Waste landfilled in Scotland - 2021

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

- The total quantity of waste landfilled in Scotland in 2021 was 3.2 million tonnes, an increase of 587,000 tonnes (22.4%) from 2020, however a reduction of 3.9 million tonnes (54.6%) from 2005.
- The increase was largely due to Soils landfilled (increase of 297,000 tonnes or 35.7% from 2020) and Sorting residues landfilled (increase of 221,000 tonnes or 32.1% from 2020). These increases are likely due to a resumption of construction activity in Scotland following extended lockdowns and other restrictions due to COVID-19 in the previous reporting period.
- The top three categories of waste landfilled in 2021 were Soils (1.1 million tonnes, 35.3% of total), Sorting residues (910,000 tonnes, 28.4% of total) and Household and similar wastes (782,000 tonnes, 24.4% of total).
- The amount of biodegradable municipal waste (BMW – the biodegradable component of Municipal Waste[1]) disposed to landfill in 2021 was 856,000 tonnes, an increase of 122,000 tonnes (16.6%) from 2020 and a reduction of 1.2 million tonnes (58.0%) since 2005.

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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[1] This measure differs from that for the 2025 BMW landfill ban, which applies to the whole amount of waste containing BMW, not just the BMW fraction.

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

Waste Category	Total waste landfilled
Acid, alkaline or saline wastes	0
Animal and mixed food waste	2,091
Animal faeces, urine and manure	24
Batteries and accumulators wastes	0
Chemical wastes	792
Combustion wastes	2,150
Common sludges	3,188
Discarded equipment (excluding discarded vehicles, batteries and accumulators wastes)	621
Discarded vehicles	0
Dredging spoils	0
Glass wastes	12,884
Health care and biological wastes	6,902
Household and similar wastes	782,114
Industrial effluent sludges	10,517
Metallic wastes, ferrous	47
Metallic wastes, mixed ferrous and non-ferrous	3
Metallic wastes, non-ferrous	29
Mineral waste from construction and demolition	49,646
Mineral wastes from waste treatment and stabilised wastes	198,772
Mixed and undifferentiated materials	37,878
Other mineral wastes	31,326
Paper and cardboard wastes	36
Plastic wastes	1,598
Rubber wastes	176
Sludges and liquid wastes from waste treatment	6,732
Soils	1,131,113
Sorting residues	910,229
Spent solvents	0
Textile wastes	1,781
Used oils	0
Vegetal wastes	10,461
Waste containing PCB	0
Wood wastes	34
Total	**3,201,143**

Data and Trends

Waste Landfilled in Scotland

- In 2021, 3.2 million tonnes of waste were disposed of to landfill in Scotland across 43 permitted landfill sites. This was an increase of 587,000 tonnes (22.4%) from 2020.
- The increase was largely due to Soils landfilled (increase of 297,000 tonnes or 35.7% from 2020) and Sorting residues landfilled (increase of 221,000 tonnes or 32.1% from 2020). These increases are likely due to a resumption of construction activity in Scotland following extended lockdowns and other restrictions due to COVID-19 in the previous reporting period.
- The increase in waste landfilled in Scotland between 2020 and 2021 is against the longer term trend, of a reduction of 3.9 million tonnes (54.6%) since 2005 and the amount landfilled decreasing steadily since 2007 (see Figure 1 below)
- As shown in Figure 2 and Table 3 below, 39,000 tonnes of hazardous waste were disposed to landfill in Scotland in 2021, which accounts for 1.2% of all waste landfilled. Over half of the hazardous waste landfilled was Other mineral wastes (26,000 tonnes, 67.3% of total), which primarily comprise insulating materials such as asbestos.
- Between 2005 and 2012, soils comprised between 62% and 76% of the total hazardous waste disposed of to landfill. From 2013 onwards, that percentage has dropped, and in 2021 comprised 2.5% (1,000 tonnes, see Figure 2 below). This pattern corresponds to a change in 2012 when a landfill tax exemption for disposing of waste from contaminated land was removed.

Figure 1. Waste disposed to landfill in Scotland by waste category 2005 - 2021 (tonnes)

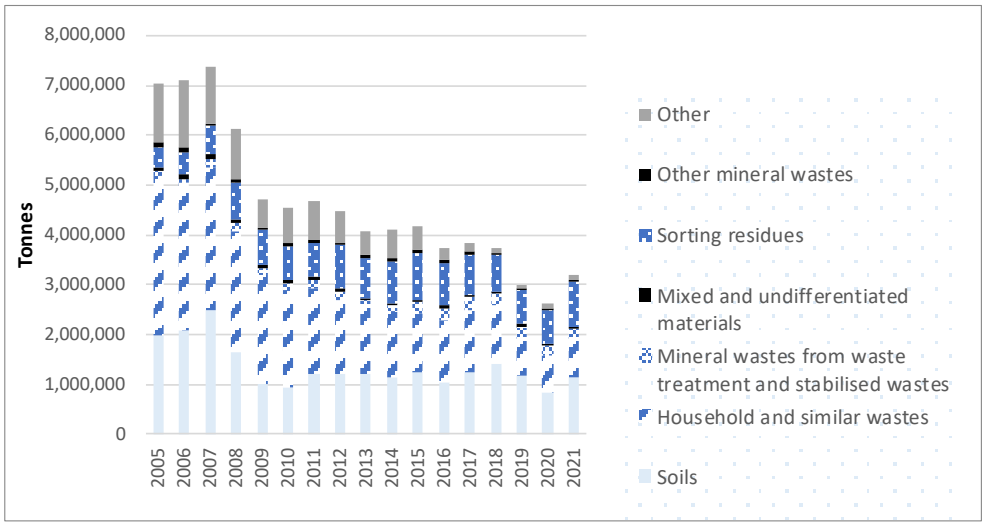


Figure 2. Hazardous waste disposed to landfill in Scotland by waste category 2005 – 2021 (tonnes)

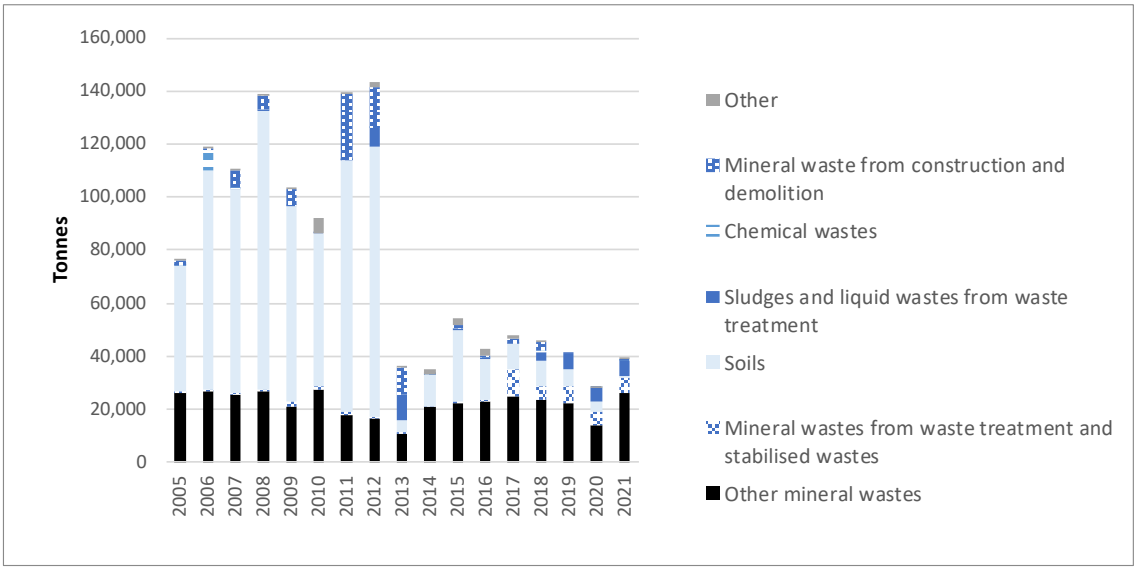


Table 2. Waste disposed to landfill in Scotland by waste category 2005 - 2021 (tonnes)

Waste Category	Year																
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Soils	1,981,068	2,074,445	2,494,877	1,629,731	1,007,472	950,445	1,210,975	1,220,689	1,207,592	1,137,523	1,243,087	1,026,687	1,256,725	1,415,748	1,173,991	833,778	1,131,113
Sorting residues	407,809	445,095	570,575	738,220	723,364	683,935	668,476	866,219	796,418	833,129	945,509	867,345	813,569	745,403	670,443	689,188	910,229
Household and similar wastes	3,212,099	2,972,577	2,848,253	2,434,477	2,184,192	1,929,466	1,726,995	1,466,308	1,351,373	1,313,490	1,166,258	1,245,786	1,222,957	1,187,185	756,722	735,834	782,114
Mineral wastes from waste treatment and stabilised wastes	79,464	88,267	164,900	176,634	124,431	142,952	157,486	189,298	132,802	145,233	233,680	250,393	275,364	214,430	234,959	207,577	198,772
Mixed and undifferentiated materials	93,097	95,909	107,268	83,171	75,702	62,347	75,231	47,623	43,203	42,554	62,139	54,306	34,671	46,497	45,082	36,142	37,878
Other mineral wastes	90,782	82,091	48,801	42,670	38,160	69,134	51,090	56,410	78,922	54,991	50,135	48,447	55,828	39,504	31,318	18,105	31,326
Other	1,190,418	1,349,429	1,129,395	1,024,940	553,381	714,690	780,538	634,999	462,811	591,702	473,441	243,016	166,242	91,713	92,158	93,954	109,711
Total	**7,054,739**	**7,107,813**	**7,364,069**	**6,129,843**	**4,706,701**	**4,552,968**	**4,670,791**	**4,481,545**	**4,073,122**	**4,118,622**	**4,174,250**	**3,735,979**	**3,825,356**	**3,740,480**	**3,004,674**	**2,614,577**	**3,201,143**

Table 3. Hazardous waste disposed to landfill in Scotland by waste category 2005 – 2021 (tonnes)

Waste Category	Year																
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Other mineral wastes	26,337	27,047	25,693	26,797	21,113	27,075	17,990	16,223	10,586	20,748	22,493	23,120	24,671	23,521	21,939	13,676	26,368
Sludges and liquid wastes from waste treatment	0	0	205	428	137	0	357	6,596	9,440	3	120	128	45	3,094	5,610	4,686	5,719
Mineral wastes from waste treatment and stabilised wastes	191	15	472	661	1,535	1,491	1,033	615	482	189	402	178	10,709	5,299	7,033	5,509	5,418
Soils	47,722	82,918	76,984	105,317	73,958	57,571	94,663	102,497	4,788	11,978	27,209	15,859	9,424	9,642	6,191	3,921	973
Mineral waste from construction and demolition	1,585	626	6,321	4,769	6,175	139	24,587	15,265	10,189	192	1,637	890	1,790	3,473	38	98	158
Chemical wastes	3	7,842	135	253	112	362	126	36	32	19	17	7	14	327	189	164	39
Other	245	85	1,138	746	11	5,706	777	2,165	55	1,678	2,647	2,579	1,165	557	0	192	517
Total	**76,084**	**118,534**	**110,947**	**138,970**	**103,042**	**92,344**	**139,534**	**143,395**	**35,572**	**34,807**	**54,525**	**42,759**	**47,817**	**45,913**	**40,999**	**28,246**	**39,191**

Biodegradable Municipal Waste (BMW) Landfilled in Scotland

- Municipal waste is defined as waste with certain EWC codes, primarily Chapter 20 codes and certain Chapter 15 and 19 codes. The full list of relevant EWC codes may be found in Table 6 on Page 11.
- Biodegradable Municipal Waste (BMW) is the fraction of municipal waste which will degrade, giving rise to methane emissions over time when landfilled. It should be noted that this measure differs from that for the 2025 BMW landfill ban, which applies to the whole amount of waste containing BMW, not just the BMW fraction.
- In 2021, 856,000 tonnes of BMW were disposed of to landfill in Scotland (see Figure 3 below). This was an increase of 122,000 tonnes (16.6%) from 2020 and a reduction of 1.2 million tonnes (58.0%) since 2005.
- Scotland had an EU based target to reduce the quantity of BMW disposed of to landfill in Scotland to less than 1.26 million tonnes by 2020. Since 2013 Scotland has met this target (see Figure 3 below).
- In 2021, the top two categories of BMW disposed of to landfill were EWC 20 03 01 (mixed municipal waste) which comprised 51% of the total and EWC 19 12 12 (Other non-hazardous wastes from mechanical treatment of waste) which comprised 45% of the total (data not shown).

Figure 3. BMW landfilled in Scotland 2005 – 2021 (tonnes)

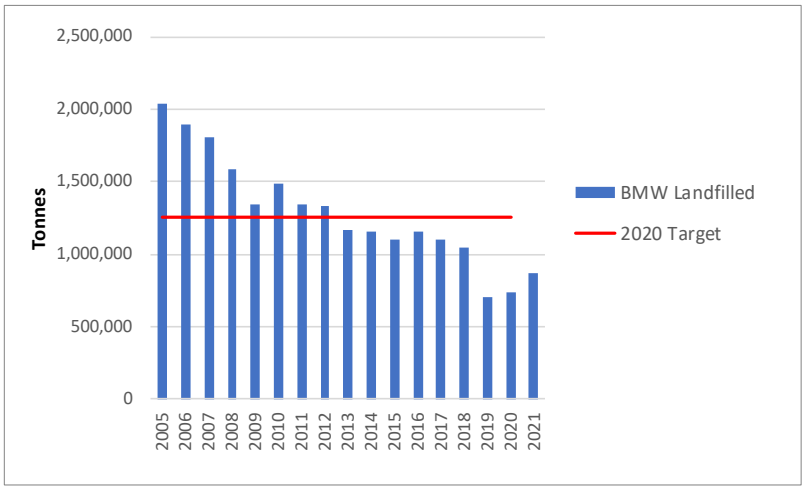


Table 4. BMW landfilled in Scotland 2005 – 2021 (tonnes)

Year	BMW Landfilled
2005	2,039,328
2006	1,899,423
2007	1,803,518
2008	1,582,285
2009	1,344,562
2010	1,484,357
2011	1,342,869
2012	1,327,239
2013	1,160,475
2014	1,143,525
2015	1,088,994
2016	1,150,230
2017	1,092,412
2018	1,023,203
2019	698,805
2020	733,640
2021	855,737

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

User Statement

Data on waste generation and management are 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 are 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.

There were no revisions to 2020 waste landfilled in Scotland data since the last statistical publication. There were revisions to the BMW landfilled. The revisions are due to revised estimations of the amount of EWC coded 19 12 12 waste that is of municipal origin. Further details of the methodology used to estimate the EWC coded 19 12 12 of municipal origin can be found in the accompanying quality report.

Table 5. Revision to BMW landfilled in Scotland 2005 – 2020(tonnes)

Year	BMW Landfilled	
	Original	Revised*
2005	2,039,328	2,039,328
2006	1,899,423	1,899,423
2007	1,803,518	1,803,518
2008	1,582,285	1,582,285
2009	1,344,562	1,344,562
2010	1,484,357	1,484,357
2011	1,363,516	1,342,869
2012	1,327,242	1,327,239
2013	1,182,064	1,160,475
2014	1,136,865	1,143,525
2015	1,095,158	1,088,994
2016	1,140,387	1,150,230
2017	1,090,404	1,092,412
2018	1,023,292	1,023,203
2019	698,805	698,805
2020	691,191	733,640

Methodology

Data are taken from permitted waste site returns submitted to SEPA. Further details on the methodology used to produce the figures are provided in the annual Waste Data Quality Report on SEPA's web site.

Glossary of terms

EWC Code – European Waste Catalogue waste code

BMW – the biodegradable fraction of Municipal Waste - 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 tonnes by the biodegradability factor listed in Table 6 below.

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).

Municipal Waste – all wastes with EWC codes listed in Table 6 below.

Municipal BMW – BMW that originates from municipal sources. All wastes of EWC Chapter 20 and selected wastes of EWC Chapter 19 and Chapter 15 (see Table 6) are considered municipal sources.

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

Waste landfilled – WFAS that is disposed of to landfill.

Table 6. European Waste Catalogue (EWC) codes which comprise Municipal Waste[2]

EWC code	Biodegradability factor	EWC code	Biodegradability factor
20 01 01	1	20 03 99	0.63
20 01 02	0	19 01 02	0
20 01 08	1	19 01 11*	0
20 01 10	0.5	19 01 12	0
20 01 11	0.5	19 01 13*	0
20 01 13*	0	19 01 14	0
20 01 14*	0	19 01 15*	0
20 01 15*	0	19 01 16	0
20 01 17*	0	19 01 17*	0
20 01 19*	0	19 01 18	0
20 01 21*	0	19 01 99	0
20 01 23*	0	19 04 01	0
20 01 25	1	19 04 02*	0
20 01 26*	1	19 04 03*	0
20 01 27*	0	19 04 04	0
20 01 28	0	19 05 01	0.63
20 01 29*	0	19 05 03	0.63
20 01 30	0	19 06 03	0
20 01 31*	0	19 06 04	0.2
20 01 32	0	19 06 05	0
20 01 33*	0	19 06 06	0.2
20 01 34	0	19 12 01	1
20 01 35*	0	19 12 02	0
20 01 36	0	19 12 03	0
20 01 37*	1	19 12 04	0
20 01 38	1	19 12 05	0
20 01 39	0	19 12 06*	1
20 01 40	0	19 12 07	1
20 01 41	0	19 12 08	0.5
20 01 99	0.63	19 12 09	0
20 02 01	1	19 12 10	0.5
20 02 02	0	19 12 11*	0.5
20 02 03	0	19 12 12	0.63
20 03 01	0.63	15 01 01	1
20 03 02	0.63	15 01 02	0
20 03 03	0.51	15 01 05	0.74
20 03 04	0.2	15 01 06	0.63
20 03 06	0.1	15 01 07	0
20 03 07	0.5	15 01 09	0.5

[2] The fraction of 19 12 12 coded waste considered municipal waste is calculated on a site by site basis, in order to account for municipal waste inputs that contribute to the formation of the 19 12 12 waste. An EWC code with an asterisk is a hazardous waste.