



# **Waste management**

# Overview

In 2019, the Ministry of Environmental Protection revoked the waste management licenses of one of the largest hazardous waste management operators.<sup>89</sup> The inability of the hazardous waste producer to transfer waste to an appropriate operator resulted in hazardous waste accumulating in temporary storage, creating an additional hazard for the environment and human health. The Waste Management Plan of the hazardous waste producer in question envisioned Temporary Storage capacity for the amount of waste generated in the period of no longer than one year. The new Draft Law on the Amendments to the Law on Waste Management<sup>90</sup> amends Article 36 paragraph 4 to allow waste to remain in temporary storage for 24 instead of 12 months, which will result in the pileup of large amounts of hazardous waste at temporary storage facilities.

In 2016, the Register of Revoked Waste Management Licenses was established within the National Register of Pollution Sources. 89 revoked licenses were recorded as of the 25<sup>th</sup> of August 2019.

Companies should submit annual reports on waste to the Environmental Protection Agency by the 31<sup>st</sup> of March of the following year. For this reason, the Agency's report includes data for the period 2018 and part of 2019.

At the end of July 2019, the Register of Issued Waste Management Licenses contained 2,064 valid licenses, which is fewer than in the same period in 2016 and 2017. The reason for this reduction is that some licenses for collection and transport of waste, which are valid for five years, have expired and have not been renewed; in other certain cases licenses were revoked.

The total amount of reported waste in 2018 was about 11.6 million tonnes. This is a slight increase compared to 2017, when waste generation increased compared to the previous years, due to an increase in the number of producers of

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89 <http://www.sepa.gov.rs/index.php?menu=20174&id=20055&akcija>ShowExternal>

90 <https://www.paragraf.rs/dnevne-vesti/061119/061119-vesti13.html>

hazardous waste submitting reports, as well as an increased amount of waste being generated by thermal power plants and companies producing raw iron, steel and ferroalloys.<sup>91</sup>

Between March 2017, when the Rulebook on the Form of Hazardous Waste Movement Document and Filling in Instructions was adopted, and the end of 2017, 35,800 hazardous waste transfers were reported in the territory of the Republic of Serbia. 60,879 hazardous waste transfers were reported in 2018. During 2019, 40,280 hazardous waste transfers were reported until the 23<sup>rd</sup> of August 2019. Between 200 and 250 hazardous waste transfers are reported every day.<sup>92</sup>

In the period 2011-18, hazardous waste accounted for between 0.6% and 1.3% of all waste produced in the Republic of Serbia. In 2018, hazardous waste accounted for 0.8% of all waste produced in Serbia. Companies performing hazardous waste treatment reported that 113,688 tonnes of hazardous waste were transferred for treatment.<sup>93</sup>

The largest hazardous waste producers in Serbia are thermal power plants, which produced 7.45 million tonnes of fly ash in 2018, as well as other types of waste, including slag, sludge and filter cakes. Other significant sources of hazardous waste include solidified waste from waste processing plants, scrap metals containing iron, waste generated in metal processing, and mixed waste generated from construction and demolition.<sup>94</sup>

According to data submitted until August 2019, 331 operators with waste reuse licenses treated 2.03 million tonnes of waste in 2018. The largest proportion of that waste was scrap metal, followed by waste from thermal processes and processed and unprocessed slag from the iron and steel industry, followed in turn by paper and cardboard packaging.<sup>95</sup>

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91 Ministry of Environmental Protection, Environmental Protection Agency (2019): Waste Management in the Republic of Serbia from 2011 to 2018, available at: [http://www.sepa.gov.rs/download/Otpad\\_2011\\_2018.pdf](http://www.sepa.gov.rs/download/Otpad_2011_2018.pdf)

92 Ibid.

93 Ministry of Environmental Protection, Environmental Protection Agency (2019): Waste Management in the Republic of Serbia from 2011 to 2018, available at: [http://www.sepa.gov.rs/download/Otpad\\_2011\\_2018.pdf](http://www.sepa.gov.rs/download/Otpad_2011_2018.pdf)

94 Ibid.

95 Ibid.

**Sanitary landfills** are sanitary and technically regulated areas for the disposal of non-hazardous waste under controlled conditions. The National Strategy from 2009 envisions the closure and remediation of existing dumpsites and the construction of 29 regional sanitary landfills. 11 sanitary landfills had been built by the end of 2019.

Two sanitary landfills are currently under construction:

1. Regional sanitary landfill in Nova Varoš, and
2. Regional sanitary landfill in Inđija.

All local self-governments were obliged to develop a local waste management plan and every region was obliged to develop a regional waste management plan. According to available data, six municipalities have not yet joined a waste management region.<sup>96</sup>

Despite being obliged to dispose of waste at sanitary landfills, many local self-government units do not do so. Communal waste is still most probably disposed of at municipal non-sanitary landfills, because fees are charged for disposal at sanitary landfills.

Non-sanitary landfills and dumpsites are major polluters and a significant hazard, due to frequent fires and the risk of spreading of infections. Fires occurred at many non-sanitary landfills and dumpsites in 2019.

Most municipal dumpsites in Serbia are full to capacity, and many do not fulfil minimum technical standards. Key problems include:

- There is no controlled extraction of gas created by the decomposition of waste at landfill sites, which is one of the main causes of fires and explosions at landfills;
- Landfill leachate is neither collected nor purified, endangering ground and surface water and soil due to the high content of organic matter and heavy metals.

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<sup>96</sup> Ministry of Environmental Protection, Environmental Protection Agency (2019): Waste Management in the Republic of Serbia from 2011 to 2018, available at: [http://www.sepa.gov.rs/download/Otpad\\_2011\\_2018.pdf](http://www.sepa.gov.rs/download/Otpad_2011_2018.pdf)

- Environmental impact assessment studies are not undertaken.

Landfills and dumpsites located within 100 meters of settlements or within 50 meters of rivers, streams, lakes and other accumulations of water pose the greatest risk to the environment and human health. After rehabilitation, the majority of the existing disposal sites may be turned into transfer stations and collection centers for recyclable waste, while the remaining disposal sites will be closed and replaced with regional landfills.<sup>97</sup>

Based on data submitted by 94 local self-governments, there are 1,711 old and illegal landfills on the territory of the Republic of Serbia. 90 municipalities sent fully completed questionnaires, while 48 municipalities sent no data.

Seven operators have a license for packaging waste management: SEKOPAK, EKOSTAR PAK, DELTA-PAK, CENEKS, TEHNO EKO PAK, EKOPAK SISTEM and UNI EKO PAK. *UNI EKO PAK* obtained a packaging waste management license in August 2018, and was therefore not included in reporting for 2018.<sup>98</sup>

On the basis of the Packaging Waste Reduction Plan from the Regulation on Determining the Packaging Waste Reduction Plan for the 2015-2019 period<sup>99</sup>, as well as on the Regulation on Determining the Packaging Waste Reduction Plan for the 2015-2019 period<sup>100</sup>, it can be concluded that all packaging waste management system operators met the general national objectives for 2018.<sup>101</sup>

According to data submitted to the Environmental Protection Agency by the 24<sup>th</sup> April 2019, the total amount of packaging on the market of the Republic of Serbia was 358,955 tonnes.<sup>102</sup>

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97 Ministry of Environmental Protection, Environmental Protection Agency (2019): Waste Management in the Republic of Serbia from 2011 to 2018, available at: [http://www.sepa.gov.rs/download/Otpad\\_2011\\_2018.pdf](http://www.sepa.gov.rs/download/Otpad_2011_2018.pdf)

98 Ibid.

99 "Official Gazette of the Republic of Serbia", No. 88/09.

100 "Official Gazette of the Republic of Serbia", No. 144/2014.

101 Ministry of Environmental Protection, Environmental Protection Agency (2019): Report on the Management of Packaging and Packaging Waste in 2018, available at: <http://www.sepa.gov.rs/download/A18.pdf>

102 Ministry of Environmental Protection, Environmental Protection Agency (2019): Report on the Management of Packaging and Packaging Waste in 2018, available at: <http://www.sepa.gov.rs/download/A18.pdf>

Article 5 of the Law on Waste Management<sup>103</sup> defines specific waste streams, describing the flow of waste (used batteries and accumulators, waste oil, waste rubber, electrical and electronic waste, waste vehicles and other types of waste) from the place of origin, through collection, transportation and treatment, to disposal at a landfill site. In chapter 7 of the same Law, Specific Waste Stream Management, Articles 47-58 stipulate the methods for managing each specific waste stream, as well as the obligations of owners of these types of waste to report and submit corresponding data to the Environmental Protection Agency. Article 75 governs the reporting procedure.<sup>104</sup>

Until the stipulated deadline for the 2018 reporting year, 5,743 companies had reported. On the cut-off date (May 15<sup>th</sup> 2019), the number of companies that had submitted Annual Reports rose to 6,734. Reports are still incoming and the number of companies and the number of products is increasing every day (May 27<sup>th</sup> 2019 – 7,000 companies).<sup>105</sup>

On the 20<sup>th</sup> of February 2020, the Ministry of Environmental Protection submitted the Draft Amendment to the Law on Packaging and Packaging Waste for discussion, introducing a deposit system for beverage packaging from the 1<sup>st</sup> of July 2021.

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103 "Official Gazette of the Republic of Serbia", Nos. 36/2009 88/2010, 14/2016, and 95/2018 – other law.

104 Ministry of Environmental Protection, Environmental Protection Agency (2019): Products that become Specific Waste Streams after Use in the Republic of Serbia for 2018, available at: <http://www.sepa.gov.rs/download/PTO18.pdf>

105 Ibid.

# Strategic and legislative framework

The Serbian Government adopted the Regulation on the Criteria for Determining Environmental Impact Activities According to the Level of the Negative Environmental Impact through the Performance of Activities, Amounts of Fees, Conditions for Its Reduction, as well as the Criteria of Significance for the Environmental Impact of Natural Persons.<sup>106</sup>

The Regulation sets out new criteria for determining activities that result in negative environmental impact. According to the regulation, the activities of legal entities are designated as having:

- large environmental impact,
- medium environmental impact and
- small environmental impact.

Pursuant to the Law on Waste Management<sup>107</sup>, eight Rulebooks were adopted in 2019:

- 1.** Rulebook on the List of Measures for the Prevention of Waste Generation ("Official Gazette of the Republic of Serbia" No. 7 of the 6<sup>th</sup> of February 2019);
- 2.** Rulebook on Medical Waste Management ("Official Gazette of the Republic of Serbia" No. 48 of the 5<sup>th</sup> of March 2019);
- 3.** Rulebook on the Method and Procedure of Pharmaceutical Waste Management ("Official Gazette of the Republic of Serbia" No. 49 of the 8<sup>th</sup> of July 2019);

106 "Official Gazette of the Republic of Serbia", Nos. 86/2019 and 89/2019.

107 "Official Gazette of the Republic of Serbia", Nos. 36/09 88/10, 14/16 and 95/18 – other law.

4. Rulebook on Criteria for Determining By-Products and the Form for Reports on By-Products, Method and Deadlines ("Official Gazette of the Republic of Serbia" No. 76 of the 25<sup>th</sup> of October 2019);
5. Rulebook on the Content of the Application for Registration in the Register of By-Products and the Register of Waste that Stopped Being Waste ("Official Gazette of the Republic of Serbia" No. 76 of the 25<sup>th</sup> of October 2019);
6. Rulebook on Technical Requirements and Other Special Criteria for Certain Types of Waste that Stopped Being Waste ("Official Gazette of the Republic of Serbia" No. 78 of the 1<sup>st</sup> of November 2019);
7. Rulebook on the Content and Appearance of the Waste Management License ("Official Gazette of the Republic of Serbia" No. 93 of the 26<sup>th</sup> of December 2019);
8. Rulebook on the Types of Waste that may be Treated in Mobile Plants and the Types of Mobile Plants for which the License for Waste Treatment is Issued ("Official Gazette of the Republic of Serbia" No. 93 of the 26<sup>th</sup> of December 2019).

# The implementation of regulations

Article 85 of the Law on Environmental Protection<sup>108</sup> defines fees paid by polluters. A fee payer is defined as any person that causes environmental pollution through emissions and/or waste and that produces, uses or places on the market raw materials, semi-finished or finished products.<sup>109</sup>

The Regulation on amendments to the Regulation on Pollution Types, the Criteria for Calculating Environmental Pollution Charges and Defining Payers, the Amount and Manner of Charge Calculation and Payment<sup>110</sup> stipulates the fee for plastic bags, the form for keeping daily records of the amount and type of plastic bags produced, imported and exported, as well as for annual reports, the method and deadlines for the submission of annual reports, fee payers, and the criteria for the calculation, amount and manner of calculating the charges and payment.<sup>111</sup>

Data that reporting entities submit to the information system of the Environmental Protection Agency, no later than the 31<sup>st</sup> of March of the year following the reporting year, pertains to two types of plastic bags on the market of the Republic of Serbia:

- plastic bags with additives; and
- plastic bags without additives.

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108 "Official Gazette of the Republic of Serbia", No. 135 of 21st December 2004; No. 36 of 15th May 2009; No. 36 of 15th May 2009 – other law, No. 72 of 3rd September 2009 – other law; No. 43 of 14th June 2011 – CC; No. 14 of 22nd February 2016; No. 76 of 12th October 2018; No. 95 of 8th December 2018 – other law.

109 Ministry of Environmental Protection, Environmental Protection Agency (2019): Plastic Bags in the Republic of Serbia in 2018, available at: <http://www.sepa.gov.rs/download/PK18.pdf>

110 "Official Gazette of the Republic of Serbia", No. 113 of 20th December 2005; No. 6 of 19th January 2007; No. 8 of 24th February 2010; No. 102 of 30th December 2010; No. 15 of 2nd March 2012; No. 91 of 21st September 2012.

111 Ministry of Environmental Protection, Environmental Protection Agency (2019): Plastic Bags in the Republic of Serbia in 2018, available at: <http://www.sepa.gov.rs/download/PK18.pdf>

## Plastic bags with additives

Plastic bags with additives are packaging made of plastic material (packaging material) to which an additive that causes oxidative degradation and biodegradation has been added during production. The Laboratory for Packaging Material and Packaging, at the Faculty of Technology in Novi Sad, confirms the biodegradability of plastic bags and establishes the presence of additives that cause degradation. The Laboratory obtained a Decision on the Appointment of the Body for Evaluating the Conformity of Plastic Bags with the Oxidation Degradation and Biodegradation Criteria on the 13<sup>th</sup> of March 2014.<sup>112</sup> Until the 15<sup>th</sup> of May 2019, 63 reporting entities had submitted reports on plastic bags with additives through the information system of the National Register of Pollution Sources. The total amount of plastic bags with additives placed on the market of the Republic of Serbia is 3,912.96 tonnes.

## Plastic bags without additives

Plastic bags without additives are packaging made of plastic material to which additives that cause oxidative degradation and biodegradation have not been added in the course of production. Until the 15<sup>th</sup> of May 2019, 39 reporting entities submitted reports on plastic bags without additives through the information system of the National Register of Pollution Sources. The total amount of plastic bags without additives placed on the market of the Republic of Serbia is 309.55 tonnes.

**The main challenges for waste management in the Republic of Serbia, which were recognized in the 2003 National Waste Management Strategy<sup>113</sup>, continue to pertain to ensuring good coverage and capacity for the provision of basic services, such as the collection, transportation and sanitary disposal of waste.**

An assessment conducted in 2009 indicates that only 60% of the Serbian population used organized waste collection services, and that rural areas were not

112 Ministry of Environmental Protection, Environmental Protection Agency (2019): Plastic Bags in the Republic of Serbia in 2018, available at: <http://www.sepa.gov.rs/download/PK18.pdf>

113 [http://zelenibiznis.unecopn.org/medjunarodni\\_propisi/Strategija\\_upravljanja\\_otpadom\\_2003.pdf](http://zelenibiznis.unecopn.org/medjunarodni_propisi/Strategija_upravljanja_otpadom_2003.pdf)

well-covered by waste collection services. According to the 2009 inventory, of all the registered landfills at that time, only six were sanitary (Kikinda, Lapovo, Leskovac, Vranje, Jagodina and Pančevo). This indicates that only 13% of the population had access to sanitary landfills.<sup>114</sup>

The short-term and long-term goals for waste management set out in the National Waste Management Strategy from 2010<sup>115</sup> set 2020 as the target date for the provision of adequate waste management services, with the goal of 90% of the population disposing of waste at sanitary landfills by 2020.

Only 11 sanitary landfills had been built by the end of 2019, despite the 2003 National Waste Management Strategy foreseeing the creation of 29 sanitary landfills with recyclable waste separation and transfer stations. As a result, at the beginning of 2020, only 38% of the population had access to sanitary landfills, rather than the planned 90%. The objectives from the previous Strategy have not been met.

Most local self-governments had neither reached nor signed agreements and/or contracts on forming regions for waste management by the end of 2019, as stipulated by the 2003 National Waste Management Strategy.

The Draft of the new Waste Management Strategy covering the period from 2020 to 2025 has been published. The new Strategy includes a National Waste Management Plan, which is the main new addition to the strategy compared to the previous Waste Management Strategy adopted in 2010.

The Strategy particularly emphasizes the promotion of the communal waste management system and the inclusion of industry in the circular economy.

Pursuant to the Law on Inspection Supervision<sup>116</sup>, inspection checklists are applied as part of regular inspection supervision. There are seven checklists for waste management on the website of the Ministry of Environmental

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

115 "Official Gazette of the Republic of Serbia", No. 29 of 2nd May 2010.

116 "Official Gazette of the Republic of Serbia", Nos. 36/2015, 44/2018 – other law, and 95/2018

Protection.<sup>117</sup> The checklists are updated every six months. Stakeholders may propose amendments to the checklists. The checklists do not have points anymore, and the degree of risk cannot be determined. For this reason, in addition to checklists, a Risk Assessment Tool for the Operators of Waste Management Facilities and a Guidebook for Risk Assessment and Determining Priorities in the Control of Waste Management Facilities have been introduced.

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117 <https://www.ekologija.gov.rs/dozvole-obraci/spisak-kontrolnih-listi-u-sektoru-inspekcije-za-zastitu-zivotne-sredine/oblast-kontrola-upravljanja-otpadom/>

# Financing

On the 2<sup>nd</sup> of December 2019, the Ministry of Environmental Protection published the Decision on Determining the Final Ranking List of the Projects on the Basis of the Public Call for Co-funding the Implementation of Projects Concerning the Rehabilitation and Remediation of Non-sanitary Landfills/Dumpsites, pursuant to Article 12 paragraph 7 of the Regulation on the Approximation of Conditions to be Fulfilled by the Beneficiaries of Funds, Conditions and Methods for the Distribution of Funds, Criteria and Measures for Evaluating the Requests for the Distribution of Funds, the Manner of Monitoring the use of Funds, and Contracted Rights and Obligations, as well as other relevant issues regarding the allocation and use of funds from the Green Fund of the Republic of Serbia.<sup>118</sup>

Funds from the Green Fund of the Republic of Serbia for co-funding the implementation of projects to rehabilitate and remediate non-sanitary landfills and dumpsites were granted to:

- the City of Čačak,
- the City of Kraljevo,
- the Municipality of Trstenik.<sup>119</sup>

The City of Čačak, the City of Kraljevo and the Municipality of Trstenik regularly submit annual data on the status of communal waste in those territories to the Environmental Protection Agency.<sup>120</sup>

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118 "Official Gazette of the Republic of Serbia", No. 25 of 30th March 2018

119 <https://www.ekologija.gov.rs/wpcontent/uploads/konkursi/Odluka%20o%20utvr%C4%91ivanju%20kona%C4%8Dne%20rang%20liste.pdf>

120 <http://www.sepa.gov.rs/DostavljanjePodataka/KOM1opstinedostavljeno.aspx>

# 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.
- 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.** Apply the “polluter pays” principle as defined in the Law on Waste Management, as it is currently an unfinished legal definition that lacks mechanisms for the producer’s extended liability.
- 8.** Promote the legislative framework to ensure stricter control of non-sanitary landfills.
- 9.** Develop a waste generation prevention plan.
- 10.** Introduce obligatory monitoring for dioxin and furan at all landfills.
- 11.** Adopt clear rules within the waste management regulations that clarify who is responsible for what.

12. Include industry in the circular economy.



## 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. Ensure a public reporting system for emissions of gas from landfills/dumpsites managed by PUCs (public utility companies).
16. Ensure the further implementation of the “polluter pays” principle and implement the bond industry’s inspection process to ensure true reporting.
17. Improve public awareness of the importance of establishing a waste management system and the consequences of inadequate waste management on human health and the environment.
18. Further develop the capacity of institutions at all levels to monitor and enforce the implementation of regulations.
19. Develop an efficient judicial system, capable of following and efficiently implementing regulations in the field of waste management.
20. Local self-governments that have not adopted a waste management plan or plan for the remediation of non-sanitary landfills and dumpsites on time have not been penalised as prescribed by the Law on Waste Management. Introduce penalties for local self-governments that have not adopted a waste management plan and/or fail to regularly submit data to the Environmental Protection Agency.

- 21.** Promote and regulate the leasing of chemicals in order to reduce waste within the circular economy (making as little waste as possible).
- 22.** Due to the ban on the export of hazardous waste, work on resolving that issue.
- 23.** Implement penalties for municipalities that do not send reports and data to the Environmental Protection Agency.
- 24.** Introduce systemic water and air monitoring at non-sanitary landfills, i.e. parameters recognized by all municipalities.
- 25.** Provide education and training for establishing the zero-pollution system, through cooperation between civil society and the Ministry for Environmental Protection.
- 26.** Do not import hazardous waste that Serbia has the capacity to recycle.
- 27.** Audit all permits for hazardous waste management and export.
- 28.** More intensively include public utility companies in the implementation of the packaging and packaging waste management system.
- 29.** More intensive inspection supervision of the implementation of the Law on Packaging and Packaging Waste.
- 30.** Educate the public on correct waste separation at the place of origin.
- 31.** 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.



## Financing

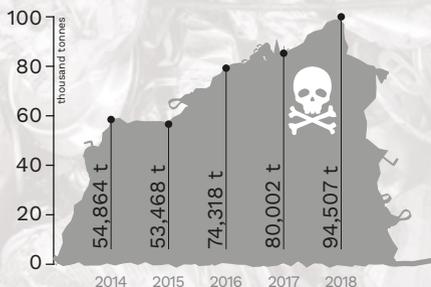
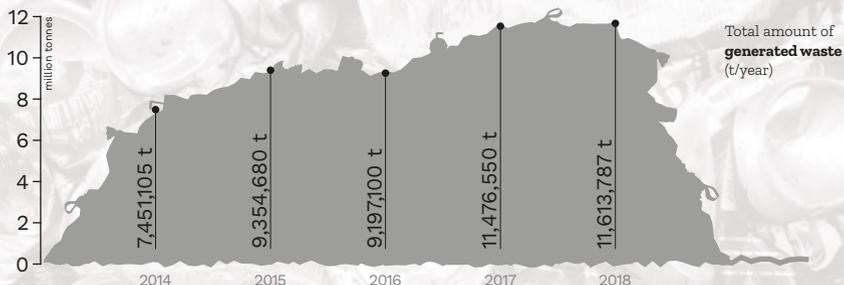
- 32.** Provide funds to finance additional landfill/dumpsite rehabilitation projects, the introduction of selective waste collection, and the construction of transfer stations and sanitary landfills.
- 33.** Provide education and information resources about the importance of establishing a waste management system and, in partnership with CSOs and the media, inform and educate the public.
- 34.** Introduce economic tools for reducing waste deposited in landfills without appropriate treatment.
- 35.** Introduce a deposit system for part of the packaging waste.
- 36.** Introduce an umbrella insurance policy for hazardous waste treatment operators so that in the event of the revocation of a licence, the insurance will bear the cost of the rehabilitation of hazardous waste and damages incurred.
- 37.** Introduce a set of economic instruments for communal waste.
- 38.** Introduce a pay as much as you throw away system.
- 39.** Make waste disposal the most expensive form of waste treatment.
- 40.** Stipulate expiry dates and the types of packaging in the deposit system only after development of the feasibility study.



# WASTE MANAGEMENT

## WASTE BY CATEGORY

2014–2018



Hazardous waste generation (t/year)



Communal waste (household waste and similar commercial and industrial types of waste), including separately collected fractions

Source: Waste Management in the Republic of Serbia from 2011 to 2018  
Environmental Protection Agency of the Republic of Serbia, August 2019