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Government of Montenegro  
Statistical Office of Montenegro

## Amount of waste generated from industry 2015

The release comprises selected statistical data on the quantities of generated and treated waste from industry in 2015. The 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 2015, industrial sectors in Montenegro generated 764 540 tonnes of waste.

Of the total 764 540 tonnes of waste generated in industry, mining sector generated 287 541 tonnes, i.e. 37.6% manufacturing sector 54 958 tonnes, i.e. 7.2%; electricity, gas and steam supply 414 188 tonnes, i.e. 54.2%, and water supply, sewerage, waste management and remediation 7 853 tonnes, i.e. 1.0%. The ratio of hazardous and non-hazardous waste per sector shows the following trend: mining sector (hazardous waste almost 100%); manufacturing sector (93.3% of non-hazardous waste, 6.7% of hazardous waste); sector electricity, gas and, steam supply (non-hazardous waste almost 100%); and water supply, sewerage, waste management, and remediation (98.6% of non-hazardous waste, 1.4% of hazardous waste).

Of the total generated and stored waste in the amount of 808 203 tonnes in 2015, companies in the industry treated by themselves 766 585 tonnes of waste, of which 1.2% of waste recovered by themselves; 98.0% waste disposed; and 0.8% of waste in temporary storage. They exported 6 530 tonnes of waste, and delivered the remaining amount (35 088 tonnes) to other companies in Montenegro.

Within the own processing activity, the most common operation was back-filling (54.1%), followed by recycling (30.9%), incineration (15.0%). On disposal sites, companies in the industry disposed approximately 34 000 tonnes of waste in 2015.

Industrial companies in Montenegro directly exported 6 530 tonnes of waste in 2015, of which 42.6% is packaging waste ; 35.4% the waste from wood processing; 16.6% of metals; 3.1% of waste paper and 2.3% anode scraps.

Table 1. Industrial waste generated by sector, 2015

	Mining and quarrying	Manufacturing	Electricity, gas and steam supply	Water supply, sewerage, waste management and remediation	Total
Non-hazardous waste	780	51 289	414 086	7 746	473 901
Hazardous waste	286 761	3 669	102	107	290 639
<b>TOTAL</b>	<b>287 541</b>	<b>54 958</b>	<b>414 188</b>	<b>7 853</b>	<b>764 540</b>

**Table 2. Industrial waste generated by groups of the Waste Catalogue, 2015**

Amount of waste generated		Non-hazardous, tonnes	Hazardous, tonnes	Total, tonnes
01	Wastes resulting from exploration, mining, quarrying, physical and chemical treatment of minerals	3 988	286 698	290 686
02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing	7 885	-	7 885
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard	6 754	101	6 855
04	Wastes from the leather, fur and textile industries	1	-	1
05	Wastes from petroleum refining, natural gas purification and pirolytic treatment of coal	-	-	-
08	Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), sealants and printing inks	-	2	2
10	Wastes from thermal processes	420 873	2 483	423 356
11	Wastes from chemical surface treatment and coating of metals and other materials; non-ferrous hydrometallurgy	-	3	3
12	Wastes from shaping and physical and mechanical surface treatment of metals and plastics	1 107	24	1 131
13	Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)	-	261	261
14	Waste organic solvents, refrigerants and propellants (except 07 and 08)	-	2	2
15	Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified	6 303	81	6 384
16	Wastes not otherwise specified in the list	7 281	853	8 134
17	Construction and demolition wastes (including excavated soil from contaminated sites)	7 060	3	7 063
18	Wastes from human or animal health care and/ or related research (except kitchen and restaurant wastes not arising from immediate health care)	23	-	23
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	6 455	120	6 575
20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions	6 171	8	6 179
<b>TOTAL</b>		<b>473 901</b>	<b>290 639</b>	<b>764 540</b>

**Table 3. Industrial waste generated by Statistical classification of waste, 2015**

Description – type of waste EWC/Stat Version 4		Character of the waste <sup>1</sup>	Mining and quarrying, tonnes	Manufacturing, tonnes	Electricity, gas and steam supply, tonnes	Water supply, sewerage, waste management and remediation, tonnes
01.12	Spent solvent	1	0	2	-	-
01.21	Acid, alkaline or saline waste	1	-	0	-	-
01.24	Other saline wastes	1	-	1 176	-	-
01.31	Used motor oils	1	51	7	1	5
01.32	Other used oils	1	0	214	8	0
02.12	Unused medicines	0	-	23	-	-
02.13	Paints, varnish, inks and adhesive wastes	1	-	1	1	-
02.14	Other chemical preparation wastes	0	-	-	-	0
02.14	Other chemical preparation wastes	1	0	0	-	-
02.21	Waste explosives and pyrotechnical products	1	-	0	-	-
02.22	Waste ammunition	1	-	0	-	-
02.33	Packaging polluted by hazardous substances	1	2	0	-	-
03.11	Tars and carbonaceous wastes	0	-	4 208	-	-
03.12	Oil / water emulsions sludges	1	-	0	-	0
03.14	Spent filtration and absorbent materials	0	0	0	-	-
03.14	Spent filtration and absorbent materials	1	0	79	-	0
03.21	Sludges from industrial processes and effluent treatment	0	-	3 978	-	-
03.21	Sludges from industrial processes and effluent treatment	1	-	3	-	-
03.22	Sludges containing hydrocarbons	1	-	2	-	101
03.31	Sludges and liquid wastes from waste treatment	1	-	15	-	-
06.11	Ferrous metal waste and scrap	0	692	259	36	262
06.23	Other waste aluminium	0	-	1 707	36	-
06.24	Copper waste	0	-	3 153	16	2
06.26	Other metal wastes	0	1	912	0	-
06.31	Mixed metallic packaging	0	-	36	-	0
06.32	Other mixed metallic packaging	0	-	927	1	66
07.11	Glass packaging	0	-	509	-	-
07.12	Other glass wastes	0	-	234	-	-
07.21	Waste paper and cardboard wastes	0	-	3 989	-	489
07.23	Other paper and cardboard wastes	0	-	345	-	4
07.31	Used tyres	0	21	452	-	3
07.41	Plastic packaging wastes	0	-	160	-	804
07.42	Other plastic wastes	0	-	59	-	2
07.51	Wood packaging	0	-	3	-	-
07.52	Sawdust and shavings	0	0	3 121	-	-
07.52	Sawdust and shavings	1	-	101	-	-

1) 1-hazardous waste; 0-non-hazardous waste

**Table 3. Industrial waste generated by Statistical classification of waste, 2015**

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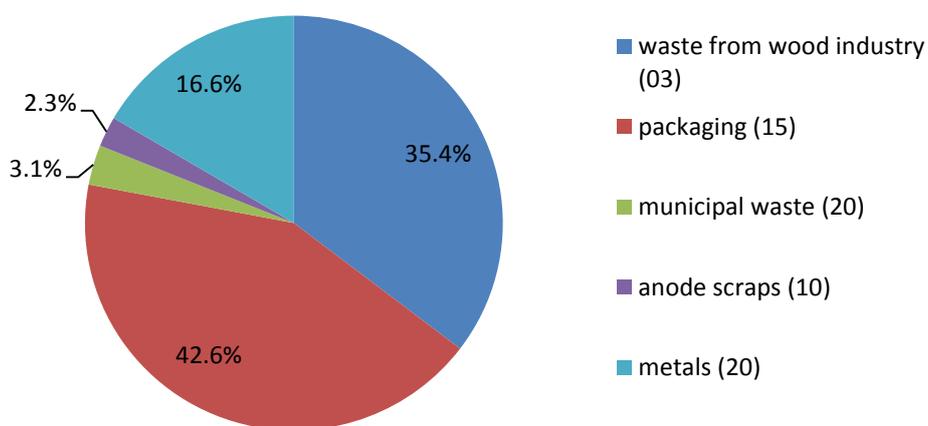
	Description – type of waste EWC/Stat Version 4	Character of the waste <sup>1</sup>	Mining and quarrying, tonnes	Manufacturing, tonnes	Electricity, gas and steam supply, tonnes	Water supply, sewerage, waste management and remediation, tonnes
07.53	Other wood wastes	0	-	3 620	-	-
07.62	Miscellaneous textiles waste	0	-	0	-	-
07.63	Leather wastes	0	-	1	-	-
08.12	Other discarded vehicles	1	-	-	44	-
08.23	Other discarded electrical and electronic equipment	0	-	0	13	-
08.23	Other discarded electrical and electronic equipment	1	-	7	42	-
08.41	Batteries and accumulators wastes	0	-	132	-	-
08.41	Batteries and accumulators wastes	1	10	3	-	1
08.43	Other discarded machines and equipment components	1	0	16	-	-
09.11	Animal waste of food preparation and products	0	-	5 517	-	-
09.12	Mixed waste of fod preparation and products	0	-	6	-	-
09.21	Green wastes	0	-	245	-	1
09.22	Vegetal waste of food preparation and products	0	-	1 038	-	-
09.31	Slurry and manure	0	-	416	-	-
10.11	Households wastes	0	65	4 308	-	63
10.21	Mixed packaging	0	1	312	-	-
10.22	Other mixed and undifferentiated materials	0	-	2 604	-	424
10.22	Other mixed and undifferentiated materials	1	-	-	3	-
10.32	Other sorting residues	1	-	-	3	-
11.11	Sludges from treatment of public sewerage water	0	-	-	-	4 613
11.41	Cesspit contents	0	-	-	-	114
12.11	Concrete, bricks and gypsum waste	0	-	319	-	-
12.13	Mixed construction wastes	0	-	-	0	-
12.31	Waste of naturally occuring minerals	0	-	3 988	-	71
12.31	Waste of naturally occuring minerals	1	286 698	-	-	-
12.41	Waste from flue gas purification	1	-	723	-	-
12.42	Slags and ashes from thermal treatment and combustion	0	-	38	413 984	-
12.42	Slags and ashes from thermal treatment and combustion	1	-	584	-	-
12.52	Waste refractory materials	0	-	3 376	-	-
12.52	Waste refractory materials	1	-	734	-	-
12.61	Soils	0	-	-	-	463
12.71	Dreging spoil	0	-	-	-	365
12.81	Waste from waste treatment	0	-	1 296	-	-
	<b>TOTAL</b>		<b>287 541</b>	<b>54 958</b>	<b>414 188</b>	<b>7 853</b>

<sup>1)</sup> 1-hazardous waste; 0-non-hazardous waste

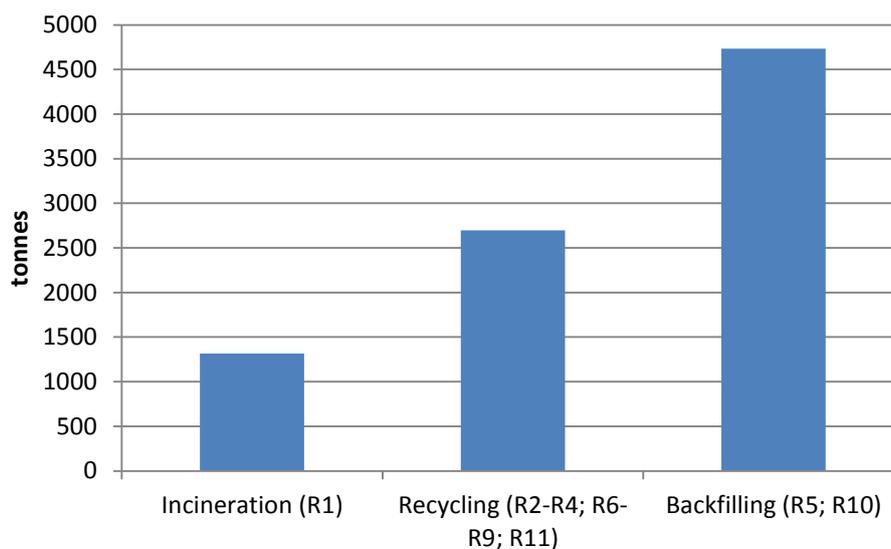
**Table 4. Treatment of waste in industrial enterprises 2015**

	in tonnes				
	Own recovery and disposal	Permanent internal storage	Handed over another in Montenegro	Exported from Montenegro	Total
Non-hazardous waste	464 362	5 056	34 707	6 530	510 655
Hazardous waste	295 828	1 339	381	-	297 548
<b>TOTAL</b>	<b>760 190</b>	<b>6 395</b>	<b>35 088</b>	<b>6 530</b>	<b>808 203</b>

**Graph 1. Export of industrial waste 2015**



**Graph 2. Treatment procedures of industrial waste, 2015**



## METHODOLOGICAL NOTES

The data on industrial waste in 2015 were collected by statistical survey on waste generated in the industry. The survey primarily used the reporting method, and the geographical aspects covered are business entities that carry out its production activities on the whole territory of Montenegro. The report includes all businesses with 10 or more employees whose primary activity is defined in the B-mining sector, C-manufacturing, D-electricity, gas and steam supply, and E-Water supply, sewerage, waste management and remediation i.e. areas 05-39 of the Classification of Activities 2010.

Data on industrial waste for 2014 were processed according to the improved methodology (new statistical methods were introduced in accordance with the Regulation (EC) NO 2150/2002), with the purpose of obtaining more quality and international comparable data and they are not comparable with the data from previous years.

For the collection of data, there was used the Rulebook on waste catalogue and waste classification (Official Gazette of Montenegro No. 59/13 of 26.12.2013.) which is compliant with 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 6–digits code, 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 .

**The waste producer** is the original waste producer or any person who performs the pre-treatment, mixing or other processes that change the quality or composition of 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.

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