Waste incinerated in Scotland - 2021

This release provides a summary of all waste incinerated in Scotland for calendar year 2021. It excludes Scottish waste incinerated elsewhere. 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

Waste incinerated in Scotland – 2021 calendar year

- The total quantity of waste incinerated in Scotland in 2021 was 1.35 million tonnes, an increase of 93,000 tonnes (7.4%) from 2020, and an increase of 943,000 tonnes (230%) from 2011.
- Nearly one quarter (23.7%) of waste incinerated was incinerated by recovery. This is the first time that incineration by recovery was recorded in Scotland, with one Scottish municipal waste incinerator now accredited to the R1 energy efficiency standard.
- Sorting residues were the waste category most incinerated in Scotland in 2021 (450,000 tonnes), which was a 74,000 tonne (19.5%) increase from 2020 and comprised one third (33.3%) of all waste incinerated. This increase is likely partly due to a resumption of construction activity in Scotland following extended lockdowns and other restrictions due to COVID-19 in the previous reporting period, and partly due to increased treatment of residual waste, for which the processing was delayed in 2020 due to COVID-19 lockdowns at local authority recycling centres.
- Hazardous waste comprised 0.2% (2,000 tonnes) of waste incinerated in 2021 and was solely composed of hazardous Health care and biological wastes. This was an increase of 2,000 tonnes compared with 2020.

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

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

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

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Table 1. Waste incinerated in Scotland – Summary data 2021 (tonnes)

Waste Category	Total incinerated (tonnes)
Acid, alkaline or saline wastes	0
Animal and mixed food waste	12,323
Animal faeces, urine and manure	84,291
Batteries and accumulators wastes	0
Chemical wastes	4
Combustion wastes	0
Common sludges	0
Discarded equipment (excluding discarded vehicles, batteries and accumulators wastes)	0
Discarded vehicles	0
Dredging spoils	0
Glass wastes	0
Health care and biological wastes	5,365
Household and similar wastes	355,440
Industrial effluent sludges	15,519
Metallic wastes, ferrous	0
Metallic wastes, mixed ferrous and non-ferrous	0
Metallic wastes, non-ferrous	0
Mineral waste from construction and demolition	0
Mineral wastes from waste treatment and stabilised wastes	0
Mixed and undifferentiated materials	1
Other mineral wastes	0
Paper and cardboard wastes	0
Plastic wastes	0
Rubber wastes	11,429
Sludges and liquid wastes from waste treatment	0
Soils	0
Sorting residues	449,955
Spent solvents	0
Textile wastes	0
Used oils	0
Vegetal wastes	0
Waste containing PCB	0
Wood wastes	418,364
Total	**1,352,691**

Data and Trends

Waste Incinerated in Scotland

- In 2021, 1.35 million tonnes of waste were incinerated in Scotland across 17 permitted incineration facilities. This was an increase of 93,000 tonnes (7.4%) from 2020. This increase is consistent with the longer term incineration trend, with 943,000 tonnes (230%) more waste incinerated in Scotland than in 2011 (see Figure 1 below).
- Sorting residues were the waste category most incinerated in Scotland in 2021 (450,000 tonnes), which was a 74,000 tonne (19.5%) increase from 2020 and comprised one third (33.3%) of all waste incinerated. This is the first time since 2014 that Wood wastes have been surpassed as the largest amount of waste incinerated (see Figure 1 below). The incineration of Sorting residues has been increasing since 2019, and is indicative of the increase in the number of municipal waste incinerators in Scotland, which incinerate, among other wastes, rejects from the sorting of waste. This increase is likely partly due to a resumption of construction activity in Scotland following extended lockdowns and other restrictions due to COVID-19 in the previous reporting period, and partly due to increased treatment of residual waste, for which the processing was delayed in 2020 due to COVID-19 lockdowns at local authority recycling centres[1].
- In 2021 there were 418,000 tonnes of Wood wastes incinerated, comprising 30.9% of all waste incinerated, an increase of 3,000 tonnes (0.7%) from 2020. Over one third (37%, 154,000 tonnes) of the Wood wastes incinerated in 2021 originated in the UK outwith Scotland (data not shown). This compares with 4% that originated in the UK outwith Scotland in 2011.
- There were 2,000 tonnes of hazardous waste incinerated in Scotland in 2021 (see Figure 3 below), which amounted to 0.2% of all waste incinerated in Scotland. Similar to 2019 and 2020, all hazardous waste incinerated was Health care and biological wastes. The incineration of these wastes increased by 2,000 tonnes compared with 2020 but decreased by 6,000 tonnes (71.6%) compared with 2019.
- In 2021, nearly forty percent (39.9%) of waste incinerated in Scotland was incinerated by co-incineration, over one third (36.4%) incinerated by disposal, and nearly one quarter (23.7%) incinerated by recovery. This is the first time that incineration by recovery was recorded in Scotland, with one Scottish municipal waste incinerator now accredited to the R1 energy efficiency standard[2].

[1] In the incineration and landfill statistics, the rejects from the treatment of waste, which are reported to SEPA as EWC code 19 12 12 coded waste, form part of the Sorting residues waste category. In WasteDataFlow, there is no EWC 19 12 12 equivalent coded waste, and these wastes form part of the Household and similar wastes statistical category (rejects from treatment of residual waste) or the Mixed and undifferentiated materials waste category (rejects from treatment of source segregated recyclate).

[2] All historic data has been amended for this incinerator, as the incineration process has not changed during the lifetime of the incinerator.

Figure 1. Waste incinerated in Scotland by waste category 2011 - 2021

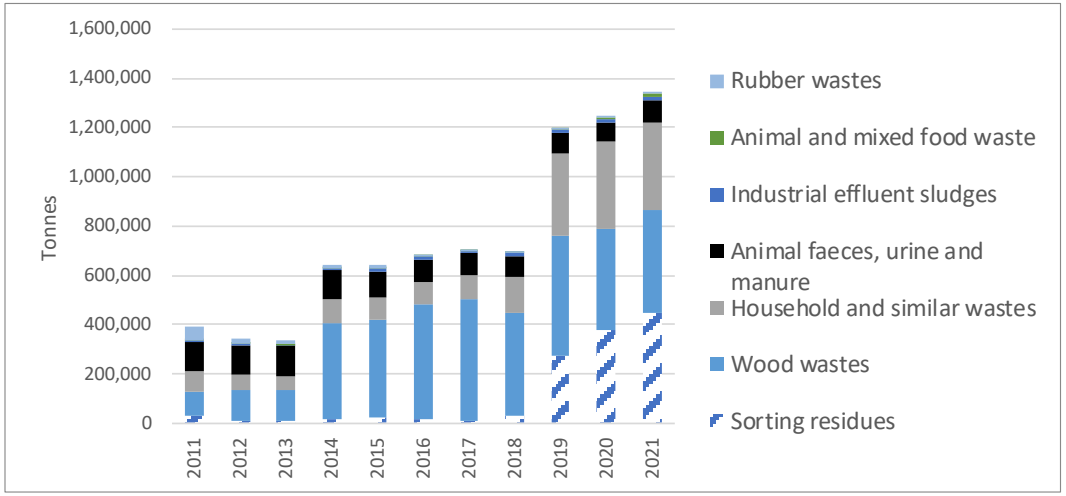


Table 2. Waste incinerated in Scotland by waste category 2011 – 2021 (tonnes)

Waste Category	Year										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Sorting residues	29,648	6,270	7,578	17,836	22,912	16,582	12,043	31,858	271,993	376,407	449,955
Wood wastes	94,477	130,449	123,121	388,394	394,199	464,311	493,081	416,272	490,292	415,319	418,364
Household and similar wastes	87,693	58,759	59,034	98,041	90,837	90,646	94,636	142,946	330,368	350,231	355,440
Animal faeces, urine and manure	119,309	120,509	123,748	117,431	108,194	94,685	89,009	85,320	87,080	80,073	84,291
Industrial effluent sludges	2,404	8,243	5,191	5,295	11,542	9,991	9,266	13,430	10,410	10,653	15,519
Animal and mixed food waste	344	198	260	159	473	366	260	398	410	11,431	12,323
Rubber wastes	15,235	14,539	15,025	16,183	8,594	2,940	8,039	17,511	16,424	12,904	11,429
Health care and biological wastes	1,366	1,240	1,335	1,372	1,701	1,443	1,360	1,313	8,918	1,912	5,365
Other	59,583	19,926	15,853	13,794	16,345	2,263	471	2,454	10,613	342	5
Total	**410,059**	**360,132**	**351,145**	**658,506**	**654,797**	**683,226**	**708,165**	**711,502**	**1,226,507**	**1,259,270**	**1,352,691**

Figure 2. Waste incinerated in Scotland by incineration method 2011 - 2021

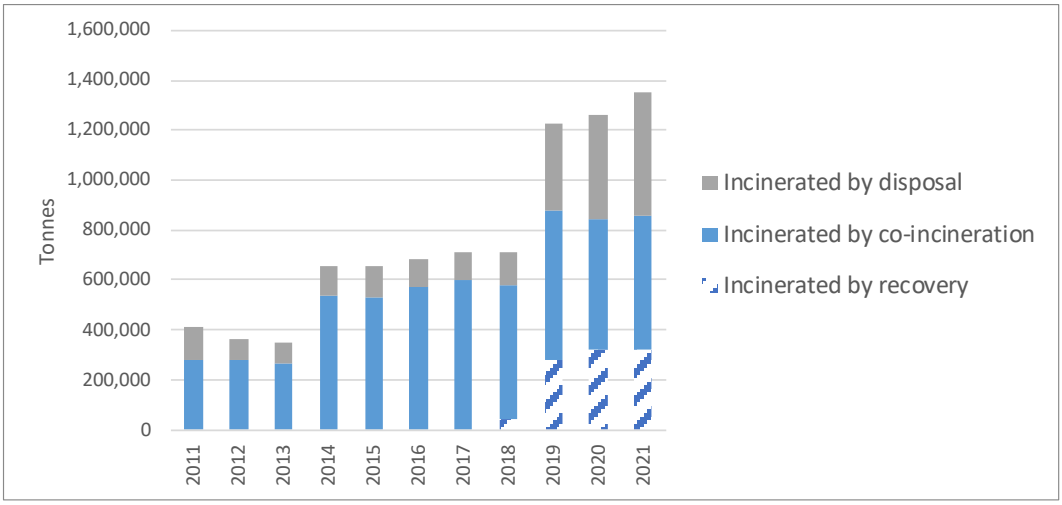


Table 3. Waste incinerated in Scotland by incineration method 2011 - 2021 (tonnes)

Year	Incinerated by recovery	Incinerated by co-incineration	Incinerated by disposal	Total
2011	0	276,869	133,190	410,059
2012	0	276,899	83,234	360,132
2013	0	268,295	82,850	351,145
2014	0	537,817	120,689	658,506
2015	0	529,303	125,494	654,797
2016	0	572,009	111,218	683,226
2017	0	598,944	109,221	708,165
2018	41,284	534,357	135,862	711,502
2019	277,240	602,672	346,595	1,226,507
2020	318,878	528,082	412,311	1,259,270
2021	320,374	539,833	492,484	1,352,691

Figure 3. Hazardous waste incinerated in Scotland 2011 – 2021

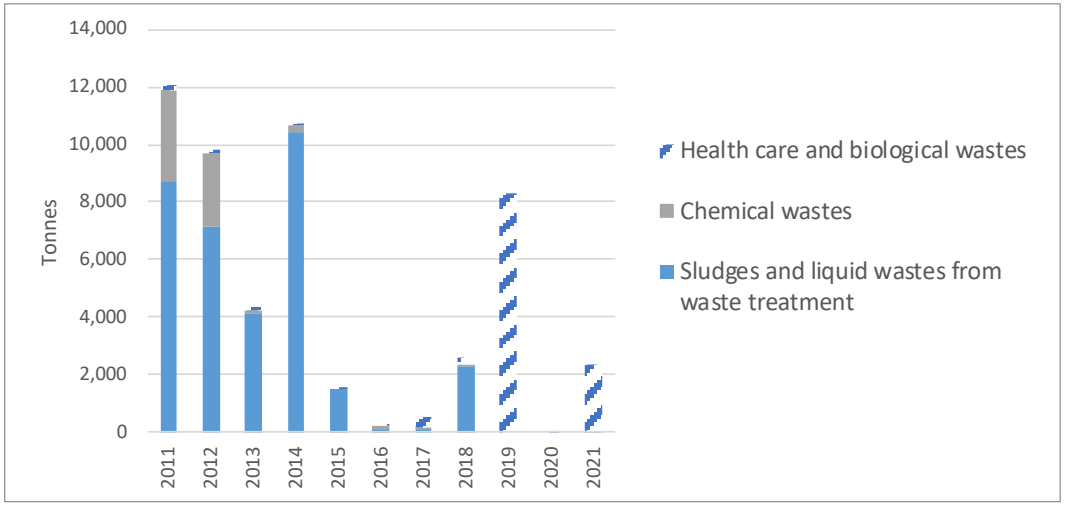


Table 4. Hazardous waste incinerated in Scotland 2011 – 2021 (tonnes)

Waste Category	Year										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Health care and biological wastes	172	90	94	107	82	49	387	207	8,304	3	2,362
Sludges and liquid wastes from waste treatment	8,745	7,150	4,082	10,410	1,476	82	112	2,307	0	0	0
Chemical wastes	3,134	2,567	172	244	0	114	33	58	0	0	4
Other	0	0	0	0	0	0	0	0	0	0	0
Total	**12,103**	**9,811**	**4,348**	**10,761**	**1,558**	**245**	**532**	**2,572**	**8,304**	**3**	**2,366**

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

User Statement

Data on waste generation and management is collected to monitor policy effectiveness, particularly the commitments in the Scottish Government's Making Things Last – A Circular Economy Strategy for Scotland and to support policy development. The data are also used for the Waste Statistics Regulation (2002/2150/EC). The data is used extensively by local and central government, the waste industry, researchers and the 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 this release and any associated datasets. Revisions could occur for various reasons, including when data from third parties are 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.

Revision to 2020 waste incinerated in Scotland data since the last statistical publication are depicted in Table 5 below. The changes are primarily re-categorisation from Incineration by Disposal to Incineration by Recovery, following the accreditation to R1 incineration efficiency certification by a Scottish municipal waste incinerator. All historic data has been amended for this incinerator, as the incineration process has not changed during the operation of the incinerator.

Table 5. Revisions to the 2020 waste landfilled in Scotland

Year	Incinerated by recovery		Incinerated by co-incineration		Incinerated by disposal		Total	
	Original	Revised	Original	Revised	Original	Revised	Original	Revised
2011	0	0	276,869	276,869	133,190	133,190	410,059	410,059
2012	0	0	276,899	276,899	83,234	83,234	360,133	360,132
2013	0	0	268,295	268,295	82,850	82,850	351,145	351,145
2014	0	0	537,817	537,817	120,689	120,689	658,506	658,506
2015	0	0	529,303	529,303	125,494	125,494	654,797	654,797
2016	0	0	572,008	572,009	111,217	111,218	683,225	683,226
2017	0	0	598,944	598,944	109,220	109,221	708,164	708,165
2018	0	41,284	534,357	534,357	177,147	135,862	711,504	711,502
2019	0	277,240	602,672	602,672	623,835	346,595	1,226,507	1,226,507
2020	0	318,878	528,082	528,082	736,508	412,311	1,264,590	1,259,270

Note: shaded cells represent a revision of more than 50 tonnes

Methodology

Data is taken from licensed/permitted site returns or reports submitted to SEPA. Further details on the methodology used to produce the figures are provided in the annual Waste Data Quality Reports on SEPA's web site.

Glossary of terms

EWC Code – European Waste Catalogue waste 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).

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

Waste incinerated by co-incineration – wastes used principally as a fuel and incinerated at 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.

Waste incinerated by disposal - wastes incinerated at an incineration facility where the energy efficiency has not been demonstrated to meet the R1 criteria specified in the EU Waste Framework Directive (Directive 2008/98/EC).

Waste incinerated by recovery - wastes used principally as a fuel to generate energy and incinerated at an incineration facility where the energy efficiency has been demonstrated to meet the R1 energy efficiency criteria specified in the EU Waste Framework Directive (Directive 2008/98/EC).

Waste recovered by incineration - wastes incinerated by co-incineration and waste incinerated by recovery.

Waste incinerated –WFAS that is incinerated in Scotland including waste incineration by disposal and waste incineration by recovery.