

In 2020, in response to the COVID-19 pandemic, Serbia's authorities focused on measures to protect public health and prevent the spread of the novel coronavirus. Large amounts of waste face masks and gloves were generated, as well as packaging for various kinds of disinfectants. The Government has not adopted any legal act to regulate the appropriate disposal of these kinds of waste.

Given the large number of infected and unwell citizens, the authorities should have anticipated the flow of waste that would be created, as well as capacities and options for treating this waste in order to protect the health of citizens, employees of healthcare facilities and temporary accommodation facilities for patients with mild symptoms, as well as the environment (MEP, 2020a).

Medical waste generated by healthcare facilities must be treated in accordance with the Law on Waste Management (Official Gazette of the Republic of Serbia, 36/2009, 88/2010, 14/2016, 95/2018 – other law), and in accordance with the Rulebook on Medical Waste Management (Official Gazette of the Republic of Serbia 48/2019) and the Rulebook on the Procedure for Managing Pharmaceutical Waste (Official Gazette of the Republic of Serbia 48/2019).

All waste created by patients infected with SARS-CoV-2 constitutes infectious medical waste (waste index no. 18 01 01/18 01 03\*), i.e., hazardous waste, and as such must be treated (sterilized and ground up) before being stored. SARS-CoV-2 is a Category B infectious substance (assigned UN 3291); waste contaminated with the virus is treated in the same way as other medical waste, with additional caution. Additional caution means that special measures must be taken when packaging, storing, collecting, transporting, and treating such waste (MEP, 2020a).

During the state of emergency, large amounts of communal waste was also generated as a result of people staying at home, and had time to clean out their attics and basements. In some municipalities, the amount of waste generated over the two-month period of the State of Emergency increased by 20% (EEG, 2021).

All waste producers, owners and/or other holders of waste, with the exception of households, are obliged to submit yearly reports to the Environmental Protection Agency. Yearly reports must be sent to the Agency by March 31st of the year following the reporting year. Reports from the reporting period therefore contain information about 2019 and 2020. The deadline for submitting data to the Agency's information system was extended until the 15<sup>th</sup> of June 2020 (SEPA, 2020a) due to the state of emergency enacted in Serbia on the 15<sup>th</sup> of March 2020 (Official Gazette of the Republic of Serbia, No. 29, of March 15, 2020).

The number of reports submitted to the Environmental Protection Agency by waste producers in the period between 2013 and 2018 increased by 56%, but slightly decreased in 2019 compared to the previous year. The number of reports submitted by waste management operators increased slightly, while the number of reports submitted by waste producers decreased.

The total amount of waste generated in 2019 was slightly less than twelve million tonnes. This is a slight increase compared to 2018 and is due to the slightly increased amount of waste generated by construction and demolition at facilities for waste and communal waste treatment.

Hazardous waste accounted for 0.6% to 1.3% of total waste in the period 2011-2019. In 2019, hazardous waste accounted for 0.7% of total waste.

The amount of stored communal waste grew by about sixty thousand tonnes in 2019 compared to 2018. A large amount of waste is still stored in unsanitary landfills.

Based on data submitted by 342 operators licensed to reuse waste, 2.27 million tons of waste was treated in 2019 by August of that year. The most commonly processed waste was unprocessed slag produced in smelting processes, followed by waste iron and paper and cardboard packaging. When it comes to hazardous waste, a significant proportion is made up of electrical and electronic equipment, lead batteries, waste oil and oil-containing waste (SEPA, 2020a).

Hazardous waste treatment companies have reported that they treated 90,234 tonnes of hazardous waste for reuse in various operations in 2019 (SEPA, 2020a).

In 2019, a little over 2,000,000 tonnes of waste was stored, 14,000 tonnes of which was hazardous waste.

The Republic of Serbia exported 415,790 tonnes of waste in 2019, of which 17,273 tonnes was classified as hazardous and 398,717 as non-hazardous. More than half of the exported waste was made up of metals, most commonly metals that contain iron. Waste paper and cardboard also make up significant quantities of the exported waste, as do paper packaging, slag from iron smelting and pouring, and glass packaging. Exported hazardous waste is mostly made up of lead batteries and car batteries. Serbia imported 227,998 tonnes of waste, with 5,958 classified as hazardous and 222,040 as non-hazardous. Approximately 60% of the imported waste was made up of paper and cardboard packaging (SEPA, 2020a).

At the end of July 2019 2,064 valid permits had been issued as per the Register for waste management permits. This number was reduced compared to the same period in 2016 and 2017. The Register of waste management permits contained 2,360 valid permits at the beginning of August 2020, which is only slightly more than in the same period in the previous year (SEPA, 2020a).

During 2016, a Register of withdrawn waste management permits was also created. By the end of August 2020, a total of 117 withdrawn permits were registered.

## Strategic and Legislative Framewor

Article 75 (Reporting) of the Law on Waste Management stipulates that producers, owners, and/or other parties operating with waste are obliged to keep daily records on waste and submit regular reports to the Environmental Protection Agency. In 2020, a new Rulebook was adopted:

• the Rulebook on the Forms for Daily Waste Management Records and Yearly Waste Management Reports with Instructions on Their Completion (Official Gazette of the Republic of Serbia, No. 7 of January 29, 2020).

This Rulebook prescribes the form for daily waste records and provides instructions for its completion.

Based on Article 75, Paragraph 18, Clause 2 of the Law on Waste Management (Official Gazette of the Republic of Serbia, 36/2009, 88/2010, 14/2016, 95/2018 - other law), the Minister for Environmental Protection adopted:

• the Rulebook on the Methodology for Collecting Data on the Composition and Quantities of Communal Waste in Local Self-Governments (Official Gazette of the Republic of Serbia, No. 14, February 21. 2020).

This Rulebook prescribes the methodology for collecting data on the composition and amounts of communal waste in local self-governments.

Based on Article 16, paragraph 4 of the Law on Packaging and Packaging Waste (Official Gazette of the Republic of Serbia, No. 36/09 and 95/18 – other law) and Article 42, paragraph 1 of the Law on the Government (Official Gazette of the Republic of Serbia, No. 55/05, 71/05 – correction, 101/07, 65/08, 16/11, 68/12 – US, 72/12, 7/14 – US, 44/14 and 30/18 – other law), the Government has adopted:

• the Regulation on Determining the Packaging Waste Reduction Plan for the Period from 2020 to 2024 (Official Gazette of the Republic of Serbia, No. 81 of June 5, 2020).

This Regulation determines the Packaging Waste Reduction Plan for the period from 2020 to 2024.

Based on Article 2 of the Decree on the Amount and Conditions for the Allocation of Incentive Funds (Official Gazette of the Republic of Serbia, No. 1/2019), the following was adopted:

 Rulebook on Harmonized Amounts of Incentives for Reuse. Recycling and Use of Certain Types of Waste (Official Gazette of the Republic of Serbia, No. 49/2020), which determines the harmonized amounts of incentives

This ordinance does not define incentives for operators for reuse / recycling / use of waste portable (household) batteries, despite them being classified as a special waste flow.

As part of the twinning project EU Support for Developing a Strategic Waste Management Framework, the following planning documents were created at the level of the Government of Serbia:

- A Waste Management Strategy for the period between 2019 and 2024, and
- A Waste Prevention Programme.

The new Waste Management Strategy has yet to be adopted, having been planned for a five-year period (2019-2024), focusing on transitioning away from the regional sanitary storage concept to the regional waste management centre model, which provides for separate collection, separation and recycling.

The Waste Prevention Programme is based on the principle of waste generation prevention, but is not legally binding. The Programme's purpose is to determine the goals and priorities for the Programme, measures to implement it for the period between 2020 and 2025, as well as to determine the qualitative criteria

or indicators for Programme assessment, based on an analysis of the current state of affairs in the area of waste management in Serbia and the benefits of the measures described in the EU's Waste Framework Directive.

## The Implementation of Regulations

The Law on Waste Management (Official Gazette of the Republic of Serbia, No. 36/2009, 88/2010, 14/2016, 95/2018 – other law), Article 75, regulates the obligation of producers and owners of waste to manage and maintain daily waste records and submit a regular annual report to the Environmental Protection Agency by the 31st of March of the year following the year being reported on. The annual waste report is filled out and submitted electronically, through an application available on the Agency's website. Based on the Rulebook on the Forms for Daily Waste Management Records and Yearly Waste Management Reports with Instructions on Their Completion (Official Gazette of the Republic of Serbia, No. 7/2020), all waste producers and all waste management entities, as well as those who put packaging and products on the market that become special waste streams after use, are obliged to submit annual reports.

During 2018 and 2019, the obligation of submitting data in this form was shared by enterprises classified as collectors or other owners of waste who are not: waste producers, landfill operators, waste reuse operators, waste importers or exporters; however, as a new Rulebook on the Forms for Daily Waste Management Records and Yearly Waste Management Reports with Instructions on Their Completion (Official Gazette of the Republic of Serbia, No. 7/2020) was adopted in 2020, all enterprises operating in waste management must submit the DEO6 form.

In accordance with the Rulebook on the Methodology for Collecting Data on the Composition and Quantities of Communal Waste in Local Self-Governments (Official Gazette of the Republic of Serbia, No. 14, February 21. 2020), local self-governments are obliged to analyse the quantities and composition of municipal waste in their respective territories four times per year.

Data on municipal waste is submitted by public utility companies or other companies that have a contract with local self-governments to perform these activities. For 2019, a total of 109 reports on municipal waste were received on the KOM1 form (SEPA, 2020a).

In accordance with Article 4 of the Law on Waste Management, local self-governments are obliged to compile a list of unregulated landfills in their area and to prepare remediation and reclamation projects for existing non-sanitary landfills.

According to data obtained from 144 local self-governments, public utility companies organize waste disposal in 137 unsanitary landfills (dumpsites) located in 111 municipalities. These are mainly landfills for which remediation and closure are envisaged in accordance with the Waste Management Strategy. Of the total number of landfills, 30 have been reported to be permanently closed, while the remaining 107 are still in use. Of the total number of unsanitary landfills, waste is stored without any control at 42, waste sorting is done at 57, waste is stored layer by layer at 28, while waste disposal in cassettes was reported at 9. 21 landfills are not covered with inert material, while the others are covered in whole or in part (SEPA, 2020a).

There are 29 unsanitary landfills in flood risk areas.

No records of waste receipts are kept at 61 landfills; records are kept at the remaining 65. Rehabilitation, closure and reclamation projects have been created for 88 landfills, with 41 projects being carried out completely or partially according to plan. New projects must be created or existing projects updated for 58 landfills (SEPA, 2020a).

Around 20% of generated municipal waste in Serbia is dumped at illegal landfills, outside the control of municipal public utility companies.

Data on illegal landfills was submitted by 131 local self – governments, reporting on the existence of at least 2,305 illegal landfills in Serbia. In 2019, 1,396 of these illegal landfills were not cleared at any time during the year.

Article 5 of the Law on Waste Management (Official Gazette of the Republic of Serbia, No. 36/09, 88/10, 14/16 and 95/2018 — other law) defines special waste streams that delineates waste flows (spent batteries, waste oil, waste tires, waste electrical and electronic products, waste vehicles and other waste) from the place of origin, through collection, transport and treatment, to storage in landfills. In the same Law, in Chapter 7, Management of Special Waste Streams, Articles 47 to 58 prescribe the obligation to manage certain special waste streams, as well as the obligation by owners of these types of waste to report, and submit appropriate data, to the Environmental Protection. Article 75 regulates the reporting procedure.

By the legal deadline for the reporting year (March 31<sup>st</sup>), special waste streams were reported by 5,058 enterprises.

The Environmental Protection Agency's Report includes the following groups of products that become special waste streams after use:

- tires
- batteries
- oils
- electrical or electronic products
- vehicles

At the beginning of July 2020, 3,734 notifications were sent to enterprises that had failed to submit yearly reports, in addition to information on their obligation to submit data on products imported or produced that become special waste streams after use (SEPA, 2020c).

The Republic of Serbia has no system of continuous collection of portable batteries and car batteries, nor are there any facilities to sort and temporarily store used batteries and car batteries. Even though legal regulations prescribe appropriate storage and the obligation to export hazardous waste within a year, most portable (household) batteries are stored without any special treatment. A significant problem for the Republic of Serbia regarding portable batteries

is the fact that there is only one company exporting this waste stream (for recycling), while there is no organized system for collection and storage, nor any incentives provided by the state.

The Law on Waste Management does not regulate or define the legal basis for adopting a Rulebook that would regulate managing biodegradable kitchen waste generated by preparing and serving food, as well as other activities that occasionally or continuously generate food waste, i.e., food that is no longer suited for its intended purpose. Further, there is no primary separation of this type of waste. It is therefore impossible to implement the EU's thematic strategy on the prevention and recycling of waste, which aims to use waste as a resource, primarily for producing secondary raw materials and energy – one of the key goals of the circular economy. Additionally, EC Directive 2008/98/EC on waste envisages the adoption of special measures to prevent the generation of food waste (NALED, 2021).

Seven operators are licensed to manage waste packaging: SEKOPAK, EKOSTAR PAK, DELTA-PAK, CENEKS, TEHNO EKO PAK, EKOPAK SISTEM and UNI EKO PAK. In 2019, these seven operators managed waste packaging on behalf of 1,935 legal entities or entrepreneurs placing packaged products on the market in Serbia (SEPA, 2020b).

According to all available data, the total amount of packaging placed on Serbia's market in 2019 is 371,510.9 tonnes. The amount of reused waste packaging reported by operators is 228,546.4 tonnes. Of this amount, 218,662.6 tonnes of waste packaging were submitted for recycling (SEPA, 2020b).

According to data submitted to the Environmental Protection Agency until July the 14<sup>th</sup> 2020, the total amount of packaging placed on Serbia's market is 371,510.9 tonnes SEPA, 2020b).

The Law on Fees for the Use of Public Goods removes the obligation to report and pay fees for products containing asbestos.

The Law on Fees for the Use of Public Goods prescribes that oils should only be reported on in kilograms.

### Pharmaceutical Waste

Article 5 of the Law on Waste Management defines pharmaceutical waste as "all drugs, including primary packaging, as well as all accessories for their use in the possession of a legal entity, i.e., an entrepreneur engaged in human and animal health care, and which have become unusable due to lapsed expiration dates, defects in terms of their prescribed quality, contaminated packaging, spills, dissipation, being prepared and then unused, returned by end users, or which cannot be used for other reasons, as well as pharmaceutical waste from drug production and wholesale and retail trade of drugs and production of galenic drugs and other pharmaceutical waste "(EEG, 2020).

In regard to pharmaceutical waste generated by citizens, in practice this type of waste is generally treated as hazardous pharmaceutical waste, although it is known that not all drugs that can be found in households pose a danger to human health or the environment and are not in fact hazardous waste. Namely, in the system of characterization, defined in the Rulebook on Categories, Testing and Classification of Waste, waste from cytotoxic and cytostatic drugs is classified by index number 180108\*, which belongs to the hazardous waste group, while index number 180109 is used to mark drugs that belong to the non-hazardous waste group (EEG, 2020).

The Law on Fees for the Use of Public Goods (Official Gazette of the Republic of Serbia, No. 95/2018, 49/2019, 86/2019) prescribes that drugs remaining in citizens' possession after their expiration date and are collected from them represent a special waste stream and, as such, require special procedures and possibilities of disposal. Prior to the adoption of this Law, the Regulation on Products that Become Special Waste Streams after Use did not recognize expired drugs remaining in citizens' possession as such. With the adoption of the Law on Fees for the Use of Public Goods in 2018, certain provisions of this Regulation ceased to apply, and the remaining ones oblige drug manufacturers and importers to keep daily records on the quantity and type of products manufactured and imported that become special waste streams after use, compile yearly reports, and report to the Environmental Protection Agency by March 31st of the year following the year being reported on (EEG, 2020).

The obligations of actors in the process of managing pharmaceutical waste collected from citizens are defined in Article 56b of the Law on Waste Management, and in particular by the Rulebook on the Procedure for Managing Pharmaceutical Waste. Because it is impossible to determine the origin of this waste, almost all drugs collected from citizens by pharmacies are treated as hazardous waste.

How the costs of pharmaceutical waste management are covered is prescribed by Article 56b of the Law on Waste Management, which states that the costs of managing or exporting pharmaceutical waste collected from citizens are borne by the producer and/or importer placing the pharmaceutical products on Serbia's market. The amount of these fees is determined in proportion to a particular producer's share of the total amount of products placed on the market in Serbia, based on records kept by the Medicines and Medical Devices Agency of Serbia.

The Law on Fees for the Use of Public Goods defines the base fee as the amount of drugs produced or imported in kilograms (kg), while the fee amount for drugs collected from citizens is RSD 242 per kg (EEG, 2020).

The existing regulations have not sufficiently defined the problem of pharmaceutical waste collection from citizens, nor established a clear and applicable system for its appropriate disposal. The adoption of the Rulebook on Pharmaceutical Waste Management did not introduce the expected fundamental changes, even though its adoption heralded the creation of an efficient solution. On the contrary, it introduced unclear solutions that are difficult to implement in practice, and the existing regulations have failed to even establish a basis for implementing the principle of the manufacturer's responsibility, nor allow for a simple and realistic mechanism for covering the costs of collection, storage, transport and disposal of pharmaceutical waste collected from citizens (EEG, 2020).

This state of affairs has led to only a few pharmacies, in Novi Sad, collecting pharmaceutical waste from citizens. Pharmacies that collect pharmaceutical waste from citizens are not interested in promoting this activity, as the costs of disposing of the pharmaceutical waste collected from citizens are paid by the pharmacies themselves, which reduces their profits. The only ones who

benefit from this state of affairs are drug importers and producers, who bear no costs for the disposal of pharmaceutical waste collected from citizens, even though the regulations require them to, and the main damage is to the environment and the health of people exposed to hazardous materials from improperly stored pharmaceutical waste (EEG, 2020).

## Financing

The Ministry of Environmental Protection put out a public call from April 1st 2019 to January 31st 2020 for the Reuse and Use of Waste as Secondary Raw Material, for Producing Energy or Producing Multi-Use Carrier Bags. The decision on allocating incentives for this public call was made on May 4<sup>th</sup> 2020. Due to the epidemiological situation, and after the adoption of the Law on Confirming Regulations Made during the State of Emergency and the Regulation on Amendments to the General Revenues, Expenditures and Expenses of the Budget of the Republic of Serbia for 2020 to mitigate the negative consequences of the COVID-19 pandemic, funds originally planned by the Budget for 2020 for the recycling industry were reduced from RSD 3.5 billion to RSD 2.6 billion. This is also the total amount allocated to recycling companies through this public call and the signed agreements (MEP, 2020b).

## Recommendations

### Strategic and Legislative Framework

- 1. Improve the waste management control system, with special emphasis on the movement and disposal of waste.
- **2.** Continue developing partnerships with civil society.
- 3. Suspend all activities related to the amendment of the Law on Waste Management aimed at legalizing the import of waste for the purpose of co-processing and its use as an alternative fuel.
- **4.** Improve the legal framework to enable the efficient implementation of extended liability principles as well as the "polluter pays" principle.
- **5.** Review regional plans and the National Waste Management Strategy, with the continued implementation of infrastructure projects for the construction of landfills.
- **6.** Adopt the waste sludge management strategy in Serbia.
- **7.** Improve the legislative framework for finally closing unsanitary landfills.
- **8.** Develop a waste generation prevention plan.
- **9.** Introduce obligatory monitoring for dioxin and furan at all landfills.
- 10. Include industry in the application of the circular economy concept.
- 11. Due to the nature and duration of the COVID-19 pandemic, assign healthcare waste to a separate form in the National Register of Pollution Sources.

12. Adopt a Rulebook that will allow citizens to hand over hazardous waste to operators more easily.



### The Implementation of Regulations

- 13. Create an economic model to motivate local self-governments to dispose of waste at sanitary landfills and accelerate the process of closing and remediating landfills/dumpsites.
- 14. Provide prerequisites for the application of waste management hierarchy principles, with an emphasis on waste prevention, as well as the reuse and recycling of waste.
- 15. Introduce systemic water and air monitoring at non-sanitary landfills, and ensure a system of public reporting on landfill gas emissions from landfills managed by public utility companies (PUCs).
- **16.** Carry out inspections of industries obliged to report on waste management to ensure truthful reporting.
- 17. Raise public awareness on the importance of setting up a system of waste management and the consequences of inadequate waste management on the environment.
- **18.** Fine local self-governments that fail to meet their obligations under the Law on Waste Management (failing to adopt waste management plans, failing to adopt plans to close unsanitary landfills and dumps, failing to submit regular reports to the EPA).
- 19. Leasing of chemicals, i.e. procuring only chemicals that industry really needs in the context of the circular economy (creating as little waste as possible).
- 20. Provide for appropriate management of hazardous waste generated in Serbia in anticipation of the expected ban on exporting hazardous waste.

- **21.** Adopt measures to incentivize local recyclable waste treatment instead of exporting it.
- 22. Revise waste management and export permits.
- **23.** More intensively involve PUCs in the system of packaging and packaging waste management.
- **24.** More intensive inspection supervision over the implementation of the Law on Packaging and Packaging Waste.
- **25.** Introduce a special article to contracts between waste generators and hazardous waste treatment operators requiring hazardous waste treatment operators to inform waste generators in writing about the final treatment of waste, thereby observing the waste producer's extended liability.
- **26.** Adopt a common methodology for sending data to the Statistical Office of the Republic of Serbia and the EPA.
- **27.** Improve the system for textile waste management. Separate collection of textile waste should be organized, and steps taken to prevent the collected textile ending up in landfills or incinerators.



- **28.** Introduce economic instruments for reducing waste sent to landfills without treatment.
- **29.** Introduce a deposit system for a portion of packaging waste.
- **30.** Introduce umbrella insurance for hazardous waste operators, so that insurance companies cover the costs of appropriately disposing the hazardous waste as well as any damages.
- **31.** Introduce a set of economic instruments for communal waste (landfill fees, deposit systems).

- **32.** Prescribe deadlines and the types of packaging eligible for the deposit system only after a feasibility study has been produced.
- **33.** Adopt a bylaw to define fees for importing drugs and placing them on the market due to the probability that the drugs may become hazardous waste after their expiration date.

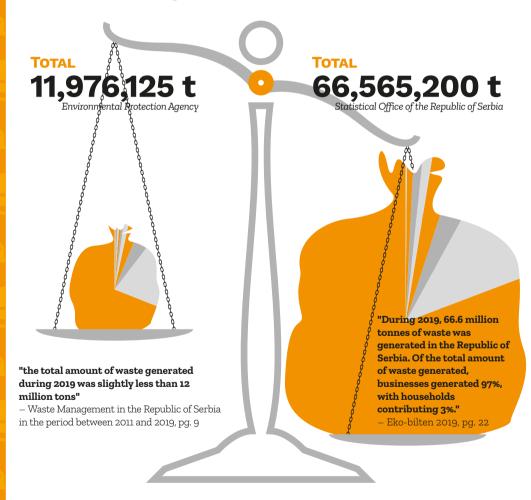
## References

- SEPA, 2020a. Environmental Protection Agency: Waste management in the Republic of Serbia between 2011 and 2019. Available at: http://www.sepa.gov.rs/download/Otpad 2011-2019 Finale.pdf
- SEPA, 2020b. Environmental Protection Agency: Report on Managing Packaging and Packaging Waste for 2019. Available at: http://www.sepa.gov.rs/download/Ambalaza\_2019.pdf
- SEPA, 2020c. Environmental Protection Agency: Products which become Special Waste Streams after Use
  in the Republic of Serbia for 2019. Available at: http://www.sepa.gov.rs/download/Uredba\_o\_proizvodima\_
  koji\_posle\_upotrebe\_postaju\_posebni\_tokovi\_otpada.pdf
- EEG, 2020. Environment Engineering Group: Research Results on Obstacles Practically Preventing Pharmaceutical Waste Collection from Citizens in Novi Sad. Available at: https://www.activity4sustainability. org/wp-content/uploads/2021/01/lzvestai-o-farmaceutskom-otpadu-150x210mm-3-1.pdf
- EEG, 2021. Environment Engineering Group: Baseline points of transition towards circular economy Gornji Milanovac. Available at: https://www.activity4sustainability.org/wp-content/uploads/2021/04/Polazne-osnove-za-tranziciju-ka-cirkularnoj-ekonomiji-Gornji-Milanovac-1.pdf
- MEP, 2020a. Ministry of Environmental Protection: Instructions on Handling Infectious and Medical
  Waste during the COVID-19 Epidemic (with Information on Treatment Capacities). Available at:
  https://www.ekologija.gov.rs/lat/saopstenja/upravljanje-otpadom-i-otpadnim-vodama/uputstvoza-postupanje-sa-infektivnim-i-medicinskim-otpadom-u-toku-epidemije-virusa-covid-19-%28sainformacijom-o-kapacitetima-za-tretman%29
- MEP,2020b. Ministry of Environmental Protection: Contracts Signed with 22 Operators on Incentives for Waste Treatment, Trivan: The Recycling Industry is Important for a Healthy Environment. Available at: https://www.ekologija.gov.rs/lat/saopstenja/vesti/potpisani-ugovori-sa-22-operatera-o-podsticajima-za-preradu-otpada.-trivan%3A-reciklazna-industrija-vazna-karika-za-zdravu-zivotnu-sredinu.
- NALED, 2021. National Alliance for Local Economic Development: Grey Book 13. Available at: https://naled.rs/htdocs/Files/06698/Siva-knjiga-13.pdf



# TOTAL AMOUNT OF WASTE PRODUCED IN 2019

Based on **two different** and conflicting reports by official state institutions.



<sup>\*</sup>Sources: Environmental Protection Agency: www.sepa.gov.rs/download/Otpad\_2011-2019\_Finale.pdf
Statistical Office of the Republic of Serbia: publikacije.stat.gov.rs/G2020/Pdf/G20205663.pdf

Thermal process waste	8,264,434	69%
Communal waste (household waste and similar commercial and industrial waste), including separately collected fractions	2,463,422	21%
Waste from waste management facilities, wastewater treatment plants outside the place of generation and preparing water for human consumption and industrial use	509,013	4%
Construction waste and demolition waste (including earth excavated from contaminated locations) $$	329,757	3%
Packaging waste, absorbents, mops, filter materials and protective fabrics, unless specified otherwise	144,345	1%
Waste not otherwise specified in the catalogue	63,834	1%
Waste from shaping and physical and mechanical surface processing of metal and plastic	58,850	<1 %
Waste from agriculture, horticulture, aquaculture, forestry, hunting and fishing, and preparing and processing food	47,492	<1 %
Waste from wood processing and production of paper, cardboard, pulp, panels and furniture	43,708	<1 %
Waste from the textile, fur, and leather industries	13,684	<1 %
Oil and other liquid fuel waste (except edible oils and those in chapters 05, 12, and 19)	12,279	<1 %
Organic chemical process waste	10,487	<1 %
Waste from producing, formulating, supplying and using coatings (colours, lacquers, and glass glazes), glues, sealants, and printing colours	4,278	<1 %
Waste from human and animal health care and research (except waste from kitchens and restaurants not stemming from immediate health care)	3,263	<1 %
Waste from oil refining, natural gas purification, and pyrolytic treatment of coal	2,643	<1 %
Waste from surface chemical treatment and protection of metals and other materials; hydrometallurgy of non-ferrous metals	2,509	<1 %
Waste from inorganic chemical processes	1,583	<1 %
Waste from the photography industry	295	<1 %
Waste organic solvents, coolants, and propellants (except 07 and 08)	249	<1 %
Waste generated by research, excavation from mines and quarries, and physical and chemical treatment of minerals	-	0%

Environmental Protection Agency

TOTAL: 11,976,125 t

Mining	53,770,441	81%
Electricity, gas and steam supply	7,500,434	11%
Household waste	1,976,292	3%
Processing industry	1,605,680	2%
Construction	605,889	1%
Water supply and waste water management	590,586	1%
Service industry	421,837	1%
Agriculture, forestry and fisheries	94,041	<1 %
Statistical Office of the Republic of Serbia	TOTAL: 66,565,2	00 t

