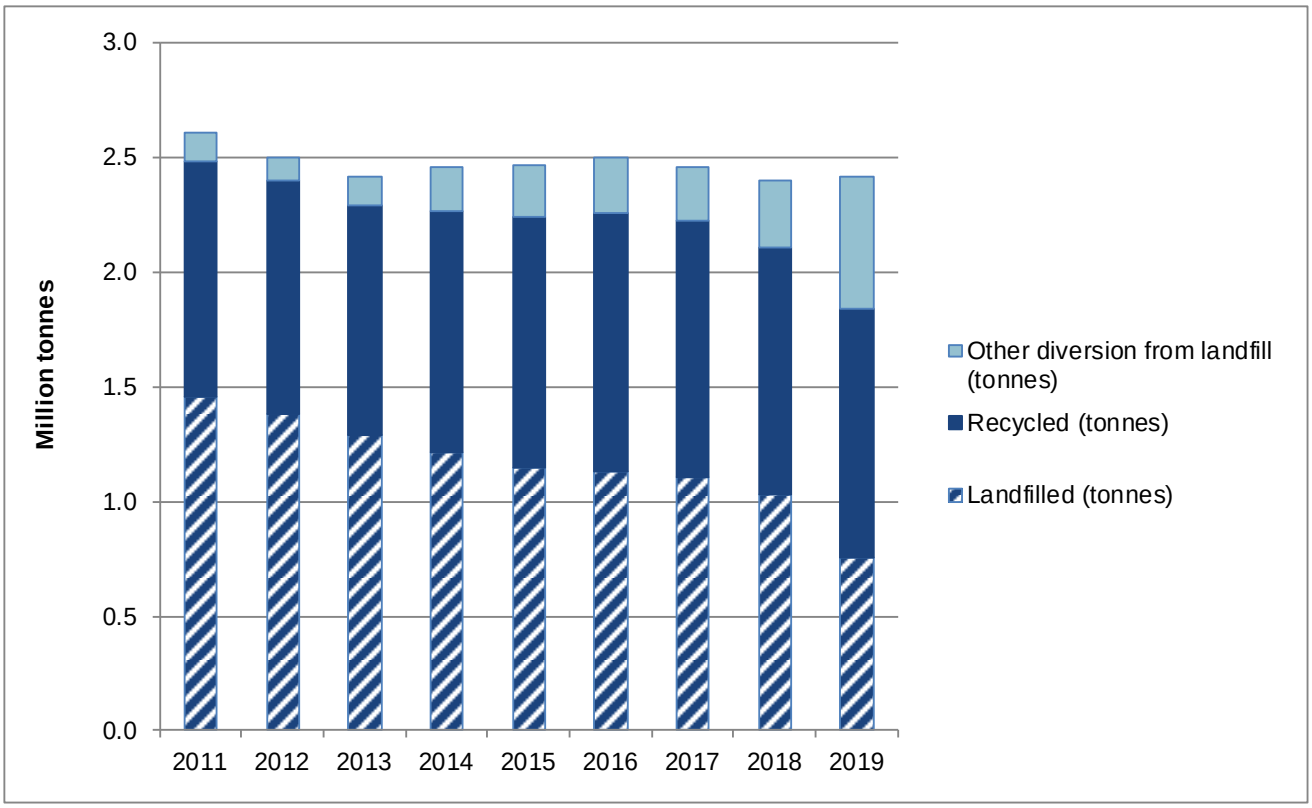


Table 4. Household waste managed in Scotland 2011-2019

Year	Landfilled	Recycled	Other diversion from landfill	Total Managed
2011	1,453,789	1,029,744	123,100	2,606,633
2012	1,382,153	1,014,645	100,259	2,497,057
2013	1,290,829	1,002,242	120,459	2,413,530
2014	1,212,479	1,053,241	193,146	2,458,865
2015	1,150,537	1,088,426	229,522	2,468,485
2016	1,131,806	1,124,925	241,785	2,498,516
2017	1,106,959	1,120,568	232,538	2,460,065
2018	1,031,467	1,074,677	298,356	2,404,501
2019	758,141	1,086,275	576,795	2,421,210

Waste Recycled

- Waste recycled includes waste reused, recycled or composted. A full description of recycling is given in the glossary.

- For 2019, the Scottish household waste recycling rate was 44.9% (Figure 3), an increase of 0.2 percentage points from the 44.7% recycling rate achieved in 2018, and a 5.4 percentage point increase from the 39.5% achieved in 2011[4] . The recycling rate appears to have plateaued from 2016 (see Figure 3 below).

- For 2019, the total tonnage of Scottish household waste recycled was 1.1 million tonnes, an increase of 12 thousand tonnes (1%) from 2018 and 57 thousand tonnes (5%) greater than the 1.0 million tonnes of waste recycled in 2011[4].

[4] The definition of recycling changed in 2014 to exclude non PAS compost. Recycling data for 2011 - 2013 has been modelled under the new definition to provide consistency for the time series.

Figure 3. Scottish household waste recycling rates 2011-2019[4]

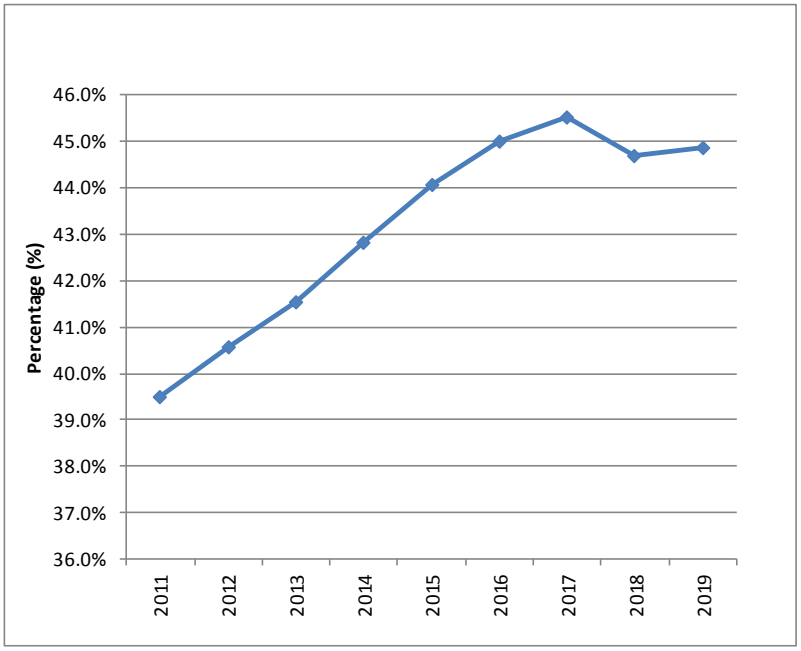


Table 5. Scottish household waste recycling rates 2011-2019[4]

Recycling rate	Percentage (%)
2011	39.5%
2012	40.6%
2013	41.5%
2014	42.8%
2015	44.1%
2016	45.0%
2017	45.5%
2018	44.7%
2019	44.9%

Note: Recycled includes waste recycled or reused and waste composted.

- In 2019, household waste recycled and reused comprised 682 thousand tonnes (63%) of the 1.1 million tonnes of household waste recycled, with household waste composted contributing the remaining 405 thousand tonnes (37%) (see Figure 4 below).

Figure 4. Breakdown of Scottish household waste recycled 2011-2019[4]

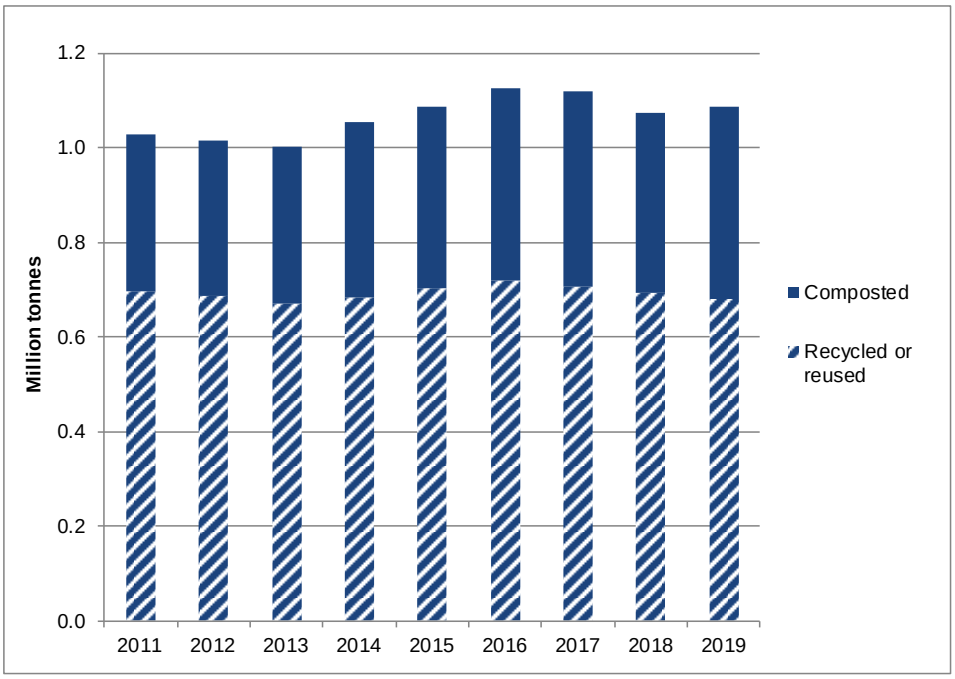


Table 6. Breakdown of Scottish household waste recycled 2 2019[4](tonnes)

Year	Recycled + reused	Composted	Total
2011	697,904	331,840	1,029,744
2012	685,648	328,997	1,014,645
2013	669,756	332,486	1,002,242
2014	684,201	369,040	1,053,241
2015	703,152	385,273	1,088,426
2016	721,181	403,743	1,124,925
2017	705,370	415,198	1,120,568
2018	691,962	382,716	1,074,677
2019	681,704	404,571	1,086,275

- The 682 thousand tonnes of household waste recycled or reused in 2019 was a decrease of 10 thousand tonnes (1%) compared with 2018 and a decrease of 16 thousand tonnes (2%) compared with 2011, indicating that the amount of household waste recycled or reused has remained relatively stable during the last seven years.

- The largest type of household waste recycled or reused in 2019 was Paper and cardboard wastes (193 thousand tonnes, 28% of all waste recycled or reused, see Table 7 below). However, there is a general downward trend of Paper and cardboard wastes recycled or reused since 2011, with a reduction of 17 thousand tonnes (8%) from 2018 and reduction of 48 thousand tonnes (20%) from 2011.

- The WasteDataFlow categories that contribute to Paper and cardboard wastes recycled, as depicted in Figure 6 below, indicate that segregated paper waste is in continual decline, while cardboard and mixed paper and cardboard wastes have remained constant or increased over time. This may be partly due to replacement of segregated paper collections with mixed paper and cardboard collections. The decrease in segregated paper generated is also likely partly due to a move away from print media to electronic media. Cardboard wastes have not decreased in the same scale as paper wastes, which could be a result of increased packaging materials as consumer habits move online.

Figure 5 Scottish household waste recycled or reused by material 2011-2019

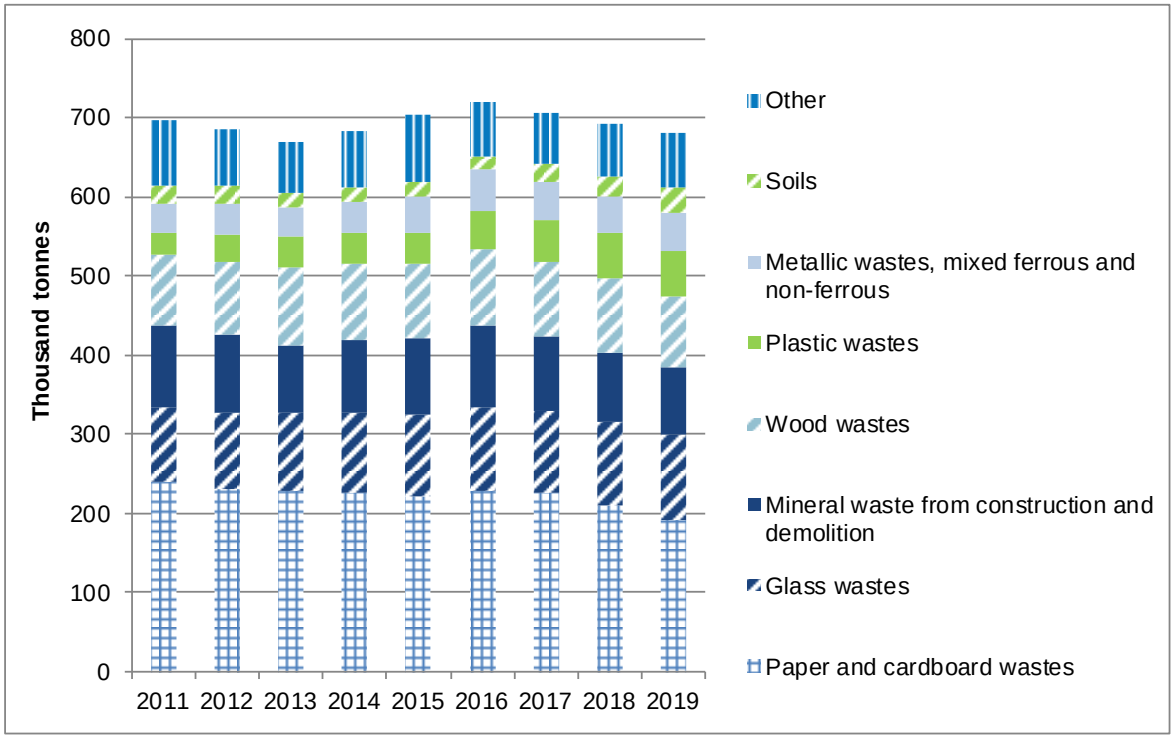
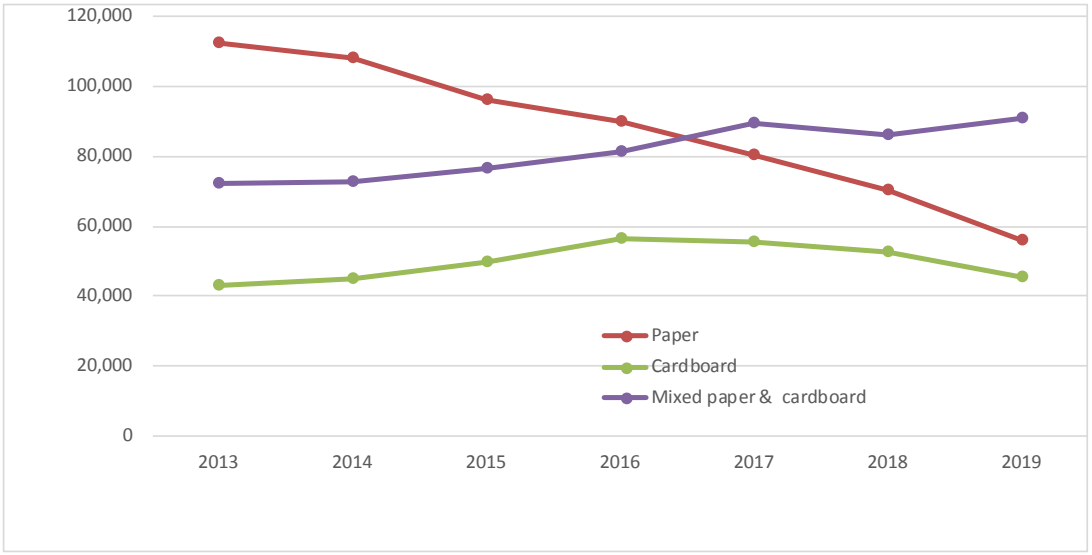


Table 7. Scottish Household waste recycled or reused by material 2011-2019 (tonnes)

Year	Paper and cardboard wastes	Glass wastes	Mineral waste from construction and demolition	Wood wastes	Plastic wastes	Metallic wastes, mixed ferrous and non-ferrous	Soils	Other	Total
2011	240,346	94,903	101,810	89,468	29,299	35,281	22,525	84,272	697,904
2012	231,776	96,658	96,701	93,857	34,528	39,082	21,465	71,581	685,648
2013	227,899	99,973	84,907	98,688	38,097	38,313	17,218	64,661	669,756
2014	226,463	100,580	93,290	94,800	39,525	39,316	17,756	72,470	684,201
2015	222,403	102,033	97,158	93,072	41,285	45,025	17,743	84,434	703,152
2016	227,921	106,548	102,974	97,672	48,422	50,935	17,585	69,124	721,181
2017	225,495	104,679	94,037	93,940	51,833	50,275	21,307	63,805	705,370
2018	209,120	107,380	86,984	94,877	56,586	45,796	25,885	65,334	691,962
2019	192,562	106,637	86,622	87,753	57,379	48,162	32,473	70,117	681,704

Figure 6 Scottish Paper and cardboard wastes recycled or reused by WasteDataFlow categories (tonnes) 2013-2019



Notes:
Recycled includes waste recycled or reused and waste composted.
Paper includes the WasteDataFlow category of Books
Data series starts with 2013 as the data source of WasteDataFlow question 100 started in 2013.

- In 2019 there was an increase of 1 thousand tonnes (1%) of Plastic wastes recycled. Recycling of Plastic wastes has increased each year for the last eight years. This increase has been attributed to a variety of sources by local authorities, ranging from changes in waste recycling collections to increased awareness of consumers.

- The amount of Soils recycled increased for the third straight year, with an increase of 7 thousand tonnes (25.5%) between 2018 and 2019. Soils includes waste such as rubble from householder building works.

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

- For 2019, the amount of Scottish household waste composted was 405 thousand tonnes, an increase of 22 thousand tonnes (6%) from 2018 and increase of 73 thousand tonnes (22%) from 2011[5].

- In 2019, three-quarters of the household waste composted was vegetal wastes (75%) with animal and mixed food waste, and wood wastes making up the remainder (24% and 1% respectively). These proportions were similar to 2018. In 2011, the percentage of vegetal waste was higher (95%) and the percentages of animal and mixed food waste and wood waste were lower (5% and 0.1% respectively).

- For 2019, the total tonnage of Vegetal wastes composted was 303 thousand tonnes, an increase of 16 thousand tonnes (5%) from 2018 and reduction of 11 thousand tonnes (3%) from 2011[5]. The amount of vegetal wastes composted has been fairly constant from 2011 through 2016, with annual tonnages composted not varying by more than 5% from the average over this period.

- In contrast, from 2018 to 2019 the total amount of Animal and mixed food waste composted increased by 6 thousand tonnes (7%) and by 80 thousand tonnes (457%) between 2011 to 2019. This is due to the roll out of source segregated food waste collections by local authorities over this period.

[5] The definition of recycling changed in 2014 to exclude non PAS compost. Recycling data for 2011 - 2013 has been modelled under the new definition to provide consistency for the time series.

Figure 7. Scottish household waste composted by material 2011-2019[5]

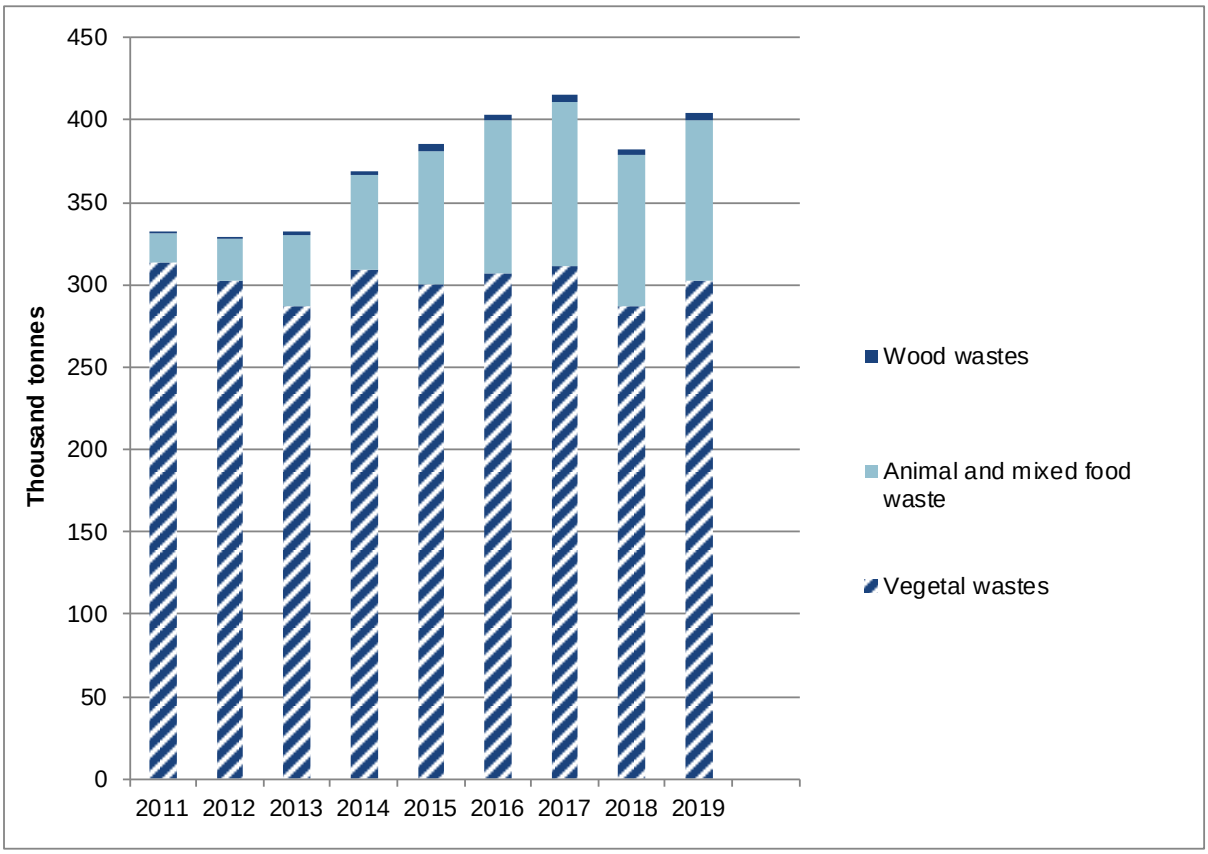


Table 8. Scottish household waste composted by material 2011-2019 (tonnes)[5]

Year	Vegetal wastes	Animal and mixed food waste	Wood wastes	Total
2011	313,948	17,426	466	331,840
2012	302,224	25,319	1,454	328,997
2013	286,885	43,740	1,861	332,486
2014	308,705	57,858	2,477	369,040
2015	300,463	80,951	3,860	385,273
2016	306,681	93,287	3,775	403,743
2017	310,962	99,722	4,514	415,198
2018	287,309	91,076	4,331	382,716
2019	302,986	97,063	4,521	404,571

Other Diversion from Landfill

- Other diversion from landfill is waste material not recycled or landfilled. This includes net waste incinerated, incinerator outputs recycled, and organic material recycled that does not meet quality standards. A full description is given in the glossary.

- For 2019, the total amount of Scottish household waste managed by other diversion from landfill was 577 thousand tonnes, an increase of 278 thousand tonnes (93%) from the 298 thousand tonnes diverted in 2018 and an increase of 454 thousand tonnes (369%) from 2011 (see Figure 8 below)[6].

- In 2019, most of the waste diverted was managed by incineration (79%, 454 thousand tonnes). Waste managed by non-certified composting/digestion increased by 14 thousand tonnes (79%, 6% of waste diverted) between 2018 and 2019, primarily from change of waste management to include composting of organic waste from the residual waste stream at a new central belt waste management facility.

- The 454 thousand tonnes of Scottish household waste diverted from landfill in 2019 through incineration was 233 tonnes (106%) greater than in 2018, and 384 tonnes (547%) greater in 2011, excluding incinerator outputs that are landfilled. In 2019 the total amount of Scottish household waste inputted to incineration facilities was 589 thousand tonnes (data not shown). The increase was primarily due to an increase of 232 thousand tonnes (136%) of Household and similar wastes (see Figure 9 below). Household and similar wastes comprise primarily general refuse, and Mixed and undifferentiated materials comprises primarily rejects following sorting of waste for recycling, and in previous years such wastes would be landfilled.

[6] The definition of waste diverted changed in 2014 to include non PAS compost. Waste diverted for 2011 - 2013 has been modelled under the new definition to provide consistency for the time series.

Figure 8. Breakdown of Scottish household waste that is not recycled or landfilled 2011-20196

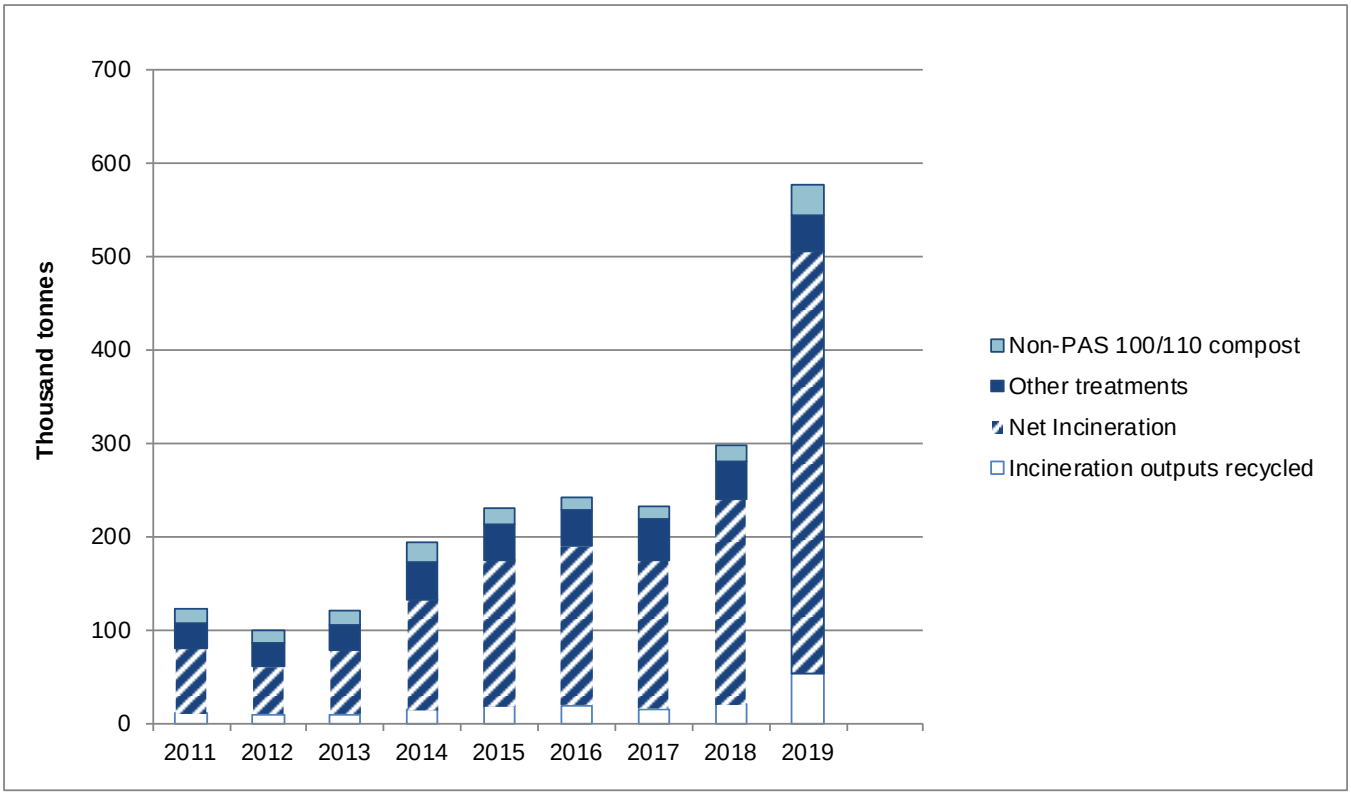
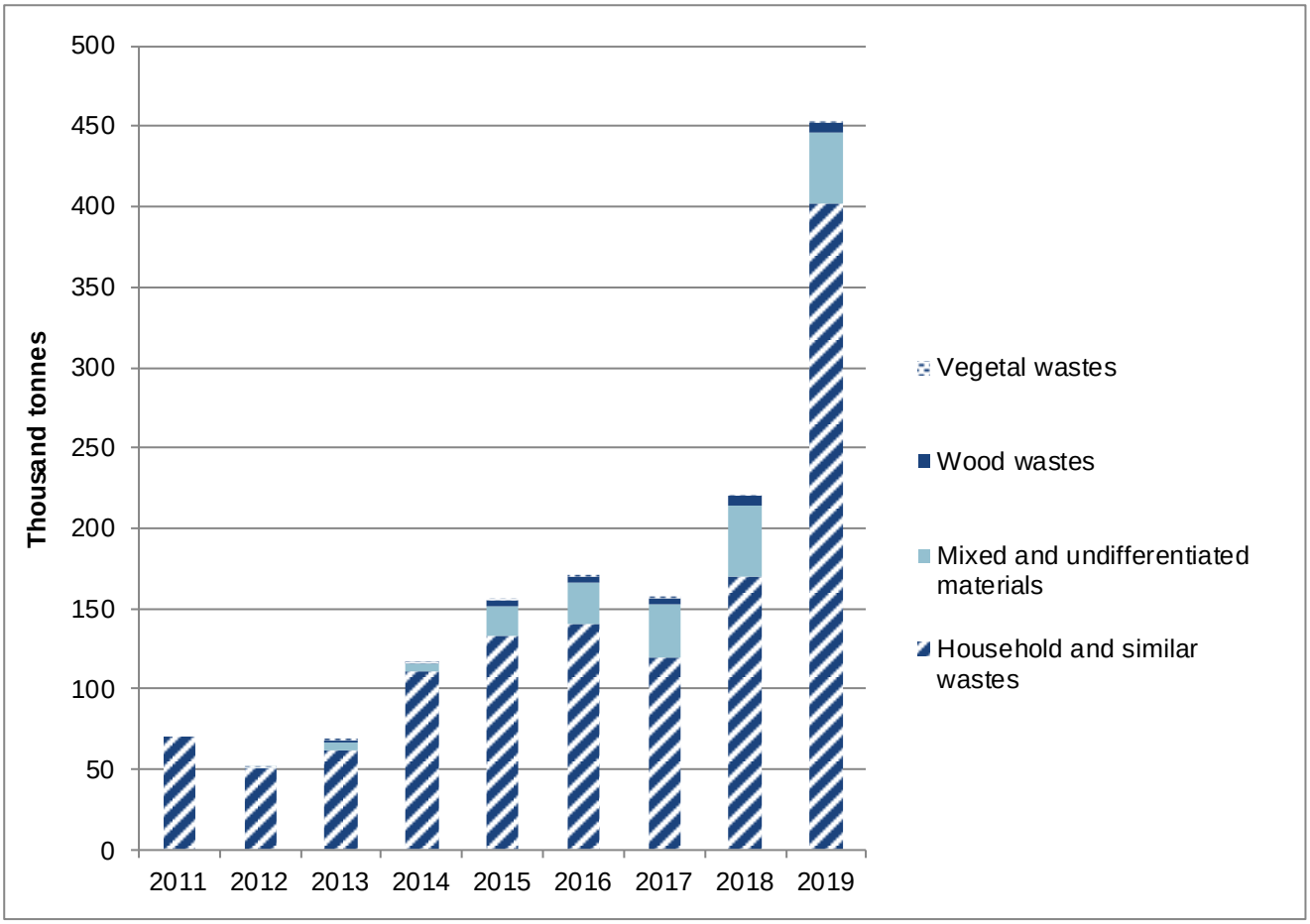


Table 9. Breakdown of Scottish household waste that is not recycled or landfilled 2011-2019 (tonnes)[6]

Year	Net Incineration	Incineration outputs recycled	Other treatments	Non-PAS 100/110 compost	Total
2011	70,134	10,482	27,215	15,269	123,100
2012	51,473	8,979	25,302	14,504	100,259
2013	68,510	9,746	26,256	15,946	120,459
2014	118,678	14,203	40,552	19,713	193,146
2015	157,090	17,504	38,144	16,785	229,522
2016	170,601	18,817	39,366	13,002	241,785
2017	160,271	15,025	44,378	12,864	232,538
2018	220,792	20,143	39,437	17,984	298,356
2019	453,738	52,174	38,776	32,107	576,795

Notes: Incineration outputs recycled include metals and bottom ash recycled.

Figure 9. Scottish household waste diverted from landfill through incineration broken down by waste category 2011-2019



Note: Incineration is net incineration.

Table 10. Scottish household waste diverted from landfill through incineration broken down by waste category 2011-2019

Year	Household and similar wastes	Mixed and undifferentiated materials	Wood wastes	Vegetal wastes	Other	Total
2011	70,134	0	0	0	0	70,134
2012	50,541	429	0	502	0	51,473
2013	62,298	4,621	694	898	0	68,510
2014	111,587	4,131	534	496	1,930	118,678
2015	133,418	17,803	4,514	406	948	157,090
2016	140,699	25,198	4,094	515	95	170,601
2017	119,335	33,980	3,476	660	2,819	160,271
2018	170,008	44,019	6,005	525	235	220,792
2019	401,664	44,575	5,550	621	1,327	453,738

Note: Incineration is net incineration.

Waste Landfilled

- The amount of household waste landfilled in 2019 was 0.76 million tonnes, a reduction of 273 thousand tonnes (26%) from 2018, and a reduction of 696 thousand tonnes (48%) from 2011. This is the eighth consecutive decrease in household waste landfilled. This decrease is primarily due to more waste being diverted from landfill to incineration and in part less waste being generated.

- For 2019, household waste landfilled as a percentage of waste generated was 31.3%, a decrease of 11.6 percentage points from 2018 and a decrease of 24.5 percentage points from 2011.

- In 2019, 86% (0.65 million tonnes) of the total household waste landfilled comprised Household and similar wastes (see Figure 10 below). Combustion wastes comprised just over ten percent (11%, 83 thousand tonnes) of waste landfilled in 2019, an increase of 39 thousand tonnes (89%) from 2018 and increase of 72 thousand tonnes (686%) from 2011. The increase in landfilling of Combustion wastes is consistent with the increase in incineration over the same period.

Figure 10. Scottish household waste landfilled by waste category 2011-2019

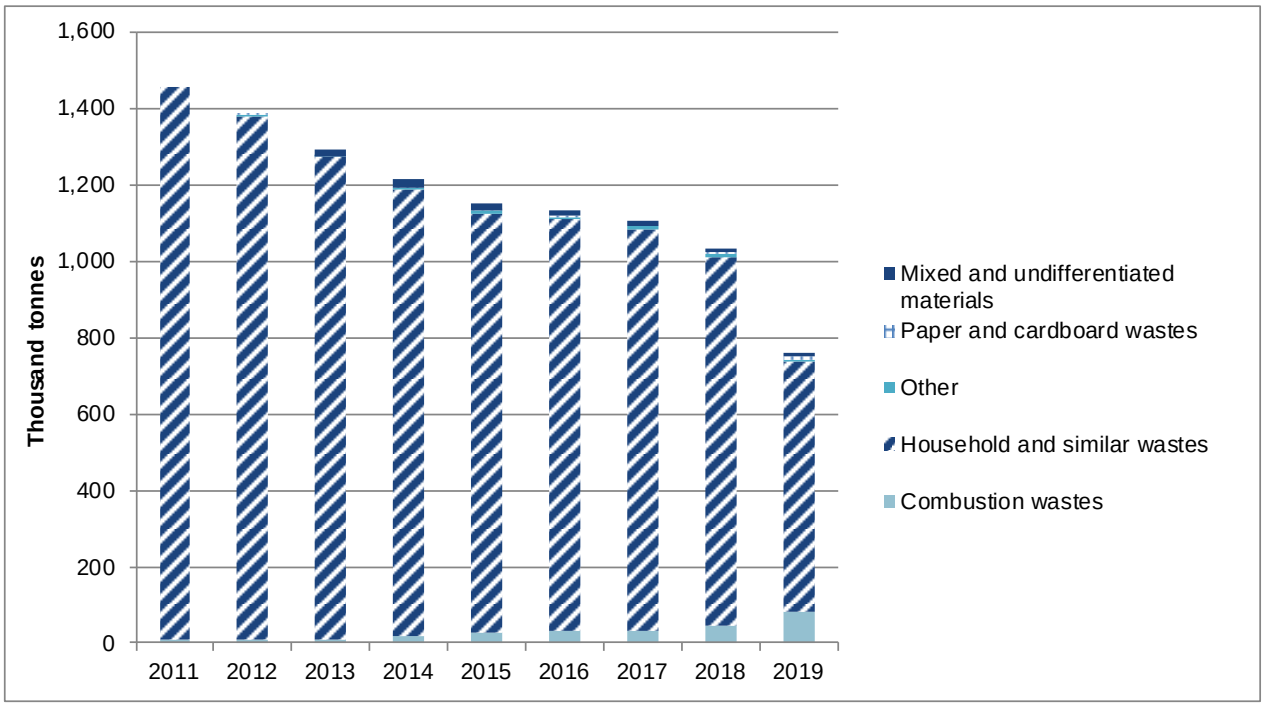


Table 11. Scottish household waste landfilled by waste category 2011-2019 (tonnes)

Year	Household and similar wastes	Combustion wastes	Mixed and undifferentiated materials	Paper and cardboard wastes	Other	Total
2011	1,443,265	10,524	0	0	0	1,453,789
2012	1,372,426	8,050	0	8	1,669	1,382,153
2013	1,264,024	8,276	15,256	37	3,236	1,290,829
2014	1,168,571	19,596	18,905	119	5,288	1,212,479
2015	1,098,473	27,324	17,470	283	6,987	1,150,537
2016	1,076,562	31,956	14,630	663	7,996	1,131,806
2017	1,050,454	31,882	14,756	1,155	8,712	1,106,959
2018	968,043	43,863	8,035	4,962	6,565	1,031,467
2019	653,128	82,697	8,052	6,286	7,978	758,141

Carbon impacts of Scottish household waste

- The whole of life carbon impact of household waste generated and managed in 2019 was 5.7 million TCO2e. This was a decrease of 94 thousand TCO2e (2%) from 2018, and a reduction of 1.1 million TCO2e (16%) since 2011 (see Figure 11 below).

- The amount of waste generated by Scottish households was 7% below 2011 levels (see Page 5). In contrast, the carbon impact of Scottish household waste generated and managed in 2019 was 16% (1.1 TCO2e) below the 2011 level.

- The lifecycle impact of a tonne of household waste (TCO2e/tonnes of waste generated) has been steadily declining since 2011, with a 10% decrease from 2011 to 2019. This was largely a result of improved recycling rates, particularly for high impact waste materials, as well as reduction in waste generated and reduced landfilling of biodegradable waste.

Figure 11. Carbon impact of Scottish waste generated and managed 2011-2019 (TCO2e)

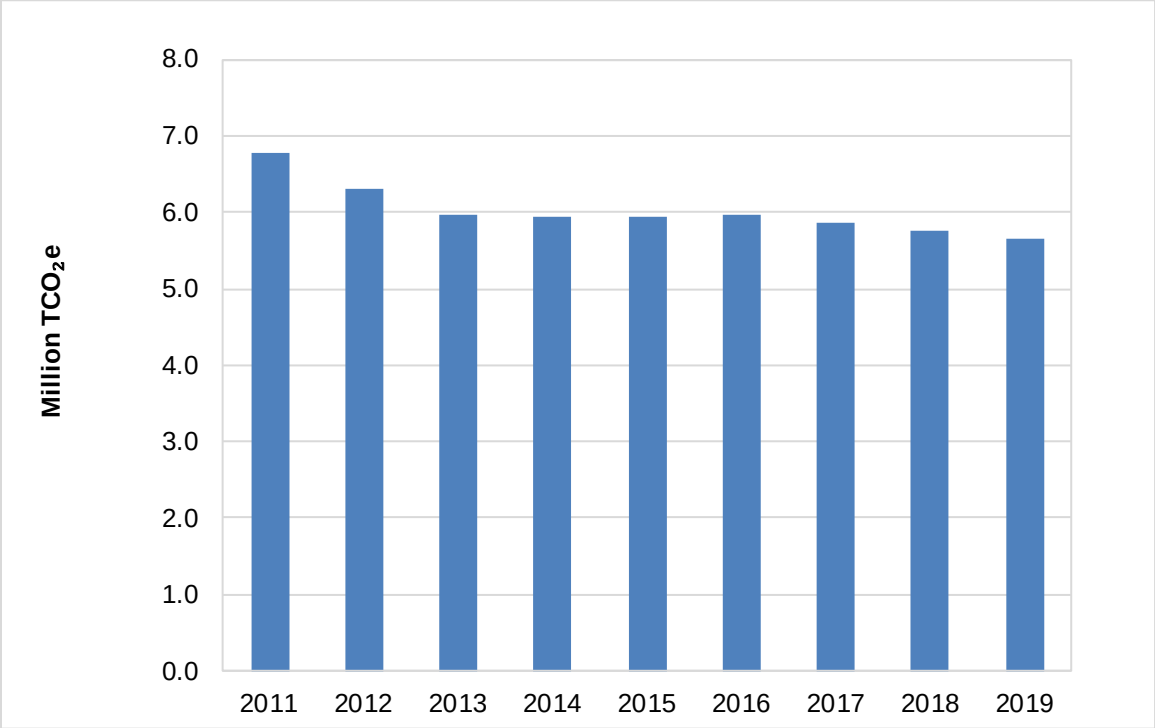


Table 12. Carbon impact of Scottish waste generated and managed 2011-2019 (TCO2e)

Year	TCO_2e
2011	6,767,740
2012	6,304,982
2013	5,977,863
2014	5,946,619
2015	5,937,542
2016	5,971,329
2017	5,864,215
2018	5,759,373
2019	5,664,990

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

User Statement

Data on Scottish 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) and used to fulfil the reporting requirements of the Waste Statistics Regulation (2002/2150/EC). The data are also 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.

There were no revisions to 2018 local authority waste generated or managed data since the last publication. There have been revisions to the 2018 carbon metric (see

Table 13 below). The revision is due to a minor update to the waste composition data which is used to estimate the carbon metric. For further details on the carbon metric methodology, refer to the Household waste quality report on SEPA's web site.

Table 13. Revisions to 2018 Scottish household waste carbon metric data[7]

Local Authority	TCO_2	
	Original	Revised
Aberdeen City	198,518	198,520
Aberdeenshire	308,193	308,148
Angus	112,134	112,142
Argyll and Bute	119,149	119,134
City of Edinburgh	492,832	492,764
Clackmannanshire	53,571	53,564
Dumfries and Galloway	227,001	226,978
Dundee City	148,299	148,310
East Ayrshire	118,087	118,073
East Dunbartonshire	111,395	111,395
East Lothian	110,686	110,672
East Renfrewshire	89,068	89,058
Falkirk	154,954	154,935
Fife	339,867	339,825
Glasgow City	733,950	733,838
Highland	317,214	317,171
Inverclyde	57,554	57,547
Midlothian	91,870	91,864
Moray	91,661	91,647
Na h-Eileanan Siar	37,897	37,891
North Ayrshire	141,057	141,042
North Lanarkshire	353,977	353,941
Orkney Islands	27,128	27,128
Perth and Kinross	140,239	140,218
Renfrewshire	189,505	189,500
Scottish Borders	134,140	134,118
Shetland Islands	31,049	31,052
South Ayrshire	124,772	124,757
South Lanarkshire	361,238	361,195
Stirling	88,173	88,160
West Dunbartonshire	102,739	102,725
West Lothian	152,069	152,061
Total Scotland	**5,759,986**	**5,759,373**

[7] Cells shaded in grey represent revisions amounting to greater than 50 TCO2e

Methodology

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

From 2014, composted wastes that did not reach the quality standards set by PAS 100/110 were accounted for as other wastes diverted from landfill and not as wastes composted, except where waste was processed at a new composting or anaerobic digestion site and the site indicated they had applied for and were working toward PAS compliance, in which case a 12-month grace period was applied for the purpose of including of wastes composted in household recycling data. In 2019 there were no new sites that met this criterion.

As we move further away from the old composting measure, it becomes less important and a back series is helpful for understanding changes over a long period of time. For 2011 – 2013 the waste that met the PAS 100/110 standard was modelled to produce a back series. For each authority, the proportion of waste that was sent to a PAS 100/110 facility on average in 2014-2015 was applied to the waste sent for composting for each of the years 2011, 2012 and 2013. For example, if an authority sent 60% of its waste to a PAS 100/110 facility in 2014-15, then for the back series years of 2011, 2012 and 2013, 60% of waste sent for composting were counted as recycled. The non PAS 100/110 tonnes were allocated to the "Other Diversion" category.

Recycling figures are calculated according to Scotland's national recycling rate methodology. The methodology differs to the Waste from households measure published by Defra in its UK Statistics on waste publication. The differences are summarised in Table 14 below.

Table 14. Comparison of Scotland national recycling measure vs UK waste from households measure (key differences)

Measure	Scotland national method	UK waste from households
Include waste sent to non PAS compost facility	✗	✓
Include construction waste from householders	✓	✗
Include metals from incineration recycled	✗	✓

Further details on the methodology used to produce the figures are provided in the "Household waste quality report" on SEPA's web site.

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/digestate benchmark that specifies the minimum requirements for the process of composting/anaerobic digestion, the selection of material from which compost/digestate is made, and standards for the compost/digestate 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/digestate in Scotland became Scottish Government policy in 2011, with 2014 being the first year it was applied to the household official statistics.

Carbon Impact – a measure of the whole-life carbon impacts of waste, from resource extraction and manufacturing emissions, right through to waste management emissions, regardless of where in the world these impacts occur. The carbon impact of waste was developed by Zero Waste Scotland (https://www.zerowastescotland.org.uk/content/what-carbon-metric).

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).

Landfill rate – waste landfilled as a percentage of all waste generated. Note that total waste generated does not equal total waste managed due to stockpiled waste, which is counted in the generation figures and will be included in the managed figures in the year it is sent to final management.

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/digestion of waste to PAS 100/110 and non PAS 100/110 compost/digestate 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/digested that has not reached the quality standards set by PAS 100/110 and is not landfilled.

Recycling rate – waste recycled as a percentage of all waste generated. Note that total waste generated does not equal total waste managed due to stockpiled waste, which is counted in the generation figures and will be included in the managed figures in the year it is sent to final management.

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

TCO2e – tonnes of carbon dioxide equivalent, which is a measure that allows the comparison of greenhouse gases relative to one unit of CO_2.

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 a landfill site 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 facility. 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.