

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 rate¹ 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 soils² (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 5.4 million tonnes of carbon dioxide equivalent (TCO₂e, Table 1), which is the equivalent to 1.00 TCO₂e per person (Table 2). This was a decrease of 225,000 TCO₂e from 2019, and a reduction of 1.33 million TCO₂e from 2011.

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 refer to the Methodology section on page 19.

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

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/>

Lead statistician: Peter Ferrett

Table 1. Scottish Household waste generated and managed in 2020 - summary data³

| 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 | 201,827 | 49.9 |
| Aberdeenshire | 114,951 | 46,942 | 40.8 | 2,505 | 2.2 | 65,503 | 57.0 | 276,453 | 44.0 |
| Angus | 52,166 | 30,226 | 57.9 | 18,924 | 36.3 | 3,016 | 5.8 | 96,806 | 59.1 |
| Argyll and Bute | 42,567 | 13,262 | 31.2 | 6,963 | 16.4 | 22,342 | 52.5 | 105,147 | 38.6 |
| City of Edinburgh | 201,202 | 74,467 | 37.0 | 120,302 | 59.8 | 6,433 | 3.2 | 468,488 | 38.6 |
| Clackmannanshire | 23,221 | 11,296 | 48.6 | 2 | 0.0 | 11,923 | 51.3 | 50,003 | 55.4 |
| Dumfries and Galloway | 65,039 | 19,581 | 30.1 | 33,519 | 51.5 | 11,938 | 18.4 | 178,916 | 29.5 |
| Dundee City | 63,609 | 22,056 | 34.7 | 36,410 | 57.2 | 5,143 | 8.1 | 137,690 | 38.4 |
| East Ayrshire | 52,305 | 21,521 | 41.1 | 5,657 | 10.8 | 25,126 | 48.0 | 119,967 | 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 | 104,147 | 55.3 |
| East Renfrewshire | 44,360 | 25,098 | 56.6 | 14,384 | 32.4 | 4,878 | 11.0 | 87,415 | 67.8 |
| Falkirk | 77,069 | 39,438 | 51.2 | 3,778 | 4.9 | 33,853 | 43.9 | 152,469 | 53.0 |
| Fife | 156,151 | 68,219 | 43.7 | 14,633 | 9.4 | 73,299 | 46.9 | 323,037 | 44.5 |
| Glasgow City | 265,910 | 78,816 | 29.6 | 110,268 | 41.5 | 76,826 | 28.9 | 736,401 | 24.7 |
| Highland | 109,109 | 38,909 | 35.7 | 5,639 | 5.2 | 64,560 | 59.2 | 252,972 | 41.3 |
| Inverclyde | 29,009 | 10,760 | 37.1 | 2,030 | 7.0 | 16,148 | 55.7 | 68,566 | 54.0 |
| Midlothian | 42,153 | 19,938 | 47.3 | 17,332 | 41.1 | 4,838 | 11.5 | 92,384 | 50.8 |
| Moray | 41,520 | 22,792 | 54.9 | 0 | 0.0 | 18,729 | 45.1 | 78,162 | 59.0 |
| Na h-Eileanan Siar | 13,146 | 4,553 | 34.6 | 40 | 0.3 | 8,553 | 65.1 | 30,942 | 20.5 |
| North Ayrshire | 61,773 | 32,177 | 52.1 | 24,797 | 40.1 | 4,800 | 7.8 | 125,035 | 56.3 |
| North Lanarkshire | 156,611 | 61,715 | 39.4 | 76,849 | 49.1 | 18,048 | 11.5 | 342,265 | 40.3 |
| Orkney Islands | 8,481 | 1,985 | 23.4 | 3,680 | 43.4 | 2,157 | 25.4 | 18,715 | 18.8 |
| Perth and Kinross | 77,535 | 38,312 | 49.4 | 5,563 | 7.2 | 33,661 | 43.4 | 138,317 | 52.7 |
| Renfrewshire | 84,011 | 41,262 | 49.1 | 32,593 | 38.8 | 10,156 | 12.1 | 178,576 | 53.0 |
| Scottish Borders | 50,716 | 26,771 | 52.8 | 23,808 | 46.9 | 136 | 0.3 | 113,062 | 49.2 |
| Shetland Islands | 9,087 | 1,674 | 18.4 | 5,235 | 57.6 | 2,179 | 24.0 | 24,882 | 17.1 |
| South Ayrshire | 56,376 | 31,202 | 55.3 | 5,469 | 9.7 | 19,706 | 35.0 | 108,617 | 57.7 |
| South Lanarkshire | 153,658 | 62,198 | 40.5 | 64,168 | 41.8 | 27,292 | 17.8 | 331,074 | 46.4 |
| Stirling | 44,505 | 21,295 | 47.8 | 295 | 0.7 | 22,919 | 51.5 | 87,201 | 54.8 |
| West Dunbartonshire | 44,352 | 16,337 | 36.8 | 4,977 | 11.2 | 23,038 | 51.9 | 105,079 | 44.8 |
| West Lothian | 86,217 | 38,786 | 45.0 | 39,405 | 45.7 | 8,028 | 9.3 | 187,681 | 58.2 |
| Total Scotland | 2,429,057 | 1,020,278 | 42.0 | 748,222 | 30.8 | 659,789 | 27.2 | 5,440,301 | 44.9 |

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.

Table 2. Scottish Household waste generated and managed per person in 2020 - summary data⁴

| Local Authority | Generated (tonnes per person) | Recycled (tonnes per person) | Other diversion from landfill (tonnes per person) | Landfilled (tonnes per person) | Carbon Impact (TCO ₂ e per person) |
|-----------------------|-------------------------------|------------------------------|---|--------------------------------|---|
| Aberdeen City | 0.42 | 0.19 | 0.13 | 0.10 | 0.88 |
| Aberdeenshire | 0.44 | 0.18 | 0.01 | 0.25 | 1.06 |
| Angus | 0.45 | 0.26 | 0.16 | 0.03 | 0.84 |
| Argyll and Bute | 0.50 | 0.16 | 0.08 | 0.26 | 1.23 |
| City of Edinburgh | 0.38 | 0.14 | 0.23 | 0.01 | 0.89 |
| Clackmannanshire | 0.45 | 0.22 | 0.00 | 0.23 | 0.97 |
| Dumfries and Galloway | 0.44 | 0.13 | 0.23 | 0.08 | 1.21 |
| Dundee City | 0.43 | 0.15 | 0.24 | 0.03 | 0.93 |
| East Ayrshire | 0.43 | 0.18 | 0.05 | 0.21 | 0.99 |
| East Dunbartonshire | 0.50 | 0.26 | 0.18 | 0.07 | 1.09 |
| East Lothian | 0.48 | 0.25 | 0.18 | 0.05 | 0.97 |
| East Renfrewshire | 0.46 | 0.26 | 0.15 | 0.05 | 0.91 |
| Falkirk | 0.48 | 0.25 | 0.02 | 0.21 | 0.95 |
| Fife | 0.42 | 0.18 | 0.04 | 0.20 | 0.86 |
| Glasgow City | 0.42 | 0.12 | 0.17 | 0.12 | 1.16 |
| Highland | 0.46 | 0.17 | 0.02 | 0.27 | 1.07 |
| Inverclyde | 0.38 | 0.14 | 0.03 | 0.21 | 0.89 |
| Midlothian | 0.45 | 0.21 | 0.19 | 0.05 | 0.99 |
| Moray | 0.43 | 0.24 | 0.00 | 0.20 | 0.82 |
| Na h-Eileanan Siar | 0.50 | 0.17 | 0.00 | 0.32 | 1.17 |
| North Ayrshire | 0.46 | 0.24 | 0.18 | 0.04 | 0.93 |
| North Lanarkshire | 0.46 | 0.18 | 0.23 | 0.05 | 1.00 |
| Orkney Islands | 0.38 | 0.09 | 0.16 | 0.10 | 0.84 |
| Perth and Kinross | 0.51 | 0.25 | 0.04 | 0.22 | 0.91 |
| Renfrewshire | 0.47 | 0.23 | 0.18 | 0.06 | 1.00 |
| Scottish Borders | 0.44 | 0.23 | 0.21 | 0.00 | 0.98 |
| Shetland Islands | 0.40 | 0.07 | 0.23 | 0.10 | 1.09 |
| South Ayrshire | 0.50 | 0.28 | 0.05 | 0.18 | 0.97 |
| South Lanarkshire | 0.48 | 0.19 | 0.20 | 0.09 | 1.03 |
| Stirling | 0.47 | 0.23 | 0.00 | 0.24 | 0.93 |
| West Dunbartonshire | 0.50 | 0.18 | 0.06 | 0.26 | 1.19 |
| West Lothian | 0.47 | 0.21 | 0.21 | 0.04 | 1.02 |
| Total Scotland | 0.44 | 0.19 | 0.14 | 0.12 | 1.00 |

⁴ 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.

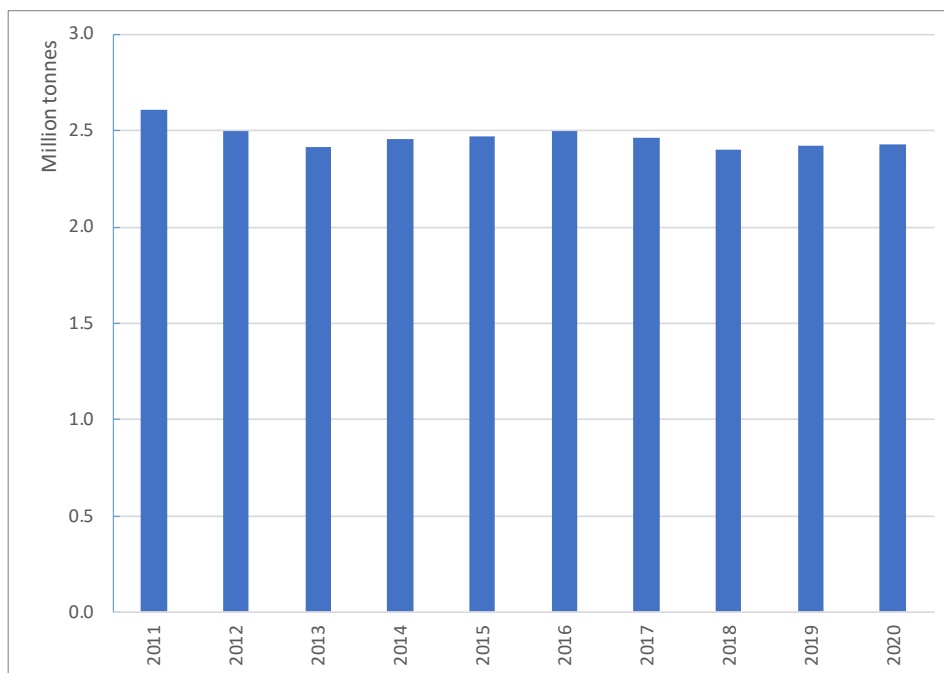


Table 3. Household waste generated in Scotland 2011– 2020

| 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 recycle 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 recycle collected 2011 - 2020 (tonnes)

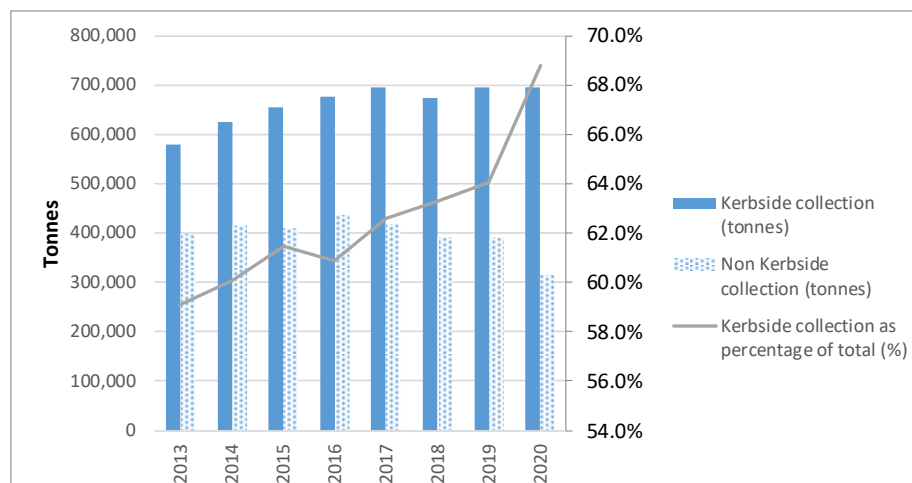


Table 4. Scottish segregated recycle collected 2011 - 2020 (tonnes)

| 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 authorities⁵ (an increase of 6,100 tonnes, 2.1%) compared to urban authorities (a decrease of 5,500 tonnes, 1.3%, see Figure 3 below).

⁵ 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)

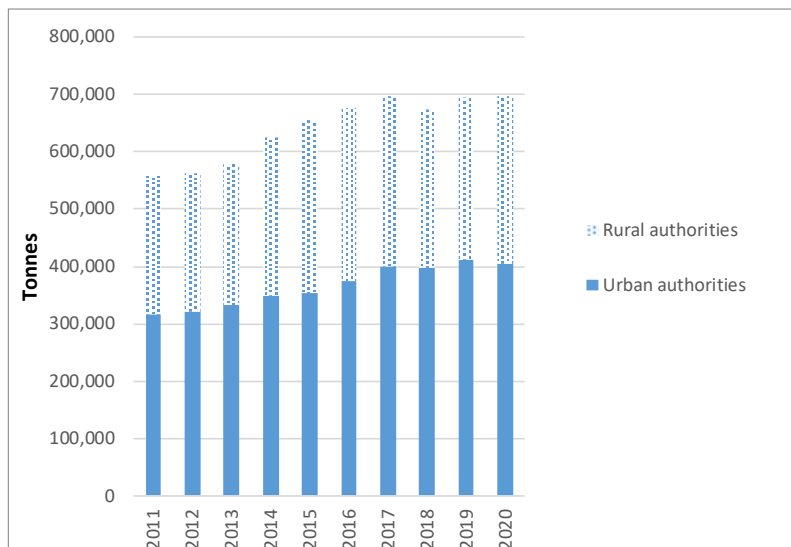


Table 5. Scottish segregated recyclate collected at the kerbside 2011 - 2020 (tonnes)

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

*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

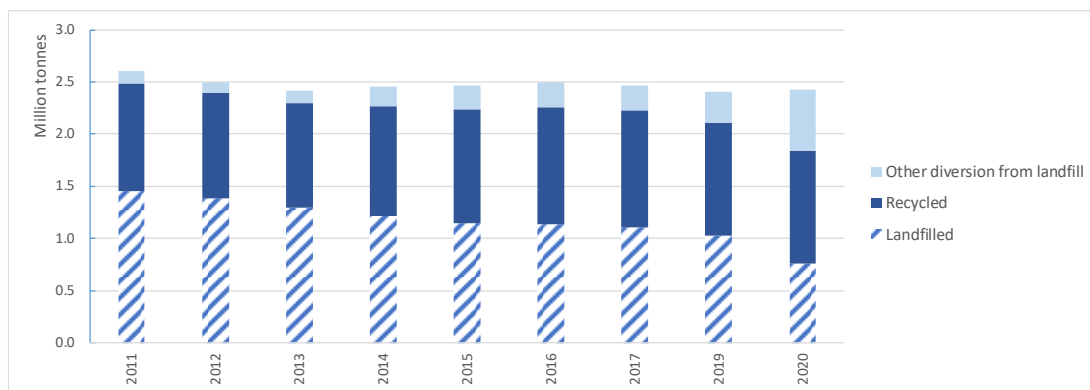


Table 6. Household waste managed in Scotland 2011-2020

| 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 |
| 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 |

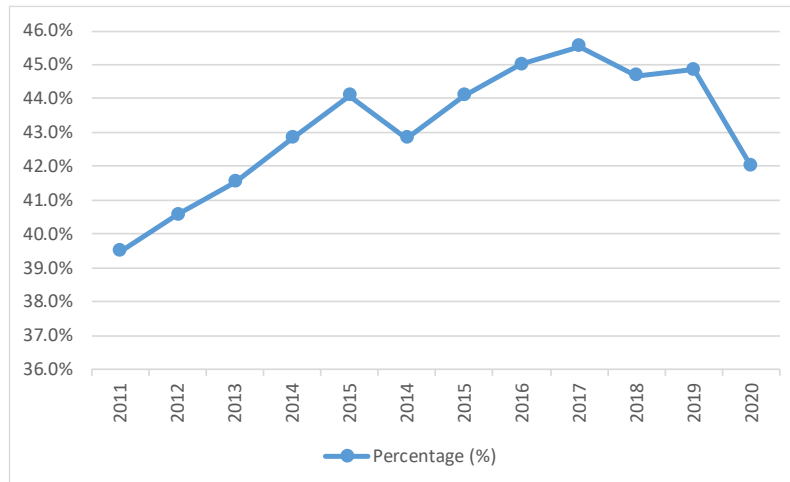
*The definition of recycling changed in 2014 to exclude non PAS compost. Recycling data for 2011 - 2013 has been modelled under the new definition to provide consistency for the time series

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 2019, and an increase of 2.5 percentage points from the 39.5% achieved in 2011⁶.
- 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 2011⁶.

⁶ 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 2011-2020⁶



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

Table 7. Scottish household waste recycling rates 2011-2020⁶

| Recycling rate | Percentage (%) |
|----------------|----------------|
| 2011 | 39.5% |
| 2012 | 40.6% |
| 2013 | 41.5% |
| 2014 | 42.8% |
| 2015 | 44.1% |
| 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

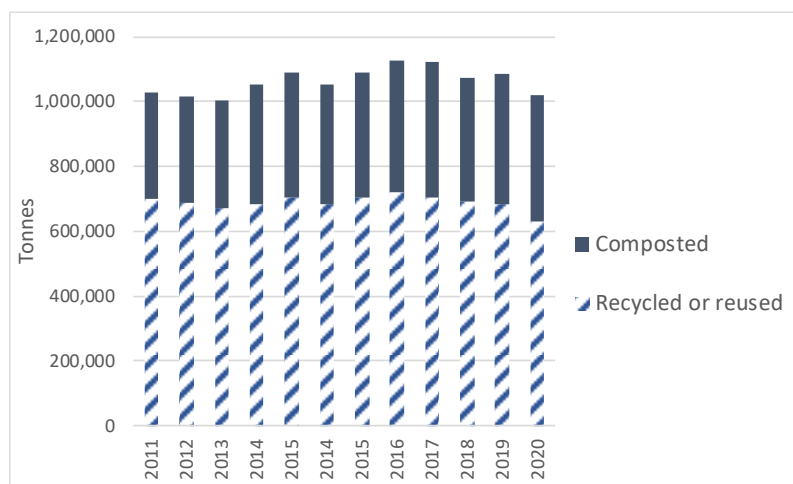


Table 8. Breakdown of Scottish household waste recycled 2011-2020

| 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 |
| 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).

Q1 2020)⁷. Additionally, home improvement activities may have been impacted by ability to remove waste, with most local authorities indicating that 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.

⁷ [Monthly Statistics of Building Materials and Components](#), September 2020.

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

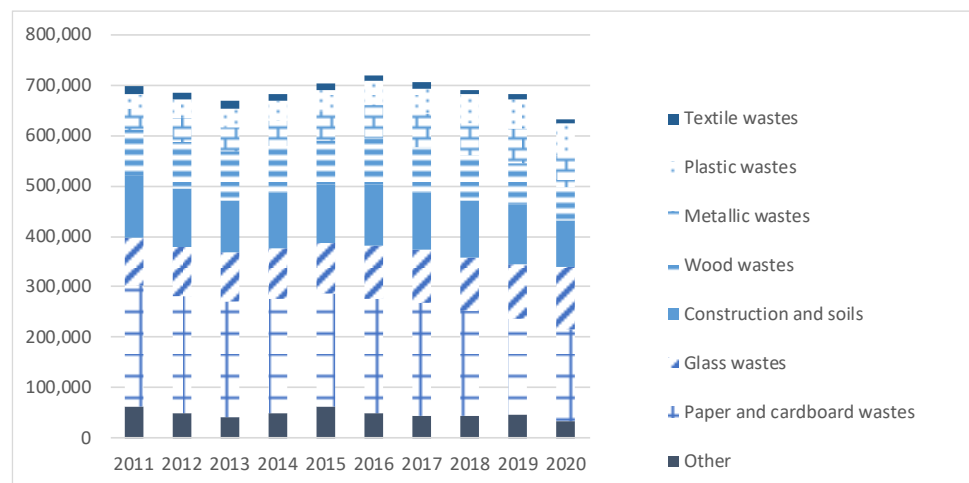
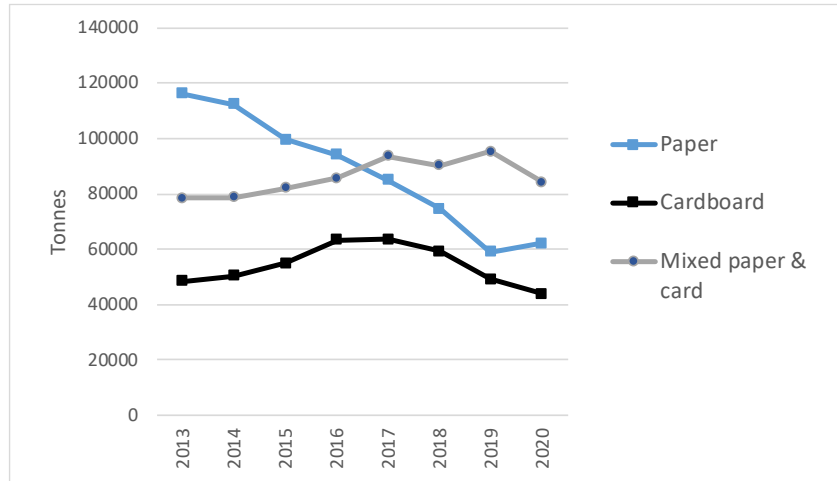


Table 9. Scottish Household waste recycled or reused by material 2011— 2020 (tonnes)

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

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 2011⁸.
- 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 2011⁵. The amount of vegetal wastes composted has been fairly

⁸ 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

constant in the last decade, with annual tonnages composted not varying by more than 6% from the average over this period.

- 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)

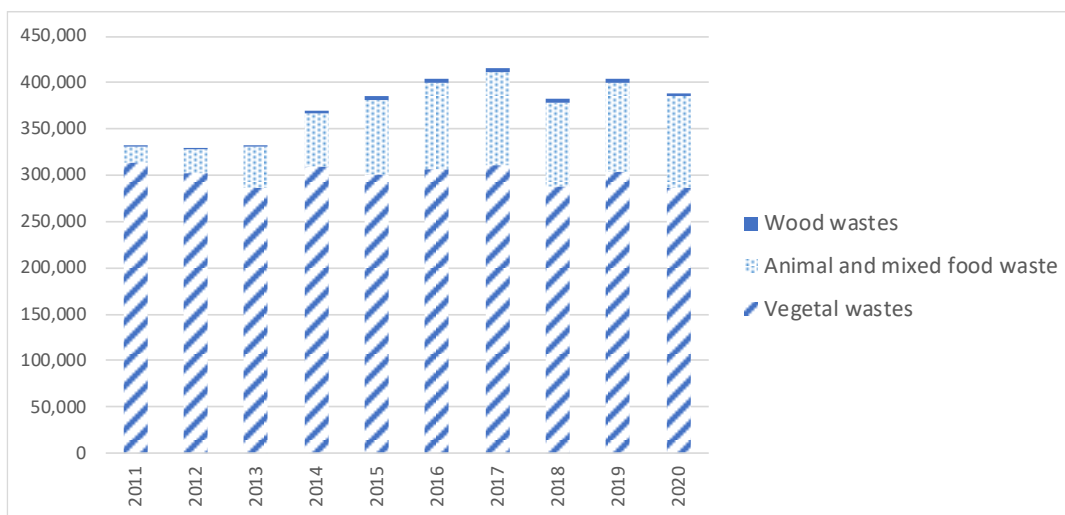


Table 10. Scottish household waste composted by material 2011– 2020 (tonnes)

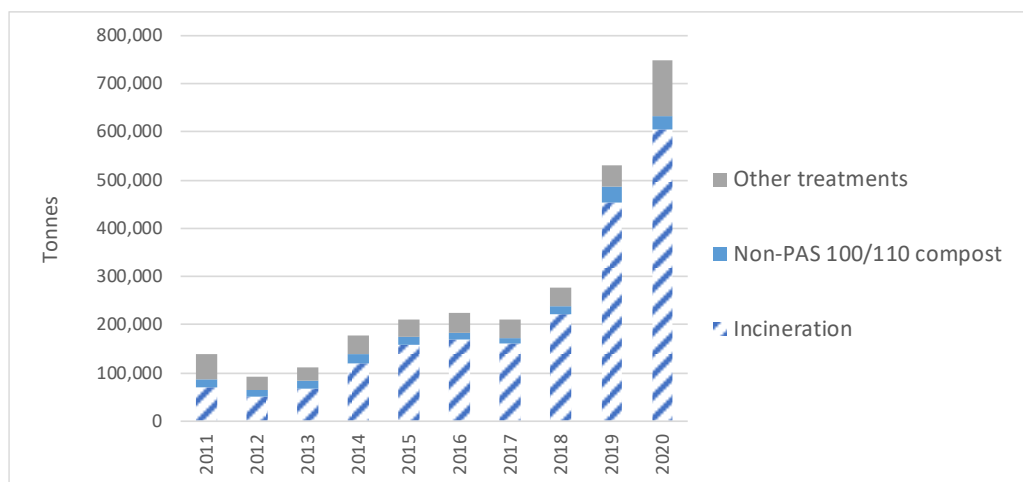
| Year | Vegetal wastes | Animal and mixed food waste | Wood wastes | Total |
|-------------|----------------|-----------------------------|-------------|----------------|
| 2011 | 313,948 | 17,426 | 466 | 331,840 |
| 2012 | 302,224 | 25,319 | 1,454 | 328,997 |
| 2013 | 286,885 | 43,740 | 1,861 | 332,486 |
| 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)⁹.
- 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



⁹ 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

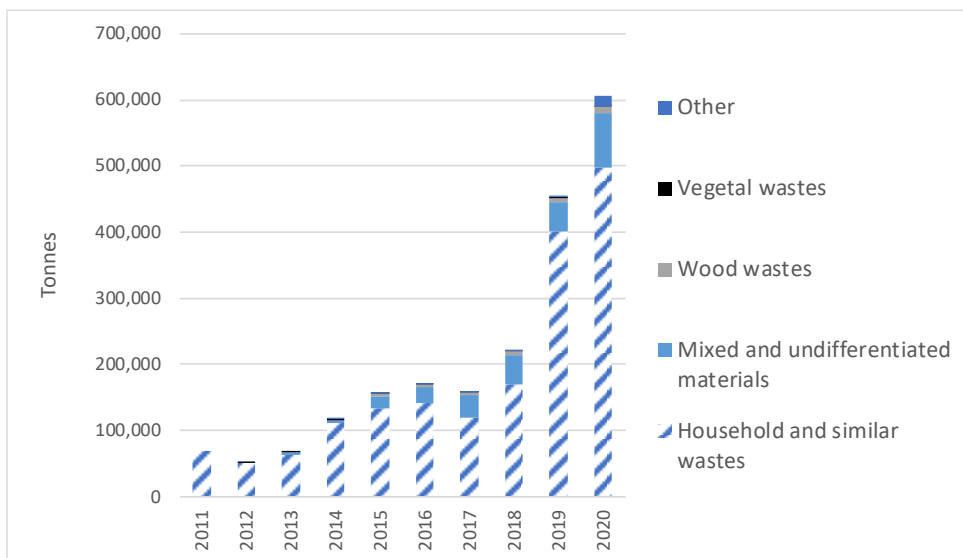
Table 11. Breakdown of Scottish household waste that is not recycled or landfilled 2011— 2020 (tonnes)

| 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 seventh 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

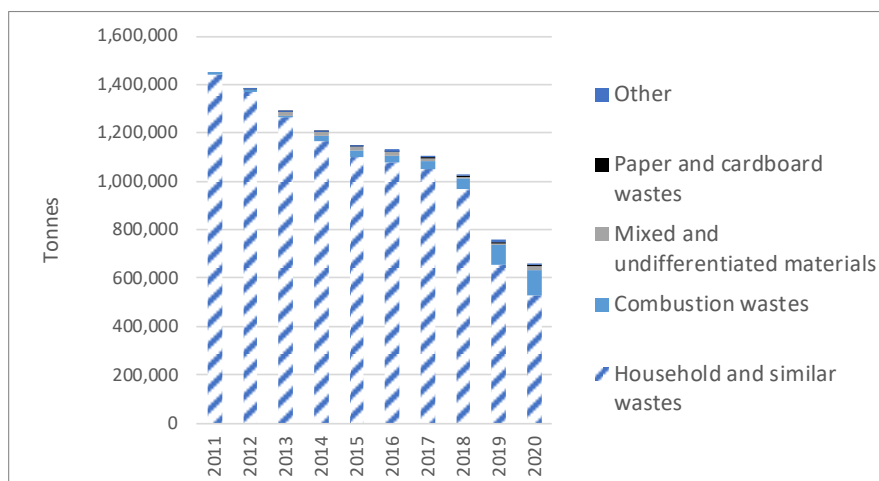


Table 13. Scottish household waste landfilled by waste category 2011-2020 (tonnes)

| 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.
- The carbon impact of household waste generated and managed in 2020 was 5.4 million TCO₂e. This was a decrease of 225,000 TCO₂e (4.0%) from 2019, and a reduction of 1.33 million TCO₂e (19.6%) from 2011 (see Figure 13 below).
- The amount of waste generated by Scottish households was 6.8% below 2011 levels (see page 5). In contrast, the carbon impact of Scottish household waste generated and managed in 2020 was 19.6% (1.33 million TCO₂e) below the 2011 level.
- The carbon lifecycle impact of a tonne of household waste (TCO₂e/tonnes of waste generated) has been steadily declining since 2011, with a 14% decrease from 2011 to 2020. 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 (TCO2e)

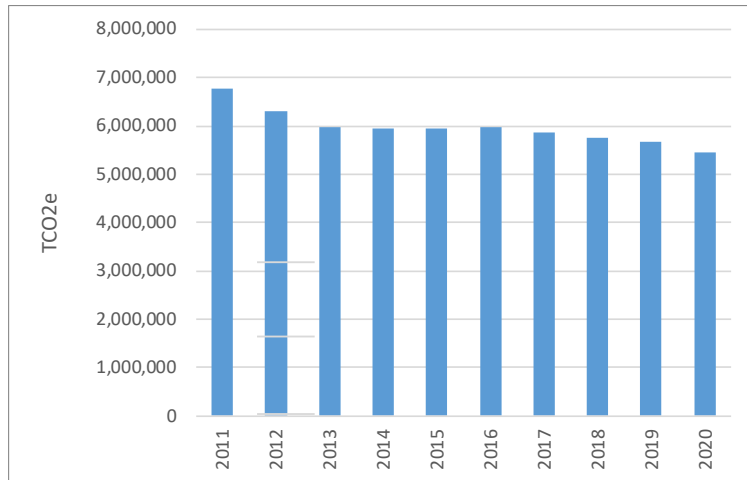


Table 14. . Carbon impact of Scottish waste generated and managed 2011— 2020 (TCO2e)

| Year | TCO2e |
|------|-----------|
| 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 |
| 2020 | 5,440,301 |

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.

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 15. 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 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_{2e} – tonnes of carbon dioxide equivalent, which is a measure that allows the comparison of greenhouse gases relative to one unit of CO₂.

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.