

# COMMUNICATION

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**Environmental statistics**

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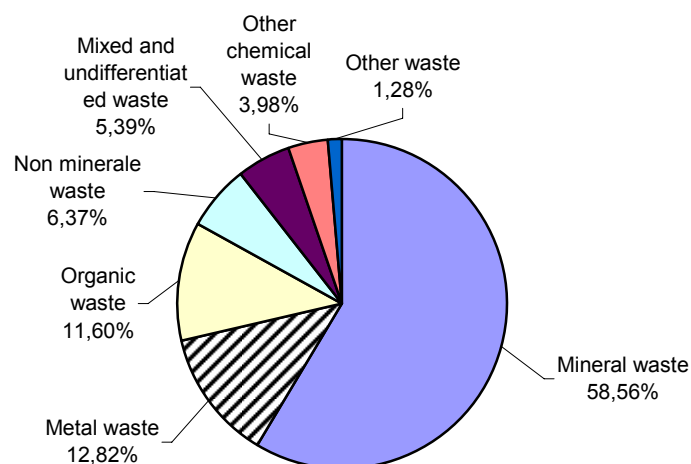
## Industrial waste, 2008

The communication presents selected statistical data on waste quantities generated by industry, carried to landfills in 2008.

Of the total amount of 14 345 329 tons of waste generated by industry, the sections mining and quarrying generated 8 312 526 tons (1.4% and 98.6% of non-hazardous and hazardous waste respectively), manufacturing 1 959 194 tons (98.4% and 1.6% of non-hazardous and hazardous waste respectively) and generation of electricity, gas and hot water 4 073 609 tons (99.9% and 0.1% of non-hazardous and hazardous waste respectively).

The most commonly generated waste in all three sections of industry is that of mineral origin accounting for 99.96% in mining and quarrying, 99.68% in generation of electricity, gas and hot water, and 58.56% in manufacturing. The section "manufacturing" has a very heterogeneous structure, and besides the prevailing mineral waste, it generates 12.8% of metal waste, 11.6% of waste of animal and vegetable waste, 6.4% of non-metal waste, 5.4% of mixed waste, 4% of other chemical waste, and 1.2% of other types of waste.

**Structure of generated waste in manufacturing industry, 2008**



*In the section "manufacturing":*

Non-metal waste is most commonly generated by the manufacture of wood, wood products and cork (45.2%) and accounts for 99.4% of waste, then by the manufacture of pulp, paper and paper products and publishing (65.8%), and by manufacture of textile yarns, garments, leather and footwear (50.6%).

Animal and vegetable waste prevails in the manufacture of food, beverages and tobacco products (65.8%).

Mineral waste prevails in the manufacture of basic metals and standard metal products amounting to 79.7%.

Metal waste prevails in the manufacture of other machinery and devices, office, computer devices, radio, TV and communication equipment, precision optical instruments, motor vehicles, trailers and other transport means (55.9%).

Waste from chemical preparations is most common in the manufacture of furniture (51.2%).

Other chemical waste is most common in the manufacture of coke and petroleum derivatives (33.75%) as well as in the manufacture of chemicals, chemical products and in the manufacture of rubber and plastic matters (23.3%).

Mixed waste in the manufacture of other non-metallic minerals amounts to 45.2%.

## 1. Waste generated by industry activities, 2008

	Waste generated, tons	
	Total	of which: hazardous waste
<b>Republic of Serbia</b>	<b>14 345 329</b>	<b>8 228 151</b>
<b>Mining of metal ores</b>	<b>8 312 526</b>	<b>8 196 553</b>
<b>Manufacturing industry</b>	<b>1 959 194</b>	<b>29 339</b>
Manufacture of food products and beverages, tobacco products	343 895	651
Manufacture of textile yarns and textiles, Manufacture of wearing apparel and fur, wearing apparel and fur, Manufacture of leather and leather products, footwear	4 601	6
Manufacture of wood, wood products and cork	21 827	4 460
Manufacture of pulp, paper and paper products, Publishing, printing and reproduction	26 704	399
Manufacture of coke and refined petroleum products	2 705	750
Manufacture of chemicals and chemical products, Manufacture of rubber and plastic products	34 081	11 901
Manufacture of other mineral products	138 894	580
Manufacture of basic metals, Manufacture of metal products, except machinery	1 292 906	7 191
Manufacture of furniture and related products	4 536	689
Other manufacturing industrial activities	89 044	2 712
<b>Electricity, gas and hot water supply</b>	<b>4 073 609</b>	<b>2 259</b>

## 2. Waste generated by EWC-Stat, 2008

EWC-Stat <sup>2)</sup>		Caracter of waste H/N <sup>1)</sup>	Waste generated, tons			
			Total	Mining of metal ores	Manufacturing industry	Electricity, gas and hot water supply
	<b>Total</b>		<b>14 345 329</b>	<b>8 312 526</b>	<b>1 959 194</b>	<b>4 073 609</b>
	<b>Non hazardous</b>		<b>6 117 178</b>	<b>115 973</b>	<b>1 929 855</b>	<b>4 071 350</b>
	<b>Hazardous</b>		<b>8 228 151</b>	<b>8 196 553</b>	<b>29 339</b>	<b>2 259</b>
1.1	Spent solvents	H	17	-	17	-
1.2	Acid, alkaline or saline wastes	N	7	-	7	-
1.2	Acid, alkaline or saline wastes	H	8 552	-	8 552	-
1.3	Used oils	H	3 817	110	3 572	135
1.4	Spent chemical catalysts	N	-	-	-	-
1.4	Spent chemical catalysts	H	125	-	125	-
2	Chemical preparation wastes	N	4 466	-	4 466	-
2	Chemical preparation wastes	H	1 104	-	1 104	-
3.1	Chemical deposits and residues	N	5 579	22	5 500	57
3.1	Chemical deposits and residues	H	2 797	30	1 955	812
3.2	Industrial effluent sludges wet	N	65 566	-	65 565	-
3.2	Industrial effluent sludges wet	H	5 026	-	4 980	46
5	Health care and biological wastes	N	1	-	1	-
5	Health care and biological wastes	H	-	-	-	-
6	Metallic wastes	N	261 606	1 250	251 062	9 294
6	Metallic wastes	H	37	-	23	15
7.1	Glass wastes	N	18 851	-	18 850	-
7.1	Glass wastes	H	-	-	-	-
7.2	Paper and cardboard wastes	N	32 942	3	32 919	21
7.3	Rubber wastes	N	8 600	185	8 400	15
7.4	Plastic wastes	N	30 147	292	29 846	9
7.5	Wood wastes	N	28 974	550	27 596	828
7.5	Wood wastes	H	5 142	-	5 142	-
7.6	Textile wastes	N	1 960	-	1 958	1
7.7	Waste containing PSB	H	1 130	3	126	1 000
0.8	Discarded equipment	N	579	40	236	304
0.8	Discarded equipment	H	176	-	36	139
8.1	Discarded vehicles	N	44	38	6	-
8.1	Discarded vehicles	H	304	217	80	7
8.41	Batteries and accumulators wastes	N	23	1	16	5
8.41	Batteries and accumulators wastes	H	232	95	100	38
9	Animal and vegetal wastes (excluding 09.11 and 09.03)	N	206 251	29	206 221	-
9.11	Animal waste of food preparation and products	N	20 988	-	20 988	-
9.3	Animal faeces, urine and manure	N	141	-	141	-
10.1	Household and similar wastes	N	95 489	87	95 174	228
10.2	Mixed and undifferentiated materials	N	3 326	17	3 109	200
10.2	Mixed and undifferentiated materials	H	49	-	49	-
10.3	Sorting residues	N	7 593	300	7 293	-
10.3	Sorting residues	H	1	-	1	-
11	Common sludges, wet (excluding 11.3)	N	6 610	31	6 579	-
11.3	Dredging spoils	N	103	-	103	-
12.1-12.5	Mineral wastes (excluding 12.4 and 12.6)	N	502 934	82 854	419 833	247
12.1-12.5	Mineral wastes (excluding 12.4 and 12.6)	H	8 195 507	8 194 823	617	66
12.4	Combustion wastes	N	4 814 398	30 273	723 985	4 060 140
12.4	Combustion wastes	H	4 133	1 275	2 858	-
12.6	Contaminated soils and dredging spoils	H	-	-	-	-
13	Salified, stabilised or vitrified wastes	N	-	-	-	-
13	Salified, stabilised or vitrified wastes	H	2	-	2	-

<sup>1)</sup> H - Hazardous / N - Non hazardous.

<sup>2)</sup> According to Annex I (section 2) of Regulation (EC) No 2150/2002.

### 3. Waste generated by List of Waste, 2008

	Generated industrial waste		Taken to the landfill		Exported abroad	
	total	of which: hazardous	total	of which: hazardous	total	of which: hazardous
<b>TOTAL, tons</b>	<b>14 345 329</b>	<b>8 228 151</b>	<b>274 632</b>	<b>3 163</b>	<b>15 607</b>	<b>3 129</b>
1 Wastes resulting from exploration, mining, quarrying, physical and chemical treatment of minerals	8 276 727	8 194 823	69 493	-	-	-
2 Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing	262 257	-	73 779	-	251	-
3 Wastes from wood processing and the production of panels and furniture	34 384	5 142	2 306	211	-	-
4 Wastes from the leather, fur and textile industries	1 936	3	614	-	203	-
5 Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal	2 120	6	-	-	-	-
6 Wastes from inorganic chemical processes	12 239	12 209	200	199	-	-
7 Wastes from organic chemical processes	4 429	287	55	20	74	68
8 Wastes from manufacture, formulation, supply and use (mfsu) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks	1 030	786	291	210	82	82
9 Wastes from photographic industry	93	30	-	-	-	-
10 Wastes from thermal processes	5 428 517	4 705	40 270	2 375	11 936	448
11 Wastes from chemical surface treatment and coating of metals and other materials; non – ferrous hydrometallurgy	963	403	36	36	-	-
12 Wastes from shaping and physical and mechanical surface treatment of metal and plastics	41 633	2 624	1 032	10	1 933	1 705
13 Oil wastes and wastes from liquid fuels (except edible oils, and those in chapters 05, 12 and 19)	2 827	2 827	3	3	94	94
14 Waste organic solvents, refrigerants and propellants (except 07 and 08)	7	7	-	-	-	-
15 Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified	77 356	296	1 736	4	112	112
16 Wastes not otherwise specified in the list	19 153	2 010	76	43	243	241
17 Construction and demolition wastes (including excavated soil from contaminated sites)	58 261	197	1 190	50	31	31
18 Wastes from human or animal health care and/or related research (except kitchen and restaurant wastes not arising from immediate health care)	22	-	-	-	17	-
19 Wastes from management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use	11 825	1 029	737	-	534	330
20 Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions	109 551	769	82 813	1	96	17

## Explanatory notes

Industrial waste data for 2008 were collected for the first time with regular statistical survey. The survey covers all enterprises with 10 and more employees, which principal activity is defined in sections C – Mining and quarrying, D – Manufacturing, E – Electric power generation, gas and water supply, i.e. in sections from 10 to 40 of the Classification of Activities (excluding 37 – Recycling and 41 – Water supply, treatment and distribution).

Data are collected by reporting method and regarding the geographical aspect, the survey encompasses enterprises that perform their activities on the whole territory of the Republic of Serbia. Starting from 1999, the Statistical Office of the Republic of Serbia does not have available certain data for AP Kosovo and Metohia, and thus are not included in the data for the Republic of Serbia (total).

The displayed information includes estimates for enterprises that have not submitted a report for the year, which according to the above criteria belong to the industry.

Data have been collected on the basis of the Waste Catalogue<sup>1)</sup>, which is in conformity with the European Waste Catalogue (EWC)<sup>2)</sup> and which contains a list of more than 800 types of waste being classified according to the characteristics and origin of waste site in twenty chapters. Of these 20 chapters most of them are industry-based but some are based on materials and processes. The information is published according to the Waste Catalogue and (EWC-Stat)<sup>3)</sup> statistical list of waste).

The (EWC-Stat) list is used because statisticians have realized that the European list of Waste (LoW), which is the legal foundation of European control and supervision of waste, cannot be utilized for statistical purposes.

**Waste** refers here to materials that are not prime products (i.e. products produced for the market) for which the generator has no further use for own purpose of production, transformation or consumption, and which he discards, or intends or is required to discard.

**Landfill** is defined as deposition place of waste into or onto land, including specially engineered landfill, and temporary storage of over one year on permanent sites.

**Industrial waste** - Wastes may be generated during the extraction of raw materials, during the processing of raw materials to intermediate and final products, during the consumption of final products, and during any other human activity.

**Hazardous waste** refers to the categories of waste to be controlled according to the Basel Convention on the control of trans-boundary movements of hazardous waste and their disposal.

<sup>1)</sup> Law about condition and way of selection, packaging and storage raw secondary materials ("Official Gazette RS" number 55/2001).

<sup>2)</sup> European List of Waste.

<sup>3)</sup> According to Annex I (Section 2) of Regulation (EC) No 2150/2002.