

*Data extracted in January 2025
Planned article update: 30 March 2026*

Highlights

511 kg of municipal waste per capita were generated in the EU in 2023. 48% of municipal waste in the EU was recycled (material recycling and composting) in 2023. This article shows trends in [municipal waste](#) generation and treatment in the [European Union \(EU\)](#) from 1995 to 2023. There is a distinct trend towards less landfilling as countries move steadily towards alternative ways of treating waste.

Municipal waste accounts for only about 10% of total waste generated when compared with the data reported according to the Waste Statistics Regulation ([env_wasmun](#)). However, it has a very high political profile because of its complex character, due to its composition, its distribution among many sources of waste and its link to consumption patterns.

Municipal waste generation

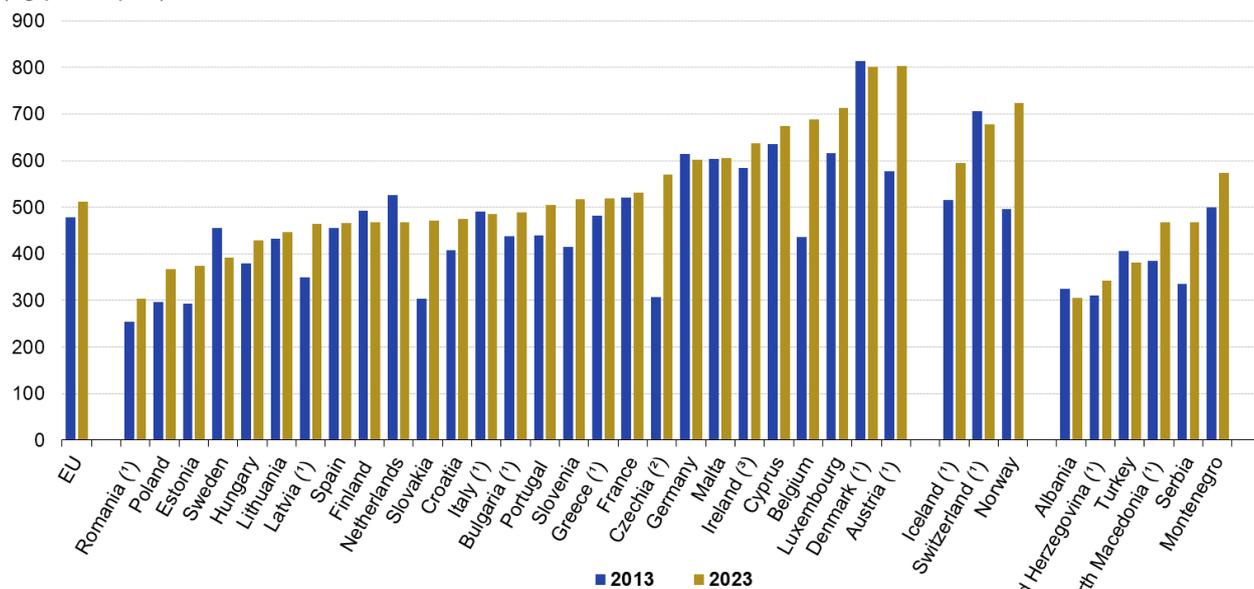
Figure 1 and Table 1 show municipal waste generation by country expressed in kilogrammes per capita (kg per capita). To illustrate trends, Table 1 shows waste for selected years, covering the period 1995 to 2023. For better readability, Figure 1 covers only the years 2004 and 2023. Both include the [EU aggregates](#) for comparison. In Figure 1, countries are ranked in increasing order by municipal waste generation in 2023. Please note that the dynamic figure at the top of this page also shows municipal waste generation by country expressed in kilogrammes per capita (kg per capita) for 2013 and 2023. The values of the dynamic version may contain revisions of data, as it reflects the actual status of the data in the Eurostat database, and therefore may be different from those in Figure 1 and Table 1. The associated references to data in the below section relate to Figure 1 and Table 1.

For 2023, municipal waste generation totals vary considerably, ranging from 303 kg per capita in Romania (2022 data) to 803 kg per capita in Austria (2022 data). The variations reflect differences in consumption patterns and economic wealth, but also depend on how municipal waste is collected and managed. There are differences between countries regarding the degree to which waste from commerce, trade and administration is collected and managed together with waste from [households](#).

From 2004 on, methodologies were finalised in most countries, so the waste generation time series of 2004 and later is more accurate and stable than that of 1995 to 2003. Figure 1 presents municipal waste generated (kg per capita) in 2013 and 2023 for each of the EU countries, Iceland, Switzerland, Norway, United Kingdom and [candidate countries](#).

Municipal waste generated, 2013 and 2023

(kg per capita)



Note: Countries are ranked in increasing order by municipal waste generation in 2023.

(*) 2022 data instead of 2023

(*) 2021 data instead of 2023

(*) 2020 data instead of 2023 and 2012 instead of 2013

Source: Eurostat (online data code: env_wasmun)

eurostat

Figure 1: Municipal waste generated, 2013 and 2023 (kg per capita) Source: Eurostat (env_wasmun)

Municipal waste generated, in selected years, 1995-2023
(kg per capita)

	1995	2000	2005	2010	2015	2020	2023	Change 2023/1995 (%)
EU	467	513	506	503	481	522	511	9.5
Belgium	455	471	482	456	412	729	689	51.3
Bulgaria (*)	694	612	588	554	431	432	488	-29.7
Czechia (²)	302	335	289	318	316	543	570	88.8
Denmark (¹)	521	664	736	:	822	814	802	54.0
Germany	623	642	565	602	632	641	601	-3.5
Estonia	371	453	433	305	359	383	373	0.6
Ireland (³)	512	599	731	624	:	637	637	24.4
Greece (¹)	303	412	442	532	488	499	519	71.4
Spain	505	653	588	510	456	463	465	-7.9
France	475	514	529	534	516	538	530	11.6
Croatia	:	262	336	379	398	433	475	:
Italy (¹)	454	509	544	542	490	487	486	7.2
Cyprus	595	628	688	711	637	625	674	13.4
Latvia (¹)	264	271	320	324	404	478	464	75.4
Lithuania	426	365	387	404	447	480	446	4.8
Luxembourg	587	654	672	679	607	790	712	21.2
Hungary	460	446	461	403	379	406	429	-6.8
Malta	387	533	625	623	643	642	606	56.4
Netherlands	539	598	599	571	523	533	468	-13.2
Austria (¹)	437	580	575	562	560	834	803	83.6
Poland	285	320	319	316	286	346	367	28.8
Portugal	352	457	452	516	459	509	505	43.4
Romania (¹)	342	355	383	313	247	290	303	-11.5
Slovenia	596	513	494	490	449	487	517	-13.2
Slovakia	295	254	273	319	329	478	472	60.1
Finland	413	502	478	470	500	609	468	13.3
Sweden	386	425	479	441	451	431	392	1.7
Iceland (¹)	426	462	516	484	588	614	595	39.6
Norway	624	613	426	469	421	726	724	16.0
Switzerland (¹)	602	659	664	711	728	706	677	12.4
Bosnia and Herzegovina (¹)	:	:	:	332	340	:	343	:
Montenegro (¹)	:	:	:	496	498	486	573	:
North Macedonia (¹)	:	:	:	351	380	441	467	:
Albania	:	:	:	:	491	369	306	:
Serbia	:	:	:	363	259	427	467	:
Turkey	441	465	458	407	400	415	380	-13.7
Kosovo (¹)(⁵)	:	:	:	:	178	255	283	:

(¹) 2022 data instead of 2023

(²) 2021 data instead of 2023

(³) 2020 data instead of 2023

(⁴) 2012 data instead of 2010.

Note: data presented in italic are estimated.

(⁵) This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo Declaration of Independence

Source: Eurostat (online data code: env_wasmun)

eurostat 

Table 1: Municipal waste generated, in selected years, 1995-2023 (kg per capita) Source: Eurostat (env_wasmun)

Municipal waste treatment

In this section, differences in the management of municipal waste are shown and treatment strategies are identified based on reported amounts of municipal waste **landfilled**, **incinerated**, **recycled** and **composted**. EU countries are asked to distinguish between incineration with and without energy recovery¹. In this article, only the total amount

¹Annex II of the Waste Framework Directive includes an energy efficiency criterion that helps to classify incineration facilities and to improve data comparability. The criterion came into force on 12 December 2010.

incinerated is analysed.

Table 2 shows the amount of municipal waste treated in the EU for the period 1995 to 2023 by treatment method, in million tonnes and in kg per capita. The descriptions in the following text refer to Table 2.

Table 2: Municipal waste landfilled, incinerated, recycled and composted, EU, 1995-2023

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Change 2023/1995 (%)
	million tonnes																													
Landfill	121	117	117	114	113	112	107	104	99	93	88	88	87	83	82	79	74	67	63	59	57	57	56	56	55	54	52	52	51	-58
Incineration	30	30	33	33	34	36	37	39	39	41	45	48	49	51	52	53	55	54	55	57	57	58	59	58	59	62	62	58	58	96
Material Recycling	23	26	30	32	37	38	40	43	43	43	46	47	52	53	54	55	56	58	56	59	63	65	65	66	67	70	73	69	66	185
Composting	14	16	17	18	19	23	23	24	24	26	26	27	28	30	30	29	29	30	31	33	33	36	37	38	39	43	46	44	44	213
Other	10	13	12	11	12	11	12	12	12	13	16	13	11	10	7	6	6	6	5	4	4	5	5	6	5	4	6	7	10	-7
	kg per capita																													
Landfill	286	276	276	266	263	262	250	241	229	214	202	202	199	190	185	178	167	153	142	134	127	128	127	125	124	122	117	117	115	-60
Incineration	70	71	77	78	79	84	87	90	90	95	103	111	112	116	117	120	125	122	125	128	129	130	132	131	131	138	138	131	129	86
Material Recycling	54	62	69	75	85	87	92	100	100	100	105	109	119	120	123	125	128	130	128	134	141	145	147	147	150	156	163	154	147	170
Composting	33	38	41	42	45	53	54	57	57	59	59	61	64	69	67	66	66	69	71	74	75	81	84	84	88	97	102	98	99	196
Other	23	31	28	27	28	27	27	27	28	31	37	30	24	23	17	13	13	13	12	9	9	10	10	13	12	9	13	15	22	-6

Note: estimated by Eurostat.
Source: Eurostat (online data code: env_wasmun)

Table 2: Municipal waste landfilled, incinerated, recycled and composted, EU, 1995-2023 Source: Eurostat (env_wasmun)

The 'other treatment' category was calculated as the difference between the sum of the amounts treated and the amounts of waste generated. This difference arises in countries that have to estimate waste generation in areas not covered by a municipal waste collection scheme and thus report more waste generated than treated. In addition, the 'other treatment' category reflects the effects of import and export, weight losses, double-counting of secondary waste (e.g. landfilling and recycling of residues from incineration), differences due to time lags, temporary storage and, increasingly, the use of pre-treatment, such as [mechanical biological treatment \(MBT\)](#). This may even lead to a rise in 'other treatment' for a given year. At EU level, these effects contribute only marginally and tend to cancel each other out. However, at country level, the effects can be considerable.

Even though more waste is being generated in the EU, the total amount of municipal waste landfilled has diminished. In the reference period (1995-2023), the total municipal waste landfilled in the EU fell by 70 million tonnes, or 58%, from 121 million tonnes (286 kg per capita) in 1995 to 51 million tonnes (115 kg per capita) in 2023. This corresponds to an average annual decline of 3.1%. For the shorter period 2004-2023, landfilling fell by 3.2% per year on average.

As a result, the landfilling rate (landfilled waste as share of generated waste) in the EU dropped from 61% in 1995 to 22% in 2023.

This reduction can partly be attributed to the implementation of European legislation, for instance [Directive 62/1994](#) on packaging and packaging waste. By 2001, EU countries had to recover a minimum of 50% of all packaging put on the market. With the revised recovery target of 60% to be achieved by 31 December 2008, there was a further rise in the amount of packaging waste collected separately. By 31 December 2025 65% of the packaging waste has to be recycled.

Furthermore, [Directive 31/1999](#) on landfill stipulated that EU countries were obliged to reduce the amount of biodegradable municipal waste going to landfills to 75% by 16 July 2006, to 50% by 16 July 2009, to 35% by 16 July 2016 and to 10% until 2035. The reduction was calculated on the basis of the total amount of biodegradable municipal waste produced in 1995. The Directive has led to countries adopting different strategies to avoid sending the organic fraction of municipal waste to landfill, namely composting (including fermentation), incineration and pre-treatment, such as mechanical-biological treatment (including physical stabilisation).

As a result, the amount of waste recycled (material recycling and composting) rose from 37 million tonnes (88 kg per capita) in 1995 to 111 million tonnes (246 kg per capita) in 2023, at an average annual rate of 4.1%. The share of municipal waste recycled overall rose from 19% to 48%.

Waste incineration has also increased steadily in the reference period, though not as much as recycling and composting. Since 1995, the amount of municipal waste incinerated in the EU has risen by 28 million tonnes, or 96%, and accounted for 58 million tonnes in 2023. Municipal waste incinerated has thus risen from 70 kg per capita to 129 kg per capita.

Mechanical biological treatment (MBT) and sorting of waste are not reported as separate categories of municipal waste treatment, as they are types of pre-treatment that require an additional final treatment. In practice, the amounts delivered to mechanical biological treatment or sorting should be reported on the basis of the subsequent final treatment steps. However, the way these amounts are allocated to the four treatment categories (incineration, landfilling, recycling and composting) varies significantly and some countries report only on the first (pre-)treatment step.

As a consequence, reporting on the current set of variables often requires additional information to relate the amounts of municipal waste landfilled, incinerated, recycled and composted to the amounts generated at country level.

Figure 2 shows the amount of waste generated per capita at EU level and the amount of waste by treatment category (landfill, incineration, material recycling, composting). The references to specific tonnages in the description above might not match the tonnages in Figure 2, as Figure 2 is dynamic and may contain revisions of data, as it reflects the actual status of the data in Eurobase.

Figure 2

Source data for tables and graphs

- [Municipal waste - tables and figures](#)

Data sources

The data cover the period from 1995 to 2022 for the 27 EU countries (Croatia only has complete sets since 2006). For the [candidate countries](#), coverage is as follows: Bosnia and Herzegovina (since 2008), North Macedonia (since 2008), Albania (since 2013), Serbia (since 2011) and Türkiye. For the [EFTA](#) countries, Iceland, Norway and Switzerland and the potential EU candidate countries Kosovo² and Albania (since 2013), data are given to the extent possible.

Definitions

The municipal waste classification is based on the [Directive 851/2018](#) amending the [Waste Framework Directive \(Directive 2008/98/EC\)](#) and on the definitions for the section on waste in the OECD/Eurostat Joint Questionnaire. Further information is available in the

- [ESMS metadata sheet on municipal waste](#) (ESMS metadata file — env_wasmun_esms)

MW generated / MW collected : The data refer to the amount of municipal waste generated. In countries with complete (national) coverage of their municipal waste collection scheme, the total of municipal waste generated is equal to the total of municipal waste collected. Some countries do not cover their whole territory with a collection scheme. These countries have added an estimate of the waste generated in areas not covered. For some countries data prior to 2008 refer to municipal waste collected, as it was not possible to make an estimate for the population not covered.

Data for France include the overseas departments (département d'outre-mer or DOM) Martinique, Guadeloupe, Réunion and French Guiana.

Data for Cyprus refer only to the area under the effective control of the Government of the Republic of Cyprus.

Data for Liechtenstein are included in Switzerland.

Context

²This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo Declaration of Independence.

[Eurostat](#) has collected and published data on municipal waste since 1995. Eurostat has conducted surveys on European waste data using the OECD/Eurostat-Joint Questionnaire as the main source. After the introduction of the [Regulation \(EC\) No 2150/2002](#) of 25 November 2002 on waste statistics the data collection on municipal waste based on the joint Questionnaire was continued to maintain the time series and to offer consistent data in an international context outside the EU (OECD, UN).

Footnotes

Explore further

Other articles

- [Waste statistics](#)
- [Packaging waste statistics](#)
- [End-of-life vehicle statistics](#)
- [Waste statistics - electrical and electronic equipment](#)
- [Waste shipment statistics](#)

Database

- [Waste \(env_wasmun\)](#)

Thematic section

- [Waste - Overview](#)

Publications

- [Energy, transport and environment statistics - 2020 Edition](#)
- [Generation and treatment of municipal waste - Statistics in focus 31/2011](#)

Selected datasets

- [\(cei_wm011\)](#)

Methodology

- [Waste statistics](#) (ESMS metadata file — env_wasmun_esms)

External links

- [European Commission - DG Environment - Waste in the EU](#)
- [European Environment Agency - Waste and material resources](#)
- [OECD Website](#)
- [New rules on waste management and recycling](#)
- [European Commission - DG Environment - Circular economy](#)

Legislation

- [Regulation \(EC\) No 2150/2002](#) of 25 November 2002 on waste statistics
- [Directive \(EU\) 2018/851](#) of 30 May 2018 amending Directive 2008/98/EC on waste
- [Waste Framework Directive \(Directive 2008/98/EC\)](#)
- [Directive 1999/31/EC](#) of 26 April 1999 on the landfill of waste
- [Summaries of EU legislation: Landfill of waste](#)
- [Directive 94/62/EC](#) of 20 December 1994 on packaging and packaging waste
- [Summaries of EU legislation: Packaging and packaging waste](#)