

## Scottish Household waste – summary data – 2020

This release shows the 2020 calendar year summary of household waste 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

#### 2020

#### Scottish Household waste – 2020 calendar year

- The total amount of household waste generated in Scotland was 2.4 million tonnes (Table 1) in 2020, an increase of 7,000 tonnes (0.3%) from 2019.
- For 2020, the Scottish household waste recycling rate<sup>1</sup> was 42.0% a decrease of 2.9 percentage points from the 44.9% (Table 1) rate achieved in 2019. The amount of household waste recycled between in 2019 and 2020 decreased by 66,000 tonnes to 1.02 million tonnes.
- Recycling has likely been impacted by the COVID 19 lockdown and other restrictions, with both the amount of waste recycled and the waste recycling rate being the lowest recorded since 2013. There was a reduction in the recycling of some material categories such as Construction and soils<sup>2</sup> (26,000 tonnes, 14.8%) and in the composting of Vegetal wastes (17,000 tonnes, 5.7%), but an increase in the recycling for other materials such as Glass wastes (15,000 tonnes, 14.4%) and Plastic wastes (8.3%, 5,000 tonnes).
- The amount of Scottish household waste landfilled in 2020 was 660,000 tonnes, a reduction of 98,000 tonnes (13.0%) from 2019, and a reduction of 794,000 tonnes (54.6%) since 2011. This is the ninth consecutive decrease in household waste landfilled.
- For 2020, the total amount of Scottish household waste managed by other diversion from landfill was 748,000 tonnes, an increase of 171,000 tonnes (29.7%) from 2019. Most of the diverted waste in 2020 was managed by incineration (606,000 tonnes, 81.0%), an increase of 152,000 tonnes (33.6%) from in 2019.
- The carbon impact of Scottish household waste generated and managed in 2020 was 5.8 million tonnes of carbon dioxide equivalent (TCO<sub>2</sub>e, Table 1), which is the equivalent to 1.07 TCO<sub>2</sub>e per person (Table 2). This was an increase of 179,000 TCO<sub>2</sub>e (3.2%) from 2019, and a reduction of 0.92 million TCO<sub>2</sub>e from 2011. The increase in 2020 is mainly due to carbon impacts associated with an increase in the generation of the waste category Household and similar wastes by 79,000 tonnes (5.9%) in 2020<sup>3</sup>.

<sup>1</sup> 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 refer to the Methodology section on page 19.

<sup>2</sup> For intelligibility, some statistical categories have been combined. For further information refer to the Methodology section on page 19.

<sup>3</sup> Data not shown.

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Summary data tables are also available to download in Excel format on [SEPA's web site](#).

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<https://code.statisticsauthority.gov.uk/the-code/>

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**Table 1. Scottish Household waste generated and managed in 2020 - summary data<sup>4</sup>**

Local Authority	Generated (tonnes)	Recycled (tonnes)	Recycled (%)	Other diversion from landfill (tonnes)	Other diversion from Landfill (%)	Landfilled (tonnes)	Landfilled (%)	Carbon Impact (TCO2e)	2019 Recycled (%)
Aberdeen City	95,919	43,778	45.6	29,782	31.0	22,359	23.3	217,678	49.9
Aberdeenshire	114,951	46,942	40.8	2,505	2.2	65,503	57.0	306,108	44.0
Angus	52,166	30,226	57.9	18,924	36.3	3,016	5.8	102,591	59.1
Argyll and Bute	42,567	13,262	31.2	6,963	16.4	22,342	52.5	115,131	38.6
City of Edinburgh	201,202	74,467	37.0	120,302	59.8	6,433	3.2	498,919	38.6
Clackmannanshire	23,221	11,296	48.6	2	0.0	11,923	51.3	55,171	55.4
Dumfries and Galloway	65,039	19,581	30.1	33,519	51.5	11,938	18.4	188,732	29.5
Dundee City	63,609	22,056	34.7	36,410	57.2	5,143	8.1	148,215	38.4
East Ayrshire	52,305	21,521	41.1	5,657	10.8	25,126	48.0	130,933	53.2
East Dunbartonshire	54,573	27,776	50.9	19,545	35.8	7,252	13.3	118,006	55.3
East Lothian	51,755	27,137	52.4	19,669	38.0	4,950	9.6	111,532	55.3
East Renfrewshire	44,360	25,098	56.6	14,384	32.4	4,878	11.0	89,208	67.8
Falkirk	77,069	39,438	51.2	3,778	4.9	33,853	43.9	166,909	53.0
Fife	156,151	68,219	43.7	14,633	9.4	73,299	46.9	356,220	44.5
Glasgow City	265,910	78,816	29.6	110,268	41.5	76,826	28.9	788,987	24.7
Highland	109,109	38,909	35.7	5,639	5.2	64,560	59.2	282,807	41.3
Inverclyde	29,009	10,760	37.1	2,030	7.0	16,148	55.7	75,647	54.0
Midlothian	42,153	19,938	47.3	17,332	41.1	4,838	11.5	97,890	50.8
Moray	41,520	22,792	54.9	0	0.0	18,729	45.1	86,520	59.0
Na h-Eileanan Siar	13,146	4,553	34.6	40	0.3	8,553	65.1	34,628	20.5
North Ayrshire	61,773	32,177	52.1	24,797	40.1	4,800	7.8	125,160	56.3
North Lanarkshire	156,611	61,715	39.4	76,849	49.1	18,048	11.5	365,571	40.3
Orkney Islands	8,481	1,985	23.4	3,680	43.4	2,157	25.4	20,163	18.8
Perth and Kinross	77,535	38,312	49.4	5,563	7.2	33,661	43.4	152,742	52.7
Renfrewshire	84,011	41,262	49.1	32,593	38.8	10,156	12.1	178,748	53.0
Scottish Borders	50,716	26,771	52.8	23,808	46.9	136	0.3	119,080	49.2
Shetland Islands	9,087	1,674	18.4	5,235	57.6	2,179	24.0	26,900	17.1
South Ayrshire	56,376	31,202	55.3	5,469	9.7	19,706	35.0	117,465	57.7
South Lanarkshire	153,658	62,198	40.5	64,168	41.8	27,292	17.8	355,092	46.4
Stirling	44,505	21,295	47.8	295	0.7	22,919	51.5	97,347	54.8
West Dunbartonshire	44,352	16,337	36.8	4,977	11.2	23,038	51.9	115,416	44.8
West Lothian	86,217	38,786	45.0	39,405	45.7	8,028	9.3	198,740	58.2
Total Scotland	2,429,057	1,020,278	42.0	748,222	30.8	659,789	27.2	5,844,256	44.9

<sup>4</sup> 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 2020 - summary data<sup>5</sup>**

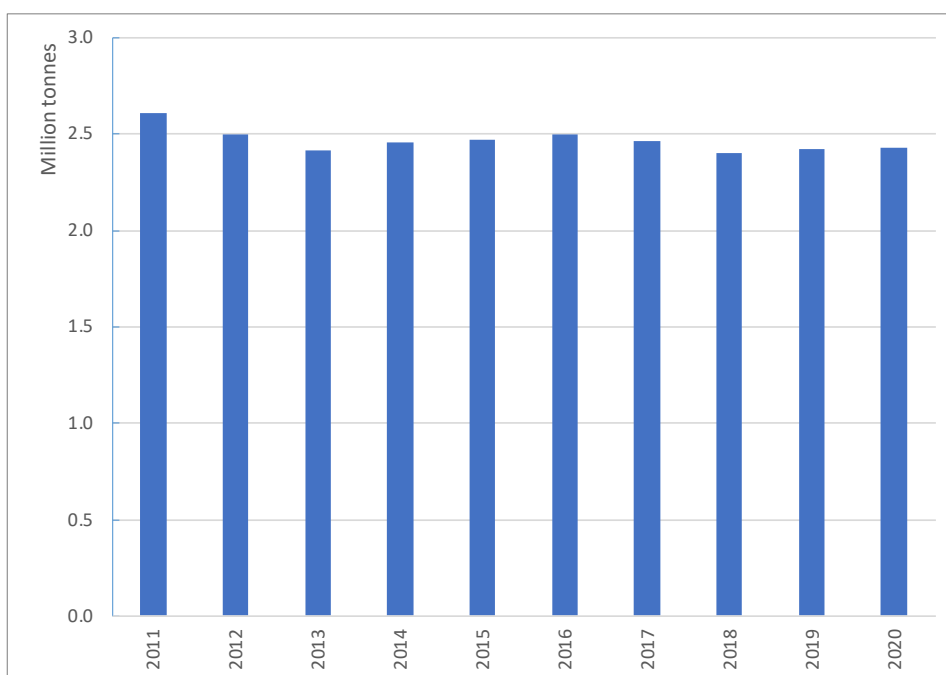
Local Authority	Generated (tonnes per person)	Recycled (tonnes per person)	Other diversion from landfill (tonnes per person)	Landfilled (tonnes per person)	Carbon Impact (TCO2e per person)
Aberdeen City	0.42	0.19	0.13	0.10	0.95
Aberdeenshire	0.44	0.18	0.01	0.25	1.17
Angus	0.45	0.26	0.16	0.03	0.89
Argyll and Bute	0.50	0.16	0.08	0.26	1.35
City of Edinburgh	0.38	0.14	0.23	0.01	0.95
Clackmannanshire	0.45	0.22	0.00	0.23	1.08
Dumfries and Galloway	0.44	0.13	0.23	0.08	1.27
Dundee City	0.43	0.15	0.24	0.03	1.00
East Ayrshire	0.43	0.18	0.05	0.21	1.08
East Dunbartonshire	0.50	0.26	0.18	0.07	1.09
East Lothian	0.48	0.25	0.18	0.05	1.03
East Renfrewshire	0.46	0.26	0.15	0.05	0.93
Falkirk	0.48	0.25	0.02	0.21	1.04
Fife	0.42	0.18	0.04	0.20	0.95
Glasgow City	0.42	0.12	0.17	0.12	1.24
Highland	0.46	0.17	0.02	0.27	1.20
Inverclyde	0.38	0.14	0.03	0.21	0.98
Midlothian	0.45	0.21	0.19	0.05	1.05
Moray	0.43	0.24	0.00	0.20	0.90
Na h-Eileanan Siar	0.50	0.17	0.00	0.32	1.31
North Ayrshire	0.46	0.24	0.18	0.04	0.93
North Lanarkshire	0.46	0.18	0.23	0.05	1.07
Orkney Islands	0.38	0.09	0.16	0.10	0.90
Perth and Kinross	0.51	0.25	0.04	0.22	1.01
Renfrewshire	0.47	0.23	0.18	0.06	1.00
Scottish Borders	0.44	0.23	0.21	0.00	1.03
Shetland Islands	0.40	0.07	0.23	0.10	1.18
South Ayrshire	0.50	0.28	0.05	0.18	1.05
South Lanarkshire	0.48	0.19	0.20	0.09	1.11
Stirling	0.47	0.23	0.00	0.24	1.03
West Dunbartonshire	0.50	0.18	0.06	0.26	1.31
West Lothian	0.47	0.21	0.21	0.04	1.08
<b>Total Scotland</b>	<b>0.44</b>	<b>0.19</b>	<b>0.14</b>	<b>0.12</b>	<b>1.07</b>

<sup>5</sup> 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 2020 was 2.4 million tonnes, an increase of 7,000 tonnes (0.3%) from in 2019. This follows a 17,000 tonne (0.7%) decrease between 2018 and in 2019. Overall there has been a general fluctuation of waste generated between 2.4 and 2.5 million tonnes since 2012 (see Figure 1 below).

**Figure 1. Household waste generated in Scotland 2011— 2020.**



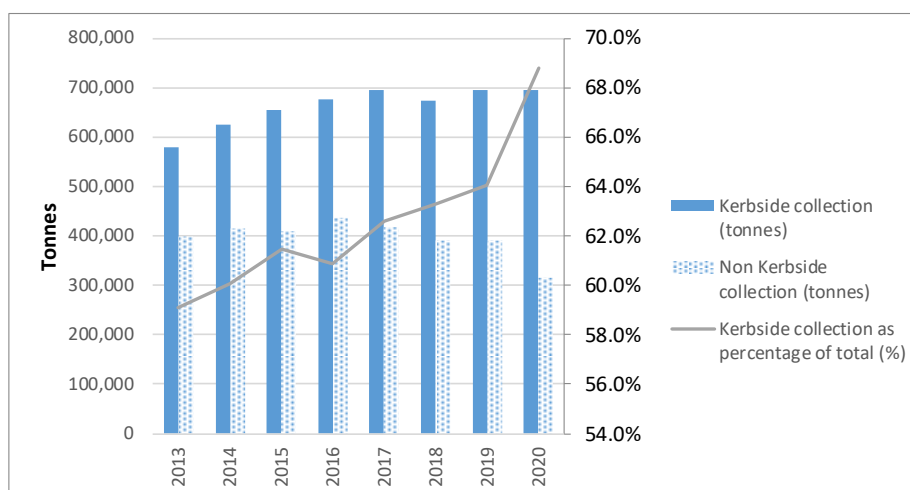
**Table 3. Household waste generated in Scotland 2011— 2020**

Year	Waste generated (tonnes)
2011	2,606,759
2012	2,500,995
2013	2,412,630
2014	2,459,557
2015	2,468,781
2016	2,498,978
2017	2,460,820
2018	2,405,246
2019	2,421,790
2020	2,429,057

- The total amount of segregated recyclate collected for recycling via kerbside collections in 2020 was 697,000 tonnes, an increase of 600 tonnes (0.1%) from 2019. Although this was a relatively small increase, the amount of kerbside waste collected as a proportion of total segregated recyclate collected was 68.8%, an increase of 4.7 percentage units from 2019 (see Figure 2 below).

This increase is due to an overall reduction in the amount of non kerbside segregated waste collected for recycling by other methods, such as household recycling centres. This is likely due to the closure of household waste recycling centres by many local authorities in 2020 due to COVID-19 restrictions.

**Figure 2. Scottish segregated recyclate collected 2011 - 2020 (tonnes)**



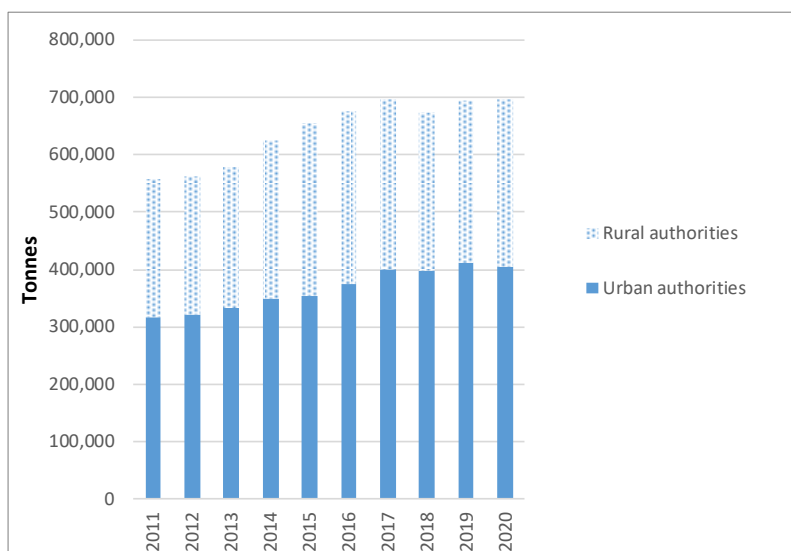
**Table 4. Scottish segregated recyclate collected 2011 - 2020 (tonnes)**

Year	Kerbside collection (tonnes)	Non Kerbside collection (tonnes)	Total (tonnes)	Kerbside collection as percentage of total (%)
2013	578,096	400,194	978,290	59.1%
2014	624,257	415,461	1,039,718	60.0%
2015	655,866	410,820	1,066,685	61.5%
2016	676,979	435,485	1,112,464	60.9%
2017	696,414	416,542	1,112,956	62.6%
2018	674,830	390,916	1,065,746	63.3%
2019	695,937	390,359	1,086,297	64.1%
2020	696,549	315,901	1,012,450	68.8%

- The change in kerbside collection was more pronounced for rural authorities<sup>6</sup> (an increase of 6,100 tonnes, 2.1%) compared to urban authorities (a decrease of 5,500 tonnes, 1.3%, see Figure 3 below).

<sup>6</sup> Urban authorities are defined as those with greater than 75% population residing in "Large Urban Areas" or "Other Urban Areas" as listed in the [Scottish Government Urban Rural Classification 2016](#).

**Figure 3. Scottish segregated recyclate collected 2011 - 2020 (tonnes)**

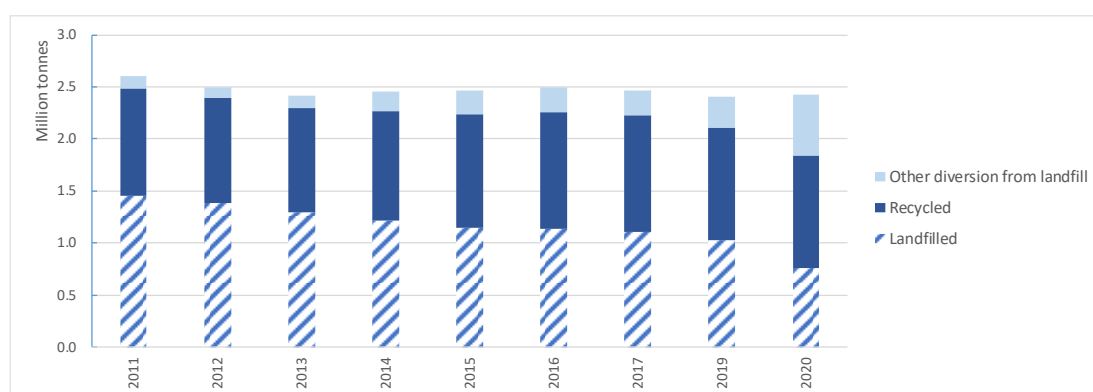


**Table 5. Scottish segregated recyclate collected at the kerbside 2011 - 2020 (tonnes)**

Year	Urban authorities*	Rural authorities	Total
<b>2011</b>	317,141	241,294	<b>558,435</b>
<b>2012</b>	320,639	242,774	<b>563,413</b>
<b>2013</b>	332,139	245,958	<b>578,096</b>
<b>2014</b>	349,189	275,068	<b>624,257</b>
<b>2015</b>	353,069	302,797	<b>655,866</b>
<b>2016</b>	375,525	301,453	<b>676,979</b>
<b>2017</b>	399,300	297,114	<b>696,414</b>
<b>2018</b>	398,718	276,113	<b>674,830</b>
<b>2019</b>	410,790	285,147	<b>695,937</b>
<b>2020</b>	405,288	291,261	<b>696,549</b>

\*Urban authorities are defined as those with greater than 75% population reside in "Large Urban Areas" or "Other Urban Areas" as listed in the [Scottish Government Urban Rural Classification 2016](#)

**Figure 4. . Household waste managed in Scotland 2011— 2020**



**Table 6. Household waste managed in Scotland 2011 - 2020**

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	2,413,529
2014	1,212,479	1,053,240	193,146	2,458,865
2015	1,150,537	1,088,426	229,522	2,468,484
2016	1,131,806	1,124,924	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	2,404,500
2019	758,141	1,086,274	576,794	2,421,209
2020	659,789	1,020,278	748,222	2,428,290

\*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

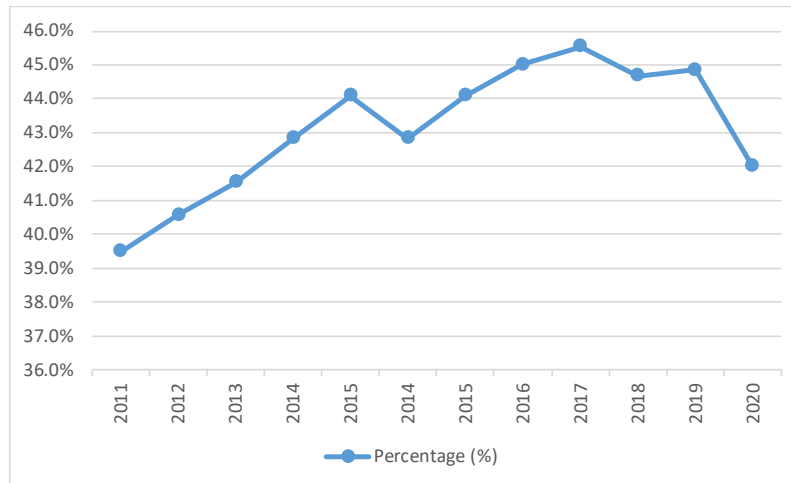
## Waste Recycled

- Waste recycled includes waste reused, recycled or composted. A full description of recycling is given in the glossary.
- For 2020, the Scottish household waste recycling rate was 42.0% (see Figure 5 below), a decrease of 2.9 percentage points from the 44.9% recycling rate achieved in in 2019, and an increase of 2.5 percentage points from the 39.5% achieved in 2011<sup>7</sup>.
- For 2020, the total tonnage of Scottish household waste recycled was 1.02 million tonnes, a decrease of 66,000 tonnes (6.1%) from 2019 and 9,000 tonnes (0.9%) less than the 1.03 million tonnes of waste recycled in 2011<sup>7</sup>.

<sup>7</sup> 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 5. Scottish household waste recycling rates 2011-2020<sup>7</sup>**



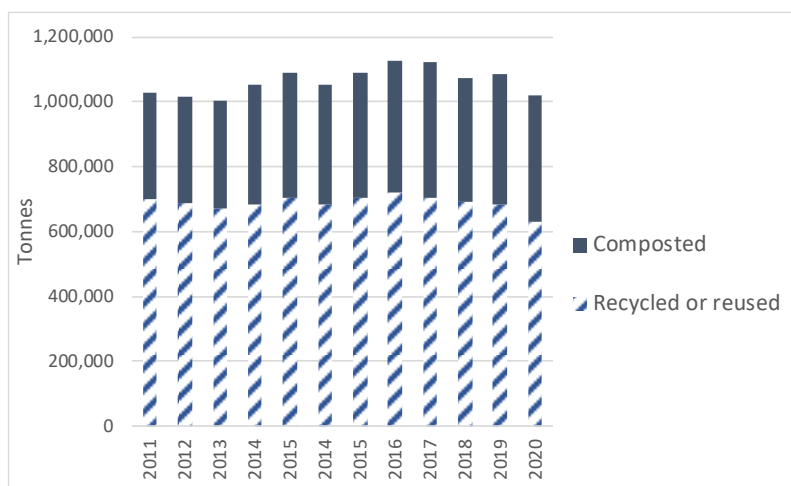
Note: Recycled includes waste recycled or reused and waste composted.

**Table 7. Scottish household waste recycling rates 2011-2020<sup>7</sup>**

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%
2020	42.0%

- In 2020, household waste recycled and reused comprised 632,000 tonnes (61.9%) of the 1.02 million tonnes of household waste recycled, with household waste composted contributing the remaining 388,000 (38.1%) (see Figure 6 below).

**Figure 6. Breakdown of Scottish household waste recycled 2011-2020**



**Table 8. Breakdown of Scottish household waste recycled 2011-2020**

Year	Recycled or 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	1,053,240
2015	703,152	385,273	1,088,426
2016	721,181	403,743	1,124,924
2017	705,370	415,198	1,120,568
2018	691,961	382,716	1,074,677
2019	681,703	404,571	1,086,274
2020	631,894	388,384	1,020,278

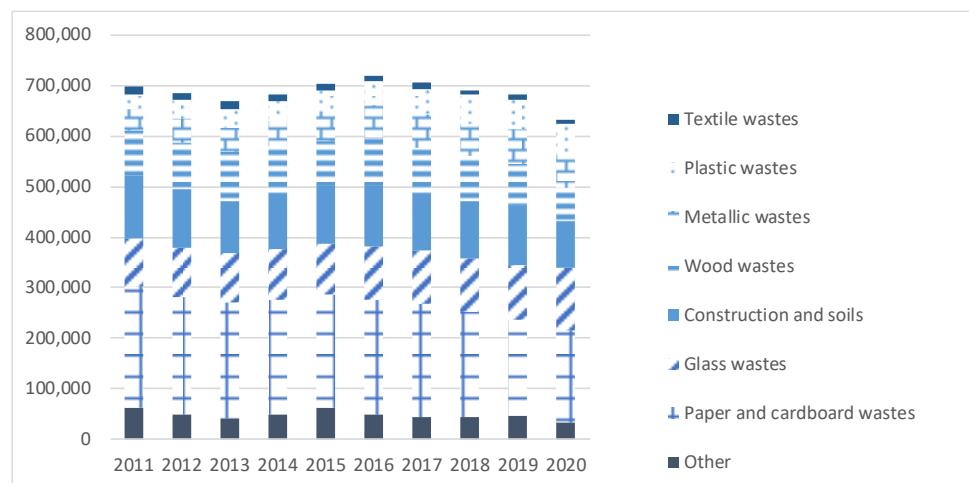
- The 632,000 tonnes of household waste recycled or reused in 2020 was a decrease of 50,000 tonnes (7.3%) compared with 2019 and a decrease of 66,000 tonnes (9.5%) compared with 2011. The amount of waste recycled in 2020 is a significant drop from 2019, and both the amount of waste recycled and the waste recycling rate is the lowest recorded since 2013.
- Of the seven material categories that comprise the highest amount of waste recycled (see Figure 7 below), Construction and soils waste show the largest drop compared with 2019 (reduction of 26,000 tonnes, 21.5%) followed by Wood wastes (reduction of 18,000 tonnes, 21.5%). This reduction may be due partly to a reduction in the amount of larger scale home improvement projects, resulting from COVID lockdown factors such as inability to source raw materials for home improvement projects. This is consistent with a reduction in the sale of ready-mixed concrete (down by 30.5% Q2 2020 compared with Q1 2020) and sand and gravel (decreased by 36.5% in Q2 2020 compared with Q1 2020)<sup>8</sup>. Additionally, home improvement activities may have been impacted by ability to remove waste, with most local authorities indicating that

<sup>8</sup> [Monthly Statistics of Building Materials and Components](#), September 2020.

their household waste recycling centres were closed for several months during 2020 in response to the COVID pandemic.

- There were also increases for some waste material categories recycled (see Figure 7 below). Glass wastes recycled was 121,996 tonnes, an increase of 15,000 tonnes (28.5%) from 2019 and the 62,151 tonnes of Plastic wastes recycled was an increase of 5,000 tonnes (8.3%). Several authorities have attributed this change to COVID-19 related lockdowns, with glass and plastic kerbside collection tonnages and collection banks increasing with the increase in working from home practices and furlough.
- The largest material category of household waste recycled or reused in 2020 was Paper and cardboard wastes (182,000 tonnes, 28.9%, see Table 7 below). However, there is a general downward trend of Paper and cardboard wastes recycled, with a reduction of 10,000 tonnes (5.3%) between 2019 and 2020 and a reduction of 58,000 tonnes (24.1%) from 2011.
- The WasteDataFlow categories that contribute to Paper and cardboard wastes recycled, as depicted in Figure 8 below, indicate that segregated paper waste has been in continual decline since 2013, 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.

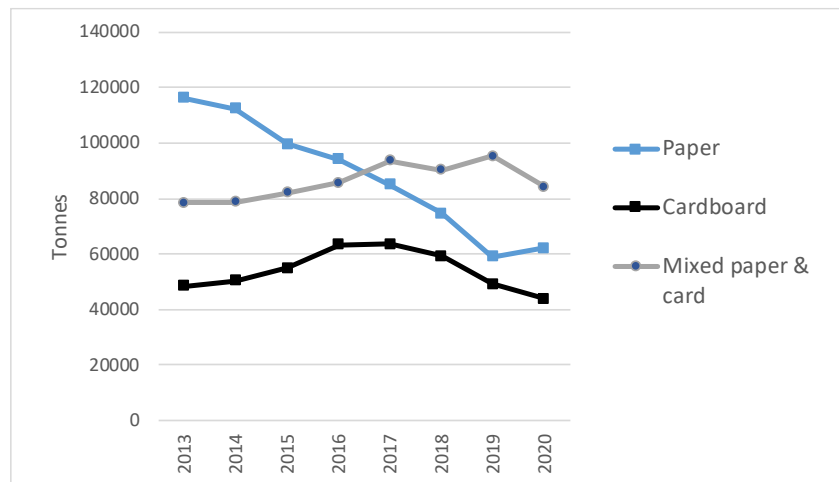
**Figure 7. Scottish household waste recycled or reused by material 2011-2020**



**Table 9. Scottish Household waste recycled or reused by material 2011-- 2020 (tonnes)**

Year	Paper and cardboard wastes	Glass wastes	Construction and soils	Wood wastes	Metallic wastes	Plastic wastes	Textile wastes	Other	Total
2011	240,346	94,903	124,335	89,002	43,257	29,299	14,589	62,173	<b>697,904</b>
2012	231,776	96,658	118,167	92,403	47,711	34,528	14,474	49,933	<b>685,648</b>
2013	227,899	99,973	102,126	96,827	48,027	38,097	15,009	41,798	<b>669,756</b>
2014	226,463	100,580	111,046	92,324	51,127	39,525	13,578	49,557	<b>684,201</b>
2015	222,403	102,033	114,901	89,212	58,117	41,285	12,202	62,999	<b>703,152</b>
2016	227,921	106,548	120,559	93,897	64,617	48,422	11,364	47,853	<b>721,181</b>
2017	225,495	104,679	115,345	89,426	65,053	51,833	10,695	42,846	<b>705,370</b>
2018	209,120	107,380	112,869	90,547	63,157	56,586	10,010	42,293	<b>691,961</b>
2019	192,562	106,637	119,095	83,232	67,880	57,379	9,854	45,066	<b>681,703</b>
2020	182,309	121,996	93,485	65,320	64,334	62,151	8,326	33,974	<b>631,894</b>

**Figure 8. Scottish Paper and cardboard wastes recycled or reused by WasteDataFlow categories (tonnes) 2013 – 2020**



**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.

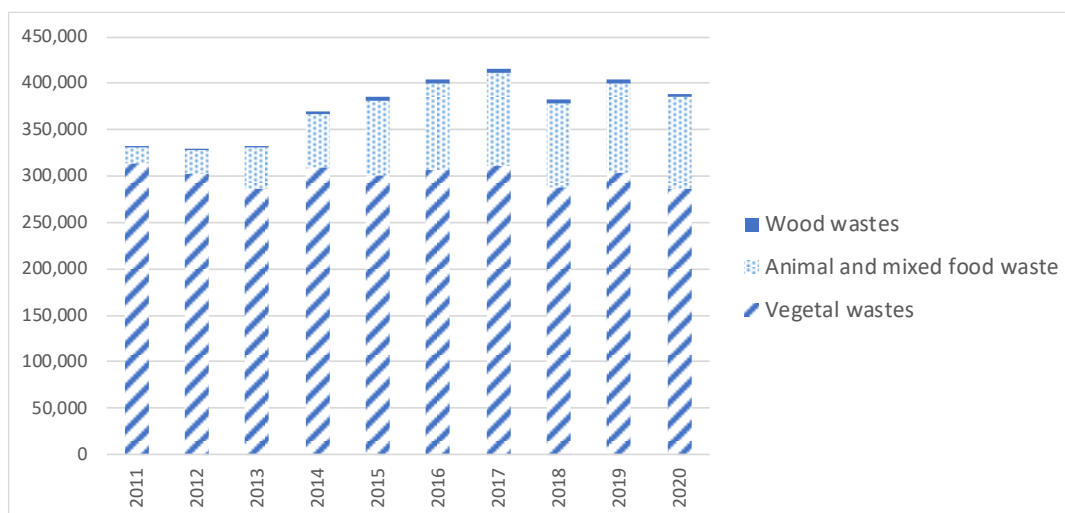
### Waste Composted

- Waste composted is waste recycled by biological treatment through composting at a composting plant or through digestion at an anaerobic digestion facility.
- For 2020, the amount of Scottish household waste composted was 388,000 tonnes, a decrease of 16,000 tonnes (4.0%) from in 2019. This was an increase of 57,000 tonnes (17.0%) from 2011<sup>9</sup>.
- In 2020, just under three-quarters of the household waste composted was vegetal wastes (73.6%) with animal and mixed food waste, and wood wastes making up the remainder (25.6% and 0.8% respectively, see Figure 9 below). These proportions were similar in 2019. In 2011, however, the percentage of vegetal waste was higher (94.6%) and the percentages of animal and mixed food waste and wood waste were lower (5.3% and 0.14% respectively).
- For 2020, the total tonnage of Vegetal wastes composted was 286,000 tonnes, a decrease of 17,000 tonnes (5.7%) from 2019 and a reduction of 28,000 tonnes (9.0%) from 2011<sup>5</sup>. The amount of vegetal wastes composted has been fairly constant in the last decade, with annual tonnages composted not varying by more than 6% from the average over this period.

<sup>9</sup> 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

- In contrast, from 2019 to 2020 the total amount of Animal and mixed food waste composted increased by 2,000 tonnes (2.4%) and by 82,000 tonnes (470%) between 2011 and 2020. This is due to the roll out of source segregated food waste collections by local authorities over this period.

**Figure 9. Scottish household waste composted by material 2011– 2020 (tonnes)**



**Table 10. Scottish household waste composted by material 2011– 2020 (tonnes)**

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
2020	285,827	99,363	3,195	388,384

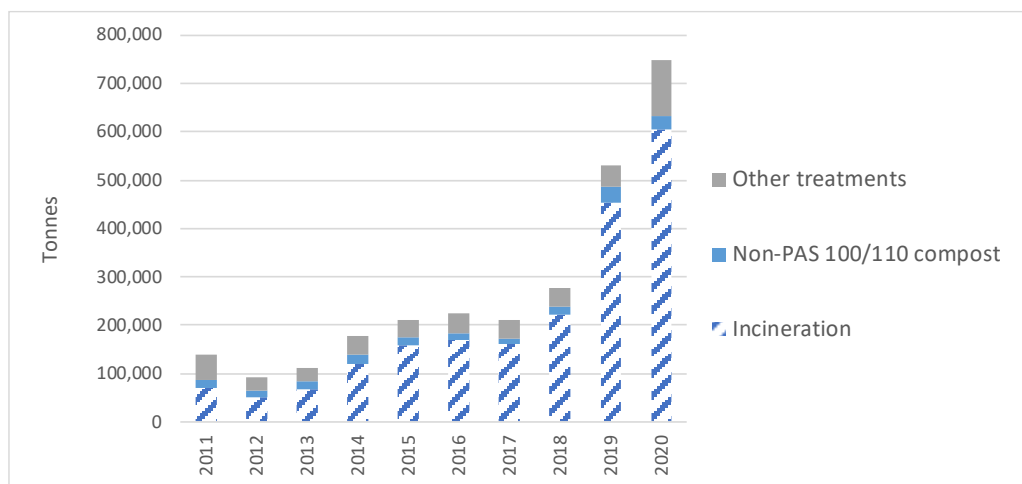
### Other Diversion from Landfill

- 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 found in the glossary.
- For 2020, the total amount of Scottish household waste managed by other diversion from landfill was 748,000 tonnes, an increase of 171,000 tonnes

(29.7%) from 2019 and an increase of 625,000 tonnes (508%) from 2011 (see Figure 10 below)<sup>10</sup>.

- In 2020, most of the waste diverted was managed by incineration (606,000 tonnes, 81.0%).
- The 606,000 tonnes of Scottish household waste diverted from landfill through incineration in 2020 was 152,000 tonnes (33.6%) greater than in 2019, and 536,000 tonnes (764.2%) greater than in 2011, excluding incinerator outputs that are landfilled. The increase was mainly due to an increase of 96,000 tonnes (23.9%) of Household and similar wastes incinerated but also to an increase of 39,000 tonnes (86.7%) of mixed and undifferentiated materials (see Figure 11 below). Household and similar wastes comprise primarily general refuse, and Mixed and undifferentiated materials comprises mainly rejects following sorting of waste for recycling, and in previous years such wastes would be landfilled.

**Figure 10. Breakdown of Scottish household waste that is not recycled or landfilled 2011— 2020**



<sup>10</sup> 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

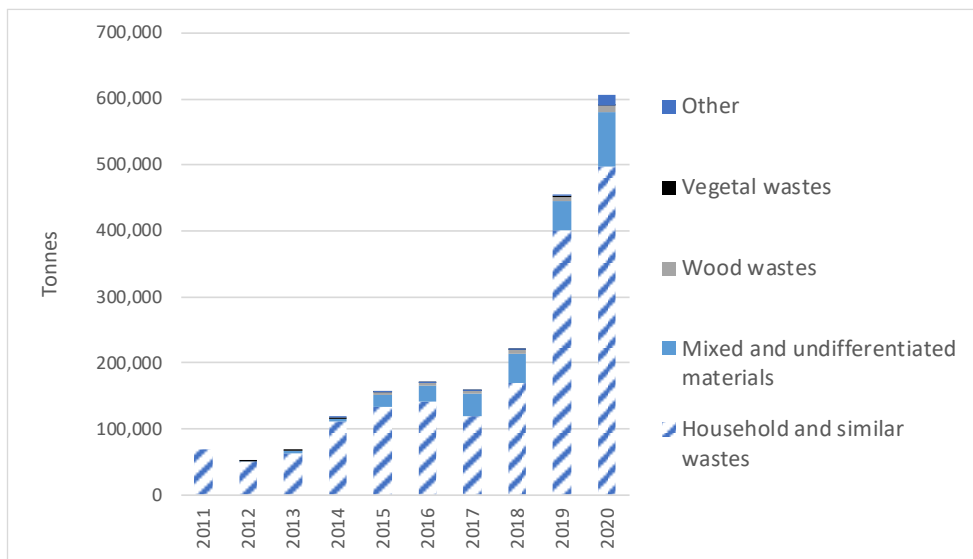
**Table 11. Breakdown of Scottish household waste that is not recycled or landfilled 2011— 2020 (tonnes)**

Year	Incineration	Non-PAS 100/110 compost	Other treatments	Total
2011	70,134	15,269	52,966	138,369
2012	51,473	14,504	25,302	91,279
2013	68,510	15,946	26,256	110,712
2014	118,678	19,713	40,552	178,943
2015	157,090	16,785	38,144	212,018
2016	170,601	13,002	40,552	224,155
2017	160,271	12,864	38,144	211,278
2018	220,792	17,984	39,366	278,142
2019	453,738	32,107	44,378	530,223
2020	606,111	26,889	115,223	748,222

Notes: Incineration is net incineration.

The definition of waste composted changed in 2014 to exclude non PAS compost. Non-PAS 100/110 compost data for 2011 - 2013 has been modelled under the new definition to provide consistency for the time series

**Figure 11. Scottish household waste diverted from landfill through incineration broken down by waste category 2011— 2020**



Note: Incineration is net

incineration.



**Table 12. Scottish household waste diverted from landfill through incineration broken down by waste category 2011– 2020**

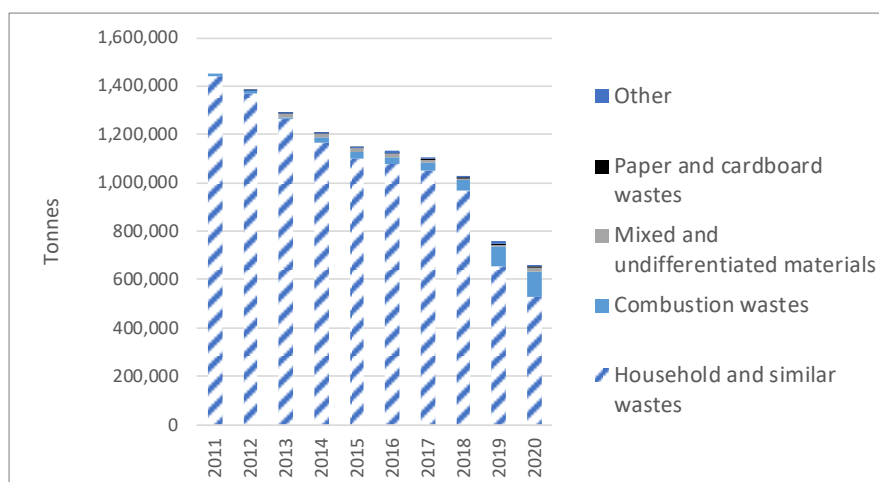
Year	Household and similar wastes	Mixed and undifferentiated materials	Wood wastes	Vegetal wastes	Other	Total
2011	70,134	0	0	0	0	70,134
2012	50,541	429	0	502	0	51,473
2013	62,298	4,621	694	898	0	68,510
2014	111,587	4,131	534	496	1,930	118,678
2015	133,418	17,803	4,514	406	948	157,090
2016	140,699	25,198	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
2020	497,544	83,223	8,507	529	16,307	606,111

Note: Incineration is net incineration.

### Waste Landfilled

- The amount of Scottish household waste landfilled in 2020 was 660,000 tonnes, a reduction of 98,000 tonnes (13.0%) from 2019, and a reduction 794,000 tonnes (54.6%) from 2011. This is the ninth 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 2020, household waste landfilled as a percentage of waste generated was 27.2%, a decrease of 4.1 percentage points from in 2019 and a decrease of 28.6 percentage points from 2011.
- In 2020, most of the household waste landfilled comprised Household and similar wastes (526,464 tonnes, see Figure 12 below). The next largest category of household waste landfilled in 2020 was Combustion wastes which comprised 108,000 tonnes (16% of the total). Combustion wastes increased by 26,000 tonnes (31%) from 2019 and by 98,000 tonnes (929%) from 2011. The increase in landfilling of Combustion wastes is consistent with the increase in incineration over the same period.

**Figure 12. Scottish household waste landfilled by waste category 2011— 2020**



**Table 13. Scottish household waste landfilled by waste category 2011-2020 (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
2020	526,464	108,303	12,522	8,230	4,270	659,789

### Carbon impacts of Scottish household waste

- 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. Further information is available in the glossary.

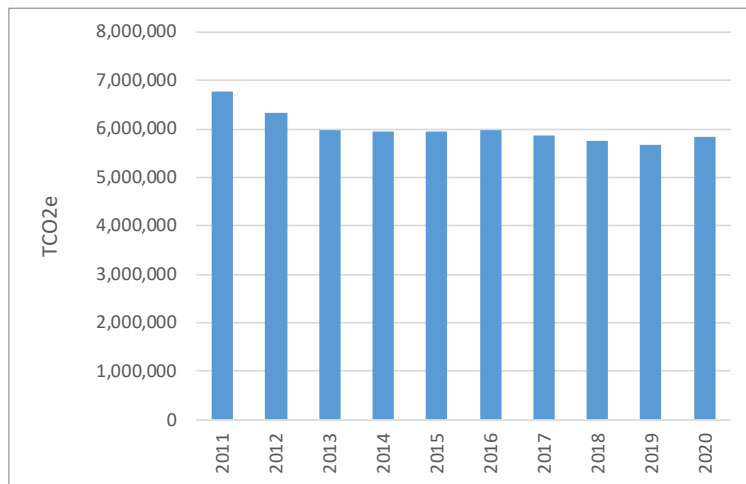
Most carbon impacts are associated with the waste generated (Table 14 below) which encapsulates the whole-life carbon impacts of the material. Negative values for Recycling and Other Diversion indicate that these management methods reduce the carbon impact of the waste.

- The carbon impact of Scottish household waste generated and managed in 2020 was 5.8 million tonnes of carbon dioxide equivalent (TCO<sub>2</sub>e, Table 1), which is the equivalent to 1.07 TCO<sub>2</sub>e per person (Table 2). The increase in 2020 is mainly due to carbon impacts associated

with an increase in the generation of the waste category Household and similar wastes by 79,000 tonnes (5.9%) in 2020<sup>11</sup>.

- The amount of waste generated by Scottish households in 2020 was 6.8% below 2011 levels (see page 5). In contrast, the carbon impact of Scottish household waste generated and managed in 2020 was 13.6% (0.92 million TCO<sub>2</sub>e) below the 2011 level.
- The carbon impact of a tonne of household waste (TCO<sub>2</sub>e/tonnes of waste generated) has been steadily declining since 2011, with a 7% decrease from 2011 to 2020<sup>11</sup>. This was largely a result of improved recycling rates, particularly for high impact waste materials such as non ferrous metallic wastes and glass wastes, as well as a reduction in waste generated and reduced landfilling of biodegradable waste.

**Figure 13. Carbon impact of Scottish waste generated and managed 2011– 2020 (TCO<sub>2</sub>e)**



**Table 14. . Carbon impact of Scottish waste generated and managed 2011 – 2020 (TCO<sub>2</sub>e)**

Year	Generated	Recycled	Incinerated	Landfilled	Other Diversion	Total
2011	6,622,467	-497,896	19,156	626,519	-5,281	<b>6,764,965</b>
2012	6,208,226	-502,690	13,035	621,489	-421	<b>6,339,638</b>
2013	5,872,541	-505,301	14,601	596,806	-783	<b>5,977,863</b>
2014	5,899,607	-517,581	25,730	540,329	-1,466	<b>5,946,619</b>
2015	5,946,447	-541,711	28,018	506,325	-1,538	<b>5,937,542</b>
2016	5,989,293	-545,078	32,511	496,243	-1,640	<b>5,971,329</b>
2017	5,881,279	-537,522	30,109	491,957	-1,608	<b>5,864,215</b>
2018	5,787,919	-540,674	50,919	464,505	-3,296	<b>5,759,373</b>
2019	5,775,984	-545,051	129,683	307,550	-3,176	<b>5,664,990</b>
2020	5,972,709	-538,121	171,300	244,286	-5,917	<b>5,844,256</b>

<sup>11</sup> Data not shown.

## 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](mailto: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 in 2019 local authority waste generated or managed data since the last publication.

This version of the 2020 statistics is a revision of the first version that was published on 7<sup>th</sup> December 2021. The purpose of this revision is to correct an error to the carbon impact of household waste in the first version. A summary of the changes are highlighted in Table 15 and Table 16 below.

**Table 15. Revisions to carbon impact of household waste generated and managed by local authority from version 1.0**

Year	Original TCO <sub>2</sub> e	Revised TCO <sub>2</sub> e
2011	6,767,740	6,764,965
2012	6,304,982	6,339,638
2013	5,977,863	5,977,863
2014	5,946,619	5,946,619
2015	5,937,542	5,937,542
2016	5,971,329	5,971,329
2017	5,864,215	5,864,215
2018	5,759,373	5,759,373
2019	5,664,990	5,664,990
2020	5,440,301	5,844,256

Note: Cells shaded in grey represent revisions amounting to greater than 100 TCO<sub>2</sub>e or greater

**Table 16. Revisions to 2020 carbon impact of household waste generated and managed by local authority from version 1.0**

Local Authority	Original Carbon Impact (TCO <sub>2</sub> e)	Revised Carbon Impact (TCO <sub>2</sub> e)
Aberdeen City	201,827	217,678
Aberdeenshire	276,453	306,108
Angus	96,806	102,591
Argyll and Bute	105,147	115,131
City of Edinburgh	468,488	498,919
Clackmannanshire	50,003	55,171
Dumfries and Galloway	178,916	188,732
Dundee City	137,690	148,215
East Ayrshire	119,967	130,933
East Dunbartonshire	118,006	118,006
East Lothian	104,147	111,532
East Renfrewshire	87,415	89,208
Falkirk	152,469	166,909
Fife	323,037	356,220
Glasgow City	736,401	788,987
Highland	252,972	282,807
Inverclyde	68,566	75,647
Midlothian	92,384	97,890
Moray	78,162	86,520
Na h-Eileanan Siar	30,942	34,628
North Ayrshire	125,035	125,160
North Lanarkshire	342,265	365,571
Orkney Islands	18,715	20,163
Perth and Kinross	138,317	152,742
Renfrewshire	178,576	178,748
Scottish Borders	113,062	119,080
Shetland Islands	24,882	26,900
South Ayrshire	108,617	117,465
South Lanarkshire	331,074	355,092
Stirling	87,201	97,347
West Dunbartonshire	105,079	115,416
West Lothian	187,681	198,740
<b>Total Scotland</b>	<b>5,440,301</b>	<b>5,844,256</b>

Note: Cells shaded in grey represent revisions amounting to greater than 100 TCO<sub>2</sub>e or greater

## 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 2020 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 17. 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	x	✓
Include construction waste from householders	✓	x
Include metals from incineration recycled	x	✓

Further information about differences between the national recycling measures of the four UK countries may be found in the [Recycling Explainer](#) published by Defra.

Further details on the methodology used to produce the figures in this document are provided in the “Household waste quality report” on [SEPA’s web site](#).

Waste categories used in this document are those described in the [EC2150/2002 Waste Statistics Regulation](#). Further information about the mapping of WasteDataFlow waste material categories to the statistical waste category can be found in the household quality report. For intelligibility, in this document the statistical waste categories “Metallic wastes, ferrous”, “Metallic wastes, non-ferrous”, and “Metallic wastes, mixed ferrous and non-

ferrous” have been combined into the one category “Metallic wastes” , and the statistical waste categories “Mineral waste from construction and demolition” and “Soils” have been combined into one “Construction and soils” category. This is a change from the 2019 publication. The [Household Waste Discover Data tool](#) retains the original statistical categories.

## 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.

**Segregated recyclate** – waste materials collected for recycling separately from residual waste collections. This includes collection of single materials as well as co-mingled materials.

**TCO<sub>2e</sub>** – tonnes of carbon dioxide equivalent, which is a measure that allows the comparison of greenhouse gases relative to one unit of CO<sub>2</sub>.

**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.