Scottish Environment Protection Agency
Buidheann Dìon Àrainneachd na h-Alba

For the future of our environment

Waste landfilled in Scotland – 2022

Official Statistics



October 2023

Waste landfilled in Scotland - 2022

This release provides a summary of all waste landfilled in Scotland for calendar year 2022. 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 – 2022 calendar year

- The total quantity of waste landfilled in Scotland in 2022 was 2.4 million tonnes, a decrease of 631,000 tonnes (21.0%) from 2021. This continues a long-term trend, with a reduction of 4.7 million tonnes (66.4%) since 2005, and is the lowest annual amount on record of waste landfilled since then.

- Most of the decrease in 2022 was due to a reduction in Sorting residues landfilled (reduction of 311,000 tonnes or 32.2% from 2021) and Soils landfilled (reduction of 274,000 tonnes or 29.5% from 2021). The reduction follows an increase in the landfilling of these wastes in 2021. The decrease in waste landfilled in 2022 is consistent with the attribution, in the 2021 statistical publication, that the 2021 increase was due to a resumption of economic activity in Scotland following extended lockdowns and other restrictions due to COVID-19.

- The top three categories of waste landfilled in 2022 were Household and similar wastes (744,000 tonnes, 31.4% of total), Soils (657,000 tonnes, 27.7% of total) and Sorting residues (656,000 tonnes, 27.7% of total).

- The amount of biodegradable municipal waste (BMW – the biodegradable component of Municipal Waste[1]) disposed to landfill in 2022 was 707,000 tonnes, a decrease of 174,000 tonnes (19.8%) from 2021 and a reduction of 1.3 million tonnes (65.3%) since 2005.

[1] 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.

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/

Lead statistician: Peter Ferrett

Table 1. Waste landfilled in Scotland – Summary data 2022 (tonnes)

WASTE CATEGORY	TOTAL WASTE LANDFILLED
Acid, alkaline or saline wastes	0
Animal and mixed food waste	1,733
Animal faeces, urine and manure	30
Batteries and accumulators wastes	0
Chemical wastes	450
Combustion wastes	1,480
Common sludges	3,247
Discarded equipment (excluding discarded vehicles, batteries and accumulators wastes)	243
Discarded vehicles	0
Dredging spoils	216
Glass wastes	6,153
Health care and biological wastes	6,437
Household and similar wastes	744,318
Industrial effluent sludges	5,625
Metallic wastes, ferrous	9
Metallic wastes, mixed ferrous and non-ferrous	1
Metallic wastes, non-ferrous	16
Mineral waste from construction and demolition	40,044
Mineral wastes from waste treatment and stabilised wastes	166,625
Mixed and undifferentiated materials	29,574
Other mineral wastes	35,251
Paper and cardboard wastes	29
Plastic wastes	2,632
Rubber wastes	124
Sludges and liquid wastes from waste treatment	4,349
Soils	656,899
Sorting residues	656,099
Spent solvents	0
Textile wastes	1,562
Used oils	0
Vegetal wastes	7,459
Waste containing PCB	0
Wood wastes	113
Total	**2,370,718**

Data and Trends

Waste Landfilled in Scotland

The total quantity of waste landfilled in Scotland in 2022 was 2.4 million tonnes, across 40 permitted landfill sites, a decrease of 631,000 tonnes (21.0%) from 2021. This continues a long-term trend, with a reduction of 4.7 million tonnes (66.4%) since 2005, and the amount landfilled decreasing steadily since 2007 (see Figure 1 below).

Most of the decrease between 2021 and 2022 was due to a reduction in Sorting residues landfilled (reduction of 311,000 tonnes or 32.2% from 2021) and Soils landfilled (reduction of 274,000 tonnes or 29.5% from 2021). The decrease in waste landfilled in 2022 is consistent with the attribution, in the 2021 statistical publication, that the 2021 increase was due to a resumption of economic activity in Scotland following extended lockdowns and other restrictions due to COVID-19.

As shown in Figure 2 and Table 3 below, 38,000 tonnes of hazardous waste were disposed to landfill in Scotland in 2022, which accounts for 1.6% of all waste landfilled. Over half of the hazardous waste landfilled was Other mineral wastes (21,000 tonnes, 54.5% of total), which primarily comprised 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 2022 comprised 10.2% (4,000 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.

OFFICIAL

Figure 1. Waste disposed to landfill in Scotland by waste category 2005 - 2022 (tonnes)

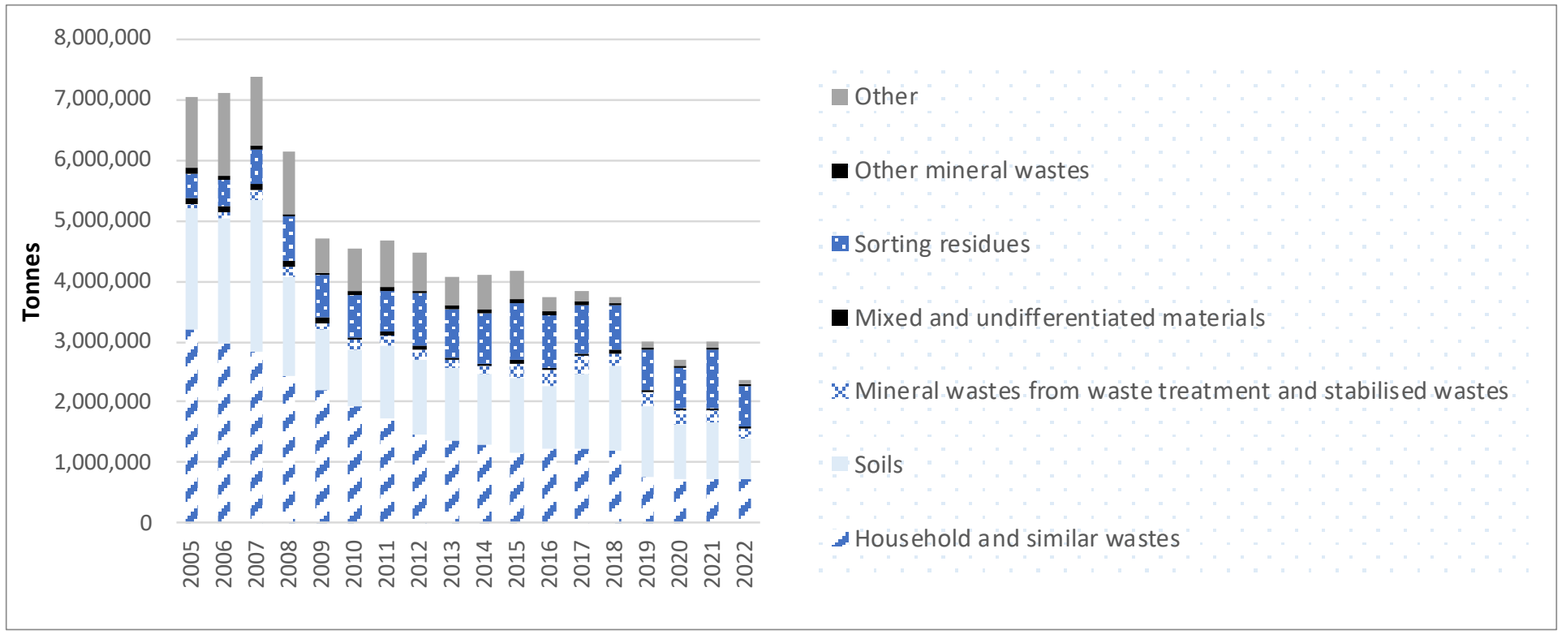
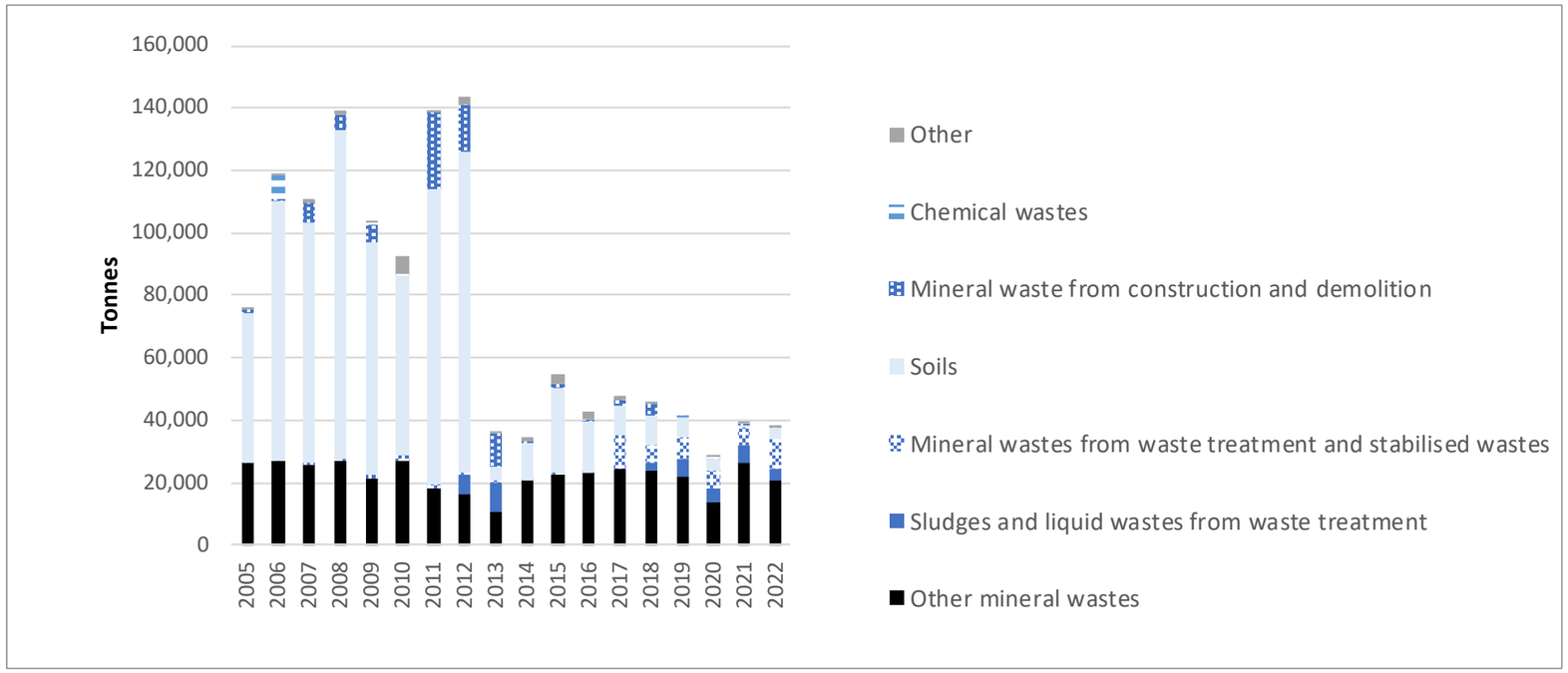


Figure 2. Hazardous waste disposed to landfill in Scotland by waste category 2005 – 2022 (tonnes)



OFFICIAL

Table 2. Waste disposed to landfill in Scotland by waste category 2005 - 2022 (tonnes)

WASTE CATEGORY	YEAR																	
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
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	908,639	931,209	656,899
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	967,309	656,099
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	735,833	736,645	744,318
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	207,576	188,302	166,625
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	36,141	37,884	29,574
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	31,335	35,251
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	93,955	109,455	81,952
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**	**2,689,437**	**3,002,139**	**2,370,718**

Table 3. Hazardous waste disposed to landfill in Scotland by waste category 2005 – 2022 (tonnes)

WASTE CATEGORY	YEAR																	
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
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	26,377	20,727
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	3,441
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	9,682
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	3,871
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	9
Chemical wastes	3	7,842	135	253	112	362	126	36	32	19	17	7	14	327	189	164	39	171
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	132
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**	**39,201**	**38,033**

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 7 on page 16.

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 the measure of BMW to landfill differs from that for the 2025 BMW landfill ban[2], which applies to the whole amount of waste containing BMW, not just the BMW fraction.

In 2022, 707,000 tonnes of BMW were disposed of to landfill in Scotland (see Figure 3 below). This was a decrease of 174,000 tonnes (19.8%) from 2021[3] and a reduction of 1.3 million tonnes (65.3%) since 2005.

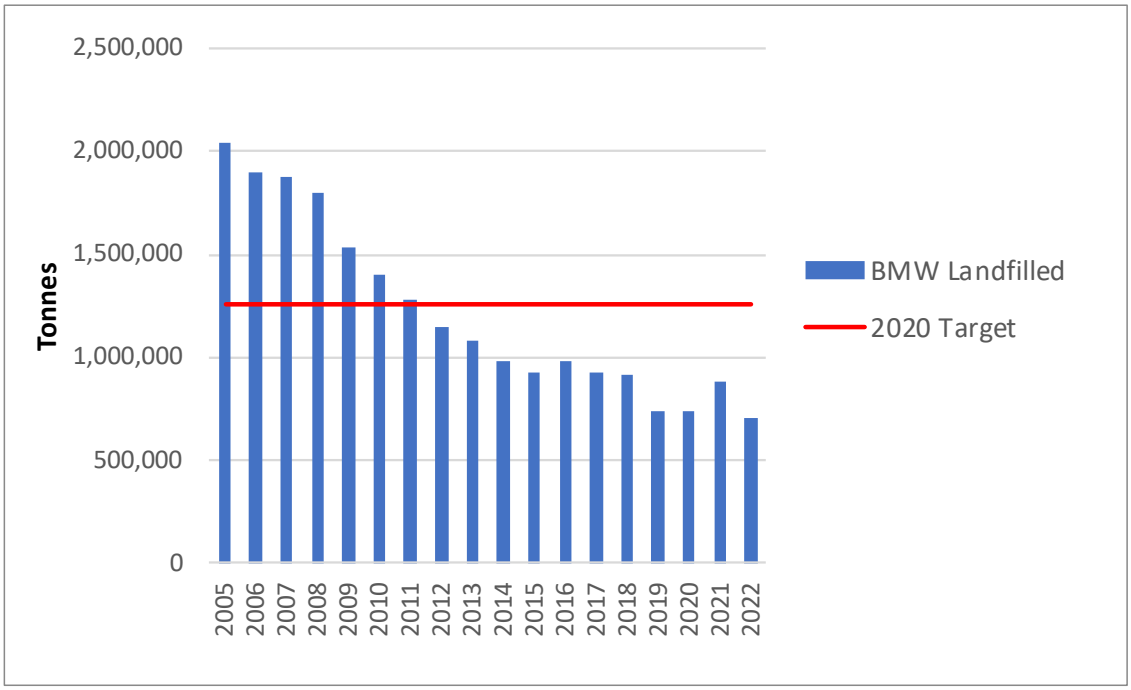
Scotland had an EU based target to reduce the quantity of BMW disposed of to landfill in Scotland to less than 1.26 million tonnes by 2020. Since 2013 Scotland has met this target (see Figure 3 below).

In 2022, the BMW disposed to landfill comprised mainly two waste categories; EWC 20 03 01 (mixed municipal waste) which comprised 64% of the total, and EWC 19 12 12 (Other non-hazardous wastes from mechanical treatment of waste) which comprised 35% of the total (data not shown).

[2] https://www.legislation.gov.uk/ssi/2012/148/made

[3] The 2021 BMW landfilled was revised upwards by 25,000 tonnes from 856,000 tonnes to 881,000 tonnes. Refer to the revisions section on page 10.

Figure 3. BMW landfilled in Scotland 2005 – 2022 (tonnes)[4]



[4] The 2020 target is specified in Making Things Last: a circular economy strategy for Scotland - gov.scot (www.gov.scot)

Table 4. BMW landfilled in Scotland 2005 – 2022 (tonnes)

YEAR	BMW LANDFILLED
2005	2,039,328
2006	1,899,423
2007	1,877,891
2008	1,801,940
2009	1,538,060
2010	1,403,883
2011	1,281,839
2012	1,145,339
2013	1,085,486
2014	982,755
2015	927,603
2016	984,738
2017	928,187
2018	911,426
2019	743,767
2020	737,384
2021	881,152
2022	707,109

Data Uses, Feedback, Revisions Policy, Methodology, Glossary of Terms and Measures, and References

User Statement

Data on 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 contribute to the UK Statistics on waste and 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.

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.

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.

Revisions to 2021 waste landfilled in Scotland data since the last statistical publication were made following re-submission of waste data returns by landfill operators, and changes are shown in Table 5 below.

Revisions to the 2021 BMW landfilled are shown in Table 6 below. For 2021, the changes are due to re-submission of wase data returns by landfill operators. In addition, the BMW landfilled 2011 – 2021 were revised to make corrections in the estimate of EWC coded 19 12 12 waste that originates from municipal sources. Refer to the 2022 landfill quality report for information about the methodology used to estimate the 19 12 12 waste that originates from municipal sources.

Table 5. Revision to waste landfilled in Scotland 2021 (tonnes)

WASTE CATEGORY	ORIGINAL (TONNES)	REVISED (TONNES)
Acid, alkaline or saline wastes	0	0
Animal and mixed food waste	2,091	2,091
Animal faeces, urine and manure	24	24
Batteries and accumulators wastes	0	0
Chemical wastes	792	791
Combustion wastes	2,150	2,150
Common sludges	3,188	3,188
Discarded equipment (excluding discarded vehicles, batteries and accumulators wastes)	621	621
Discarded vehicles	0	0
Dredging spoils	0	0
Glass wastes	12,884	12,884
Health care and biological wastes	6,902	6,902
Household and similar wastes	782,114	736,645
Industrial effluent sludges	10,517	10,517
Metallic wastes, ferrous	47	47
Metallic wastes, mixed ferrous and non-ferrous	3	3
Metallic wastes, non-ferrous	29	29
Mineral waste from construction and demolition	49,646	49,390
Mineral wastes from waste treatment and stabilised wastes	198,772	188,302
Mixed and undifferentiated materials	37,878	37,884
Other mineral wastes	31,326	31,335
Paper and cardboard wastes	36	36
Plastic wastes	1,598	1,598
Rubber wastes	176	176
Sludges and liquid wastes from waste treatment	6,732	6,732
Soils	1,131,113	931,209
Sorting residues	910,229	967,309
Spent solvents	0	0
Textile wastes	1,781	1,781
Used oils	0	0
Vegetal wastes	10,461	10,461
Waste containing PCB	0	0
Wood wastes	34	34
Total	**3,201,143**	3,002,139

*shaded cells represent a revision of more than 50 tonnes

Table 6. Revision to BMW landfilled in Scotland 2005 – 2021 (tonnes)

YEAR	BMW LANDFILLED	
	ORIGINAL	REVISED*
2005	2,039,328	2,039,328
2006	1,899,423	1,899,423
2007	1,803,518	1,877,891
2008	1,582,285	1,801,940
2009	1,344,562	1,538,060
2010	1,484,357	1,403,883
2011	1,342,869	1,281,839
2012	1,327,239	1,145,339
2013	1,160,475	1,085,486
2014	1,143,525	982,755
2015	1,088,994	927,603
2016	1,150,230	984,738
2017	1,092,412	928,187
2018	1,023,203	911,426
2019	698,805	743,767
2020	733,640	737,384
2021	855,737	881,152

*shaded cells represent a revision of more than 50 tonnes

Glossary of terms

EWC Code – European Waste Catalogue waste code

EWC coded 19 12 12 – Sorting residues produced from the mechanical treatment of waste. The waste treated may be municipal or non-municipal waste in origin, or a mixture of both.

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 7 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 [Latest Available (Revised) version].

Municipal Waste – all wastes with EWC codes listed in Table 7 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 7) are considered municipal sources.

Permitted Sites – facilities which landfill waste and are required to be permitted by SEPA under the Pollutions Prevention and Control (Scotland) Regulations 2012.

Sorting Residues – waste from mechanical sorting processes, including sorting of residual waste to remove recyclable or combustible materials, sorting at a Materials Recovery Facility (MRF facilities where mixed wastes are deposited, sorted according to material or recyclability; non-composted residues from composting, etc.

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 7. European Waste Catalogue (EWC) codes which comprise Municipal Waste[5]

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

[5] 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.

For information on accessing this document in an alternative format or language, please contact SEPA by emailing equalities@sepa.org.uk

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