

Amount of waste generated from industry 2016

The release comprises selected statistical data on the amount of waste generated and treated from industry in 2016. Waste from industry covers Sectors: B (Mining); C (Manufacturing); D (Electricity, gas and steam supply) and E (Water supply, sewerage, waste management and remediation).

In 2016 sectors from industry was generated 686 522 tonnes of waste.

Of the total 686 522 tonnes of waste generated in industry, mining sector has generated 337 620 tonnes, i.e. 49.2%; manufacturing sector 37 957 tonnes, i.e. 5.5%; sector of electricity, gas and steam supply 305 681 tonnes, i.e. 44.5% and sector water supply, sewerage, waste management and remediation 5 264 tonnes, i.e. 0.8%.

By sectors relationship of hazardous and non-hazardous waste is moved: mining sector (95.3% hazardous waste, 4.7% non-hazardous waste), manufacturing sector (97.5% of non-hazardous waste, 2.5% of hazardous waste), sector electricity, gas and steam supply (non-hazardous waste almost 100%) and sector water supply, sewerage, waste management and remediation (98.8% of non-hazardous waste, 1.2% of hazardous waste).

Of the total generated and stored waste in the amount of 834 303 tonnes in 2016, companies in the industry have their own processed 813 409 tonnes of waste, of which they own recovered 2.9% of waste, disposed 83.9% and temporarily stored 13.2% of waste. They exported 4 513 tonnes of waste and the remaining amount (16 381 tonnes) have handed over to other companies in Montenegro.

In its own processing operation is the most common backfilling with 82.3%, burning with 8.3%, followed by recycling with 7.4%, while other methods account for 2%. In 2016, industrial waste management in the industry covered 682 694 tonnes of waste, with the most abundant D1 disposal operations on land or in land with 47.4%.

Industrial enterprises in Montenegro in 2016 are directly exported 4 513 tons of waste, of which 48.5% is waste from wood processing, 24.6% almost metal waste, paper and cardboard packaging 20.3% and over 6.6% anode.

Table 1. Industrial waste generated by sectors (in tons), 2016

MONTENEGRO	Mining and quarrying	Manufacturing	Electricity, gas and steam supply	Water supply, sewerage, waste management and remediation	Total
Non-hazardous waste	15 754	37 007	305 319	5 199	363 279
Hazardous waste	321 866	950	362	64	323 243
TOTAL	337 620	37 957	305 681	5 264	686 522

Table 2. Industrial waste generated by Rulebook on waste catalogue, 2016 (in tons)

Amount of waste generated		Non-hazardous	Hazardous	Total
01	Wastes resulting from exploration, mining, quarrying, physical and chemical treatment of minerals	5 488	321 765	327 253
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing	1 806	0	1 806
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard	6 704	0	6 704
04	Wastes from the leather, fur and textile industries	4	0	4
06	Wastes from inorganic chemical processes	0	50	50
07	Wastes from organical chemical treatment	34	0	34
08	Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks	0	1	1
10	Wastes from thermal processes	319 856	770	320 626
12	Wastes from shaping and physical and mechanical surface treatment of metals and plastics	750	0	750
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)	0	288	288
14	Waste organic solvents, refrigerants and propellants (except 07 and 08)	0	1	1
15	Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified	1 555	6	1 561
16	Wastes not otherwise specified in the list	5 470	319	5 789
17	Construction and demolition wastes (including excavated soil from contaminated sites)	14 505	0	14 505
18	Wastes from human or animal health care and/ or related research (except kitchen and restaurant wastes not arising from immediate health care)	7	0	7
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use	2 999	41	3 040
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions	4 101	2	4 103
MONTENEGRO		363 279	323 243	686 522

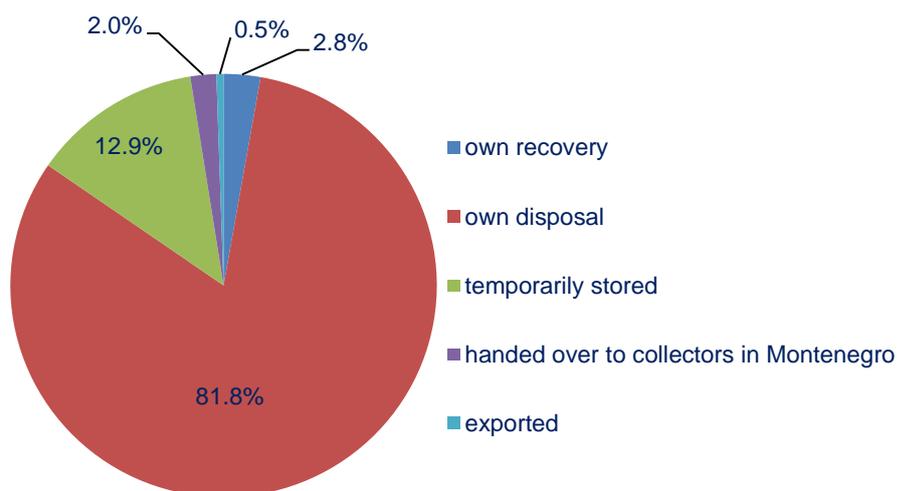
Table 3. Industrial waste generated by Statistical classification of waste, 2016 (in tons)

Description - Type of waste EWC/Stat Version 4		Character of the waste ¹	Mining and quarrying	Manufacturing	Electricity, gas and steam supply	Water supply, sewerage, waste management and remediation
01.1	Spent solvent	1	-	1	-	-
01.2	Acid, alkaline or slycine wastes	1	-	358	-	0
01.3	Used oils	1	38	119	30	19
01.4, 02, 03.1	Spent chemical catalysts	0	-	3 353	-	1
01.4, 02, 03.1	Spent chemical catalysts	1	53	10	80	1
03.2	Industrial effluent sludges	1	-	1	-	34
03.2	Industrial effluent sludges	0	-	2 606	-	-
06.1	Metal wastes, ferrous	0	510	74	47	-
06.2	Metal wastes, non-ferrous	0	0	557	19	-
06.3	Metal wastes, mixed ferrous and non-ferrous	0	-	2 621	4	30
07.1	Glass wastes	0	-	236	-	0
07.2	Paper and cardboard wastes	0	-	1 437	-	7
07.3	Rubber wastes	0	19	39	-	37
07.4	Plastic wastes	0	-	73	-	4
07.5	Wood wastes	0	-	6 672	-	1
07.6	Textile wastes	0	-	9	-	0
07.7	Waste containing PCB	1	-	1	-	1
08 (EXCL.08.1, 08.41)	Discarded equipment (excluding discarded vehicles, batteries and accumulators)	0	0	76	79	0
08 (EXCL.08.1, 08.41)	Discarded equipment (excluding discarded vehicles, batteries and accumulators)	1	1	2	136	2
08.1	Discarded vehicles	0	-	-	-	4
08.1	Discarded vehicles	1	-	-	106	-
08.41	Batteries and accumulators wastes	0	1	5	-	0
08.41	Batteries and accumulators wastes	1	8	2	2	8
09.1	Animal and mixed food waste	0	-	297	-	1
09.2	Vegetal wastes	0	-	777	-	-
09.3	Slurry and manure	0	-	466	-	-
10.1	Household and similar wastes	0	-	-	-	0
10.2	Mixed and undifferentiated materials	0	2	3 383	50	293
10.3	Mixed and undifferentiated materials	0	-	1	-	-
10.3	Mixed and undifferentiated materials	1	-	-	7	1
11	Common sludges	0	-	20	-	3 668
12.1	Construction and demolition wastes	0	2	33	-	305
12.2, 12.3, 12.5	Other mineral wastes	0	2 471	6 051	-	37
12.2, 12.3, 12.5	Other mineral wastes	1	321 765	45	-	0
12.4	Combustion wastes	0	-	8 119	305 121	-
12.4	Combustion wastes	1	-	412	-	-
12.6	Soils	0	-	101	-	306
12.7	Dredging spoil	0	12 750	-	-	504
TOTAL - MONTENEGRO			337 620	37 957	305 681	5 264

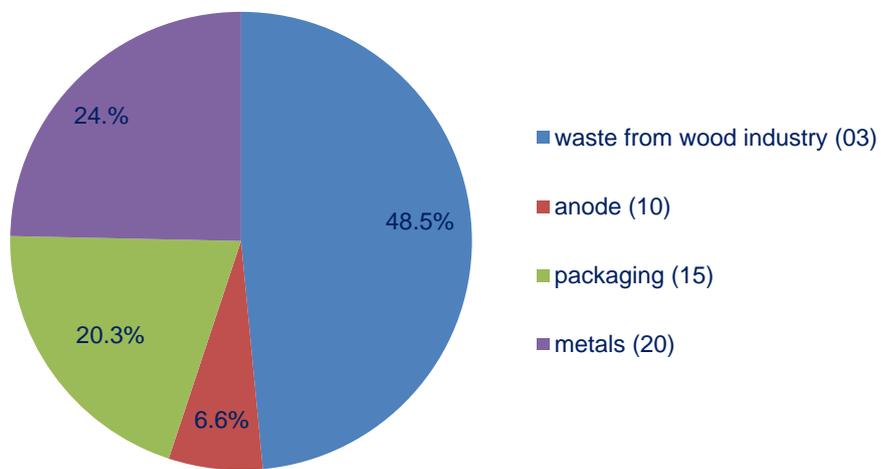
Table 4. Treatment of waste in industrial enterprises 2016 (in tons)

MONTENEGRO	Own recovery and disposal	Permanent storage	Handed over another in Montenegro	Exported from Montenegro	Total
Non-hazardous waste	376 882	107 360	15 263	4 513	504 018
Hazardous waste	329 035	132	1 118	0	330 285
TOTAL	705 917	107 492	16 381	4 513	834 303

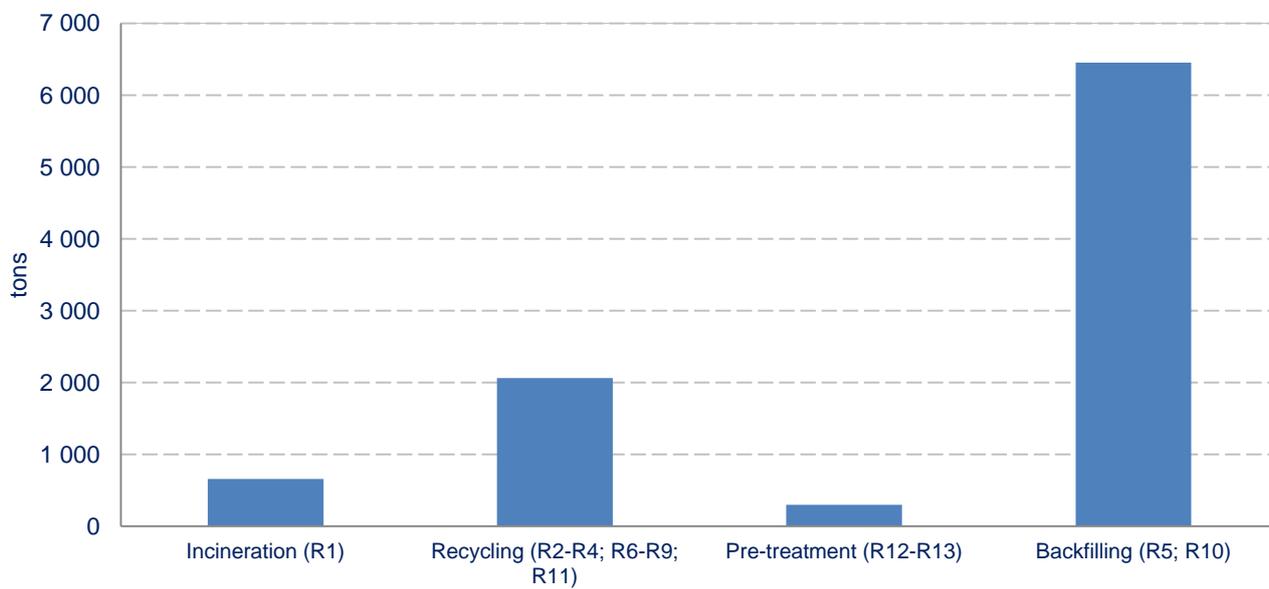
Graph 1. Management of industrial waste, 2016



Graph 2. Export of industrial waste, 2016



Graph 3. Treatment procedures of industrial waste, 2016



METHODOLOGICAL NOTES

The data on industrial waste in 2016 were collected by statistical surveys "*Statistical Survey on waste generated in the industry*". In carry out survey used the questionnaire methods of collecting data, and the geographical aspects covered are business entities that carry out its production activities in the whole territory of Montenegro. The report includes all businesses with 10 or more employees whose primary activity is defined in the mining sector, manufacturing, electricity, gas and steam supply, and Water supply, sewerage, waste management and remediation i.e. areas 05-39 of the Classification of Activities 2010.

Data for 2014 were processed according to the new methodology, so they are not comparable with previous years. The Statistical Survey on waste generated in the industry is made on the sample, were used methods of imputation, weighting and aggregation.

For the data used was of *Rulebook on waste catalogue and waste classification* (Official Gazette of Montenegro 64/11) which is compliant the European List of Wastes (LOW), and contains more than 800 types of waste systematized according to their characteristics and place of origin in 20 groups.

Of these 20 groups, the most is based on activities in which waste is generated, while some groups are based on materials and processes.

The waste is defined by a code of 6 digits, where the first two digits are a group of other two sub-groups of waste. Hazardous waste in the Waste Catalogue is marked with *.

The Waste Catalogue (LoW) is a list of the properties and place of origin, classified into groups, subgroups and types of waste from industries whose products are producing the waste.

Statistical Waste Catalogue EWC-Stat is a list of waste according to material. Classified on 51 types of waste and divided into hazardous and non-hazardous waste. International reporting is done according to EWC-Stat.

Waste is any substance or subject that the holder discarded or intends to discard it in compliance with the Law (Law on Waste Management, Official Gazette of Montenegro 64/11 as of 29 November 2011).

The original waste producer is any person whose activity generates waste.

The waste holder is a waste producer or a legal entity or a natural person whose activity generates waste.

Industrial waste is the waste generated in production processes in industry and handicrafts, and differs from municipal waste in their composition and characteristics.

Hazardous waste is the waste containing elements or compounds that have one or more of the following hazardous properties: explosiveness, reactivity, flammability, irritability, harmfulness, toxicity, infectivity, carcinogenicity, corrosiveness, mutagenicity, teratogenicity, eco-toxicity, etching property and property release toxic gases by chemical or biological reaction and sensitivity/irritability, as well as waste from which, after a delay may occur another substance containing some of hazardous characteristics.

Non-hazardous waste is the waste that by composition and characteristics does not possess some of characteristics of hazardous waste.

Waste treatment is the process of processing and/or disposing of waste, including the preparation of pre-processing and/or disposal.

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