

STATISTICAL RELEASE

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Environmental statistics

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Wastewater discharged in the Republic of Serbia, 2010

– Preliminary data –

Statistical Release contains selected statistical data on wastewater discharged by wastewater collecting system. The tables present 2010 data on wastewater by origin and wastewater by treatment methods.

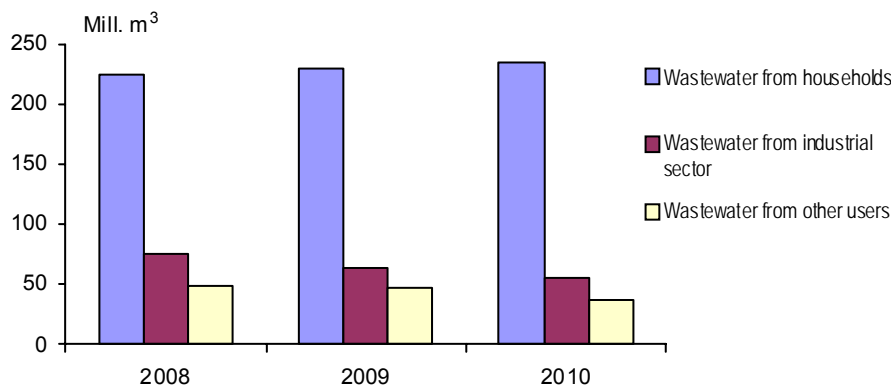
Total quantity of wastewater in 2010 decreased by 4% compared to the referent period 2009, out of which wastewater discharged in municipalities with wastewater collecting system decreased by 3.8% relative to 2009 and in municipalities without wastewater collecting system, discharged wastewater decreased by 7.6% compared to 2009.

In 2010, regarding the municipalities with wastewater collecting system, discharged wastewater of households increased by 2.4% relative to 2009, industrial sector produced 14.2% less wastewater, while discharged wastewater of other users decreased by 19.8% relative to same period in 2009.

In 2010, treated wastewater increased by 15.3% compared to 2009 and the most frequently applied method was secondary treatment that purified 4% less wastewater than in 2009.

The data refer to the Republic of Serbia and its sub-territories. 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).

Graph 1. Discharged water, by origin in the Republic of Serbia, 2008–2010



1. Wastewater in the Republic of Serbia, by origin, 2010 ¹⁾

Republic of Serbia

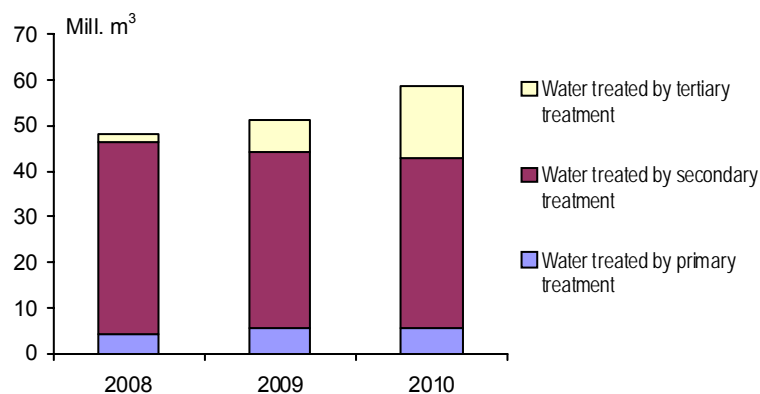
	Total wastewater, thous. m ³	Wastewater from municipalities with wastewater collecting system, thous. m ³			Wastewater from municipalities without wastewater collecting system ³⁾ , thous. m ³	Number of households connected to wastewater collecting network	
		Total	From households	From industrial sector			From other users ²⁾
Total	350 139	327 011	234 466	54 893	37 652	23 128	1 357 381
Serbia – North	208 601	190 007	137 361	34 324	18 322	18 594	793 367
Region of Belgrade	127 091	127 078	89 092	26 692	11 294	13	469 430
Region of Vojvodina	81 510	62 929	48 269	7 632	7 028	18581	323 937
Serbia – South	141 538	137 004	97 105	20 569	19 330	4 534	564 014
Region of Sumadija and Western Serbia	83 140	79 824	55 265	12 651	11 908	3 316	337 698
Region of Southern and Eastern Serbia	58 398	57 180	41 840	7 918	7 422	1 218	226 316

¹⁾ Preliminary data.

²⁾ Other users include water from enterprises from the following divisions: agriculture, forestry, fishing, hospitals, schools, hotels, restaurants and other public utilities, other public water supply systems, as well as water for own consumption

³⁾ Wastewater from municipalities without wastewater collecting system is estimated as 90% of water quantities distributed to those municipalities.

Graph 2. Treated wastewater by treatment method, 2008–2010



2. Wastewater in the Republic of Serbia, by treatment methods, 2010 ¹⁾

Republic of Serbia

	Treated wastewater quantity, thous. m ³				Wastewater discharged from municipalities with wastewater collecting system, thous. m ³	Share of treated wastewater in total wastewater discharge, %
	Total	Primary treatment	Secondary treatment	Tertiary treatment		
Total	58 877	5 456	37 289	16 132	327 011	18
Serbia – North	28 283	446	11 865	15 972	190 007	15
Region of Belgrade	–	–	–	–	127 078	–
Region of Vojvodina	28 283	446	11 865	15 972	62 929	45
Serbia – South	30 594	5 010	25 424	160	137 004	22
Region of Sumadija and Western Serbia	26 606	5 010	21 596	–	79 824	33
Region of Southern and Eastern Serbia	3 988	–	3 828	160	57 180	7

¹⁾ Preliminary data

3. Wastewater, 2008–2010

Republic of Serbia

	2008	2009	2010 ¹⁾
Total urban wastewater, thous. m ³ ²⁾	375 552	364 896	350 139
Wastewater from municipalities with wastewater collecting system, thous. m ³	349 176	339 852	327 011
From households	224 803	228 953	234 466
From industrial sector	75 599	63 958	54 893
From other users ³⁾	48 774	46 941	37 652
Treated urban wastewater, thous. m ³	48 126	51 051	58 877
Primary treatment	4 065	5 451	5 456
Secondary treatment	42 491	38 830	37 289
Tertiary treatment	1 570	6 770	16 132
Wastewater collecting network			
Total length of wastewater collecting network, km	13 779	13 856	14 048
Main collectors	2 239	2 110	2 226
Collecting networks	11 540	11 746	11 822
Number of households connected to wastewater collecting network	1 251 120	1 319 380	1 357 381

¹⁾ Preliminary data

²⁾ Other users include water from enterprises from the following divisions: agriculture, forestry, fishing, hospitals, schools, hotels, restaurants and other public utilities, other public water supply systems, as well as water for own consumption

³⁾ Wastewater from municipalities without wastewater collecting system is estimated as 90% of water quantities distributed to those municipalities.

Methodological explanations

Data on wastewaters and treated waters are collected from the reporting units that manage wastewater collecting systems. Activity of the reporting units is defined in the following sections: Water supply, sewerage, waste management and remediation activities (division 36 – Water collection, treatment and supply and division 37 – Sewerage) and sector Public administration and defence (group 8411 – Public administration activity, vs. local communities regulating huge rural water supply systems), according to the Classification of Activities.

Regarding the geographical aspect, the survey encompasses enterprises that perform their activities on the whole territory of the Republic of Serbia.

Data are collected by the reporting method, meaning that the reporting unit completes the questionnaire based on its available documentation and records. In case the respective documentation and records are not available, experts provide estimations based on wastewater collecting system functioning, equipment and characteristics of the network and supporting facilities for wastewater treatment. The completed questionnaire is delivered by the reporting unit to the competent statistical authority on the territory of the enterprise's head office.

Wastewater is water which is, after use, treated as wastewater and transported to treatment plant or let out into recipient (underground or surface water). Wastewater quantities do not include atmospheric water. Quantities of wastewater are determined by water meter or are estimated according to regulations related to the particular activity group.

Treatment of wastewater means water purification from hazardous and harmful substances and radio-nuclides contained, thus making water innocuous for further use.

Primary treatment is treatment of wastewater by a physical and/or chemical process involving collecting of suspended solids, or other process in which the BOD₅⁴⁾ of the incoming wastewater is reduced by at least 20% before discharge and the total suspended solids of the incoming wastewater are reduced by at least 50%.

Secondary treatment is treatment of wastewater by a process generally involving biological treatment with a secondary settlement or other processes, resulting in a BOD removal of at least 70% and a COD⁵⁾ removal of at least 75%.

Tertiary treatment is continuation of secondary treatment of nitrogen and/or phosphorous and/or any other pollutant affecting the quality or a specific use of water: microbiological pollution, color etc. The following minimum treatment efficiencies define tertiary treatment: organic pollution removal of at least 95% for BOD and 85% for COD, and at least one of the following- nitrogen removal of at least 70%, phosphorus removal of at least 80% and microbiological removal achieving a faecal coli form density less then 1000 in 100 ml.

More detailed methodologies are available on the website of the Office: <http://webrzs.stat.gov.rs/WebSite/userFiles/file/Zivotna%20sredina/SMET8/SMET0110VKC.pdf>.

⁴⁾ BOD₅ – Biological Oxygen demand after five days

⁵⁾ COD – Chemical Oxygen demand in KMnO₄