

03. WASTE MANAGEMENT

OVERVIEW

The scope and complexity of waste management, as well as a large number and type of actors, makes it particularly challenging to harmonise EU regulations with the legislative framework of the Republic of Serbia. The very question of implementation of regulation and implementation control is a major challenge. Serbia is burdened with a large amount of historical waste and negative practices, primarily seen in polluters avoiding the responsibility for inadequate waste disposal; shifting the resolution of problems of historical waste to future generations without the political will to prioritise this issue.

The total amount of waste produced in the Republic of Serbia, according to the data submitted to the National Register of Pollution Sources, run by the Serbian Environmental Protection Agency, is estimated to be around 9 million tons a year, or 1.3 tons of waste annually per capita in the period 2011-2016.⁴⁸

The share of hazardous waste in the period 2011-2016 ranged from 0.7% to 1.2% in relation to the total amount of generated waste.

Observing the amount of waste per waste category (based on the Waste Catalogue) the largest quantity of waste is in category 10 – with thermal process waste amounting to about 70% of the total quantity of this waste produced. The largest producers of this type of waste are thermal power plants that produce coal fly ash during their work, but also other types of waste such as slag, waste from slag processing, sludge and filter cakes.

In accordance with the Rulebook on the methodology for the collection of data regarding the content and quantities of municipal waste on the territory of the local-government unit (“Official Gazette of the Republic of Serbia”, No. 61/10), local governments have the obligation to conduct analyses on the amount and the content of municipal waste on their territories four times a year. During 2016, data was provided by 95 local governments, which was a reduction in the number of local governments that complied with legal regulations in this area (in 2013, 107 local government reports were submitted). Where no reports were delivered, an estimation of the amount of municipal waste was made. Based on the data submitted to the Environmental Protection Agency and estimations carried out, it was established that the total amount of generated municipal waste in the period from 2010 to 2016 was reduced from 2.65 million tons a year in 2010 to 1.89 million tons a year in 2016. At the same time, the average coverage of waste collection increased from 72% in 2010 to 82% in 2016. This, unfortunately, shows that about 20% of municipal waste is still outside of the waste collection and disposal system carried out by Public Utility companies. When we take into account each inhabitant of the

48 The Ministry of Environmental Protection, the Environment Protection Agency, 2017, *Waste Management in the Republic of Serbia in the period 2011 – 2016*. Belgrade. The complete report available at: http://www.sepa.gov.rs/download/NRIZ_podaci/Otpad2011-2016.pdf

Republic of Serbia in 2016, we can say that they produced 0.73 kg of waste a day, or about 270 kg/year.⁴⁹

The main challenges in waste management in Serbia are still to ensure good coverage and capacity for providing basic services, such as collection, transportation and sanitary waste disposal. On the basis of the data provided to the Environmental Protection Agency⁵⁰ by 297 operators with a permit for the re-utilisation of waste, during 2016, 1.68 million tons of waste was subjected to treatment. Of the total amount of processed waste, the most represented were waste metals containing iron, waste from thermal processes, slag and coal flying ash, followed by paper and cardboard packaging.

Local governments are obliged to provide conditions for the selection and recycling of municipal waste and establish collection centres for household waste. These obligations arising from Article 53, points 1 and 2 of the Amendments and Modifications to the Law on Waste Management (“Official Gazette of the Republic of Serbia”, No 14/16) were implemented merely at a symbolic level.

The system of primary and secondary selection of packaging waste in the utility sector has not been established in most local-governments; a fact which jeopardises the fulfilment of national targets for re-utilization and recycling of packaging waste. The data presented in the Waste Management Report in the Republic of Serbia for the period 2011-2016 shows a tendency of reducing the amount of packaging waste collected separately by public utility companies.⁵¹

A special hazard to health and the environment is hazardous waste. In 2016, 74,318 tons of hazardous waste were produced, i.e., 10.5 kg per capita per year. The largest quantity of hazardous waste produced (according to the classification of waste from the Waste Catalogue) is hazardous waste from category 10 – Waste from thermal processes, which was 29,806 tons in 2016, i.e., 40% of the total quantity of produced hazardous waste.⁵²

A special problem is the fact that “hazardous household waste” generated in households is mixed with other waste.

During 2016, 307,446 tons of waste was exported from Serbia, of which 16,708 tons was hazardous and 290,738 tons non-hazardous waste. The largest percentage of exported hazardous waste consists of lead batteries and car batteries, followed by mixtures of materials from mechanical treatment of waste and waste acid. More than 60% of the exported waste is made up of metals, but there are significant quantities of waste paper, cardboard, glass, plastic packaging and slag from thermal processes.⁵³

There is a trend of exporting large quantities of waste for which there are

49 Ibid.

50 Ibid.

51 Ibid.

52 Ibid.

53 Ibid.

processing capacities in Serbia, while at the same time, 112,000 tons of waste paper, paper and cardboard packaging were imported into Serbia. In total, 221,064 tons of waste was imported into Serbia in 2016, of which 163 tons were lead batteries from Montenegro which are characterised as hazardous waste.

Disposal of non-hazardous waste is planned to be carried out in sanitary landfills, 10 of which have been constructed to date, while 3 are under construction (Subotica, Nova Varoš, Indija). Of the 10 sanitary landfills, 8 are regional (Užice, Lapovo, Kikinda, Jagodina, Leskovac, Pirot, Sremska Mitrovica, Pančevo), while 2 of them are local (Vranje and Gornji Milanovac).⁵⁴

Each local government was obliged to develop a Local Waste Management Plan, and each region a Regional Waste Management Plan. All submitted waste management plans are available on a special website of the Serbian Environmental Protection Agency⁵⁵.

According to the existing data, 6 municipalities have not yet joined any of the regions for waste management, and the regional approach is one of the basic principles prescribed by the Law on Waste Management ("Official Gazette of the Republic of Serbia", No. 36/09, 88/10, and 14/16).

A large number of municipalities and cities still have their own non sanitary landfills. According to the data provided by local governments to the Environmental Protection Agency (by completing the Landfill Questionnaire on their territory) PUCs run organised waste disposal to 123 landfills (non-sanitary – dumps). These are mainly landfills that are earmarked for closure and rehabilitation by the Waste Management Strategy; since most of them do not have a minimum of technical standards. This number should not be taken as the national total because 44 local governments have not fulfilled their legal obligation and are yet to submit the requested data on landfills in their territory. The capacities of the existing illegal non sanitary landfills have been exhausted in most municipalities, and the failure to meet the minimum technical standards leads to chronic contamination of underground and surface waters and land with a constant danger of explosions and fires due to the lack of a landfill gas disposal system.⁵⁶

There is no systematic monitoring of environmental parameters, so it is not possible to accurately determine the conditions and extent of the impact of such a state of pollution on human health and the environment. About 70% of active non sanitary landfills are not envisaged in spatial planning documents and do not have an environmental impact study or work permits required. On the basis of the data submitted to the Environmental Protection Agency, 2170 non-sanitary landfills were registered, with a note that 48 local government units did not provide data on non-sanitary landfills.⁵⁷

54 Ibid.

55 The webpage of the Environmental Protection Agency: <http://www.sepa.gov.rs/>

56 *Waste Management in the Republic of Serbia in the period 2011-2016*, the Ministry of Environmental Protection, the Environment Protection Agency, 2017, Belgrade. The complete report available at: http://www.sepa.gov.rs/download/NRIZ_podaci/Otpad2011-2016.pdf

57 Ibid.

Such a state of affairs and the attitude towards waste by local governments is not only unacceptable from the aspect of environmental protection and the impact on human health, but rather represents a conscious violation of existing legal frameworks, which is not adequately responded to by the relevant authorities.

LEGISLATIVE FRAMEWORK

By adopting the Law on Waste Management ("Official Gazette of the Republic of Serbia", No. 36/09 and 88/10, 14/16), the Law on Packaging and Packaging Waste ("Official Gazette of the Republic of Serbia", No. 36/2009), the Law on Mining and Geological Surveys ("Official Gazette of the Republic of Serbia", No. 101/15), a legal framework for the establishment of a waste management system has been created in accordance with the principles and regulations of the EU. The National Environmental Approximation Strategy of the Republic of Serbia⁵⁸ provided an overview of the necessary investment in the field of waste management, which is of crucial importance for the system in Serbia to reach the level of standards in the European Union, as well as a clear timeframe for doing so. Unfortunately, the guidelines are not respected to their full extent. Additional guidelines for the development of the system were given by the Strategy for Waste Management for the period 2010-2019 ("Official Gazette of the Republic of Serbia", No. 29/2010), as a basic strategic document providing guidelines and proposing steps for rational and sustainable waste management, in line with the EU policy in this area.

The Law on Waste Management regulates issues related to: types and classification of waste; waste management planning; waste management entities; responsibilities and obligations in waste management; organization of waste management; management of special waste streams; conditions and the procedure for issuing waste management licenses; cross-border movement of waste; waste and database reporting; waste management financing; control; penalties and other issues of importance for the establishment and functioning of a waste management system. This law ensures the establishment of an integrated waste management system, which should monitor waste from its point of creation, through its collection, transport, storage, treatment up until its final disposal.

The Law on Waste Management has transposed the basic principles of the EU waste management system into domestic legislation: the principle of self-sufficiency; the principle of proximity and regional approach to waste management; the principle of waste management hierarchy; the principle of liability and the "polluter pays" principle. Also, the following legislation has been partially transposed to the national legislation by this law and accompanying bylaws: Waste Framework Directive 2008/98 / EC, Battery Directive 2006/66/EC, Waste Electrical and Electronic Equipment Directive (WEEE) 2012/19/EC, Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Waste (RoHS II) 2011/65/EC, Landfill Directive 1999/31/E, Directive on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCBs & PCTs) 96/59/C with amendments (EC) 596/2009, Regulation (EC)

58 <http://www.misp-serbia.rs/wp-content/uploads/2010/05/EAS-Strategija-SRP-FINAL>

No. 1013/2006 on shipments of waste and Regulation (EC) No. 1418/2007, Directive on end-of-life vehicles (ELVs) 2000/53/EC.

The Law on Packaging and Packaging Waste ("Official Gazette of the Republic of Serbia", No. 36/09) regulates the following: environmental conditions that the packaging must fulfil in order to be placed on the market; management of packaging and packaging waste; reporting on packaging and packaging waste; economic instruments; control; penalties and other issues of importance for the management of packaging and packaging waste.

The goal of this law is to ensure: the preservation of natural resources in accordance with the principle of sustainable development; protection of the environment and human health; to enable the development of modern packaging technology; establish optimum packaging and packaging waste management models in accordance with the principle of division of responsibility; ensure the functioning of the market in the territory of the Republic of Serbia; prevent creation of trade barriers; avoid disorders and restrictions in competition.

The Law on Packaging and Packaging Waste and the accompanying bylaws completely transposed the Directive on Packaging and Packaging Waste 94/62/EC, but without the amending Directive 2015/720/EC concerning the reduction of the use of lightweight plastic carrier bags.

The Regulation on determining packaging waste reduction plan for the period 2015-2019 ("Official Gazette of the Republic of Serbia", No. 144/14) established the national targets for the management of packaging and packaging waste, related to the collection of packaging and packaging waste, reuse and recycling of packaging waste.

The Law on Mining and Geological Explorations and Government Regulations on the conditions and procedures for issuing the permits for waste management, as well as the criteria, characterization, classification and reporting on mining waste ("Official Gazette of the Republic of Serbia", No. 53/17) have transposed into domestic legislation the principles and priorities of the European Parliament and Council Directive 2006/21/EC on the management of waste from extractive industries, as well as relevant Commission decisions in relation to the Directives (2009/335/EC, 2009/337/EC, 2009/358/EC, 2009/359/EC and 2009/360/EC). According to the provisions of Directive 2006/21/EC on the management of mining waste and the ways it is transposed, mining waste is the waste generated during the geological exploration, exploitation, preparation and storage of mineral resources (except for water) and the working of quarries. The National Program for the Adoption of the Acquis foresees the preparation and adoption of bylaws to completely transpose Directive 2006/21/EU in the period 2016-2018. On May the 29th, the Government adopted the Regulation on the conditions and procedures for issuing permits for waste management, as well as the criteria, characterisation, classification and reporting on mining waste ("Official Gazette of the Republic of Serbia", No. 53/17)⁵⁹,

effective January the 1st, 2020. The directive must be completely implemented by the end of 2022.

The Cadastre of Mining Waste is underway, aiming to develop and improve the mining waste management system in Serbia⁶⁰.

The transposition of Directive 86/278/EEC on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture is still at an early stage, and bylaws that should enable its transposition into domestic legislation are planned to be adopted by the end of the third quarter of 2020.

Regulation (EU) No. 1257/2013 on ship recycling has not been transposed into domestic legislation.

The latest form in the field of waste management is the Hazardous Waste Movement Document, adopted on February the 13th, 2017. Pursuant to Article 46, paragraph 10 of the Law on Waste Management ("Official Gazette of the Republic of Serbia", No. 36/09, 88/10 and 14/16), the Rulebook on the form of hazardous waste movement document, the form of prior notification, the manner of submission and filling in instructions ("Official Gazette of the Republic of Serbia", No. 17/2017). The form of the Document on the movement of hazardous waste shall be submitted to the Environmental Protection Agency in an electronic form by entering data into the information system of the National Register of Pollution Sources, no later than 15 days from the end of the movement of waste with final, additional waste data in accordance with the law regulating data protection. The form of prior notification (notification of hazardous waste movement) shall be submitted in an electronic form to the Environmental Protection Agency by entering data into the information system of the National Register of Pollution Sources⁶¹ at least 48 hours before starting the movement of the waste. Without submitting the prior notification form within the legal deadline, the Hazardous Waste Movement Document cannot be created.

IMPLEMENTATION OF LEGISLATION

The main problem in the area of waste management is the failure to comply with regulations and the lack of legal sanctions towards those who violate such regulations, especially when it comes to local governments and public utility companies.

The Law on Inspection Supervision ("Official Gazette of the Republic of Serbia", No. 36/2015) stipulates that the Ministry is obliged to publish control lists on its website for its area of responsibility and all types of reviews. On the website of the Ministry of Environmental Protection there are 25 control lists for waste management. Control lists are documents with a list of priority checking issues whose content is related to regulations by areas/sub-areas. The Environmental Inspectorate is obliged to publish the Inspection Plan for the current year on its website. The frequency of

59 From the presentation of Toplica Marjanović from the organisation Young Researchers of Bor, 12th Symposium "Recycling Technologies and Sustainable Development".

60 The project website: <http://katakastarrudarskogotpada.rs/>

61 Data entry is carried out at the webpage: <http://www.sepa.gov.rs/index.php?menu=20170&id=20004&akcija=-showAll>

inspection depends on the degree of risk the operator poses to human health and the environment. An operator with a higher degree of risk will have a greater number of controls during the year. The degree of risk in waste management is determined by an inspector during the preparation for supervision as well as in the course of the supervision. Problems were detected on the control lists from 2016, so some were altered in 2017. The main problem is that the questions were not harmonised with the amendments and modifications to the Law on Waste Management and other certain bylaws. Modifications in the control lists resulted in the production of a control list for risk assessment for an operator of a waste management facility with instructions for its implementation.⁶²

Data on waste management in the Republic of Serbia is collected in accordance with the Law on Waste Management. The reporting covers all types of waste, except that which is listed in Article 4 of the Law – Implementation exemptions. All reporting entities are obliged to keep a daily record of the quantities of generated, recovered, used, deposited, imported or exported waste and to submit annual reports to the Serbian Environmental Protection Agency⁶³.

Data is collected in accordance with the:

1. Rulebook on the methodology for the development of national and local registers of sources of environmental pollution as well as methodology for types, methods and time limits for data collecting (“Official Gazette of the Republic of Serbia”, No. 91/2010, 10/2013 and 98/2016),
2. Rulebook on the form of a daily record and annual waste report with the filling in instructions (“Official Gazette of the Republic of Serbia”, No. 95/2010) and 88/2015),
3. Rulebook on forms of reports on packaging and packaging waste management (“Official Gazette of the Republic of Serbia”, No. 21/2010 and 10/2013),
4. Regulation on products that become specific waste streams after use, on the daily log form for records of the quantity and type of products produced and imported, and on the annual report, on the method and time-frame for submitting the annual report, on the fee payers, the calculation criteria, the amount and the method for the calculation and payment of the fee (“Official Gazette of the Republic of Serbia”, No. 54/2010, 86/2011, 41/2013 – other rulebook and 3/2014),
5. Rulebook on the form of hazardous waste movement document, prior notification form, submission manner and filling in instructions (“Official Gazette of the Republic of Serbia”, No. 17/17).

Companies that produce or manage packaging and packaging waste are obliged to comply with the provisions of the Law on Packaging and Packaging Waste and other relevant bylaws in their work, and submit annual reports to the relevant authorities.

⁶² All control lists available at: <http://www.ekologija.gov.rs/dozvole-obraci/spisak-kontrolnih-listi-u-sektoru-inspekcije-za-zastitu-zivotne-sredine/oblast-kontrola-upravljanja-otpadom/>

⁶³ National Register of Pollution Sources

A manufacturer, importer, packer/filler and supplier, can manage waste packaging in three ways:

1. Transfer its obligations to an operator of the packaging waste management system in accordance with Article 24 of the Law and to submit an annual report to the Environmental Protection Agency.
2. Provide its own management of packaging waste in accordance with Articles 25 and 26 and submit an annual report to the Environmental Protection Agency.
3. Submit an annual report to the Environmental Protection Agency and to pay the fee that will be determined by the Ministry on the basis of the Report submitted, in accordance with the Regulation on criteria for the calculation of packaging or pack fees and exemption from fee payment, fee payers, fee amount and the manner of fee calculation and payment (“Official Gazette of the Republic of Serbia”, No. 8/10).

In Serbia, 6 operators have a license for packing waste management: Sekopak, Ekostar pak, Cenex, Tehno eko pak, Ekopak sistem and Delta pak.

The amount of packaging that was released to the market of the Republic of Serbia in 2016 by legal entities or entrepreneurs who transferred their obligations to operators was 344,661.8 tons, while 277 companies who did not transfer their obligation to an operator for packaging waste management placed a total 4,139 tons on the market. The system operators reported that they collected 155,645 tons of packaging waste in 2016, which amounts to 47.4% of the total quantities placed on the market, which resulted in the national target of 44% being exceeded by 3%.

In practice, system operators charge the packaging fee for the quantities of packaging placed on the market from companies that have transferred the obligation to them, and these funds are invested in the collection system for packaging waste. The large number of system operators competing for their share of the market has led to packaging fees in Serbia being several times lower than that in other countries of the region. As a result, financial investments in the sector are currently insufficient to achieve the effect expected by the application of the law i.e. the establishment of infrastructure for separate collection of packaging waste in the utility sector. Operators were forced to fulfil their obligation to meet the national re-use and recycling goals by investing in cheaper sources of collection: the collection of packaging waste generated in the industry and the commercial sector. The percentage of collection for packaging waste located in companies exceeds the targets set by the Directive which is still valid (Directive 94/62/EC on Packaging and Packing Waste) while achieving the specific goal for packing of the glass found mainly in municipal waste and HoReCa sector is extremely problematic.

Also, waste PET packaging located in municipal waste, according to data from the Serbian Association of Packaging Waste Recyclers, is collected mostly by informal collectors who collect about 80% of PET bottles recycled in Serbia, while only 20% comes from the collection of utility companies.

Although the EU directive has been completely transposed into the Law on Packaging

and Packaging Waste, there are numerous problems in its implementation. Since the beginning of the implementation of the Law, not a single inspection supervision has been carried out; with either obligors or with system operators. In most local governments, there is no system in place for the primary selection of household waste, nor is there a satisfactory number of sorters where secondary waste selection can be carried out. Although the existing system has provided excellent results in the collection of packaging waste from the industrial and the commercial sector, the insufficiently developed collection of packaging waste in the utility sector, has led to the missing of prescribed targets in this area and is threatening targets set for forthcoming years.

FINANCING

The “polluter pays” principle is the basis of financial mechanisms for waste management. Affected entities and citizens pay different services and fees for waste collection, removal and disposal and/or environmental protection that vary among local governments and regions. Part of the collected funds raised from fees is spent on the removal of illegal landfills, due to the ineffective system of finding and prosecuting the culprits for their creation, which additionally reduces the possibility of investing these funds in building new waste management systems. Part of the funds collected in the Green Fund through the Ministry of Environmental Protection is paid to the recycling industry.

The relevant authorities have stated that the funds necessary for the establishment of the waste management system are large and insist that it will not be possible to establish the system without additional assistance in the form of donations or the establishment of public-private partnerships. In reality, there is a certain imbalance in terms of the necessary investment and available resources, but with the responsible management and rational utilisation of the existing funds, much less additional funds would be required.

RECOMMENDATIONS

Legislative framework

- Improve the waste management control system with particular emphasis on the movement and disposal of waste.
- Improve the legal framework in order to establish more rigorous control of system operators and greater transparency of their work.
- Develop partnerships with the civil sector and include them in the process of drafting new regulations and monitoring the application of existing ones.
- Suspend all activities related to the amendment of the Law on Waste Management, which would “legalise” the import of waste for co-processing and use as alternative fuel.

Implementation of Legislation

- Create an economic model that will motivate local governments to deposit waste in sanitary landfills and accelerate the process of rehabilitating or closing illegal landfills.
- Provide prerequisites for the application of waste management hierarchy principles with emphasis on waste prevention, reuse and recycling of waste.
- Provide a public reporting system for emissions from illegal landfills operated by PUCs.
- Ensure the application of the “polluter pays” principle and carry out inspections of the industries in question in order to ensure accurate reporting.
- Improve public awareness of the importance of establishing a waste management system and the consequences that inadequate management has on human health and the environment.
- Develop capacity of institutions at all levels for monitoring and controlling the implementation of regulations.
- Develop an efficient judicial system, capable of monitoring and efficiently implementing regulations in the field of waste management.

Financing

- Provide financial support to regions and local government units to prepare the documentation necessary to obtain the EU funds needed for the construction of sanitary landfills.
- Provide funds for co-financing projects for the rehabilitation of illegal landfills, the introduction of a selective collection of waste, the construction of transfer stations and the construction of sanitary landfills.
- Provide resources for information and education on the importance of establishing a waste management system and, in partnership with CSOs and the media; inform and educate the public.

WASTE MANAGEMENT



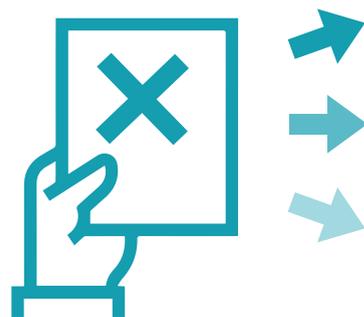
Every citizen of Serbia generates **0,73 kg of waste** per day.

That is nearly **270 kg** per year.



Nearly 70%

of all active landfills do not have a completed environmental impact assessment study and miss the required work permit.



Based on the data provided to the Serbian Environmental Protection Agency, **the number of registered illegal landfills is 2170.**

Note: 48 local self-governments did not provide information on illegal landfills.