

**Scottish Waste From All Sources Generated and Managed – 2022**

March 2024

**Official Statistics**

## Scottish Waste From All Sources Generated and Managed – 2022

This release provides a summary of Scottish waste generated and managed in calendar year 2022. The data in this release represents Waste From All Sources (WFAS). Further information including definition of terms is included in the methodology and glossary at the end of this document.

## Key points

### Scottish WFAS – 2022 calendar year

* The estimated total amount of WFAS generated in Scotland in 2022 was 10.16 million tonnes, an increase of 6.2% (596,000 tonnes) from 2021[[1]](#footnote-2). Compared to the baseline year of 2011, the WFAS generated represents a decrease of 15.1%.
* In 2022, the estimated Scottish WFAS recycled was 6.16 million tonnes, which is 430,000 tonnes (7.5%) more waste recycled than in 2021.
* The WFAS recycling rate in 2022 was 62.3%, an increase of 5.3 percentage points from the 57.0% of waste recycled in 2021[[2]](#footnote-3). This is the highest WFAS recycling rate recorded since the start of the current time series in 2011, and partly reflects the increase in the proportion of Construction and Demolition waste, which has a high recycling rate.
* The increase in waste generated and waste recycled was predominantly Construction and Demolition (C&D) type wastes, such as Soils and Mineral wastes, attributed to an increase in post COVID-19 activity in the Construction industry. Construction and Demolition waste generated increased by 17.3%, Commercial and Industrial waste increased by 2.0% and household waste decreased by 6.0%.
* The amount of Scottish waste recovered or disposed of by incineration in 2022 was 1.40 million tonnes, an increase of 108,000 tonnes (8.3%) from 2021.
* The amount of Scottish waste disposed to landfill in 2022 was 2.30 million tonnes, a decrease of 705,000 tonnes (23.5%) from 2021.

Summary data tables[[3]](#footnote-4) are available to download in Excel format on [SEPA's web site](https://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/waste-data-for-scotland/)[.](http://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/household-waste-data/)

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Table 1. Scottish WFAS generated and managed by waste category - summary data 2022 (tonnes)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Waste Category1** | **Generated2** | **Recycled** | **Recovered3** | **Disposed4** | **Other diversion from landfill5** |
| Spent solvents | 53,810 | 0 | 22 | 195 | 0 |
| Acid, alkaline or saline wastes | 4,169 | 0 | 20 | 64 | 0 |
| Used oils | 39,894 | 0 | 0 | 336 | 0 |
| Chemical wastes | 108,251 | 334 | 221 | 1,505 | 0 |
| Industrial effluent sludges | 53,104 | 2,986 | 11,116 | 6,569 | 0 |
| Sludges and liquid wastes from waste treatment | 849 | 4,988 | 1,593 | 7,020 | 1,426 |
| Health care and biological wastes | 35,495 | 0 | 5,811 | 10,173 | 0 |
| Metallic wastes, ferrous | 145,923 | 512,451 | 0 | 9 | 0 |
| Metallic wastes, non-ferrous | 10,627 | 74,593 | 0 | 16 | 0 |
| Metallic wastes, mixed ferrous and non-ferrous | 105,756 | 110,310 | 0 | 1 | 0 |
| Glass wastes | 136,796 | 149,878 | 0 | 6,153 | 0 |
| Paper and cardboard wastes | 116,293 | 261,631 | 0 | 29 | 0 |
| Rubber wastes | 46,023 | 0 | 9,427 | 124 | 0 |
| Plastic wastes | 67,935 | 84,757 | 0 | 2,989 | 0 |
| Wood wastes | 255,052 | 162,732 | 355,604 | 113 | 227 |
| Textile wastes | 30,042 | 7 | 0 | 1,562 | 0 |
| Waste containing PCB | 81 | 1 | 0 | 0 | 0 |
| Discarded equipment (excluding discarded vehicles, batteries and accumulators wastes) | 54,177 | 29,823 | 0 | 243 | 0 |
| Discarded vehicles | 121,529 | 31,975 | 0 | 0 | 0 |
| Batteries and accumulators wastes | 14,918 | 10,051 | 0 | 0 | 0 |
| Animal and mixed food waste | 367,187 | 320,935 | 17,745 | 1,985 | 903 |
| Vegetal wastes | 894,253 | 661,232 | 0 | 7,458 | 7,397 |
| Animal faeces, urine and manure | 168,664 | 95,529 | 69,288 | 30 | 0 |
| Household and similar wastes | 2,083,122 | 5,611 | 262,907 | 839,387 | 16,260 |
| Mixed and undifferentiated materials | 443,606 | 29,259 | 0 | 29,673 | 3,039 |
| Sorting residues | 47,255 | 10,296 | 302,647 | 832,137 | 0 |
| Common sludges | 231,547 | 366,848 | 14,392 | 3,247 | 0 |
| Mineral waste from construction and demolition | 1,410,788 | 902,345 | 0 | 40,044 | 0 |
| Other mineral wastes | 79,313 | 32,074 | 0 | 34,951 | 0 |
| Combustion wastes | 7,107 | 1,841 | 0 | 1,480 | 0 |
| Soils | 3,012,570 | 2,248,517 | 0 | 636,312 | 1,033 |
| Dredging spoils | 5,129 | 5,036 | 0 | 216 | 0 |
| Mineral wastes from waste treatment and stabilised wastes | 7,192 | 43,803 | 0 | 182,567 | 0 |
| **Total** | **10,158,455** | **6,159,842** | **1,050,792** | **2,646,587** | **30,283** |

Notes:

1. The amount of waste category recycled may be larger than the amount of waste generated because waste may be generated as mixed waste, for example as 'household and similar wastes' or 'Metallic wastes, mixed ferrous and non-ferrous', and at a subsequent stage it is treated to separate it into its component parts before being recycled. Similarly, the amount of waste managed may be less than the amount of waste generated.
2. Different methodologies and datasets are used to estimate the waste generated and waste managed. Consequently, the total waste generated, and waste managed generally do not balance.
3. Waste recovered includes waste inputs to co-incineration facilities and to incineration facilities which applied for and were demonstrated to meet the R1 energy recovery efficiency specified in the EU Waste Framework Directive.
4. Waste disposed includes waste landfilled and waste inputs to incineration facilities that have not been demonstrated to meet the R1 energy recovery efficiency specified in the EU Waste Framework Directive.
5. Other management comprises compost produced at non-PAS certified composting or anaerobic digestion plants.

Table 2. Key figures to support targets specified in Scotland waste policies\*

| **Indicator** | **Year** | **Performance** | **Target / Target year** |
| --- | --- | --- | --- |
| 1. Recycled construction and demolition waste‡ | 2011 | 92.1% | 70% / 2020 |
| 2012 | 92.2% |   |
| 2013 | 94.1% |   |
| 2014 | 82.4% |   |
| 2015 | 87.9% |   |
| 2016 | 85.0% |   |
| 2017 | 83.9% |   |
| 2018 | 90.0% |   |
| *2019 and 2020 data unavailable* |   |   |
| 2021 | 89.7% |   |
| 2022 | 90.4% |   |
| 2. Recycled waste from all sources§ | 2011 | 52.5% | 70% / 2025 |
| 2012 | 50.5% |   |
| 2013 | 57.2% |   |
| 2014 | 52.0% |   |
| 2015 | 57.0% |   |
| 2016 | 59.4% |   |
| 2017 | 59.6% |   |
| 2018 | 60.7% |   |
| *2019 and 2020 data unavailable* |   |   |
| 2021 | 57.0% |   |
| 2022 | 62.3% |   |
| 3. Percentage of all waste sent to landfill§ | 2011 | 42.8% | < 5% / 2025 |
| 2012 | 44.4% |   |
| 2013 | 38.1% |   |
| 2014 | 40.9% |   |
| 2015 | 36.5% |   |
| 2016 | 32.3% |   |
| 2017 | 32.4% |   |
| 2018 | 32.1% |   |
| *2019 and 2020 data unavailable* |   |   |
| 2021 | 29.9% |   |
| 2022 | 23.2% |   |
| 4. Percentage of waste generated compared with 2011 | 2012 | 84.1% |  <93% of 2011 baseline / 2017  |
| 2013 | 92.5% |  <85% of 2011 baseline / 2025  |
| 2014 | 83.6% |   |
| 2015 | 94.3% |   |
| 2016 | 89.3% |   |
| 2017 | 95.8% |   |
| 2018 | 95.8% |   |
| *2019 and 2020 data unavailable* |   |   |
| 2021 | 80.0% |   |
| 2022 | 84.9% |   |
| 5. Landfilled biodegradable municipal waste# | 2005 | 2.04 million tonnes | < 2.7 million tonnes / 2010 |
| 2006 | 1.90 million tonnes | < 1.8 million tonnes / 2013 |
| 2007 | 1.80 million tonnes | < 1.26 million tonnes / 2020 |
| 2008 | 1.58 million tonnes |  |
| 2009 | 1.34 million tonnes |  |
| 2010 | 1.48 million tonnes |  |
| 2011 | 1.34 million tonnes |  |
| 2012 | 1.33 million tonnes |  |
| 2013 | 1.16 million tonnes |  |
| 2014 | 1.14 million tonnes |  |
| 2015 | 1.09 million tonnes |  |
| 2016 | 1.15 million tonnes |  |
| 2017 | 1.09 million tonnes |  |
| 2018 | 1.02 million tonnes |  |
| 2019 | 0.70 million tonnes |  |
| 2020 | 0.73 million tonnes |  |
| 2021 | 0.88 million tonnes |  |
| 2022 | 0.70 million tonnes |  |

\* Making Things Last - A Circular Economy Strategy for Scotland (2016). Figures for the carbon metric impacts of waste, targets and performance are published by [Zero Waste Scotland](https://www.zerowastescotland.org.uk/resources/carbon-metric-publications).

‡ C&D recycling rates are from data provided to Europe for reporting under the Waste Framework Directive. Excludes hazardous waste and soil and stone recycled.

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

# BMW, biodegradable municipal waste - the biodegradable fraction of municipal waste. This is waste that is capable of undergoing anaerobic or aerobic decomposition, such as food and garden waste and paper and cardboard. It is calculated by multiplying the municipal waste tonnage by a biodegradability factor. Further information is available from [SEPA’s web site](https://www.sepa.org.uk/media/g2uawnho/waste-landfilled-in-scotland-commentary.pdf).

# Data and Trends

## Waste Generated

The estimated total quantity of WFAS generated in Scotland in 2022 was 10.16 million tonnes, an increase of 6.2% (596,000 tonnes) from 2021[[4]](#footnote-5).

The increase in WFAS generated in 2022 is in contrast to the 2022 household statistics, [published in October 2023](https://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/household-waste-data/), in which the lowest amount of household waste generated was reported since the start of the current time series in 2011. Most of the increase in the WFAS generated is construction type wastes such as Soils (an increase of 587,000 tonnes, 24.2%) and Mineral waste from construction and demolition (an increase of 169,000 tonnes, 13.6%). This more than offsets a reduction in Wood wastes generated (a decrease of 73,000 tonnes, 22.3%) and Household and similar wastes generated (a decrease of 130,000 tonnes, 5.9%) to provide the overall increase.

In general, the change in waste generated year-on-year since 2011 has varied considerably (see Figure 1 below), primarily due to Construction and Demolition (C&D) waste generated, with year-on-year changes in that waste stream ranging from -27% to +26%. Over the same period, there has been an overall reduction in Commercial and Industrial (C&I) waste generated, with annual changes considerably less variable than C&D waste ranging from -15% to +10%. In comparison, Household waste generated varied by no more than ±6% year-on-year during the same period.

The generation of C&D waste is sensitive to large regional projects, which accounts for the large year-on-year variation in this waste stream. The increase in the generation of C&D wastes in 2022 is consistent with an increase of 11.1% in Gross Value Added to the Scottish economy from the Construction industry in 2022[[5]](#footnote-6). The increase is also reflected in feedback from waste management companies, which provide waste returns with C&D waste data, who indicate that 2022 was a stronger year for construction in general post COVID-19.

When C&D waste is excluded, the waste generation trend has been generally downward for the 2011 – 2022 period (see Figure 2 on page 8).

It should be noted that the category of Household and similar wastes shown in Figure 3 (on page 9), includes some waste generated by businesses as well as households. This category includes mixed waste collected by local authorities and private waste management companies. It does not include all household waste, for example separated recyclable waste will be included under different waste categories (details of [Scottish household waste generated and managed in 2022](https://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/household-waste-data/) can be found on SEPA’s web site).

In 2022, there were 1.34 million tonnes of Household and similar wastes generated by households, and 745,000 tonnes generated by Scottish businesses (data not shown). Since 2011, there has been an overall 1,060,000 tonne (33.7%) reduction in the generation of these wastes. Most of this reduction (57.3%) is due to a decrease of these wastes generated by business, with the remainder of the reduction (42.7%) from households (data not shown).

The long-term reduction in Household and similar wastes generated is partly due to implementation of general policies targeted at reducing waste, including a legislative duty of care that requires all waste producers in Scotland to segregate material for recycling, the implementation of source segregated recycling services to the commercial and public sector as required under the Waste Scotland Regulations (2012), and the roll out of recycling services and reduction in the frequency of residual waste collections by local authorities in Scotland.

Figure 1. Scottish WFAS generated by source 2011-2022

Table 3. Scottish WFAS generated by source 2011 - 2022 (tonnes)

| **Year** | **Household** | **Commercial and industrial** | **Construction and demolition** | **Total waste generated** |
| --- | --- | --- | --- | --- |
| **2011** | 2,606,759 | 4,156,052 | 5,195,676 | **11,958,486** |
| **2012** | 2,500,995 | 3,764,847 | 3,796,997 | **10,062,839** |
| **2013** | 2,412,651 | 3,857,040 | 4,789,809 | **11,059,501** |
| **2014** | 2,459,557 | 3,369,844 | 4,172,782 | **10,002,184** |
| **2015** | 2,468,777 | 3,714,681 | 5,092,646 | **11,276,104** |
| **2016** | 2,498,975 | 3,154,992 | 5,027,759 | **10,681,726** |
| **2017** | 2,460,830 | 3,399,736 | 5,592,888 | **11,453,454** |
| **2018** | 2,405,251 | 3,236,534 | 5,808,681 | **11,450,466** |
| *2019 and 2020 data unavailable* |  |   |   |   |
| **2021** | 2,482,612 | 3,144,707 | 3,934,831 | **9,562,150** |
| **2022** | 2,334,677 | 3,207,192 | 4,616,587 | **10,158,455** |

Figure 2. Scottish WFAS generation trend excluding C&D sources 2011-2022

Figure 3. Scottish WFAS generated by waste category 2011 - 2022

Note: ”Other” comprises waste categories not mentioned individually (see Table 1 on page 3 for full list of waste categories).

Table 4. Scottish WFAS generated by waste category 2011 - 2022 (tonnes)

|  | **Year** |
| --- | --- |
| **Waste category** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** |  | **2021** | **2022** |
| Soils | 3,645,768 | 2,533,319 | 3,626,817 | 2,881,718 | 3,716,879 | 3,660,454 | 4,130,084 | 4,291,346 |  2019 and 2020 data unavailable | 2,425,962 | 3,012,570 |
| Household and similar wastes | 3,143,199 | 2,621,850 | 2,288,750 | 2,108,285 | 2,092,009 | 2,043,369 | 2,075,601 | 2,064,703 | 2,213,404 | 2,083,122 |
| Mineral waste from construction and demolition | 1,489,040 | 1,155,533 | 1,043,244 | 1,166,237 | 1,192,974 | 1,355,033 | 1,333,003 | 1,276,681 | 1,241,753 | 1,410,788 |
| Vegetal wastes | 622,832 | 699,061 | 794,925 | 780,916 | 907,833 | 919,343 | 935,182 | 899,584 | 852,246 | 894,253 |
| Mixed and undifferentiated materials | 169,869 | 225,972 | 363,261 | 324,219 | 449,955 | 462,024 | 491,141 | 463,828 | 462,770 | 443,606 |
| Animal and mixed food waste | 172,413 | 160,020 | 187,380 | 245,236 | 288,520 | 309,125 | 364,984 | 423,106 | 365,084 | 367,187 |
| Wood wastes | 176,865 | 243,987 | 287,019 | 317,645 | 282,179 | 210,176 | 220,988 | 190,945 | 328,445 | 255,052 |
| Common sludges | 197,545 | 211,722 | 180,334 | 154,951 | 177,972 | 184,547 | 173,497 | 197,200 | 231,035 | 231,547 |
| Other | 2,340,955 | 2,211,376 | 2,287,770 | 2,022,977 | 2,167,783 | 1,537,654 | 1,728,974 | 1,643,074 | 1,441,450 | 1,460,330 |
| **Total** | **11,958,486** | **10,062,839** | **11,059,501** | **10,002,184** | **11,276,104** | **10,681,726** | **11,453,454** | **11,450,466** | **9,562,150** | **10,158,455** |

### Animal and mixed food waste

There was an increase of 2,000 tonnes (0.6%) of separately collected Animal and mixed food waste generated between 2021 and 2022, and increase of 195,000 tonnes (113.0%) (see Figure 4 below) between 2011 to 2022. The longer-term increasing trend for Animal and mixed food waste from 2011 appears to have stabilised from 2018 onwards (see Figure 4 below).

### Paper and cardboard

There was a 24,000 tonne (16.9%) reduction in the generation of separately collected Paper and cardboard wastes between 2021 and 2022. This was primarily due to a drop in these wastes being generated from C&I sources (reduction of 25,000 tonnes, 43.8%), while there was a small increase (2,000 tonnes, 2.1%) from household sources. The overall reduction in these wastes between 2011 and 2022 follows a longer-term reduction of 70,000 tonnes (37.6%) since 2011, particularly from C&I sources (see Figure 5 below). Although separate data is not available for the individual paper or cardboard waste streams, the reduction in print media and increase in paperless offices are likely a contributing factor to the decrease in Paper and cardboard waste generated since 2011.

Figure 4. Separately collected Animal and mixed food waste (tonnes) generated by source 2011 - 2022

Table 5. Separately collected Animal and mixed food waste generated by source 2011 - 2022 (tonnes)

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Commercial and industrial** | **Household** | **Total** |
| **2011** | 123,904 | 48,510 | **172,413** |
| **2012** | 119,204 | 40,816 | **160,020** |
| **2013** | 139,871 | 47,509 | **187,380** |
| **2014** | 177,372 | 67,864 | **245,236** |
| **2015** | 206,116 | 82,404 | **288,520** |
| **2016** | 212,200 | 96,925 | **309,125** |
| **2017** | 263,582 | 101,402 | **364,984** |
| **2018** | 329,787 | 93,319 | **423,106** |
| *2019 and 2020 data unavailable* |   |   |  |
| **2021** | 264,622 | 100,462 | **365,084** |
| **2022** | 275,656 | 91,531 | **367,187** |

Figure 5. Separately collected Paper and cardboard waste generated by source 2011 - 2022

Table 6. Separately collected Paper and cardboard generated by source 2011 - 2022 (tonnes)

| **Year** | **Commercial and industrial** | **Household** | **Total** |
| --- | --- | --- | --- |
| **2011** | 74,374 | 111,933 | **186,307** |
| **2012** | 62,706 | 101,394 | **164,100** |
| **2013** | 54,630 | 89,631 | **144,261** |
| **2014** | 47,170 | 98,102 | **145,272** |
| **2015** | 41,924 | 79,613 | **121,537** |
| **2016** | 36,782 | 63,816 | **100,598** |
| **2017** | 36,233 | 62,178 | **98,411** |
| **2018** | 41,714 | 70,006 | **111,720** |
| *2019 and 2020 data unavailable* |  |  |
| **2021** | 57,841 | 82,089 | **139,930** |
| **2022** | 32,498 | 83,795 | **116,293** |

### Hazardous waste

The total quantity of hazardous waste generated in Scotland in 2022 was 429,000, a reduction of 3,000 tonnes (0.7%) compared with 2021 (see Figure 6 on page 14). Since 2011, there has been a decrease of 176,000 tonnes (29.1%) in the generation of Scottish hazardous waste, with the bulk of the reduction (85.0%, 149,000 tonnes) from C&D sources (see Figure 6 below). As in previous years, most of the hazardous waste generated in 2022 (87.1%, 373,000 tonnes) was from C&I sources.

In 2022, the main category of hazardous waste generated (see Figure 7 on page 15) was Chemical wastes (103,000 tonnes, 24.0% of all hazardous waste) and Discarded vehicles (71,000 tonnes, 16.7%).

Figure 6. Scottish hazardous WFAS generated by source 2011 - 2022

Table 7. Scottish hazardous WFAS generated by source 2011 - 2022 (tonnes)

| **Year** | **Household** | **Commercial and industrial** | **Construction and demolition** | **Total hazardous waste generated** |
| --- | --- | --- | --- | --- |
| **2011** | 37,324 | 392,564 | 175,067 | **604,955** |
| **2012** | 35,000 | 400,600 | 141,755 | **577,354** |
| **2013** | 32,371 | 395,309 | 41,746 | **469,426** |
| **2014** | 32,864 | 402,342 | 81,583 | **516,788** |
| **2015** | 34,940 | 393,520 | 92,871 | **521,330** |
| **2016** | 38,879 | 360,946 | 60,077 | **459,902** |
| **2017** | 37,686 | 443,228 | 55,520 | **536,434** |
| **2018** | 34,298 | 369,886 | 43,733 | **447,917** |
| *2019 and 2020 data unavailable* |   |  |   |   |
| **2021** | 31,524 | 361,761 | 32,519 | **425,805** |
| **2022** | 29,256 | 373,304 | 26,273 | **428,832** |

Figure 7. Scottish hazardous WFAS generated by waste category 2011 - 2022

Note: “Other” comprises waste categories not mentioned individually (see Table 1 on page 3 for full list of waste categories).

Table 8. Scottish hazardous WFAS generated by waste category 2011 - 2022 (tonnes)

|  |  |
| --- | --- |
|  | **Year** |
| **Waste category** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** |  | **2021** | **2022** |
| Chemical wastes | 126,115 | 104,183 | 106,619 | 109,410 | 101,927 | 106,253 | 175,330 | 105,649 |  2019 and 2020 data unavailable | 104,028 | 103,096 |
| Discarded vehicles | 34,432 | 34,396 | 38,003 | 32,811 | 27,375 | 28,419 | 40,455 | 44,235 | 67,308 | 71,428 |
| Spent solvents | 57,857 | 54,630 | 55,985 | 57,379 | 60,722 | 50,891 | 52,876 | 47,458 | 44,801 | 53,810 |
| Discarded equipment (excluding discarded vehicles, batteries and accumulators wastes) | 55,803 | 39,639 | 37,322 | 39,235 | 58,914 | 45,859 | 43,992 | 48,904 | 38,721 | 40,740 |
| Used oils | 67,617 | 102,565 | 81,071 | 67,440 | 49,180 | 38,403 | 45,481 | 47,209 | 37,403 | 39,894 |
| Industrial effluent sludges | 38,104 | 44,350 | 48,995 | 55,117 | 55,217 | 52,596 | 39,468 | 37,414 | 39,040 | 31,206 |
| Health care and biological wastes | 23,639 | 25,617 | 25,601 | 26,657 | 22,262 | 21,483 | 22,045 | 17,676 | 24,083 | 24,096 |
| Mineral waste from construction and demolition | 37,606 | 16,609 | 15,571 | 41,070 | 21,705 | 6,619 | 3,095 | 5,282 | 26,192 | 15,391 |
| Other | 163,783 | 155,365 | 60,258 | 87,668 | 124,028 | 109,378 | 113,693 | 94,088 | 44,228 | 49,171 |
| **Total** | **604,955** | **577,354** | **469,426** | **516,788** | **521,330** | **459,902** | **536,434** | **447,917** | **425,805** | **428,832** |

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## Waste Managed

In 2022, the total amount of Scottish waste recorded as recycled, recovered, disposed, or managed by other management[[6]](#footnote-7) was 9.89 million tonnes which was 271,000 tonnes (2.7%) less than the amount of waste generated (10.16 million tonnes). In historical publications before 2011 the gap between waste managed and waste generated was larger, with the waste generated typically between 15% - 30% greater than waste managed. SEPA produced more robust methodology for estimating C&I waste data generated (introduced with the 2011 publication) and C&D waste aggregates recycled (introduced with 2014 publication and applied to historical data)[[7]](#footnote-8). With these new methodologies the difference between waste generated and waste managed is less variable, ranging from 9.4% more waste generated than managed in 2011 to 7.5% less in 2016. For further information, please refer to the [quality report on SEPA’s website](https://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/waste-data-for-scotland/).

Waste types managed do not necessarily correspond to the waste types generated. This is because waste may change form following collection and final management. For example, in 2022 there were 47,000 tonnes of Scottish waste generated in the Sorting residues category. However, in the same period there were 1.15 million tonnes of Sorting residues recorded as managed, primarily disposed by landfill (586,000 tonnes), recovered by incineration (303,000 tonnes), and disposed by incineration (246,000 tonnes). Sorting residues are typically produced as the result of the mechanical treatment of waste. A treatment plant may take waste inputs such as Mixed and undifferentiated materials (including co-mingled materials such as mixed packaging waste) and Household and similar waste. It may then produce products that can be reused or recycled, such as metal, plastic or glass, and produces reject material that is disposed. Consequently, the tonnage of these materials will be different in the waste generated tables compared to the waste managed tables.

Figure 8. Scottish WFAS managed in2011 - 2022.

Notes:

1. Recycled includes waste recycled, waste prepared for reuse and waste composted. Disposal includes incineration by disposal and waste landfilled. Recovered includes incineration with energy recovery and co-incineration.

2. Waste managed is final management and excludes interim facilities.

3. Other management comprises compost produced at non-PAS certified composting or anaerobic digestion plants.

Table 9. Scottish WFAS managed 2011 - 2022 (tonnes)

| **Year** | **Recycled1, 3** | **Recovered** | **Disposed** | **Other diversion from landfill4** | **Total2** |
| --- | --- | --- | --- | --- | --- |
| **2011** | 5,738,282 | 269,479 | 4,842,589 | 84,543 | **10,934,893** |
| **2012** | 5,096,155 | 278,470 | 4,632,242 | 76,272 | **10,083,139** |
| **2013** | 6,092,034 | 333,435 | 4,173,084 | 59,286 | **10,657,840** |
| **2014** | 5,134,438 | 489,553 | 4,190,809 | 62,619 | **9,877,419** |
| **2015** | 6,445,063 | 474,332 | 4,299,417 | 81,393 | **11,300,205** |
| **2016** | 6,861,194 | 663,925 | 3,955,120 | 71,431 | **11,551,670** |
| **2017** | 7,042,462 | 703,765 | 4,005,282 | 59,321 | **11,810,830** |
| **2018** | 7,070,035 | 495,201 | 4,001,394 | 86,212 | **11,652,841** |
|  *2019 and 2020 data unavailable* |
| **2021** | 5,729,362 | 1,000,428 | 3,294,141 | 23,779 | **10,047,710** |
| **2022** | 6,159,842 | 1,050,792 | 2,646,587 | 30,283 | **9,887,506** |

## Waste Recycled

For 2022, the total tonnage of Scottish WFAS recycled was 6.16 million tonnes, an increase of 430,000 tonnes (7.5%) from the 5.73 million tonnes recycled in 2021[[8]](#footnote-9). In part, this reflects the 596,000 tonnes (6.2%) increase in waste generated (and hence potentially available to be recycled).

In 2022, the waste category with the largest amount recycled was Soils (2.25 million tonnes, 36.5% of all waste recycled) and Mineral waste from construction and demolition (902,000 tonnes, 14.6%, see Figure 9 on page 20). These wastes are primarily from the C&D sector and their quantities vary considerably year-on-year depending on construction activities and major projects in the country.

### Recycled by Composting or Anaerobic Digestion

In 2022, there were 543,000 tonnes of organic wastes recycled in composting or anaerobic digestion facilities (see Figure 10 on page 21). This was an increase of 32,000 tonnes (6.3%) from the 510,000 tonnes of organic wastes recycled by composting or digestion in 2021.

In 2022, the tonnage of Animal and mixed food waste recycled by composting or anaerobic digestion (296,000 tonnes, see Figure 10 on page 21) was 2.9% (8,000 tonnes) greater than the amount recycled in 2021[[9]](#footnote-10). From 2011 to 2018 there was an upward trend in the recycling of these wastes. This follows a reduction in the recycling of these wastes in 2021, possibly due to the influence of COVID-19 and associated lockdowns. It is too early to say if the 2022 increase is the resumption of this trend.

Figure 9. Scottish WFAS recycledby waste category 2011 – 2022.

Note: Recycled includes waste recycled, prepared for reuse and waste composted.

Table 10. Scottish WFAS recycledby waste category 2011 – 2022 (tonnes)

|  |  |
| --- | --- |
|  | **Year** |
| **Waste category** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** |  | **2021** | **2022** |
| Soils | 2,228,954 | 1,323,499 | 2,369,425 | 1,754,540 | 2,393,660 | 2,787,153 | 3,022,056 | 2,903,935 |  2019 and 2020 data unavailable | 1,977,772 | 2,248,517 |
| Mineral waste from construction and demolition | 983,207 | 822,194 | 769,273 | 691,044 | 874,064 | 898,760 | 1,011,659 | 1,017,367 | 850,708 | 902,345 |
| Vegetal wastes | 478,229 | 550,305 | 582,531 | 574,855 | 730,417 | 708,247 | 705,840 | 672,092 | 575,150 | 661,232 |
| Metallic wastes, ferrous | 529,196 | 462,383 | 512,965 | 558,103 | 555,580 | 589,981 | 585,119 | 623,536 | 523,059 | 512,451 |
| Common sludges | 130,566 | 403,278 | 373,788 | 237,614 | 328,751 | 351,840 | 221,991 | 215,230 | 412,900 | 366,848 |
| Animal and mixed food waste | 68,721 | 138,250 | 172,163 | 187,537 | 220,232 | 281,744 | 329,788 | 351,906 | 300,295 | 320,935 |
| Paper and cardboard wastes | 326,879 | 357,970 | 345,562 | 317,014 | 254,652 | 285,385 | 323,742 | 310,366 | 241,321 | 261,631 |
| Wood wastes | 258,539 | 287,313 | 205,098 | 101,395 | 134,723 | 111,706 | 113,757 | 112,924 | 199,993 | 162,732 |
| Other | 733,992 | 750,964 | 761,227 | 712,337 | 952,985 | 846,379 | 728,509 | 862,679 | 648,165 | 723,151 |
| **Total** | **5,738,282** | **5,096,155** | **6,092,034** | **5,134,438** | **6,445,063** | **6,861,194** | **7,042,462** | **7,070,035** | **5,729,362** | **6,159,842** |

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

Figure 10. Scottish organic WFAS recycled by composting or anaerobic digestion by waste category 2011 - 2022

Table 11. Scottish organic WFAS recycled by composting or anaerobic digestion by waste category 2011 - 2022 (tonnes)

|  |  |
| --- | --- |
|  | **Year** |
| **Waste category** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** |  | **2021** | **2022** |
| Animal and mixed food waste | 64,551 | 115,993 | 147,999 | 183,015 | 205,274 | 259,734 | 302,829 | 314,845 | 2019 and 2020 data unavailable | 287,671 | 296,076 |
| Vegetal wastes | 285,994 | 263,251 | 232,538 | 257,145 | 251,379 | 270,249 | 264,742 | 222,713 | 134,197 | 164,297 |
| Animal faeces, urine and manure | 149 | 12,591 | 15,026 | 9,615 | 7,552 | 3,653 | 5,574 | 24,516 | 37,778 | 37,940 |
| Common sludges | 5,160 | 33,256 | 23,204 | 23,351 | 15,665 | 39,447 | 41,913 | 41,504 | 31,498 | 31,931 |
| Mixed and undifferentiated materials | 2,080 | 12,936 | 10,187 | 6,644 | 2,275 | 2,040 | 2,241 | 1,144 | 6,301 | 6,177 |
| Household and similar wastes | 15,027 | 9,264 | 6,649 | 7,503 | 9,365 | 8,414 | 7,569 | 4,847 | 1,289 | 2,919 |
| Sludges and liquid wastes from waste treatment | 385 | 13,705 | 6,095 | 1,914 | 4,412 | 13,646 | 2,071 | 7,331 | 8,818 | 2,047 |
| Other | 17,754 | 14,247 | 11,528 | 8,317 | 7,113 | 8,432 | 6,940 | 8,990 | 2,929 | 1,436 |
| **Total** | **391,100** | **475,243** | **453,227** | **497,504** | **503,034** | **605,614** | **633,879** | **625,889** | **510,481** | **542,824** |

## Waste Incinerated

In 2022, there were 1.40 million tonnes of Scottish waste incinerated. This is an increase of 108,000 tonnes (8.3%) from 2021. This follows a longer-term trend, with an increase of 974,000 tonnes (227.9%) of waste incinerated since 2011.

Most (94.0%, 1.32 million tonnes) Scottish WFAS incinerated was undertaken at Scottish incineration facilities.

In 2022, there were 1.05 million tonnes of Scottish waste recovered by incineration with energy recovery or co-incineration (75.0% of waste incinerated), with the remaining waste (350,000 tonnes, 25.0%) incinerated at disposal facilities[[10]](#footnote-11) (see Figure 11 below).

The largest waste category incinerated in 2022 was Sorting residues (549,000 tonnes, 39.2% of all waste incinerated), followed by Household and similar wastes (358,000 tonnes, 25.5%) and Wood wastes (356,000 tonnes, 25.4%).

These statistics cover all Scottish waste incinerated, whether incinerated in Scotland or outwith Scotland. The [waste incinerated in Scotland statistics](https://www.sepa.org.uk/media/5qfdaxwb/waste-incinerated-in-scotland-commentary.pdf), published in October 2022, covers all waste incinerated in Scottish incinerators, irrespective of the source (Scottish, non-Scottish) of the waste.

## Waste Landfilled

Scottish waste disposed to landfill in 2022 was 2.30 million tonnes, a reduction of 705,000 tonnes (23.5%) from the 3.00 million tonnes landfilled in 2021. This is consistent with the longer-term trend of decreasing disposal to landfill (see Figure 13 on page 26).

In 2022, the vast majority (98.4%, 2.26 million tonnes) of Scottish waste was landfilled at Scottish landfill facilities (data not shown).

There were 57,000 tonnes of Scottish Hazardous waste disposed to landfill in 2022, which amounts to 2.5% of all Scottish waste landfilled. This was an increase of 2,000 tonnes (4.5%) compared to 2021 (see Figure 14 below). The bulk of Scottish hazardous waste landfilled was Other mineral wastes, which primarily comprises insulating materials such as asbestos (20,000 tonnes, 35.6%), followed by Mineral wastes from waste treatment and stabilised wastes (28,000 tonnes, 48.2%).

These statistics cover all Scottish waste landfilled, whether landfilled in Scotland or outwith Scotland. The [2022 waste landfilled in Scotland statistics](https://www.sepa.org.uk/media/5qfdaxwb/waste-incinerated-in-scotland-commentary.pdf), published in October 2022, covers all waste landfilled in Scottish landfilled, irrespective of the source (Scottish, non-Scottish) of the waste.

Figure 11. Scottish WFAS incinerated by method 2011 - 2022

Table 12. Scottish WFAS incinerated by method 2011 - 2022 (tonnes)

| **Year** | **Incinerated by recovery** | **Incinerated by Co-incineration** | **Incinerated by disposal** | **Total incinerated** |
| --- | --- | --- | --- | --- |
| **2011** | 5,192 | 264,287 | 157,863 | **427,342** |
| **2012** | 20,507 | 257,963 | 153,904 | **432,374** |
| **2013** | 33,759 | 299,676 | 111,447 | **444,881** |
| **2014** | 104,693 | 384,860 | 153,362 | **642,915** |
| **2015** | 71,892 | 402,440 | 171,079 | **645,412** |
| **2016** | 292,447 | 371,478 | 227,889 | **891,814** |
| **2017** | 313,256 | 390,509 | 178,813 | **882,578** |
| **2018** | 121,257 | 373,944 | 263,946 | **759,147** |
| **2019** | 411,114 | 390,280 | 349,723 | **1,151,117** |
|  *2020 data unavailable* |  |  |  |
| **2021** | 611,412 | 389,016 | 292,726 | **1,293,154** |
| **2022** | 573,392 | 477,401 | 350,309 | **1,401,101** |

Figure 12. Scottish WFAS incinerated by waste category 2011 - 2022

Table 13. Scottish WFAS incinerated by waste category 2011 – 2022 (tonnes)

|  |  |
| --- | --- |
|  | **Year** |
| **Waste category** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** |  | **2021** | **2022** |
| Sorting residues | 34,842 | 67,685 | 61,258 | 160,780 | 141,732 | 422,781 | 392,392 | 236,640 | 405,889 |  2020 data unavailable | 532,258 | 548,831 |
| Household and similar wastes | 87,153 | 57,733 | 61,364 | 102,750 | 101,820 | 97,855 | 95,859 | 142,946 | 330,368 | 355,440 | 357,972 |
| Wood wastes | 90,641 | 127,621 | 122,523 | 206,895 | 233,616 | 243,311 | 268,843 | 242,103 | 292,088 | 264,482 | 355,604 |
| Animal faeces, urine and manure | 119,309 | 120,509 | 123,748 | 117,431 | 97,731 | 75,901 | 71,819 | 71,563 | 72,892 | 68,195 | 69,288 |
| Animal and mixed food waste | 344 | 198 | 260 | 159 | 490 | 402 | 270 | 401 | 412 | 12,338 | 17,997 |
| Common sludges | 37,200 | 33,538 | 36,060 | 22,430 | 28,417 | 32,156 | 29,278 | 26,752 | 0 | 19,160 | 14,392 |
| Industrial effluent sludges | 3,764 | 9,231 | 7,817 | 6,810 | 12,990 | 13,029 | 9,952 | 14,651 | 11,862 | 16,537 | 12,025 |
| Health care and biological wastes | 2,369 | 1,389 | 1,403 | 1,561 | 1,918 | 1,467 | 1,601 | 1,636 | 9,380 | 8,203 | 9,548 |
| Other | 51,720 | 14,470 | 30,449 | 24,098 | 26,699 | 4,912 | 12,564 | 22,455 | 28,227 | 16,541 | 15,445 |
| **Total** | **427,342** | **432,374** | **444,881** | **642,915** | **645,412** | **891,814** | **882,578** | **759,147** | **1,151,117** | **1,293,154** | **1,401,101** |

Figure 13. Scottish WFAS disposed to landfill by waste category 2011 - 2022

Table 14. Scottish WFAS disposed to landfill by waste category 2011 - 2022 (tonnes)

|  |  |
| --- | --- |
|  | **Year** |
| **Waste category** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** |  | **2021** | **2022** |
| Household and similar wastes | 1,730,846 | 1,470,708 | 1,354,709 | 1,317,644 | 1,172,084 | 1,255,523 | 1,228,146 | 1,193,340 | 760,848 |  2020 data unavailable | 736,420 | 744,322 |
| Soils | 1,202,936 | 1,217,230 | 1,198,189 | 1,132,942 | 1,239,766 | 1,026,247 | 1,255,252 | 1,414,019 | 1,173,538 | 930,492 | 636,312 |
| Sorting residues | 668,129 | 868,404 | 794,755 | 760,525 | 907,841 | 868,012 | 811,513 | 721,957 | 647,349 | 947,421 | 585,953 |
| Mineral wastes from waste treatment and stabilised wastes | 156,868 | 191,285 | 134,874 | 145,413 | 233,680 | 250,375 | 278,938 | 231,320 | 240,603 | 206,811 | 182,567 |
| Mineral waste from construction and demolition | 178,606 | 95,700 | 60,527 | 150,915 | 61,746 | 82,855 | 97,834 | 36,881 | 25,897 | 49,417 | 40,044 |
| Other mineral wastes | 50,127 | 54,963 | 77,046 | 50,966 | 49,364 | 47,467 | 54,711 | 38,435 | 30,276 | 31,029 | 34,951 |
| Mixed and undifferentiated materials | 75,181 | 47,571 | 39,881 | 41,150 | 53,581 | 36,377 | 31,538 | 46,431 | 45,038 | 37,903 | 29,574 |
| Vegetal wastes | 1,662 | 3,103 | 5,201 | 5,708 | 4,052 | 7,078 | 4,304 | 5,095 | 4,528 | 10,461 | 7,458 |
| Other | 620,371 | 529,375 | 396,455 | 432,184 | 406,223 | 153,297 | 64,233 | 49,970 | 63,609 | 51,462 | 35,098 |
| **Total** | **4,684,726** | **4,478,338** | **4,061,638** | **4,037,447** | **4,128,338** | **3,727,231** | **3,826,469** | **3,737,448** | **2,991,686** | **3,001,415** | **2,296,279** |

Figure 14. Scottish hazardous WFAS disposed to landfill by waste category 2011 - 2022

Table 15. Scottish hazardous WFAS disposed to landfill by waste category 2011 - 2022 (tonnes)

|  |  |
| --- | --- |
|  | **Year** |
| **Waste category** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** |  | **2021** | **2022** |
| Other mineral wastes | 16,882 | 14,490 | 8,497 | 16,425 | 21,667 | 22,125 | 23,496 | 22,403 | 20,896 |  2020 data unavailable | 26,070 | 20,323 |
| Mineral wastes from waste treatment and stabilised wastes | 1,033 | 615 | 482 | 189 | 402 | 178 | 10,709 | 5,299 | 7,033 | 5,418 | 9,682 |
| Sludges and liquid wastes from waste treatment | 357 | 6,596 | 9,440 | 3 | 120 | 128 | 45 | 3,094 | 5,610 | 5,719 | 3,441 |
| Soils | 93,805 | 102,497 | 4,788 | 11,978 | 27,209 | 15,859 | 9,424 | 9,642 | 6,191 | 973 | 3,481 |
| Health care and biological wastes | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sorting residues | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Chemical wastes | 126 | 36 | 32 | 19 | 17 | 7 | 14 | 327 | 189 | 39 | 171 |
| Industrial effluent sludges | 419 | 0 | 0 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 25,159 | 16,354 | 13,836 | 2,993 | 4,360 | 3,635 | 6,722 | 19,352 | 6,770 | 16,634 | 20,241 |
| **Total** | **137,782** | **140,594** | **37,075** | **31,641** | **53,776** | **41,931** | **50,408** | **60,118** | **46,689** | **54,853** | **57,339** |

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

### User Statement

Data on WFAS generation and management are collected to monitor policy effectiveness, particularly the commitments in the [Zero Waste Plan](http://www.gov.scot/Publications/2010/06/08092645/0), [Safeguarding Scotland's Resources](http://www.gov.scot/Publications/2013/10/6262), and [Scotland's Circular Economy Strategy](http://www.gov.scot/Publications/2016/02/1761) and to support policy development. The data are also used to meet legislative reporting targets on recycling targets set out in the Waste Framework Directive (2008/98/EC) and Commission Decision establishing rules and calculation methods for verifying compliance with the targets set inthe Waste Framework Directive (2011/753/EU) and to supply data for the Waste Statistics Regulation (2002/2150/EC). The data are used extensively by local and central government, the waste industry, researchers, community groups 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: waste.data@sepa.org.uk.

### Revisions Policy

SEPA will provide information about any revisions made to published information in this 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 release.

Revisions to 2021 data take into account re-submission of waste data returns by waste operators and revisions to the 2021 accredited packaging waste dataset. The changes for Incineration by recovery and Incinerated by disposal are primarily due to re-categorisation, following the accreditation of an additional two incinerators to the R1 incineration efficiency standard. Revisions are shown in Table 16 below.

Table 16. Revisions to 2021 Scottish WFAS generated and managed (tonnes)

|  | **Generated** | **Recycled** | **Recovered** | **Disposed** | **Other diversion from landfill** |
| --- | --- | --- | --- | --- | --- |
| **Waste Category** | **Original** | **Revised** | **Original** | **Revised** | **Original** | **Revised** | **Original** | **Revised** | **Original** | **Revised** |
| Spent solvents | 44,801 | 44,801 | 0 | 0 | 32 | 32 | 119 | 119 | 0 | 0 |
| Acid, alkaline or saline wastes | 4,667 | 5,446 | 0 | 0 | 79 | 79 | 0 | 0 | 0 | 0 |
| Used oils | 36,933 | 37,403 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 |
| Chemical wastes | 109,479 | 109,741 | 0 | 0 | 252 | 252 | 1,626 | 1,627 | 0 | 0 |
| Industrial effluent sludges | 57,348 | 57,359 | 1,563 | 1,563 | 13,885 | 13,885 | 14,800 | 14,800 | 0 | 0 |
| Sludges and liquid wastes from waste treatment | 306 | 491 | 8,818 | 8,818 | 0 | 0 | 8,515 | 8,515 | 1,190 | 1,190 |
| Health care and biological wastes | 37,960 | 38,053 | 0 | 0 | 4,375 | 4,375 | 10,711 | 10,711 | 0 | 0 |
| Metallic wastes, ferrous | 221,476 | 221,491 | 523,059 | 523,059 | 0 | 0 | 47 | 47 | 0 | 0 |
| Metallic wastes, non-ferrous | 19,652 | 8,080 | 53,344 | 53,344 | 0 | 0 | 29 | 29 | 0 | 0 |
| Metallic wastes, mixed ferrous and non-ferrous | 140,813 | 141,601 | 95,987 | 95,987 | 0 | 0 | 3 | 3 | 0 | 0 |
| Glass wastes | 134,429 | 123,860 | 121,117 | 179,800 | 0 | 0 | 12,884 | 12,884 | 0 | 0 |
| Paper and cardboard wastes | 141,623 | 139,930 | 241,321 | 241,321 | 0 | 0 | 664 | 664 | 0 | 0 |
| Rubber wastes | 41,623 | 41,400 | 0 | 0 | 11,429 | 11,429 | 176 | 176 | 0 | 0 |
| Plastic wastes | 54,669 | 57,394 | 82,528 | 84,128 | 0 | 0 | 1,598 | 1,598 | 0 | 0 |
| Wood wastes | 325,210 | 328,445 | 201,148 | 199,993 | 264,482 | 264,482 | 34 | 34 | 338 | 338 |
| Textile wastes | 24,605 | 24,884 | 93 | 93 | 0 | 0 | 1,781 | 1,781 | 0 | 0 |
| Waste containing PCB | 1,010 | 1,010 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Discarded equipment (excluding discarded vehicles, batteries and accumulators wastes) | 44,178 | 45,232 | 6,467 | 6,483 | 0 | 0 | 621 | 621 | 0 | 0 |
| Discarded vehicles | 103,259 | 103,221 | 45,040 | 45,040 | 0 | 0 | 0 | 0 | 0 | 0 |
| Batteries and accumulators wastes | 9,893 | 9,785 | 527 | 527 | 0 | 0 | 0 | 0 | 0 | 0 |
| Animal and mixed food waste | 368,217 | 365,084 | 300,295 | 300,295 | 12,154 | 12,154 | 2,275 | 2,275 | 885 | 885 |
| Vegetal wastes | 851,155 | 852,246 | 575,150 | 575,150 | 0 | 0 | 10,461 | 10,461 | 6,060 | 6,060 |
| Animal faeces, urine and manure | 107,178 | 112,594 | 38,275 | 38,275 | 68,195 | 68,195 | 24 | 24 | 0 | 0 |
| Household and similar wastes | 2,271,717 | 2,213,404 | 1,369 | 1,369 | 101,882 | 260,791 | 991,116 | 831,069 | 15,306 | 15,306 |
| Mixed and undifferentiated materials | 516,749 | 462,770 | 26,014 | 26,014 | 0 | 0 | 39,506 | 39,506 | 0 | 0 |
| Sorting residues | 17,038 | 17,340 | 2,583 | 2,583 | 319,603 | 345,594 | 1,185,875 | 1,134,085 | 0 | 0 |
| Common sludges | 225,724 | 231,035 | 412,900 | 412,900 | 19,160 | 19,160 | 3,188 | 3,188 | 0 | 0 |
| Mineral waste from construction and demolition | 1,241,743 | 1,241,753 | 808,978 | 850,708 | 0 | 0 | 49,417 | 49,417 | 0 | 0 |
| Other mineral wastes | 64,685 | 65,444 | 23,700 | 23,700 | 0 | 0 | 31,029 | 31,029 | 0 | 0 |
| Combustion wastes | 5,809 | 6,396 | 1,642 | 1,642 | 0 | 0 | 2,174 | 2,174 | 0 | 0 |
| Soils | 2,497,632 | 2,425,962 | 1,944,923 | 1,977,772 | 0 | 0 | 930,492 | 930,492 | 0 | 0 |
| Dredging spoils | 17,772 | 17,770 | 16,918 | 16,918 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mineral wastes from waste treatment and stabilised wastes | 10,721 | 10,724 | 59,295 | 61,881 | 0 | 0 | 206,811 | 206,811 | 0 | 0 |
| **Total** | **9,750,076** | **9,562,150** | **5,593,053** | **5,729,362** | **815,527** | **1,000,428** | **3,505,978** | **3,294,141** | **23,779** | **23,779** |

### Methodology

Data are taken from licenced and permitted waste site returns and exempt activity returns submitted to SEPA, from accredited reprocessor returns, from voluntary returns provided by waste sites on the industry source of data provided to SEPA, from voluntary returns provided by aggregate producers on the quantity of waste used to produce an aggregate product, and from all 32 Scottish local authorities using the web-based reporting tool WasteDataFlow.

Further details on the methodology used to produce the figures are provided in the annual Waste Data Quality Reports on [SEPA's web site](http://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/waste-data-for-scotland/). Please note that WFAS figures published by countries within the UK may be based on alternative calculation methodologies and as such the figures may not be directly comparable.

As the tonnages of waste managed do not equal the tonnages of waste generated, the recycling and landfill rates referred to in this document (see Table 2 on page 4) are all relative to the total waste managed rather than waste generated. For further information, please refer to the [quality report](http://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/waste-data-for-scotland/) on SEPA’s website.

### Release

The release of this publication is in line with release practices specified in the [Code of Practice for Statistics](https://code.statisticsauthority.gov.uk/#:~:text=The%20Code%20of%20Practice%20for%20Statistics%20sets%20the,produced%20by%20people%20and%20organisations%20that%20are%20trustworthy.). The statistics are released at the standard time of 9.30 am on a pre-announced 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 five working days before the public release. This is to ensure that at the time of release Scottish ministers are able to comment publicly on the statistics based on a correct understanding of them.

### Glossary of terms

**BSI PAS 100 / 110** – a national compost benchmark that specifies the minimum requirements for the process of composting, the selection of material from which compost is made, and standards for the compost product quality. PAS 100 is applicable to composting facilities while PAS 110 is applicable to anaerobic digestion facilities. The use of this standard to improve the quality of compost in Scotland became part of Scottish Government policy in 2011, with 2014 being the first year it has been applied to the household waste official statistics. For 2011 – 2013 the wastes that met the PAS 100/110 standard was modelled to produce a back series.

**Co-incineration facility** – an incineration facility in which the main purpose is the generation of energy or production of material products (e.g. cement) and which uses waste as an additional fuel. Note that co-incineration facilities are not eligible to qualify for R1 energy recovery efficiency as specified in the EU Waste Framework Directive.

**C&D Waste** – waste from the construction and demolition industry

**C&I Waste** – waste from commercial and industrial sources. Includes waste from business and industrial premises in Scotland, but excludes waste from the construction and demolition industry.

**EWC Code** – European Waste Catalogue code.

**Hazardous Waste** – waste with hazardous properties which may render it harmful to human health or the environment. Hazardous waste is also called Special Waste in Scotland as defined in the Special Waste Regulation 1996 (and amendments).

**Other diversion from landfill** – waste managed by methods outside of recycling, recovery or disposal. For 2022 this comprised exclusively waste composted at facilities not accredited to the BSI PAS 100/110 standard.

**Recycling rate** –waste recycled as a percentage of all waste managed. Note that total waste generated is not used to calculate the recycling rate as it does not equal total waste managed due to differences in methodologies used to calculate the data.

**Waste disposed** - waste landfilled and waste inputs to incineration facilities that have not been demonstrated to meet the R1 energy recovery efficiency specified in the EU Waste Framework Directive.

**Waste generated** - waste that arises directly from Scottish businesses and households during the reporting year. C&I waste generated are estimated using data from licensed/permitted site returns and complex exempt activity return. C&D waste generated is estimated using data from licensed/permitted site returns, complex exempt activity returns and aggregate survey data. Household waste generated is taken from all 32 Scottish local authority returns using the web-based reporting tool WasteDataFlow (WDF). Waste generated only includes waste that arises directly from the business, for example waste that is taken in by a business from another business and subsequently disposed is excluded from the waste generation.

**Waste disposed by incineration** – waste inputs to incineration facilities that have not been demonstrated to meet the R1 energy recovery efficiency specified in the EU Waste Framework Directive.

**Waste landfilled** - waste that is disposed of to landfill sites instead of being recycled or recovered. This includes incinerator ash, plus any recycling and composting rejects that occur during collection, sorting or further treatment that are landfilled.

**Waste managed** - includes all wastes recycled, disposed, recovered and managed by other management within the relevant reporting year.

**Waste recovered by incineration** – waste inputs to co-incineration facilities and to incineration facilities that incinerate mixed municipal waste and have been demonstrated to meet the R1 energy recovery efficiency specified in the EU Waste Framework Directive.

**Waste recycled** - recyclable materials that have been recycled, prepared for reuse and biodegradable materials that have been composted or anaerobically digested to quality standards set by PAS 100/110.

**WFAS** – waste from all sources. This includes waste from commercial and industrial sources, construction and demolition sources and household sources.

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If you are a user of British Sign Language (BSL), the Contact Scotland BSL service gives you access to an online interpreter, enabling you to communicate with us using sign language. [contactscotland-bsl.org](http://contactscotland-bsl.org/)

1. 2021 data refer to revised tonnages. Details of revisions may be found in the *Revisions Policy* on page 28. [↑](#footnote-ref-2)
2. The 2021 recycling rate has been revised upwards from 56.3% to 57.0%. [↑](#footnote-ref-3)
3. Any calculations using the waste data should be made usign the accompanying excel tables. Calculations undertaken on tables in this commentary document may produce small rounding errors. [↑](#footnote-ref-4)
4. 2021 data refer to revised tonnages. Details of revisions may be found in the *Revisions Policy* on page 28. [↑](#footnote-ref-5)
5. Source: Quarterly National Accounts: Other National Accounts Summary Tables;Table A: GDP Summary Measures, Scotland onshore economy. Available as part of the [Scottish Government economy statistics collection](https://www.gov.scot/collections/economy-statistics/). Data are not adjusted for inflation. [↑](#footnote-ref-6)
6. Other management comprises waste composted or anaerobically digested at facilities not accredited to the BSI PAS 100 or PAS 110 standard. [↑](#footnote-ref-7)
7. While the C&I methodology is more robust than historical surveys, it relies on aging historical waste surveys for estimates of C&I waste generated at smaller waste sites. Refer to the 2021 waste from all sources quality report on SEPA’s waste data web pages for further details. The strategy to improve the robustness of reporting is tied to the introduction of mandatory digital waste tracking (see the [UK government digital waste tracking website](https://www.gov.uk/government/publications/digital-waste-tracking-service/mandatory-digital-waste-tracking)). [↑](#footnote-ref-8)
8. 2021 data refer to revised tonnages. Details of revisions may be found in the *Revisions Policy* on page 28. [↑](#footnote-ref-9)
9. Data is not available for 2019 and 2020 due to a cyber-attack. [↑](#footnote-ref-10)
10. Waste incinerated by disposal is incineration that has not been demonstrated to meet the R1 energy recovery efficiency specified in the EU Waste Framework Directive. [↑](#footnote-ref-11)