

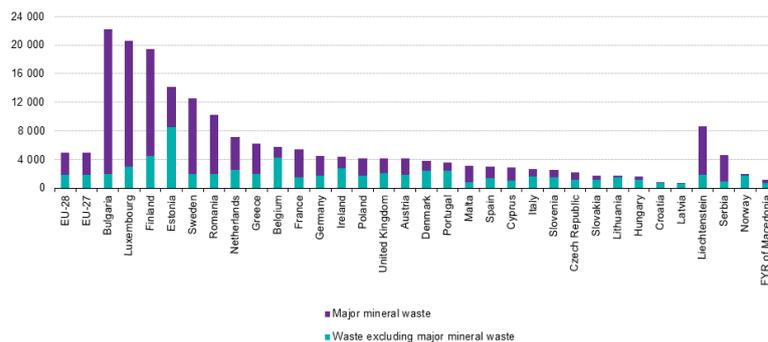
Waste statistics

Data from July 2013. Most recent data: Further Eurostat information, Main tables and Database . Planned article update: August 2014.

	Waste from economic activities and households		Agriculture, forestry & fishing (Section A)	Mining & quarrying (Section B)	Manufacturing (Section C)	Energy (Section D)	Construction & demolition (Section F)	Other economic activities (Sections E and G to I)	Households
	Total	of which, hazardous							
EU-28	2 505 400	101 370	39 440	671 780	275 580	86 040	859 740	354 230	218 590
EU-27	2 502 240	101 300	39 420	671 750	274 950	85 930	859 730	351 870	218 590
Belgium	62 537	4 479	231	1 701	14 543	1 210	18 165	22 008	4 679
Bulgaria	167 203	13 542	618	150 214	3 306	8 032	79	2 557	2 396
Czech Republic	23 758	1 363	114	115	4 202	1 540	9 354	5 099	3 334
Denmark	20 965	1 784	201	41	1 919	517	3 176	12 676	2 436
Germany	383 545	19 931	256	24 493	48 981	9 087	190 990	53 426	36 312
Estonia	19 000	8 962	110	6 453	3 716	6 534	436	1 320	430
Ireland	19 808	1 972	101	2 196	3 259	334	1 610	10 578	1 730
Greece	70 433	292	5	44 793	4 941	11 029	2 086	2 381	5 198
Spain	137 519	2 991	5 817	31 732	16 480	2 339	37 947	20 006	23 198
France	355 081	11 538	1 682	1 053	20 382	993	260 226	41 439	29 307
Croatia	3 158	73	14	29	634	108	8	2 365	0
Italy	158 628	8 543	311	706	35 928	2 660	59 340	27 204	32 479
Cyprus	2 373	37	129	382	132	3	1 068	198	451
Latvia	1 498	68	68	1	375	25	22	314	694
Lithuania	5 583	110	456	7	2 653	68	357	782	1 261
Luxembourg	10 440	379	3	18	498	2	8 731	803	385
Hungary	15 735	541	488	87	3 134	2 718	3 072	3 372	2 865
Malta	1 288	17	3	0	9	1	989	149	138
Netherlands	119 255	4 421	3 948	184	14 094	1 156	78 064	12 737	9 072
Austria	34 883	1 473	550	269	2 958	453	9 010	17 019	4 623
Poland	159 458	1 492	1 543	61 547	28 618	20 291	20 818	17 751	8 890
Portugal	38 347	1 625	193	1 206	9 766	456	11 071	10 193	5 464
Romania	219 310	666	18 353	177 404	7 862	5 888	238	3 438	6 127
Slovenia	5 159	120	141	12	1 517	558	1 509	694	728
Slovakia	9 384	415	526	166	2 669	878	1 786	1 641	1 719
Finland	104 337	2 559	2 772	54 851	15 211	1 445	24 645	3 732	1 681
Sweden	117 645	2 528	309	89 026	7 823	1 479	9 381	5 589	4 038
United Kingdom	259 058	9 447	494	23 092	19 870	6 239	105 560	74 754	28 944
Liechtenstein	312	8	0	12	32	0	0	268	0
Norway	9 433	1 763	195	366	2 687	28	1 543	2 385	2 229
FYR of Macedonia	2 328	150	0	855	1 017	4	0	0	451
Serbia	33 623	11 145	0	26 458	1 146	6 019	0	0	0
Turkey	783 423	0	0	723 791	11 406	18 578	0	60	29 587

Source: Eurostat (online data code: env_wasgen)

Table 1: Waste generation, 2010(1 000 tonnes) - Source: Eurostat (env_wasgen)



Source: Eurostat (online data code: env_wasgen)

Figure 1: Waste generation, 2010(kg per inhabitant) - Source: Eurostat (env_wasgen)

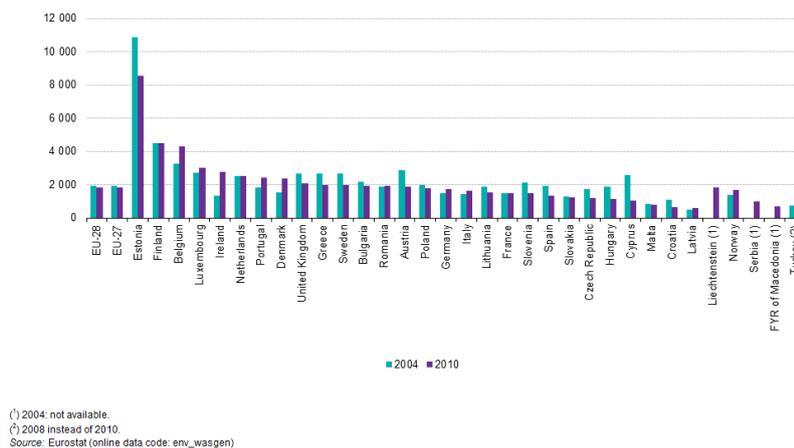


Figure 2: Waste generation, excluding major mineral wastes, 2004 and 2010(kg per inhabitant) - Source: Eurostat (env_wasgen)

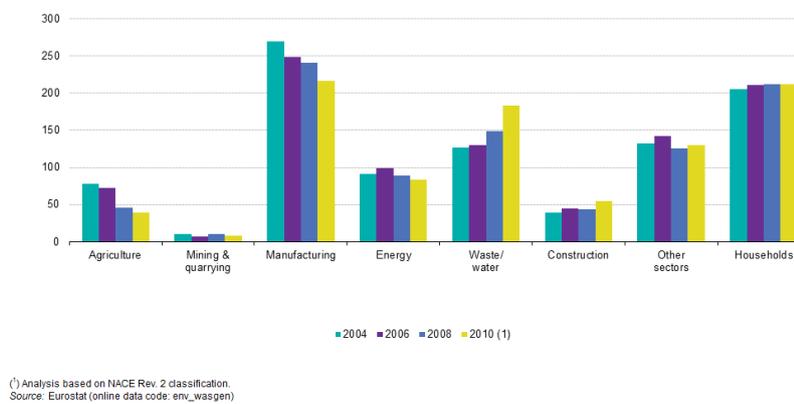


Figure 3: Waste generation, excluding major mineral wastes, EU-27, 2004–10 (1)(million tonnes) - Source: Eurostat (env_wasgen)

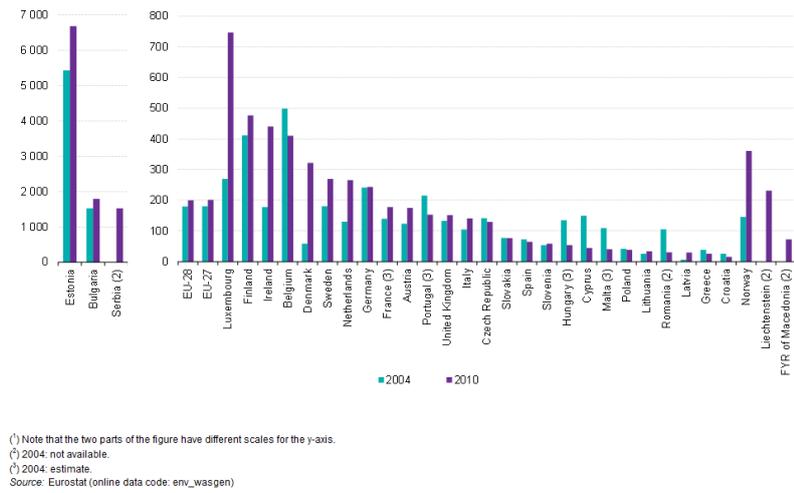


Figure 4: Hazardous waste generation, 2004 and 2010 (1)(kg per inhabitant) - Source: Eurostat (env_wasgen)

	Total	Energy recovery	Incineration without energy recovery	Recovery other than energy recovery	Disposal other than incineration
EU-28	2 338 730	89 650	42 230	1 145 110	1 061 850
EU-27	2 336 140	89 530	42 280	1 144 710	1 059 640
Belgium	30 358	4 797	1 975	20 414	3 172
Bulgaria	159 852	144	2	1 819	157 886
Czech Republic	18 247	767	55	13 220	4 204
Denmark	11 343	2 749	0	6 767	1 828
Germany	349 564	28 423	12 646	241 563	66 932
Estonia	17 953	336	0	5 956	11 661
Ireland	9 421	168	43	3 356	5 854
Greece	70 390	126	21	11 722	58 520
Spain	132 686	2 523	412	80 289	49 464
France	336 021	14 241	7 809	200 677	113 294
Croatia	2 585	110	24	403	2 048
Italy	127 156	2 373	6 092	93 037	25 655
Cyprus	2 371	7	7	1 381	976
Latvia	1 006	63	0	312	630
Lithuania	4 546	111	2	1 062	3 371
Luxembourg	12 546	32	124	6 286	6 105
Hungary	13 424	859	82	5 125	7 357
Malta	1 202	0	0	129	1 065
Netherlands	113 640	5 835	3 552	57 563	46 691
Austria	29 751	1 364	1 649	14 982	11 756
Poland	146 580	3 804	369	109 695	32 712
Portugal	20 115	2 343	419	7 583	9 771
Romania	212 858	1 507	75	16 561	194 716
Slovenia	5 638	282	35	3 885	1 436
Slovakia	7 682	255	66	3 559	3 812
Finland	105 630	9 847	389	31 999	63 395
Sweden	110 476	6 261	87	16 587	87 541
United Kingdom	285 674	316	6 343	189 183	89 832
Norway	5 252	1 280	276	2 566	2 170
FR of Macedonia	2 106	0	1	331	1 775
Serbia	33 059	26	1	565	32 466
Turkey	777 471	126	27	197 216	580 102

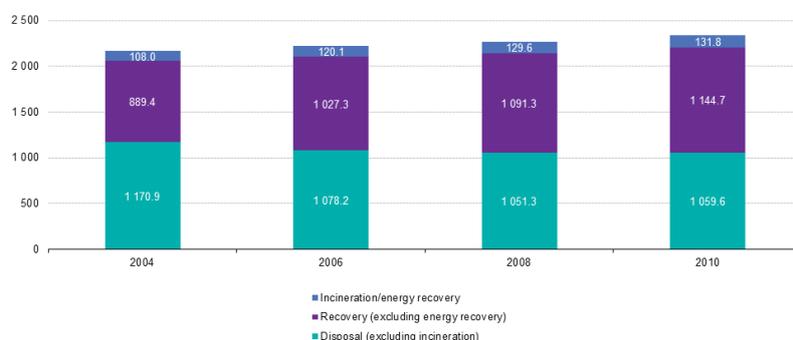
Source: Eurostat (online data code: env_wasfrt)

Table 2: Waste treatment, 2010(1 000 tonnes) - Source: Eurostat (env_wasfrt)

	Total	Energy recovery	Incineration without energy recovery	Recovery other than energy recovery	Disposal other than incineration
EU-28	83 960	5 240	4 580	38 220	35 920
EU-27	83 890	5 210	4 570	38 190	35 910
Belgium	13 965	214	158	12 610	882
Bulgaria	13 561	0	2	58	13 501
Czech Republic	832	42	50	680	60
Denmark	1 073	193	0	315	566
Germany	19 047	2 592	1 129	11 342	3 984
Estonia	8 929	16	0	933	7 979
Ireland	267	45	20	181	21
Greece	108	4	4	89	12
Spain	2 744	205	18	1 619	902
France	8 525	1 075	1 306	3 415	2 729
Croatia	69	29	5	26	9
Italy	3 107	121	383	1 866	737
Cyprus	31	1	0	15	15
Latvia	54	3	0	45	6
Lithuania	49	0	1	43	5
Luxembourg	3	0	0	3	0
Hungary	374	26	69	192	87
Malta	0	0	0	0	0
Netherlands	4 089	212	526	2 339	1 011
Austria	401	88	68	197	48
Poland	1 578	6	145	1 118	309
Portugal	556	88	19	291	158
Romania	264	114	18	71	61
Slovenia	101	9	13	50	30
Slovakia	224	4	43	31	145
Finland	1 366	60	142	286	878
Sweden	770	83	86	245	356
United Kingdom	1 875	13	374	157	1 331
Norway	1 560	332	26	575	627
FR of Macedonia	153	0	0	4	149
Serbia	11 182	0	1	98	11 082
Turkey	3 207	34	27	200	2 946

Source: Eurostat (online data code: env_wasfrt)

Table 3: Hazardous waste treatment, 2010(1 000 tonnes) - Source: Eurostat (env_wasfrt)



(¹) Estimates
Source: Eurostat (online data code: env_wasfrt)

Figure 5: Development of waste treatment in the EU-27, 2004–10(million tonnes) - Source: Eurostat (env_wasfrt)

This article gives an overview on the development of waste generation and treatment in the European Union (EU) and several non-member countries; it draws exclusively on data collected within the framework of Regu-

lation 2150/2002 of the [European Parliament and Council on waste statistics](#).

Waste, defined by [Directive 2008/98/EC](#) Article 3(1) as 'any substance or object which the holder discards or intends or is required to discard', potentially represents an enormous loss of resources in the form of both materials and energy; in addition, the management and disposal of waste can have serious environmental impacts. [Landfills](#), for example, take up land space and may cause air, water and soil pollution, while [incineration](#) may result in emissions of dangerous air pollutants, unless properly regulated.

EU waste management policies therefore aim to reduce the environmental and health impacts of waste and improve the EU's [resource efficiency](#). The long-term aim of these policies is to reduce the amount of waste generated and when waste generation is unavoidable to promote it as a resource and achieve higher levels of recycling and the safe disposal of waste.

Main statistical findings

Total waste generation

In 2010, the total generation of waste from economic activities and households in the [EU-27](#) amounted to 2 500 million tonnes; this was slightly higher than in 2008 but lower than in 2004 and 2006; the relatively low figures for 2008 and 2010 may, at least in part, reflect the downturn in economic activity as a result of the financial and economic crisis. Among the waste generated in the EU-27 in 2010, some 101.3 million tonnes (4.0 % of the total) were classified as [hazardous waste](#). This was equivalent to an average of about 5.0 tonnes of waste for each inhabitant in the EU-27, of which 202 kg were hazardous waste.

Table 1 shows an analysis of the total waste generated by various economic activities (according to [NACE Rev. 2](#)). There were two activities that generated particularly high levels of waste across the EU-27 in 2010: they were construction (NACE Section F) accounting for 860 million tonnes (34.4 % of the total) and mining and quarrying (NACE Section B) contributing 672 million tonnes (26.8 % of the total). The vast majority of the waste that was generated within these activities was composed of mineral waste or soils (excavated earth, road construction waste, demolition waste, dredging spoil, waste rocks, tailings and so on). Manufacturing (NACE Section C) accounted for 275 million tonnes of the waste generated in the EU-27 in 2010 (11.0 % of the total), while households contributed a further 219 million tonnes (8.7 %). The relatively low share of total waste that was generated from agriculture, forestry and fishing activities (NACE Section A) is, at least in part, linked to manure and slurry being excluded from the data presented (as long as they are re-used within agriculture as a [fertiliser](#) or a soil improver).

There was a considerable variation in the amount of waste generated in 2010 across those countries for which data are presented in Table 1 – the highest share of the EU-27 total being accounted for by Germany (14.5 %), just ahead of France (14.2 %) and somewhat further ahead of the United Kingdom (10.4 %). These figures may also be expressed in relation to population (see Figure 1). Using this measure, Latvia generated the lowest level of waste per inhabitant (669 kg) among the EU Member States, just below Croatia (715 kg); there was also a relatively low level of waste generated per inhabitant in the former Yugoslav Republic of Macedonia (1 113 kg). For the majority of the remaining EU Member States and the other non-member countries shown in Figure 1 the amount of waste generated ranged between 1.5 and 8.7 tonnes per inhabitant, rising to 10.2 tonnes per inhabitant in Romania, 12.5 tonnes per inhabitant in Sweden, 14.2 tonnes per inhabitant in Estonia, 19.5 tonnes per inhabitant in Finland, 20.6 tonnes per inhabitant in Luxembourg and peaking at 22.2 tonnes per inhabitant in Bulgaria.

Some of the large variations between countries may be linked to the differences in economic structures. For example, the high level of waste generated in Bulgaria, Finland, Estonia, Sweden and Romania was strongly influenced by large quantities of mineral wastes from mining and quarrying activities, whereas in Luxembourg, mineral waste from construction was largely responsible for the high amount of waste generated.

Waste generation excluding major mineral wastes

The 927 million tonnes of waste generated excluding major mineral wastes in the EU-27 in 2010 represented 37.0 % of the total waste generated. The level of waste generated excluding major mineral wastes was 2.9 % lower

in 2010 than in 2004. When expressed in relation to the population, each inhabitant in the EU-27 generated, on average, 1.8 tonnes of waste excluding major mineral wastes in 2010 (see Figure 2). Across the EU Member States, waste generation excluding major mineral wastes ranged from an average of 588 kg per inhabitant in Latvia to 8.6 tonnes per inhabitant in Estonia (composed largely of hazardous combustion waste and hazardous chemical deposits and residues from the refining and incineration of oil shale).

Figure 3 shows the origin and development of waste generation excluding major mineral waste analysed by economic activity. In 2010, manufacturing (NACE Section C) and households each contributed similar shares (216 million tonnes and 212 million tonnes respectively) to the generation of waste excluding major mineral wastes. Excluding major mineral waste, waste generation from manufacturing decreased steadily from 2004 onwards, down 19.8 % overall by 2010. By contrast, waste generation from the waste and water management sector (NACE Section E and Class 46.77) saw rapid growth, rising by 44.5 % over the same period. The quantity of waste generated by households increased slightly between 2004 and 2010.

Hazardous waste generation

Hazardous waste may pose a risk to human health and the environment if not managed and disposed of safely. In 2010, some 101.3 million tonnes of hazardous waste was generated in the EU-27; this was higher than in 2004 (88.7 million tonnes).

Figure 4 shows the amount of hazardous waste that was generated per inhabitant in 2004 and 2010; note that the figures include all hazardous waste categories, including minerals. The high figures for Estonia (6.7 tonnes per inhabitant), as noted above, may be largely attributed to oil shale, and those for Bulgaria (1.8 tonnes per inhabitant) to the mining of copper ores; the high figures for Serbia (1.6 tonnes per inhabitant) are also related to mining and quarrying. Aside from these specific cases, the generation of hazardous waste across the EU Member States and non-member countries shown in Figure 4 ranged in 2010 from as low as 16 kg per inhabitant in Croatia and 26 kg per inhabitant in Greece to as high as 477 kg per inhabitant in Finland and 747 kg per inhabitant in Luxembourg.

Waste treatment

In 2010, some 2 300 million tonnes of waste was treated in the EU-27; this includes the treatment of waste that was imported into the EU. Table 2 presents more information in relation to the types of waste treatment operation that were employed, while Table 3 provides the same information for the treatment of hazardous waste. Almost half (45.4 %) of the waste treated within the EU-27 in 2010 was subject to disposal operations other than waste [incineration](#) ; this was predominantly landfills, but also included mining waste disposed in and around mining sites and waste discharges into water bodies. A further 49.0 % of the waste treated in the EU-27 in 2010 was sent to recovery operations (other than energy recovery). The remaining 5.6 % of the waste treated in the EU-27 in 2010 was sent for incineration (with or without energy recovery).

Figure 5 shows the development of waste treatment for each main treatment category in the period from 2004 to 2010. Waste disposal saw a steady decrease in the volume of waste treated from 2004 to 2008. However, in 2010 this situation was reversed, largely as a result of higher levels of waste treatment for mining and quarrying activities and for the disposal of the respective material in a few countries (Romania, Sweden and Finland). In spite of this rebound the share of disposal in total waste treatment fell from 54.0 % in 2004 to 45.4 % in 2010. The quantity of waste recovered (excluding energy recovery) steadily grew from 889 million tonnes in 2004 to 1 100 million tonnes in 2010. As a result, the share of recovery in total waste treatment rose from 41.0 % in 2004 to 49.0 % in 2010. An analysis of the latest data for 2010 shows that 244 million tonnes of waste recovery was used for backfilling, in other words, used in excavated areas for the purpose of slope reclamation or safety or for engineering purposes in landscaping. Waste incineration and energy recovery increased from 108 million tonnes in 2004 to 130 million tonnes in 2008 and 132 million tonnes in 2010, an overall increase of 22.1 %.

For the treatment of hazardous waste, the share of waste disposal amounted in 2010 to 42.8 % of the EU-27 total, and therefore accounted for a share of total hazardous waste treatment that was slightly lower than the share for all waste. Some 9.8 million tonnes (or 11.7 % of all hazardous waste) was incinerated or used for energy recovery, and 38.2 million tonnes (or 45.5 %) was recovered.

Data sources and availability

In order to monitor the implementation of waste policy, in particular compliance with the principles of recovery and safe disposal, reliable statistics on the production and management of waste from businesses and private households are required. In 2002, [Regulation 2150/2002](#) on waste statistics was adopted, creating a framework for harmonised Community statistics on waste.

Starting with reference year 2004, the Regulation requires EU Member States to provide data on the generation, recovery and disposal of waste every two years. Data on waste generation and treatment are available for four reference years, namely, 2004, 2006, 2008 and 2010.

Croatian data for the years 2004 to 2010 were provided to Eurostat on a voluntary basis. At the time of writing the Croatian data were not complete as data on waste generated by households have not yet been released. Hence, the focus of the analysis presented in this article is on data for the EU-27 rather than the EU-28.

Context

The EU's approach to waste management is based on three principles: waste prevention, recycling and reuse, and improving final disposal and monitoring. Waste prevention can be achieved through cleaner technologies, eco-design, or more eco-efficient production and consumption patterns. Waste prevention and recycling, focused on materials technology, can also reduce the environmental impact of resources that are used through limiting raw materials extraction and transformation during production processes. Where possible, waste that cannot be recycled or reused should be safely incinerated with landfills only used as a last resort. Both these methods need close monitoring because of their potential for causing severe environmental damage.

The EU's [sustainable development strategy](#) and its [sixth environment action programme](#), which identifies waste prevention and management as one of seven thematic strategies – titled, ' [Taking sustainable use of resources forward – A thematic strategy on the prevention and recycling of waste](#) ' (COM(2005) 666 final), underline the relationship between the efficient use of resources and waste generation and management. The intention of Community policy in this area is to decouple the use of resources and the generation of waste from economic growth, while ensuring that sustainable consumption does not exceed environmental capacity. In order to review the progress being made with respect to the EU's waste policy, an [evaluation of the thematic strategy](#) was carried out in 2010 (COM(2011) 13 final). This report stated that progress had been achieved on a number of fronts, including legislative changes, higher recycling rates, lower amounts of waste going to landfill, and a reduction in hazardous substances for some waste streams. Nevertheless, the conclusions also highlighted a range of issues where improvements could be made, including: the negative environmental impact caused by an expected increase in waste generation, a failure to grasp various opportunities to reduce greenhouse gas emissions, and a lack of progress in creating jobs within environmental services. There were also calls in the report to define new and more ambitious prevention and recycling targets, and to move towards material-specific targets in order to help achieve the Europe 2020 objective of promoting a resource-efficient economy.

See also

- [Environment and economy](#)
- [Greenhouse gas emissions from waste disposal](#)
- [Municipal waste statistics](#)
- [Packaging waste statistics](#)
- [Recycling – secondary material price indicator](#)
- [Remediation and other waste management services statistics - NACE Rev. 2](#)
- [Waste shipment statistics](#)

Further Eurostat information

Publications

- [Environmental statistics and accounts in Europe, Chapter 3 Waste \(2010\)](#)
- [Energy, transport and environment indicators pocketbook \(2012 edition\)](#)
- [Generation and treatment of waste in Europe 2008 \(SiF 44/2011\)](#)
- [Generation and treatment of municipal waste \(SiF 31/2011\)](#)

Main tables

- [Environment](#)

Waste statistics

Database

- [Environment](#) , see:

Waste statistics

Waste generation and treatment (env_wasgt)

Methodology / Metadata

- [Waste statistics](#)

ESMS metadata file (env_wasgt_esms)

Source data for tables and figures (MS Excel)

- [Waste statistics: tables and figures](#)

Other information

- [Environmental Data Centre on Waste](#)
- [Regulation 2150/2002](#) of 25 November 2002 on waste statistics
- [Thematic strategy on the prevention and recycling of waste](#)
- [Being wise with waste: the EU's approach to waste management](#)

External links

- [European Commission - DG Environment - Waste in the EU](#)
- [European Environment Agency - Waste and material resources](#)

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