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Water use and protection against water pollution, 2020

– Previous results –

In 2020, 3 976 million m³ of water was used in the industry sections. The majority of water was used for cooling purposes in electric power generation. The used water decreased by 6.1% in relation to the previous year.

From a total of 3 976 million m³ of water abstracted in the industry sections, 99.6% included water from own abstraction (98.7% surface water, 0.9% groundwater), and 0.4% from public water supply system.

Water used for industry purposes, observed by sections and in relation to the previous year, recorded the following trend in 2020: Mining and quarrying – 21.6% increase; Manufacturing – 3.9% decrease; Electricity, gas, steam and air conditioning supply – 6.2% decrease.

Out of total water used for industry purposes, 97.5% included water used for Electricity, gas, steam and air conditioning supply, 2.1% for Manufacturing and 0.4% for Mining and quarrying.

From a total quantity of 104 million m³ of wastewater¹ in industry, 47.2% included water from the section Electricity, gas, steam and air conditioning supply, 39.5% from Manufacturing section and 13.3% from the section of Mining and quarrying.

In 2020, a total of 28 million m³ water was purified, of which 63.0% by primary treatment, 18.6% by secondary treatment and 18.4% by tertiary treatment. The largest share of purified water in the industry section was that of the division Manufacture of basic metals, 19.4%, followed by Manufacture of chemicals and chemical products, 16.3%, Manufacture of food products with 15.7% and Manufacture of paper and paper products with 9.4%. The share of purified water in all the remaining divisions of the industry section was 39.2%.

1. Water used in industry

Republic of Serbia		million m ³	
Sections (CA)	2019	2020	
Water use–total¹⁾	4 232	3 976²⁾	
Mining and quarrying	14	17	
Manufacturing	86	83	
Electricity, gas , steam and air conditioning supply	4 132	3 877	

¹⁾ Division of Waste collection, treatment and disposal activities; materials recovery is included.

²⁾ Hydroelectric power plant flowing water amounted to 150.807 million m³.

¹ Water for cooling purposes is not included in the calculation of wastewater according to the new Eurostat methodology for reporting on Inland water.

2. Water discharged from industry, 2020

Republic of Serbia		million m ³	
Sections (CA)	Total	Untreated water	Treated water
Discharged water¹⁾²⁾	104	76	28
Mining and quarrying	14	12	1
Manufacturing	41	16	25
Electricity, gas, steam and air conditioning supply	49	48	2

¹⁾ Flowing water from hydroelectric power plants is not included.

²⁾ Division of Waste collection, treatment and disposal activities; materials recovery is included.

3. Purified water from industry, 2020

Republic of Serbia		million m ³		
	Purified water			
	Total	Primary treatment	Secondary treatment	Tertiary treatment
Total	28	18	5	5
Mining and quarrying	1	0	1	-
Manufacturing	25	16	4	5
Electricity, gas, steam and air conditioning supply	2	2	0	-

Primary treatment of wastewater by physical and/or chemical procedure includes the collection of suspended particles, and other processes in which BOD² is reduced by at least 20% before being discharged. It also covers the total suspended particles of incoming wastewaters reduced to by least 50%.

Secondary treatment of wastewater includes biological treatment with secondary collection of by other processes, which result in BOD reduction of at least 70% and COD³ reduction of at least 75%.

Tertiary treatment is the next wastewater treatment process after the secondary treatment of nitrogen and/or phosphorous and/or any other pollutant affecting the quality and specific use of water: microbiological contamination, colour, etc. The minimum degree of efficiency defining the tertiary treatment are: organic pollution reduced up to at least 95% for BOD and 85% for COD, being: at least 70% nitrogen removal, at least 80% phosphorous removal and microbiological removal a coliform at less than 1000 in 100 ml.

Methodological explanations on water usage and protection against pollution are to be found on the website of the Statistical Office of the Republic of Serbia:

<http://www.stat.gov.rs/en-US/istrazivanje/methodology-and-documents/?a=25&s=2501>.

Data series on water usage and protection against pollution are available within the Statistical Office database: <http://data.stat.gov.rs/?caller=2501&languageCode=en-US> as well as in Statistical Office's publications: <http://www.stat.gov.rs/en-US/oblasti/zivotna-sredina>.

Starting from 1999 the Statistical Office of the Republic of Serbia has not at disposal and may not provide available certain data relative to AP Kosovo and Metohia and therefore these data are not included in the coverage for the Republic of Serbia (total).

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² BOD characterizes the biological activity of wastewater and represents the main indicator of pollution of wastewaters. The degree of water contamination of organic compounds is defined by the amount of oxygen that is required for oxidation by aerobic microorganisms. This amount of oxygen is called biochemical oxygen demand (BOD). The required amount of oxygen is proportional to the amount of organic matter present.

³ COD is a chemically required quantity of oxygen for the oxidation of organic compounds and inorganic salts, and represents the indicator of wastewater contamination.