Country profile

Early warning assessment related to the 2025 targets for municipal waste and packaging waste

Bulgaria

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European Environment Agency

Contents

Acknowledgements

This assessment was prepared by the ETC/WMGE and the successive ETC/CE under guidance of the European Environment Agency and with inputs from a consortium led by Rambøll Group under contract with the European Commission. It builds to a large extent on the answers provided by the Executive Environment Agency and the Ministry of Environment and Water of Bulgaria in April 2021 to a questionnaire developed by the EEA and ETC/WMGE. The EEA and ETC/CE would like to thank the Bulgarian authorities for the information provided and for the kind review of drafts of this assessment in 2021 and April 2022.

1 Introduction

1.1 Background and purpose

The Waste Framework Directive 2008/98/EC (as amended by Directive (EU) 2018/851) includes a target to recycle and prepare for reuse, by 2025, 55 % of municipal waste generated. The Packaging and Packaging Waste Directive (94/62/EC as amended by Directive (EU) 2018/852) includes targets for the recycling of packaging waste, both in total and by material, to be achieved by 2025. The Landfill Directive (1999/31/EC as amended by Directive (EU) 2018/850) requires to limit the landfilling of municipal waste to 10 % of the generated municipal waste by 2035. The Directives also foresee that the European Commission, in cooperation with the European Environment Agency, publishes early warning reports on the Member States' progress towards the attainment of the targets, including a list of Member States at risk of not attaining the targets within the respective deadlines, three years ahead of the target dates. This assessment is a contribution from the EEA to the early warning reports according to Article 11b Waste Framework Directive and Art. 6b Packaging and Packaging Waste directive.

This document is an early warning assessment for Bulgaria. The document is based on the analysis of a number of factors affecting recycling performance (success and risk factors). The assessment aims at concluding whether Bulgaria is at risk of missing the targets for municipal waste and packaging waste set in EU legislation for 2025. In addition, it provides an early assessment of the prospects for meeting the 2035 target for landfilling of municipal waste.

The assessment takes into account information that was available before 10 May 2022.

1.2 Approach

The assessment follows a methodology developed by the EEA and ETC/WMGE and consulted with the Eionet in 2020 (ETC/WMGE, 2021), which was adjusted in 2021 taking into account experiences with applying the methodology in 2021 (ETC/CE & ETC/WMGE, 2022). This methodology uses a set of quantitative and qualitative success and risk factors that have been identified to affect the recycling performance. The assessment is to a large extent based on the information provided by the Member State in the reply to an EEA-ETC/WMGE questionnaire as well as on available data and information from Eurostat and other relevant sources. In addition, a consortium under contract with the European Commission (led by Rambøll Group) has conducted a critical review of the draft assessment in Q4/2021 and provided further information.

More specifically, chapter 2.1 assesses the likelihood for Bulgaria to achieve the target to prepare for reuse and recycle at least 55 % of municipal solid waste (MSW) for 2025. Chapter 2.2 assesses the likelihood for Bulgaria to achieve the overall packaging waste and specific packaging materials' recycling targets for 2025. Chapter 2.3 examines the prospects for Bulgaria to landfill less than 10 % of the generated municipal solid waste by 2035. The official early warning assessment for the landfilling target is only due in 2032 and accordingly the assessment contained in Chapter 2.3 is only preliminary.

1.3 Member State profile – context parameters

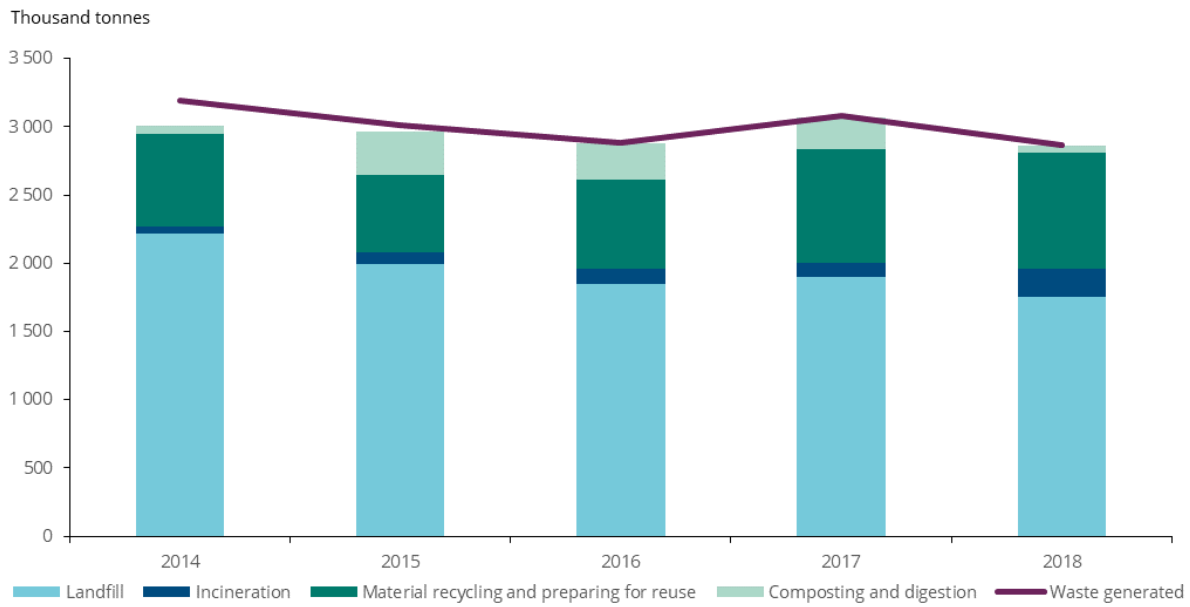
Municipal waste generation and treatment

Waste generation in Bulgaria has decreased between 2014 and 2018 (latest available data). In 2018 the country generated 2.86 million tonnes of municipal waste (Figure 1.1). This corresponds to 407 kg/cap in 2018, which is below the EU average of 496 kg/cap in the same year. This implies a decrease from 442 kg/cap in 2014. The country still has a high level of landfilling, however, the amount of municipal waste sent to landfill decreased from 69 % in 2014 to 61 % in 2018 of the amount generated (Eurostat, 2021a). Recently, Bulgaria invested in Mechanical-Biological Treatment (MBT) plants with an installed annual capacity of 1 189 678 tonnes in 2020. This corresponds to around 42 % of the generated municipal waste in 2018 (ExEA, 2020).

Bulgaria has managed to increase recycling rates over the past years, diverting today just under a third of the municipal solid waste (MSW) generated to recycling (material recycling and composting/digestion).

There are no dedicated waste incineration plants in Bulgaria. However, three cement plants and one thermal power plant have permits to incinerate waste, with a total annual capacity of nearly 500 thousand tonnes, both for refuse-derived fuel (RDF) from domestic sources and imported RDF. This results in a small share of 7 % of municipal waste (output from MBT treatment) being incinerated in 2018, an increase compared to 2 % in 2014 (Eurostat, 2021a). However, due to the recently installed MBT capacity, it can be expected that the share of incineration (MBT outputs incinerated in co-incineration plants) will increase at the expense of landfilled waste.

Figure 1.1 Municipal waste generation and treatment in Bulgaria between 2014 and 2018, in thousand tonnes



Source: Eurostat (2022a)

Legal Framework

The amended 2018 Waste Framework Directive and Packaging and Packaging Waste Directive have been transposed into Bulgarian national law. Key elements of the legal framework with respect to municipal and packaging waste comprise:

- Waste Management Act, amended by the Law for amendment and supplement of the Waste Management Act (State Journal 19/05.03.2021);
- Ordinance on packaging and packaging waste;
- Ordinance on separate collection of biowaste and treatment of biodegradable waste.

The Ordinance on packaging and packaging waste and the Ordinance on separate collection of biowaste and treatment of biodegradable waste have recently been amended by Decree № 420 of 31 December 2020 amending and supplementing normative acts of the Council of Ministers (Official Journal 2/08.01.2021).

The Bulgarian Waste Management Act, first adopted in 2003 and revised in 2012 and 2021 (Republic of Bulgaria, 2003) sets the responsibilities and the obligations between the state and local authorities regarding the organisation of waste management in Bulgaria. According to the Act, municipalities have an obligation to collect paper and cardboard waste, metal waste, plastic waste and glass waste separately. The Act also defines penalties for mayors of the municipalities that do not meet the requirements of the law (EEA, 2016).

Most requirements of the WFD are transposed, except for Article 22 *Member States shall take measures, as appropriate (…) to encourage : a) the separate collection of biowaste with a view to the composting and digestion of bio-waste* deviated since the collection of bio-waste did not refer to household waste in Bulgaria. However, the separate collection of bio-waste from households was set in the National Strategic Plan 2010-2020, aiming for the gradual reduction of the amount of biodegradable waste going into landfill (ExEA and MOEW, 2021).

Waste management plan(s)

The Bulgarian National Waste Management Programme (NWMP) covering 2003–2007 introduced the waste management hierarchy as well as the proximity, producer-responsibility and polluter-pays principles. The NWMP for 2009–2013 put particular focus on waste prevention and minimisation, increased recycling and recovery rates, improving source separation, collection and transportation, improving data quality, and strengthening of administrative capacity and public participation, amongst other things. One of the key targets of the NWMP 2014–2020 was on biodegradable waste, namely the planned construction of composting and anaerobic digestion plants with a total annual capacity of 654 thousand tonnes. The NWMP 2014 – 2020 also defines a target of 50 % recycling of at least four material streams, with additional streams being chosen by municipalities. (EEA, 2016).

The National Waste Management Plan (NWMP) 2021-2028 (НАЦИОНАЛЕН ПЛАН ЗА УПРАВЛЕНИЕ НА ОТПАДЪЦИТЕ 2021-2028 Г) (Ministry of Environment and Water, 2021) was adopted with the Decision 459 /17 June 2021 of the Council of Ministers of the Republic of Bulgaria. The NWMP and the National Waste Prevention Program (NWPP), as an integral part of it, refer to the entire territory of the Republic of Bulgaria. It builds on the key principles of prevention, extended producer responsibility, polluter-pays, proximity and self-sufficiency, and public participation (Ministry of Environment and Water, 2021). The NWMP provides a framework for local authorities in developing waste management policy at regional and local level. The NWMP requires local authorities to develop municipal programs in accordance with the structure, objectives and provisions of the NWMP and encourages municipalities to develop regional waste management plans within the territorial scope of regional waste management.

According to the Bulgarian waste management act (WMA) adopted in 2012, the national WMP and the NWPP have to be evaluated at least every six years and to be updated when necessary.

The NWMP covers all waste streams with dedicated chapters on targeted waste streams. As regards collection of municipal waste, municipalities are responsible for the collection of waste on their territory. From 1999 to 2018 the share of the population covered by the systems for organised waste collection and transportation of household waste increased from 77.6 % to 99.8 %. The NWMP includes an action plan to improve the separate collection of packaging waste. Responsible for the implementation are the packaging waste recovery organizations, the Ministry of Environment and Water, the Regional Inspectorate of Environment and Wate and the municipalities.

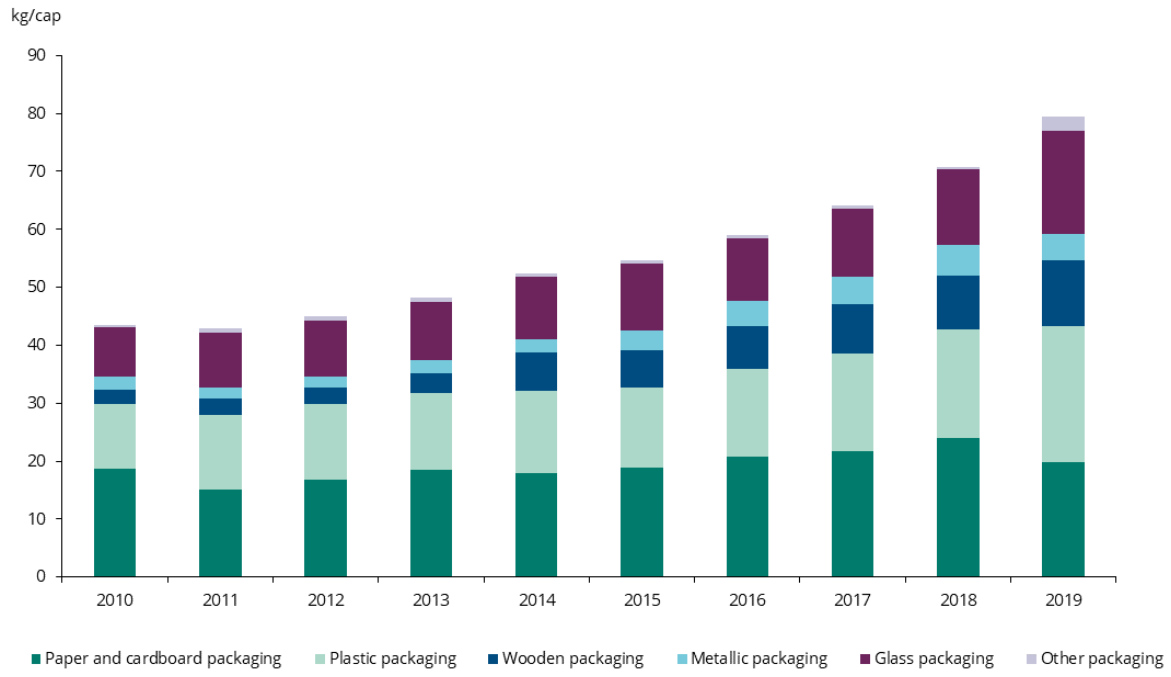
Implementation of previous early warning recommendations

Bulgaria had been considered of being at risk of missing the 2020 target of 50 % preparation for reuse / recycling for municipal waste by the European Commission (EC, 2018b), and it received a set of policy recommendations (EC, 2018a). Annex 1 lists the recommendations and a self-assessment of the Executive Environment Agency / Ministry of Environment and Water of Bulgaria on the status of taking them into account.

Packaging waste generation and treatment

In Bulgaria, 554 490 tonnes (79.5 kg/cap) of packaging waste were generated in 2019, which is well below the EU average of 177 kg/cap. Packaging waste generation continuously increased since 2010 for all types of packaging (Figure 1.2).

Figure 1.2 Packaging waste generation in Bulgaria between 2010 and 2019, in kg per capita



Source: Eurostat (2022b)

The per capita amount of packaging placed on the market is the second lowest of all EU Member States, and analysis done in 2018 suggests that the total quantity of packaging reported as being placed on the market may be underestimated. The analysis estimated the amount of packaging within MSW based on composition of MSW and assumptions on the share of packaging in each material

within MSW, and compared it with reported packaging placed on the market (Eunomia, 2018). However, after this analysis was done, Bulgaria introduced the requirement for annual third-party auditing by financial auditors of the Producer Responsibility Organisations (PROs) of the data of packaging placed on the market and packaging waste managed. Since the auditing was introduced, the reported packaging placed on the market increased by 40 000 tonnes (ExEA and MOEW, 2021).

Capture rates for recyclables

The capture rate is a good performance indicator of the effectiveness of the separate collection system. The capture rate is calculated by dividing the separately collected weight of a certain material for recycling by the weight of the material in total municipal waste. For Bulgaria, Table 1.1 shows the calculated capture rates for different waste fractions.

Table 1.1 Capture rates for different waste fractions in Bulgaria

	Residual waste composition (%)([b])	Residual waste composition (tonnes)([a])	Separately collected amounts (tonnes) ([b])	Materials in total MSW (tonnes)	Capture rates (%)
Reference year	2019	2018	2018		
Mixed municipal waste, total		2 306 191			
Paper and cardboard	8 %	184 495	106 912	291 407	37 %
Metals	2 %	46 124	30 302	76 426	40 %
Glass	4 %	92 248	70 569	162 817	43 %
Plastic	11 %	253 681	77 718	331 399	23 %
Bio-waste	25 %	576 548	202 775	779 323	26 %
Textiles	5 %	69 186	-	69 186	-
Wood	2 %	46 124	13 819	59 943	23 %

([a]) Note: Share of material in residual waste (household waste only) multiplied with the amount of residual waste in 2018 as reported in the questionnaire by MOEW (2019)

([b]) Source: As reported in the EEA-ETC/WMGE questionnaire by MOEW (2019), and ExEA and MOEW (2021)

The calculated capture rates indicate that there is room for improvement to capture higher amounts of all materials. The highest capture rates are achieved for glass and metals, which is probably due to the involvement of informal waste pickers in the collection and the comparatively high value of metals waste. However, the waste composition data used for the calculation of the capture rates include a fine fraction accounting for 28 % of the waste, which most likely includes small-sized paper, metals, glass, plastic, textiles and wood materials, and especially bio-waste. Therefore the calculated capture rates as shown in Table 1.1 are probably overestimated.

2 Success and risk factors likely to influence future performance

2.1 Target for preparing for reuse and recycling of municipal waste

This chapter aims at assessing the prospects of Bulgaria to achieve the **55 % preparing for reuse and recycling target** for municipal waste in 2025. For a detailed description of the methodology followed, the development of success/risk factors and their impact on recycling, please consult the methodology report (ETC/CE & ETC/WMGE, 2022).

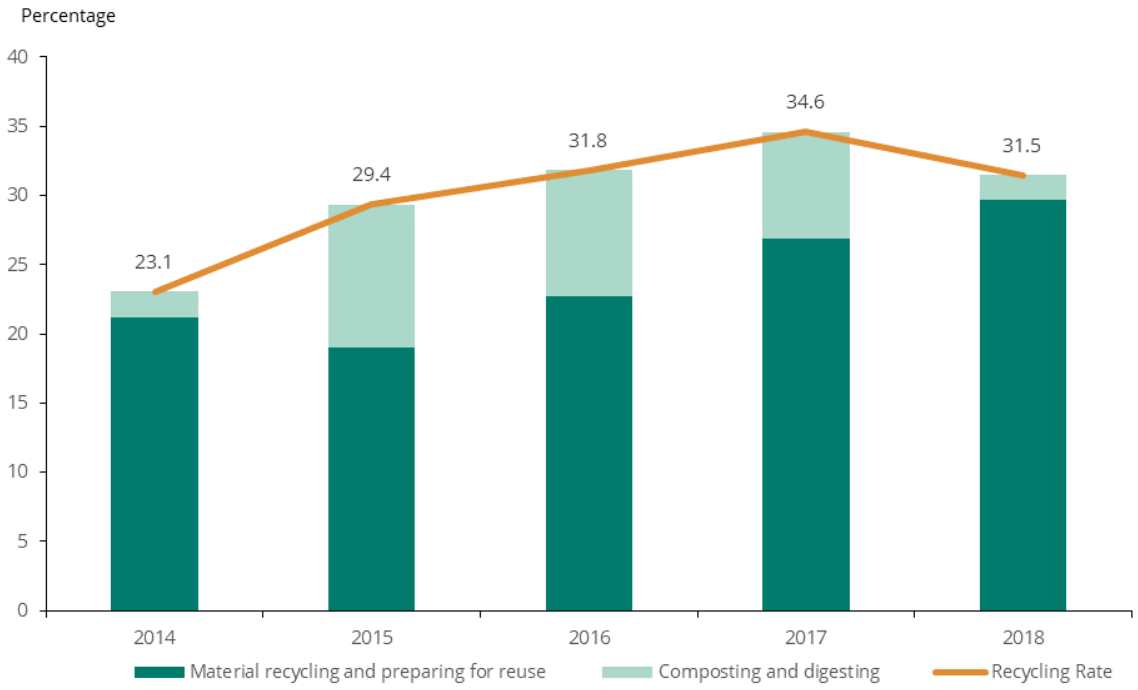
2.1.1 Current situation and past trends

SRF MSWR-1.1: Distance to target

The overall recycling rate of Bulgaria increased from 23 % in 2014 to 35 % in 2017 and decreased again down to 31 % in 2018 (Figure 2.1). The decline in 2018 is due to a lower composting rate (ExEA and MOEW, 2021).

In this analysis the recycling rate is calculated by dividing the summed amounts of recycling of materials and of composting and digestion by the total generated amounts. The data source used is the Eurostat data set *Municipal waste by waste management operations [env_wasmun]* (following the OECD/Eurostat Joint Questionnaire); Data reported by Member States according to Article 10.2(a) of the Waste Framework Directive are not used for this assessment as the reporting methods differ by Member States, resulting in a lack of comparability between Member States. The data source used here is assumed to be the best available proxy, given that data in accordance with the rules on the calculation of the attainment of the targets defined in Article 11a are not yet available.

Figure 2.1 Recycling rate in Bulgaria between 2014 and 2018, in percentage



Source: Eurostat (2022a).

The actual distance to the target for the most recent data point is a key factor determining the likelihood of meeting/not meeting the target. The closer the Member State is to the target already, the more likely that the target will be met. For Bulgaria, in 2018, 29.7 % of the materials were reported to be recycled and 1.8 % went to composting and digesting, resulting in a total recycling rate of 31.5 %, 23.5 percentage points below the 2025 target of 55 %.

However, the data used for this analysis are based on a different methodology than the calculation rules for the target. The actual impact of the application of the new calculation rules to the recycling rate has not been quantified yet in Bulgaria. According to the Bulgarian authorities, with the new calculation method, the recycling rate for municipal waste is expected to change with the application of new calculation method (ExEA and MOEW, 2021). A few Member States have provided quantified estimates indicating how the application of the new reporting rules would influence the recycling rate (compared to the data reported to Eurostat under the Joint Eurostat/OECD questionnaire), resulting in reductions between 3.8 and 13 percentage points, and on average 5.5-6.7 percentage points. While the effect depends on how Bulgaria currently reports the data, an effect of a reduction with 5 percentage points is therefore assumed for this assessment, bringing the recycling rate down to 26.5 %. However, this assumption will not result in a change of the assessment for this SRF.

Summary result

Distance to target > 15 percentage points	Based on the currently available data, Bulgaria's recycling rate was 31.5 % in 2018, which is 23.5 percentage points below the 2025 targets. Considering however the impact of the new calculation rules, we assume a reduction with 5 percentage points for this assessment, resulting in an estimated recycling rate of 26.5 %, 28.5 percentage points below the target.
Robustness of the underlying information	The currently available data do not yet reflect the calculation rules applicable to the target. Bulgaria has not yet quantified the influence of the new calculation rules on the recycling rate. However, also a recycling rate which would be 5 percentage points below the currently reported, would not change the assessment for this SRF.

SRF MSWR-1.2: Past trend in municipal solid waste recycling rate

The recycling rate in the five year period from 2014 to 2018 increased with 8 percentage points, from 23.1 % to 31.5 % (Figure 2.1). This indicates that previous efforts made over the last years to increase recycling in Bulgaria. The highest increase of the recycling rate took place in 2015, with an increase by 6.3 percentage points. In Bulgaria, this increase is mainly due to a significant rise in the composting and digestion of bio-waste between 2014 and 2015, from 2 % to 10 %. In the following years the recycling rate kept growing but at a slower pace. However, this rise might not relate to household waste, but to waste from businesses, parks, gardens and markets (Eunomia, 2018). The reported quantities of composted waste refer to the quantities of separately collected waste entering the composting plants. The recycling of materials between 2015 and 2018 increased steadily from 19 % to 28 %. On average, the increase over the past five years amounted to 2.1 percentage points annually.

The Bulgarian authorities reported the rise in recycled metal to be due to a real increase in recycled volumes as some of the biggest recycling companies increased the recycled amounts in 2017 thanks to the larger amount of collected waste (Eurostat, 2020b).

Summary result

RR < 45% and increase in last 5 years < 10 percentage points	The recycling rate increased with 8.4 during the period 2014 - 2018. For Bulgaria, the application of the new calculation rules would indicate an estimated recycling rate of 26.5 % in 2018.
Robustness of the underlying information	There is no break in the time series data. The recycling rate is likely to be lower once the new calculation rules will be applied, based on credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

2.1.2 Legal instruments

SRF MSWR-2.1: Timely transposition of the revised Waste Framework Directive into national law

Timely transposition of the Waste Framework Directive as amended by Directive 2018/851, into national law within the foreseen period is key for a waste management system in line with EU requirements.

Bulgaria has transposed the amended Waste Framework Directive into national law on 4 March 2021 with a delay of less than 12 months after the deadline of 5 July 2020.

Summary result

Transposition with a delay of less than 12 months	Bulgaria has transposed the amended Waste Framework Directive into national law with a delay of less than 12 months.
Robustness of the underlying information	Credible information received from the European Commission (status as of 12 November 2021).

SRF MSWR-2.2: Responsibilities for meeting the targets, and support and enforcement mechanisms, e.g. tools, fines etc.

Clearly defined responsibilities, enforcement and support mechanisms for meeting the targets across different entities and governance levels are important for achieving high recycling rates. The clearer the responsibilities for meeting the target and the accountability for failing the targets are, the higher the chance that the targets will be met.

The Ministry of Environment and Water (MOEW) is responsible for developing and implementing national waste management policy, including drafting and enforcement of legislation, strategies and programmes, as well as regulation of activities in the public and private sectors. The Ministry performs some of these activities through its Executive Environment Agency (ExEA) and a network of regional competent authorities – the Regional Inspectorates of Environment and Water (RIEW), which control the implementation of waste management legislation (EEA, 2016).

The national recycling targets for municipal waste are set in the Bulgarian Waste Management Act (Art 31). These targets can be achieved individually by the municipalities or at a regional level through Regional Waste Management Associations. The targets setting process at the regional level is defined in decisions taken during the general meetings of each of the Waste Management Associations (ExEA and MOEW, 2021).

Waste organisation and treatment within the territory of municipalities is the responsibility of municipal mayors, who usually contract it through public procurement. Municipalities in Bulgaria that build or use a joint regional landfill or treatment facility establish regional associations as legal entities, or enter into regional agreements. Local authorities are responsible for drafting municipal waste

management programmes. There are regional waste management associations but no plans/programmes on the regional level (EEA, 2016).

According to the Waste Management Act, municipalities have an obligation to collect paper and cardboard waste, metal waste, plastic waste and glass waste separately (Republic of Bulgaria, 2003). According to the recent revision of the Act, municipalities are also obliged to organise separate collection of bio-waste (Art. 19). Guidance for municipalities on how to organise the separate collection is defined in the 2014-2020 Waste management plan (MOEW, 2014) (ExEA and MOEW, 2021).

The Bulgarian Waste Management Act stipulates 'administrative violations and sanctions'. But the sanctions that apply to failure to implement a range of actions for which mayors/municipalities have responsibility are considered too soft. For some actions these fines are lower than the costs incurred to achieve the desired outcomes (ExEA and MOEW, 2021). According to the Waste Management Act (Art. 151), the fines that can be levied range from BGN 3 000 (EUR 1 500) to BGN 10 000 (EUR 5 000), in case of, inter alia, failure to prevent the disposal of waste in unauthorized places, the creation of illegal landfills or lack of cleaning up, as well as lack of measures to implement separate collection. The fines have remained unchanged at low levels also in the revised Waste Management Act. The fines can be imposed only to individuals, the mayors or other officials for instance, but not to entire municipalities (ExEA and MOEW, 2021).

The main mechanism giving incentives for municipalities to work towards these targets is a reduction in the landfill tax for municipalities which meet the targets. When a municipality fulfils the goals set under Art. 31 of the Waste Management Act the landfill tax is reduced by 50 %. The purpose of the deductions as an economic instrument is to stimulate the municipalities to reduce the quantities of landfilled waste aimed at increasing the amount of recycled and recovered waste, and to accumulate funds for the construction of infrastructure for waste treatment (ExEA and MOEW, 2021).

Summary result

Clearly defined responsibilities and enforcement mechanisms but no/weak support tools for meeting the recycling targets	Responsibilities are defined and support mechanisms are in place, and there are direct consequences if the targets are not met. However, there are no support tools in place to support improving the service level and recycling performance.
Robustness of the underlying information	Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

2.1.3 Economic instruments

SRF MSW-3.1: Taxes and/or ban for landfilling residual- or biodegradable waste

Bans and taxes on landfilling of residual municipal waste can help to discourage strong reliance on residual waste treatment and thus support recycling.

A landfill tax was introduced in Bulgaria in 2011. The tax was planned to increase to BGN 95 (EUR 50) per tonne by 2020. However, with the amendment of the Ordinance on landfill taxes the planned increase of the landfill tax was delayed by two years. It was then decided to increase the tax in a stepwise approach, from 69 BG/t (EUR 35) in 2020, to 82 BG/t (EUR 42) in 2021 and to 95 BGN/t (EUR 50) in 2022 and onwards (ExEA and MOEW, 2021). The plans to increase the tax show the intentions of Bulgaria to increase the economic incentives for recycling. The tax more than doubled during the last five years (from BGN 28 in 2015 to BGN 69 in 2020). Also in the coming years the tax will increase.

When a municipality fulfils the goals set under Art. 31 of the Waste Management Act the landfill tax is reduced by 50 %. The purpose of the deductions as an economic instrument is to stimulate the municipalities to reduce the quantities of landfilled waste and as such increase the amounts of recycled and recovered waste and to accumulate funds for the construction of infrastructure for waste treatment. In cases where a landfill is used by several municipalities on a regional basis, the deductions are paid in proportion to the amount of landfilled waste (ExEA and MOEW, 2021). In 2018, 41 out of 265 municipalities fulfilled the set goals under Art. 31 of the Waste Management Act (preparation for reuse and recycling of waste materials, including paper and cardboard, metal, plastic and glass from households and similar waste from other sources of not less than 40 percent of the total weight of this waste) (ExEA, 2020).

The landfill tax revenues are earmarked for use by municipalities to improve separate collection and waste treatment infrastructure for recycling or pre-treatment, to foster waste prevention and reuse and awareness raising of the public (ExEA, 2020).

Summary result

Landfill tax > 30 EUR/t([a]) with escalator	Bulgaria has a landfill tax in place which increases from 69 BGN/t (corresponding to 62.7 EUR/t([a])) in 2020 to 95 BGN/t (corresponding to 89.6 EUR/t([a])) in 2022.
Robustness of the underlying information	Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

(a) Note: rescaled based on purchasing power parities (Eurostat, 2020a)

SRF MSWR-3.2: Taxes on municipal waste incineration

Taxes on incineration of mixed municipal waste can help to discourage strong reliance on waste incineration and thus support recycling.

Bulgaria has no incineration tax in place, and no plans to introduce such a tax. There are no dedicated incineration plants for municipal waste in the country, but refuse-derived fuel (RDF) generated in MBT and sorting plants is incinerated in co-incineration plants (ExEA and MOEW, 2021).

Summary result

No incineration taxes	In Bulgaria, there is no tax on municipal waste incineration.
Robustness of the underlying information	Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

SRF MSWR-3.3: Pay-as-you-throw (PAYT) system in place

PAYT systems are designed to incentivize citizens to make a bigger effort in separating their waste at source. However, a PAYT system should be designed with the appropriate level of source separation encouragement to ensure that citizens do not misplace waste in recycling bins in order to avoid residual waste charges. Overall, PAYT usually has a positive effect on source separation and thus recycling rates through direct involvement of citizens.

In Bulgaria there is no Pay-as-you-throw (PAYT) system in place. PAYT is implemented already in the Local Taxes and Fees Act but it is not mandatory. Municipalities have the right to apply other ways to calculate the waste collection tax. The responsible authority for this Act is the Ministry of Finance and it is adopted by the Parliament. The Ministry of Environment and Water has the position that PAYT

must be made obligatory (ExEA and MOEW, 2021). However, implementation is planned not earlier than 2024. According to the Local Taxes and Fees Act, Art. 67, paragraph (1), the amount of the fee for household waste for each obligated person shall be determined for a calendar year in compliance with the PAYT principle and will become effective from 1 January of the second year following the publication of the results of the population and housing census in the Republic of Bulgaria in 2021 (State gazette, issue 14/2021) (lex.bg, 2021). The results of the national census will be published at the end of 2022, which makes the effective date of the Local Taxes and Fees Act no earlier than 2024 (National Statistical Institute, 2022).

Summary result

No PAYT	In Bulgaria there is no Pay-as-you-throw (PAYT) system in place.
Robustness of the underlying information	Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

2.1.4 Separate collection system

SRF MSWR-4.1: Convenience and coverage of separate collection systems for the different household waste fractions

Separate collection systems are a key enabler for high recycling rates and for collecting recyclables at adequate quality. Generally, the more convenient and accessible these systems are for their users, the better results they deliver. The assessment methodology categorises different types of collection systems (door-to-door, bring points with a density of > 5 per km^2, bring points with a density of < 5 per km^2, civic amenity site) for assessing the degree of convenience, and differentiates between cities (densely populated), towns and suburbs (intermediate densely populated) and rural (thinly populated areas). It then calculates which share of the population is served by which type of system. The assessment is done on a material basis and takes into account the different materials according to their average share in municipal waste. This is described in more detail in the methodology (ETC/CE & ETC/WMGE, 2022).

For Bulgaria according to the most recent data, the percentage of households living in cities is 50.4 %, in towns and suburbs 20.3 % and in rural areas 29.3 % (Eurostat, 2021a).

In Bulgaria throughout the country residual waste, paper and cardboard, bio-waste, plastics, glass, metals and composite packaging waste is collected via bring points with a density of < 5 per km^2 and at civic amenity sites.

According to Art. 23 of the Ordinance on packaging and packaging waste, the systems for separate collection of packaging waste shall cover not less than 6 000 000 inhabitants on the territory of the country and must include the resort settlements and all settlements with a population of over 5 000 inhabitants. Currently there are no plans to cover the whole population with the service (ExEA and MOEW, 2021). According to the National Waste Management Plan, 207 (out of 265) municipalities are currently covered by separate collection systems for packaging waste (Ministry of Environment and Water, 2021).

The targets for the population covered fall under the responsibility of the municipalities and are to be achieved by recovery organizations in accordance with the quantities of packaging they represent, calculated as market share. According to Art. 24 of the Ordinance, systems for the separate collection of packaging waste shall include at least the following elements:

Green, yellow (and blue) containers for the collection of packaging waste from households other than those for household waste, ensuring a minimum total vessel volume as follows (ExEA and MOEW, 2021):

a) for settlements with less than 50 000 inhabitants, for every 350 inhabitants - vessels with a minimum total volume of 3300 l;
b) for settlements from 50 000 to 100 000 inhabitants, for every 550 inhabitants - vessels with a minimum total volume of 3300 l;
c) for settlements over 100 000 inhabitants, for every 750 inhabitants - vessels with a minimum total volume of 3300 l.

Typically, the packaging waste collection system is based on a two- or three-containers system (commingling). In two-container systems, all packaging waste is collected together except for glass. Three-container systems provide an additional container for paper (and composite packaging). It is possible to use the packaging waste collection system for non-packaging waste if this is contracted between the municipality and the EPR organisation. While this option is not widely used, in practice, citizens often use the containers for sorting non-packaging waste as well.

Different waste streams are subsequently separated in sorting installations. In cities and rural areas paper and cardboard, plastics, glass, metals - including non-packaging materials - and composite packaging are to some extent also collected via civic amenity sites.

According to Art. 19, para. 3 of the Waste Management Act, municipalities are responsible for the provision of civic amenity sites for free of charge delivery of separated waste fractions from households, including bulky waste, hazardous waste and others in all settlements with a population of more than 10 000 inhabitants in the municipality, and if necessary in other settlements. Those sites are located only in dedicated areas (industrial, production and storage activities) (ExEA and MOEW, 2021). Moving civic amenity sites outside of residential zones was supposed to make it more difficult for the informal sector to remove the valuable materials before they are collected by the PROs (Eunomia, 2018).

The contribution of the EPR systems to the fulfilment of the obligations of the individual municipalities cannot be clearly defined, as these systems cover packaging waste from both households and non-household sources. The commitments of the EPR systems are at the national level based on the total amount of packaging placed on the market by their members, by materials. Accordingly, from the total amount of recycled packaging waste, it is not possible to determine the share of those that are only from households and similar sources and have served to meet the objectives of the municipalities (ExEA and MOEW, 2021). At national level, in 2018 the total amount of recycled packaging waste within the scope of all PROs was 261 887 tonnes, representing a share of 87 % of all recycled packaging waste at national level (ExEA and MOEW, 2021).

Following the policy recommendations provided by the European Commission in 2018 (EC, 2018a), since January 2019 the requirements for the minimum density of separate collection containers for packaging waste have been increased, namely for settlements with less than 50 000 inhabitants, the number of containers was increased by an average of 15 %, from 50 000 to 100 000 inhabitants by 9 % and over 100 000 inhabitants by about 7 % (ExEA and MOEW, 2021).

Bring points are in place also for bulky waste, waste batteries and accumulators and used tyres. Bring points for textiles are only in place in cities, towns and suburbs, but not in rural areas. Wood is collected throughout the country via civic amenity sites.

Producer responsibility applies to WEEE, and throughout the country WEEE is collected via separate door-to-door collection and via civic amenity sites. In the cities and in towns and suburbs there are additionally bring points for WEEE in place. According to Art. 30 of the Ordinance on end-of-life electrical and electronic equipment, the persons who place on the market EEE intended for household use shall create systems for separate collection of WEEE generated in the households, which must provide collection from end users:

a) by vehicles, from the places where WEEE is generated, or
b) by placing collection vessels located at the point of sale of the EEE or at another accessible place in the area where the WEEE is generated, or
c) by equipping separate collection points for WEEE;

According to Art. 31 when determining the number and location of the places for separate collection of the respective type of WEEE, the number of inhabitants in the respective settlement shall be taken into account, as the systems for separate collection must provide at least one place per 10,000 inhabitants.

According to Art. 33 of the ordinance, consumers can return WEEE free of charge in the commercial sites that sell EEE, when purchasing a new EEE of a similar type and performing the same functions, as well as to return for free very small in size WEEE (where no external size exceeds 25 cm) in retail outlets or at the entrance of the sites selling EEE, with a commercial area greater than or equal to 400 $m^{2,}$ without purchasing EEE of a similar type (ExEA and MOEW, 2021). Table 2.1 gives an overview of the collection system in Bulgaria.

Table 2.1 Characterisation of the collection system in Bulgaria

	Cities (densely populated areas)					**Towns and suburbs** (intermediate density areas)					**Rural areas** (thinly populated areas)			
	Door-to-door - separate	Door-to-door co-mingled	Bring point (>5 per km²)	Bring point (<5 per km²)	Civic amenity site	Door-to-door - separate	Door-to-door co-mingled	Bring point (>5 per km²)	Bring point (<5 per km²)	Civic amenity site	Door-to-door - separate	Door-to-door co-mingled	Bring point	Civic amenity site
Residual waste				xx					xx				xx	
Paper and Cardboard				xx	x				xx				xx	x
Ferrous metals				xx	x				xx				xx	x
Aluminium				xx	x				xx				xx	x
Glass				xx	x				xx				xx	x
Plastic				xx	x				xx				xx	x
Bio-waste				xx	x			xx	x					
food														
garden														
Textiles				xx					xx					
Wood					x					x				xx
WEEE	xx		xx		xx	xx			xx	xx	xx			xx
Composite packaging				xx					xx				xx	
Other: Bulky waste; waste batteries and accumulators; used tyres				xx	xx				xx	xx			xx	xx

Note: xx: dominant system; x: other significant systems. Grey cells indicate high convenience collection systems

Source: ExEA and MOEW (2021)

Summary result

Paper and cardboard	A low share of the population is covered by high convenience collection services	Low-convenience collection points are the dominant systems in cities, towns and suburbs, and rural areas for paper and cardboard packaging waste and reclaimed paper.
Metals	A low share of the population is covered by high convenience collection services	Low-convenience collection points are the dominant systems in cities, towns and suburbs, and rural areas for metals.
Plastics	A low share of the population is covered by high convenience collection services	Low-convenience collection points are the dominant systems in cities, towns and suburbs, and rural areas for plastics.
Glass	A high share of the population is covered by high convenience collection services	High-convenience collection points are the dominant systems in cities, towns and suburbs, and rural areas for glass.
Bio-waste	A low share of the population is covered by high convenience collection services	Low-convenience collection points are the dominant systems in cities, towns and suburbs, and rural areas for bio-waste.

Wood	A low share of the population is covered by high convenience collection services	Low-convenience collection points are the dominant systems in cities, towns and suburbs, and rural areas for wood.
Textiles	A low share of the population is covered by high convenience collection services	Low-convenience collection points are the dominant systems in cities, towns and suburbs, and rural areas for textiles.
WEEE	High to medium convenience collection services dominate	Collection systems, particularly civic amenity sites, are available over the whole country. Collection systems include door-to-door collection in a few municipalities, including the major cities. Bulgarian authorities have also indicated that often, temporary bring points are provided by municipalities, on a monthly basis.
Robustness of the underlying information		Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

SRF MSWR-4.2: Firm plans to improve the convenience and coverage of separate collection for the different household waste fractions

There are no firm plans in Bulgaria to improve the type and coverage of separate collection for paper and cardboard, metals, glass, and wood.

For plastics, in line with the requirements of Directive 2019/904/EC on the reduction of the impact of disposable plastic products, changes are envisaged to further ensure the separate collection of plastic bottles.

For textiles, with the latest amendments to the Waste Management Act, a regulatory framework has been set up for the introduction of extended producer responsibility for textiles. An additional ordinance will determine detailed requirements for the establishment of a system for separate collection of textile waste on a national scale (ExEA and MOEW, 2021).

For bio-waste, measures for increasing separate collection are included in the National waste management plan 2021-2028. The measures start with the expansion of composting capacity, followed by the introduction of separate collection starting in the municipalities with these new capacities, as well as the promotion of home composting.

Summary result

Paper and cardboard	No firm plans to improve the convenience and coverage	No changes planned.
Metals	No firm plans to improve the convenience and coverage	No changes planned.
Plastics	There are plans to improve the collection service but unclear plan for implementation	Changes are envisaged to further ensure the separate collection of plastic bottles.
Glass	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	

Bio-waste	There are plans to improve the collection service but unclear plan for implementation	Plans include the introduction of separate collection starting in the municipalities with new treatment capacities, as well as the promotion of home composting. The timing is however unclear.
Wood	No firm plans to improve the convenience and coverage	No changes planned.
Textiles	There are plans to improve the collection service but unclear plan for implementation	For textiles, with the latest amendments to the Waste Management Act, a regulatory framework has been set up for the introduction of extended producer responsibility for textiles. An additional ordinance will determine detailed requirements for the establishment of a system for separate collection of textile waste on a national scale.
WEEE	N/A (for countries where high to medium convenience collection services dominate already)	
Robustness of the underlying information		Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

2.1.5 Extended producer responsibility (EPR) and similar schemes

SRF MSWR-5.1: Fee modulation in EPR schemes for packaging

Within EPR schemes, fee modulation (or eco-modulation) is a system with different fees for different types of packaging material and designs. While basic fee modulation, i.e. different fees for the main material groups, are common, advanced fee modulation can create stronger incentives for packaging producers to design for recycling and thus create favourable conditions for higher recycling rates. The level of advancement of the fee modulation is assessed against four criteria that have been selected as benchmarks for a well-designed eco-modulated fee system:

- recyclability, for example differentiating between PET and PS, between different colours of PET, or between 100 % cardboard boxes and laminated beverage cartons;
- sortability and disruptors, for example a malus for labels/caps/sleeves made of other materials, which are not fitted for the recycling technologies of the main packaging;
- recycled content; and
- if there is a transparent compliance check by the Producer Responsibility Organisation (PRO) that producers report correctly.

Bulgaria does not have a system of advanced fee modulation in place (ExEA and MOEW, 2021).

Summary result

No advanced fee modulation	There is no system of advanced fee modulation in place.
Robustness of the underlying information	Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

2.1.6 Treatment capacity for bio-waste

SRF MSWR-6.1: Capacity for the treatment of bio-waste

Bio-waste is the largest single waste fraction in municipal waste, and adequate treatment capacity needs to be made available.

The total theoretical potential bio-waste generation for Bulgaria in 2018 can be estimated at around 779 323 tonnes in 2018 based on the numbers shown under section 1.3 (Capture rates for recyclables).

The Bulgarian authorities report that the overall available capacity for bio-waste treatment amounts to 219 336 tonnes, which is about 28 % of total generated municipal bio-waste (ExEA and MOEW, 2021).

However, Bulgaria has plans to build additional capacity of 206 137 tonnes for the treatment of separately collected municipal bio-waste within the next five years. 46 installations for the recovery of biowaste are in the process of construction, in addition to the 22 installations currently in operation (ExEA and MOEW, 2021). This would bring the available capacity for bio-waste treatment up to 55 %.

Summary result

Bio-waste treatment capacity below 80% of generated municipal bio-waste and no plans to extend capacity to 80%	The bio-waste treatment capacity amounts to about 28 % of the generated bio-waste. The additional capacity planned or under construction will bring this up to 55 % compared to the current amounts of generated bio-waste. Even with the additional planned capacity, the gap between generated bio-waste and treatment capacity remains significant.
Robustness of the underlying information	Credible information received from Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

SRF MSWR-6.2: Legally binding national standards and Quality Management System for compost/digestate

To create a market for compost and digestate, compost should be of a good quality for use as a soil improver or fertilizer. Legally binding standards provide guarantees regarding the quality of the compost/digestate produced. A quality management system aims at addressing different elements of a production process to ensure a stable and high-quality output (product) which helps toward reaching a preset quality for the product.

Separate collection of bio-waste and bio-waste management are still in its infancy in Bulgaria. There is no system in place that guarantees high-quality compost produced from separately collected biowaste. Bulgaria has no legally binding national compost quality standards and no quality management system for compost produced from separate collected bio-waste exists in the country (EEA, 2020).

The policy recommendations provided by the European Commission in 2018 (EC, 2018a) about the establishment of a quality assurance mechanism to assure the quality of compost or digestate derived from waste has reportedly not been addressed yet. At the moment, there is no quality assurance system, only some laboratory testing (ExEA and MOEW, 2021).

Summary result

No national standards or quality management system	Bulgaria has no national standards for compost/digestate quality. There is no quality management system in place.
Robustness of the underlying information	This information is robust. It was provided by the Bulgarian authorities for the development of the 2020 EEA report Bio-waste in Europe – turning challenges into opportunities and confirmed in the EEA-ETC/WMGE questionnaire (2021).

2.2 Target for the recycling of packaging waste

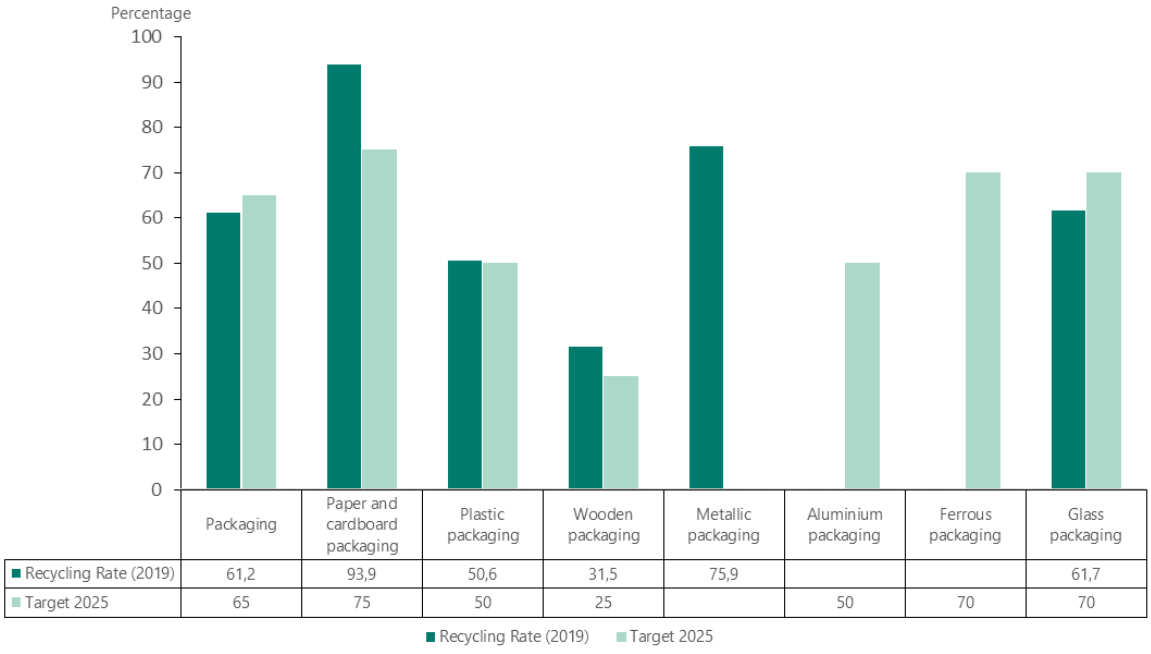
This chapter aims at assessing the prospects of the Bulgaria to achieve the **65 % recycling target for packaging waste** in 2025 as well as the **material specific packaging waste recycling targets** (50 % of plastic; 25 % of wood; 70 % of ferrous metals; 50 % of aluminium; 70 % of glass; 75 % of paper and cardboard). In order to conclude on this likelihood, the analysis takes stock of the status of several factors that are proven to influence the levels of recycling in a country. For a detailed description of the methodology followed, the development of success/risk factors and their impact on recycling, please consult the Methodology report (ETC/CE & ETC/WMGE, 2022).

2.2.1 Current situation and past trends

SRF P-1.1 Distance to target

The actual distance to the target for the most recent data point is a key factor determining the likelihood of meeting or not meeting the target. This analysis is based on data reported by Bulgaria to Eurostat in accordance with Commission Decision 2005/270/EC as last amended by the Commission Implementing Decision 2019/665 (EC, 2019), published in the dataset *Recycling rates of packaging waste for monitoring compliance with policy targets, by type of packaging [env_waspacr].* The latest available data refer to 2019. The performance of Bulgaria for 2019 is illustrated in Figure 2.2.

Figure 2.2 Packaging recycling rates for Bulgaria in 2019, in percentage



	Packaging	Paper and cardboard packaging	Plastic packaging	Wooden packaging	Metallic packaging	Aluminium packaging	Ferrous packaging	Glass packaging
Recycling Rate (2019)	61,2	93,9	50,6	31,5	75,9			61,7
Target 2025	65	75	50	25		50	70	70

Note: No data available for ferrous metals and aluminium, only for total metallic packaging.
Source: Eurostat (2022c), EU (2018)

In Bulgaria the overall recycling rate for packaging is 61 %, 4 percentage points below the 2025 target. The recycling rate for glass is 8.3 percentage points below the target. The reported recycling rates for paper and cardboard packaging, plastic packaging and wooden packaging exceed the 2025 targets with 18.9 percentage points, 0.6 percentage points and 6.5 percentage points respectively. For metallic packaging no separate data are available for steel and aluminium packaging. The metallic packaging recycling rate is 75.9 %, 5.9 percentage points above the target for steel.

There are some known issues related to data quality, mainly regarding the underreporting of packaging put on the market (Eunomia, 2018). The policy recommendations provided by the European Commission in 2018 (EC, 2018a) on audits of the data reported by producers or Producer Responsibility Organisations (PROs) on amounts of packaging placed on the market has reportedly been addressed. In an annual certified report to the Minister of Environment and Water, an independent financial auditor certifies the exact quantities placed on the market by the members of each PRO.

The National Statistical Institute covers the total amount of packaging placed on the market at national level through its statistical observations, on the basis of production and foreign trade statistics, one of the methodologies recognized by Eurostat. As a consequence of the auditing, the quantities of packaging placed on the market in the scope of recovery organizations for the period from 2017 to 2019 has increased by about 40 000 tonnes (ExEA and MOEW, 2021). Still, Bulgaria's reported recycling rates for plastics and paper/cardboard packaging waste are among the highest of all EU Member States in 2019, and it remains unclear how such high recycling rates can be achieved with a separate collection system for packaging waste from households that operates only low-density bring point collection, and does not cover all municipalities (Ministry of Environment and Water, 2021).

However, steps have been taken to reduce free-riding: the recent revision of the Bulgarian waste legislation, not yet visible in the currently available data, extends the registration of packaging producers to distance sellers (online sales) and requires electronic registration from all persons/entities putting packaging on the market (ExEA and MOEW, 2021).

The recycling rates presented are based on the calculation rules of the Commission Decision 2005/270 before it was amended by the Commission Implementing Decision 2019/665 and will likely differ from the recycling rates to be reported according to the new calculation rules. The new calculation rules will only be mandatory to be used for the reference year 2020 and onwards. A key difference in the new calculation rules compared to the old rules is that the amount of sorted packaging waste that is rejected by the recycling facility shall not be included in the reported amount of recycled packaging waste.

The actual impact of the application of the new calculation rules to the recycling rate has not been quantified yet in Bulgaria (ExEA and MOEW, 2021). The current calculation point for the recycling rate is the entry of the recycling process. Recycling losses are currently not applied. As a matter of sensitivity analysis, to assess what the impact of these new calculation rules could be (change in calculation point), recycling losses found in literature (EXPRA, 2014) are applied to the packaging recycling rates as reported for reference year 2019:

- Paper and cardboard packaging: decrease by 10 %, from 93.9 % to 84.5 %
- Plastic packaging: decrease by 21 %[1], from 50.6 % to 39.9 %
- Metal packaging: decrease by 14 %, from 75.9 % to 65.3 %
- Glass packaging: decrease by 5 %, from 61.7 % to 58.6 %
- Wooden packaging: decrease by 11 % from 31.5 % to 39.9 %
- Total packaging: Calculated based on the amounts of each packaging material generated and recycled in 2019, the recycling rate would drop from 61.0 % to 53.7 %.

[1] This is the weighted recycling loss taking into account the 29 % recycling loss for packaging waste from household sources (66 %) and the 5 % recycling loss for packaging waste from commercial sources (33 %).

Taking these possible recycling loss rates into account, the distance to the recycling targets is significantly larger when the new calculation rules will be applied. Bulgaria would still exceed the recycling target for both wood and paper and cardboard packaging. For all other fractions the recycling rates would be below the target.

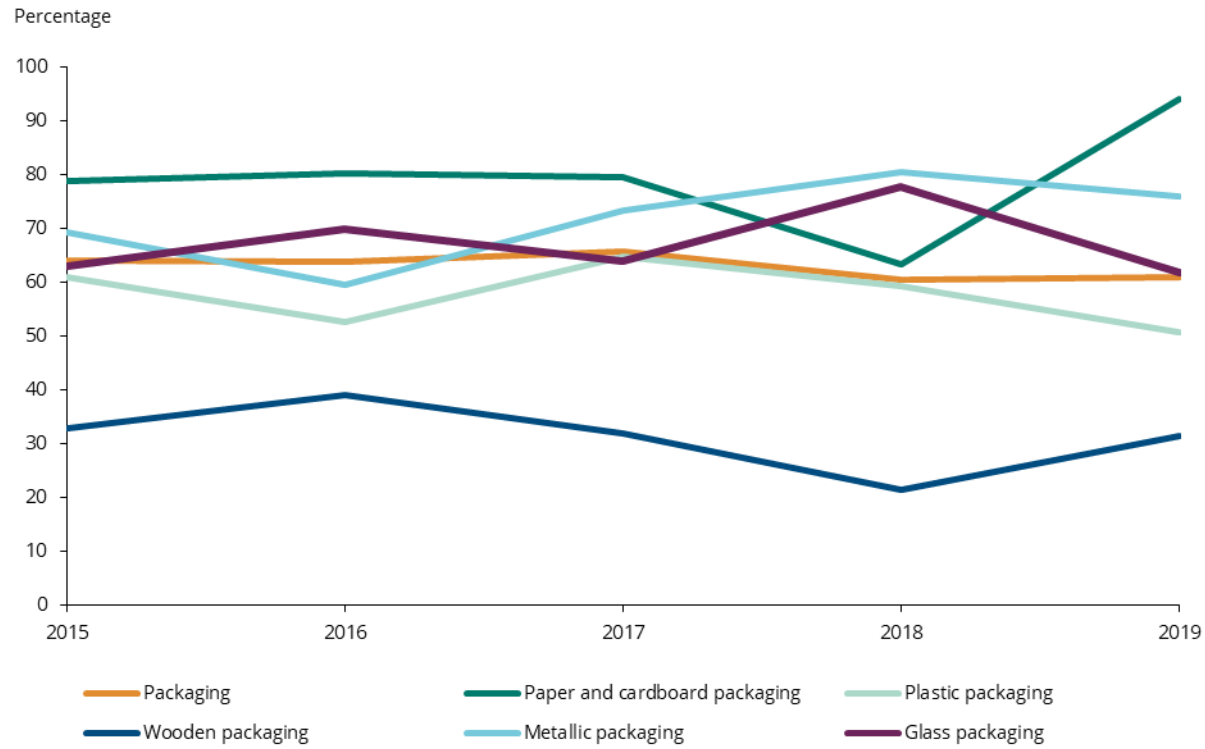
Summary result

Total packaging	5 - 15 percentage points below target	Bulgaria reports a recycling rate of 61.0 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 53.7 %, 11.3 percentage points below the 2025 target.
Paper and cardboard packaging	Target exceeded	Bulgaria reports a paper and cardboard packaging recycling rate of 93.9 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 84.5 %, 9.5 percentage points above the 2025 target.
Ferrous metals packaging	< 5 percentage points below target	There are no data reported separately on ferrous metals and aluminium packaging. Bulgaria reports a recycling rate for metal packaging of 75.9 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 65.3 %, 4.7 percentage points below the target for ferrous packaging and 15.3 percentage points above the target for aluminium.
Aluminium packaging	Target exceeded	
Glass packaging	5 - 15 percentage points below target	Bulgaria reports a recycling rate of 61.7 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 58.6 %, 11.4 percentage points below the 2025 target.
Plastics packaging	5 - 15 percentage points below target	Bulgaria reports a plastic packaging recycling rate of 50.6 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 39.9 %, 10.1 percentage points below the 2025 target.
Wooden packaging	Target exceeded	Bulgaria reports a recycling rate of 31.5 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 28.0 %, 3 percentage points above the 2025 target of 25 %.
Robustness of the underlying information		The assessment is limited by the fact that the recycling rates for 2019 reported by Bulgaria to Eurostat do not yet reflect the new calculation rules, and the impact of the new calculation rules has therefore been estimated based on literature. In addition, the assessment is uncertain for ferrous metals and aluminium packaging as only data for total metals packaging is currently available. Finally, there might also still be an issue with underreporting packaging put on the market, but steps have been taken to address free-riding, applicable from 2021.

SRF P-1.2: Past trend in Packaging Waste Recycling

The development of the historical trend in the recycling rate indicates previous efforts towards packaging waste recycling. In this analysis the recycling rate reported in the Eurostat dataset *Recycling rates of packaging waste for monitoring compliance with policy targets, by type of packaging [env_waspacr]* (latest data year: 2019) is used. The recycling trends for packaging waste by material in Bulgaria are illustrated in Figure 2.3.

Figure 2.3 Trend in packaging waste recycling rates in Bulgaria between 2015 and 2019, in percentage



Source: Eurostat (2022c)

Bulgaria's recycling rates fluctuated significantly over the past five years (2015-2019). In 2019, the recycling targets for 2025 are exceeded for wooden packaging and paper and cardboard. For plastics the recycling rate decreased by 10.2 percentage points. For metallic packaging there was an increase by 6.7 percentage points. Bulgaria's overall packaging recycling rate decreased by 3.1 percentage points over the past five years.

Summary result

Total packaging	RR < 55% and increase in last 5 years < 10 percentage points	The recycling rate decreased by 3.1 percentage points over the past five years and is estimated at 53,7 % if the new calculation rules would be applied (taking into account losses in the recycling plants).
Paper and cardboard packaging	RR > 75	The recycling rate increased by 15.2 percentage points over the past five years and is estimated at 84.5 % if the new calculation rules would be applied (taking into account losses in the recycling plants).
Ferrous metals packaging	RR > 65% and increase in last 5 years > 5 percentage points	The trend in recycling rates for ferrous and aluminium packaging waste over the last five years cannot be quantified, as data is only available for total metals packaging, so this trend is used instead as a proxy. The metals packaging recycling rate increased by 6.7 percentage points over the past five years and is estimated at 65.3 % if the new calculation rules would be applied (taking into account losses in the recycling plants).
Aluminium packaging	RR > 50%	
Glass packaging	RR < 60% and increase in last 5 years <10 percentage points	The recycling rate decreased by 1.2 percentage points over the past five years and is estimated at 58.6 % if the new calculation rules would be applied (taking into account losses in the recycling plants).
Plastics packaging	RR < 40%, and increase in last 5 years > 10 percentage points	The recycling rate decreased by 10.2 percentage points over the past five years and is estimated at 39.9 % if the new calculation rules would be applied (taking into account losses in the recycling plants).
Wooden packaging	RR > 25%	The recycling rate decreased by 1.2 percentage points over the past five years and is estimated at 28.0 % if the new calculation rules would be applied (taking into account losses in the recycling plants).
Robustness of the underlying information		The assessment is limited by the fact that the recycling rates for 2019, as reported by Bulgaria to Eurostat, do not yet reflect the new calculation rules, and the impact of the new calculation rules has therefore been estimated based on literature. In Bulgaria there is also an issue with underreporting packaging put on the market. However, the trends over time seem to be robust as there are no breaks in time series indicated.

2.2.2 Legal instruments

SRF P-2.1: Timely transposition of the revised Packaging and Packaging Waste Directive into national law

Timely transposition of the Packaging and Packaging Waste Directive, as amended by Directive 2018/852, into national law within the foreseen period is key for a waste management system in line with EU requirements.

Bulgaria has transposed the amended Packaging and Packaging Waste Directive into national law on 21 January 2021, with a delay of less than 12 months after the deadline of 5 July 2020. The main legislation related to packaging are the Ordinance on Packaging and Packaging Waste and the Waste Management Act.

Summary result

Transposition with a delay of less than 12 months	Bulgaria has transposed the amended Packaging and Packaging Directive into national law with a delay of less than 12 months.
Robustness of the underlying information	Credible information received from the European Commission (status as of 12 November 2021).

SRF P-2.2: Responsibilities for meeting the targets, and enforcement mechanisms, e.g. fines etc.

Bulgaria reports that national recycling targets are set by the Ministry of Environment and Water, as described in Section 2.1.2 in more detail.

Independent annual audits of EPR organisations are performed. On the basis thereof, the Minister of Environment and Water issues annual orders that acknowledges, for each EPR scheme and its members (producers and importers), that the recycling targets (and other obligations) are complied with. According to the National Waste Management Act, all PROs are obliged to provide a bank guarantee which is acquired in case of non-compliance. If a PRO fails to fulfil its obligations on behalf of its members, a bank guarantee of BGN 1 million is used and the full amount of the product fee is paid, corresponding to the entire quantity of packaging placed on the market for the reporting year.

In addition, in case any of the recycling targets is not achieved, a product tax (BGN per kg) has to be paid by the EPR schemes and their members as a sanction for the total amount of packaging placed on the market by its members for the reported year. The product tax significantly exceeds the amount of EPR fees they pay to collective organizations. Since 2017, control was increased and the inspections of persons who have not fulfilled their obligations in the previous year are carried out with priority and set in the annual inspection plan. Also, in case the PROs fail to meet the targets, their license can be revoked (ExEA and MOEW, 2021).

The policy recommendations provided by the European Commission in 2018 (EC, 2018a) also included to limit the number of PROs dealing with each municipality to only one organisation and entitle the municipalities, which are effectively responsible for compliance with the recycling targets, to procure collection services (funded by the PRO) of a minimum standard required to comply. This was reportedly addressed by the Bulgarian authorities: the possibility for municipalities to sign a contract for the implementation of a system for separate collection system with more than one PRO for packaging waste is strictly limited to the capital and two other cities with city district division, where city districts have a form of particular administrative independence (ExEA and MOEW, 2021).

Clear support mechanisms, such as provision of technical support, sharing of good practises, training, co-operation on infrastructure planning, for municipalities, packaging producers and PROs with regard to the implementation of their obligation seem to be missing.

Summary result

Clearly defined responsibilities and enforcement mechanisms but no/weak support tools for meeting the recycling targets	The information available indicates that the responsibility for reaching the targets is set on PROs and that there are direct financial consequences if the targets are not met, through the acquirement of the bank guarantee in case of non-compliance with targets. In addition, a sanction through a product tax is given for non-compliance. Clear support mechanisms for the responsible entities seem to be missing.
Robustness of the underlying information	Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

2.2.3 Economic instruments

SRF P-3.1: Taxes and/or ban for landfilling residual- or biodegradable waste

Bans and taxes on landfilling of residual waste can help to discourage landfilling and thus support recycling, also of packaging waste.

As described in Section 2.1.3 in more detail, Bulgaria has a landfill tax of over EUR 30 in place, with an escalator until 2022. The tax was decided to stepwise increase from 69 BGN/t (EUR 35) in 2020, to 82 BGN/t (EUR 42) in 2021 and to 95 BGN/t (EUR 50) in 2022 and onwards (ExEA and MOEW, 2021).

Summary result

Landfill tax > 30 EUR/t([a]) with escalator	Bulgaria has a landfill tax in place which increases from 69 BGN/t (corresponding to 62.7 EUR/t([a])) in 2020 to 95 BGN/t (corresponding to 89.6 EUR/t([a])) in 2022.
Robustness of the underlying information	Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

([a])Note: rescaled based on purchasing power parities (Eurostat, 2020a)

SRF P-3.2: Taxes on municipal waste incineration

Taxes on incineration of residual waste can help to discourage strong reliance on residual waste treatment and thus support recycling. As described in Section 2.1.3 in more detail, in Bulgaria, there is no tax on municipal waste incineration.

Summary result

No incineration taxes	In Bulgaria, there is no tax on municipal waste incineration.
Robustness of the underlying information	Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

SRF P-3.3: Packaging taxes

Packaging taxes can support the aim to reduce packaging waste generation and/or to influence the choice of packaging materials and encourage recyclability and eco-design.

The Bulgarian packaging tax (product tax) is rather a form of sanction for those entities that do not fulfil their EPR obligations. The Waste management act and the Ordinance for determining the order and amount for payment of product taxes define a product tax in BGN/kg for the different packaging materials. The amount is calculated on the basis of the total expenses related to collection and treatment of different materials. The product tax significantly exceeds the amount of EPR fees. Since 2017 the control was increased and the inspections of persons who have not fulfilled their obligations in the previous year are carried out with priority and set in the yearly inspection plan (ExEA and MOEW, 2021). The product tax can be seen as a strong enforcement instrument directed at PROs towards meeting the targets but could also create an incentive for PROs to underreport packaging placed on the market and overreport recycled amounts.

Summary result

No packaging taxes	Bulgaria has a packaging tax, but with the aim to support the enforcement of the packaging recycling targets. The tax is only paid by PROs not meeting the targets.
Robustness of the underlying information	Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

SRF P-3.4: Pay-as-you-throw (PAYT) system in place

As a large share of packaging waste is generated in households, incentivising households to separate packaging waste at source, e.g. by applying PAYT systems, is relevant for meeting the recycling targets for packaging waste.

As described in Section 2.1.4 in more detail, Bulgaria currently does not apply PAYT systems.

Summary result

No PAYT	In Bulgaria there is no Pay-as-you-throw (PAYT) system in place.
Robustness of the underlying information	Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

SRF P-3.5: Deposit-return systems

Deposit Return Systems (DRS) generate high capture rates for packaging covered by the system and thus contribute to increased recycling rates.

Deposit return systems are in place for reusable packaging only. According to the Bulgarian authorities, this helps to avoid compromising the separate collection system for packaging waste. Deposit return schemes exist for some glass beer bottles (depending on the producers), glass bottles for non-alcoholic beverages, and tertiary plastic and wooden packaging. Glass beer bottles are the only reusable packaging with relation to the end-user. Glass bottles for non-alcoholic beverages are provided only within the catering sector; tertiary packaging (plastic and wood) are related to professional logistics (ExEA and MOEW, 2021).

Summary result

Aluminium drink cans	No DRS	Currently there is only a deposit return system for reusable packaging. Glass beer bottles are the only reusable packaging with relation to the end-user. Glass bottles for non-alcoholic beverages are provided only within the HORECA sector; tertiary packaging (plastic and wood) are related to professional logistics.
Glass drink bottles	Voluntary DRS for some drink bottles, some specific	
Plastic drink bottles crates	No DRS	
Plastic crates	Voluntary DRS for some plastic crates	
Wooden packaging	Voluntary DRS for some wooden packaging	
Robustness of the underlying information		Credible information received from the Bulgarian authorities through a questionnaire.

2.2.4 Separate collection system

SRF P-4.1: Convenience and coverage of separate collection for different packaging waste fractions

As a large part of packaging waste comes from households, separate collection systems for households and similar sources are a key condition for achieving high recycling rates of packaging waste and for collecting recyclables at adequate quality. Generally, the more convenient and accessible these systems are for their users, the better results they can deliver. The material specific assessment considers packaging waste from both household and non-household sources. For assessing the convenience and coverage of separate collection systems for households, the same methodology is used here as described in section 2.1.4.

The separate collection system in Bulgaria is described in detail under SRF MSWR-4.1 in section 2.1.4.

The coverage and convenience level for the collection of packaging waste from households is rather low. The separate collection for non-households is mandatory for all fractions, except for wood. According to Art. 33 of the Waste Management Act, waste from paper and cardboard, glass, plastics and metals, generated at commercial sites, production, economic and administrative buildings, have to be collected separately. There is an exception to this requirement for settlements where there is no system for separate collection of the same waste originating from households (ExEA and MOEW, 2021). However, the National Waste Management Plan 2021-2028 (Ministry of Environment and Water, 2021) states that there are currently no mechanisms in place and there is a lack of information on the compliance of users of retail establishments, manufacturing, business and administrative buildings with separate collection of packaging waste, and that there is a great potential to increase the quantities of separately collected high quality packaging waste from these sources. The Plan therefore foresees additional compliance checking activities.

Summary result

Paper and cardboard packaging	**1. Packaging waste from households** A low share of the population is covered by high convenience collection services	
	2. Packaging waste from non-household sources Separation at source is mandatory for non-household paper and cardboard packaging waste	
Ferrous metals packaging	**1. Packaging waste from households** A low share of the population is covered by high convenience collection services	
	2. Packaging waste from non-household sources Separation at source is mandatory for non-household ferrous metals packaging waste	
Aluminium packaging	**Packaging waste from households** A low share of the population is covered by high convenience collection services	
Glass packaging	**1. Packaging waste from households** A high share of the population is covered by high convenience collection services	
	2. Packaging waste from non-household sources Separation at source is mandatory for non-household glass packaging waste	

Plastics packaging	**1. Packaging waste from households** A low share of the population is covered by high convenience collection services	
	2. Packaging waste from non-household sources Separation at source is mandatory for non-household plastic packaging waste	
Wooden packaging	**Packaging waste from non-household sources** Separation at source is not mandatory for non-household wooden packaging waste	
Robustness of the underlying information		Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

Note: The main source for aluminium packaging waste is assumed to be drink cans from households, therefore the assessment does not consider aluminium non-household packaging waste.

SRF P-4.2: Firm plans to improve the convenience and coverage of separate collection for the different packaging waste fractions

Concrete plans are needed to improve the convenience and coverage of separate collection. This SRF is more relevant for MS and materials that do not score 'green' in SRF P-4.1. The assessment is done on a material basis, and summing up the scores of the different materials according to their average share in packaging waste[2]. Again, the material specific assessment considers packaging waste from both household and non-household sources.

There are no firm plans to improve the type and coverage of separate collection for paper and cardboard packaging, metallic packaging, glass and wooden packaging.

For plastics, in connection with the application of the requirements of Directive 2019/904/EC on the reduction of the impact of disposable plastic products, changes are envisaged to further ensure the separate collection of plastic bottles (ExEA and MOEW, 2021). The Directive has been introduced in the Bulgarian legislation in October 2021.

Summary result

Paper and cardboard packaging	**1. Packaging waste from households** No firm plans to improve the convenience and coverage	
	2. Packaging waste from non-household sources N/A (for countries already having mandatory sorting at source)	
Ferrous metals packaging	**1. Packaging waste from households** No firm plans to improve the convenience and coverage	
	2. Packaging waste from non-household sources N/A (for countries already having mandatory sorting at source)	

[2] Based on data from Eurostat on the share of packaging materials in total packaging generated in 2018.

Aluminium packaging	**Packaging waste from households** No firm plans to improve the convenience and coverage	
Glass packaging	**1. Packaging waste from households** N/A (for countries in which a high share of the population is already covered by high convenience collection services)	
	2. Packaging waste from non-household sources N/A (for countries already having mandatory sorting at source)	
Plastics packaging	**1. Packaging waste from households** There are plans to improve the collection service but unclear plan for implementation	Changes are envisaged to further ensure the separate collection of plastic bottles, but plans for implementation are still unclear. The Directive that holds the requirements has only been introduced in the Bulgarian legislation in October 2021.
	2. Packaging waste from non-household sources N/A (for countries already having mandatory sorting at source)	
Wooden packaging	**Packaging waste from non-household sources** No firm plans to introduce mandatory separation at source for non-household wooden packaging waste	
Robustness of the underlying information		Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

2.2.5 Extended producer responsibility (EPR) and similar schemes

SRF P-5.1: Coverage of EPR schemes

There are EPR schemes in place in Bulgaria for different waste streams, such as packaging, batteries, WEEE, end-of-life vehicles, and waste tires.

Concerning packaging waste there are four licensed PROs (producer responsibility organisations) covering household, commercial and industrial packaging, namely Ecopack Bulgaria, Ecobulpack Bulgaria, Bulecopack and Eco Partners Bulgaria. They cover packaging made from paper and cardboard, ferrous metals, aluminium, glass, plastic, wood and composite packaging (ExEA and MOEW, 2021).

In case a PRO fails to meet the targets, it has to pay the packaging tax for the total packaging placed on the market under its responsibility as described in Section 2.2.3. The PROs operate the separate collection system of coloured containers for packaging waste produced by households as described in Section 2.1.4. But a significant part of recyclables reported by PROs as recovered packaging waste is actually not collected from households. These fractions are either collected directly from industrial enterprises or purchased from privately operated civic amenity sites. In practice the civic amenity sites purchase recyclables collected by informal waste collectors (Eunomia, 2018).

In 2018 the total amount of recycled packaging waste within the scope of all PROs was 261 887 tonnes, representing a share 87 % of all recycled packaging waste at national level (ExEA and MOEW, 2021).

To prevent free-riding, the amended Waste Management Act in connection with the transposition of Directive 2018/851/EU introduced the requirement to appoint an authorized representative in cases of placing packaging on the market by means of distance selling (online sales). In addition, a requirement has been introduced from June 2021 onwards for mandatory registration of all entities placing packaged goods on the market. The obligation is also fulfilled by the authorised representatives (ExEA and MOEW, 2021).

Summary result

All main packaging fractions([a]) are covered by EPR schemes, covering household and non-household packaging	Bulgaria has EPR schemes in place covering household and non-household packaging for all main packaging fractions.
Robustness of the underlying information	Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

([a]) **Note:** Paper and cardboard, Ferrous metals, Aluminium, Glass, Plastic

SRF P-5.2: Fee modulation in EPR schemes for packaging

As explained in Section 2.1.5, fee modulation (or eco-modulation) is a system with different fees for different types of packaging material and designs. The assessment is the same as described in Section 2.1.5

Bulgaria does not have a system of advanced fee modulation in place.

Summary result

No advanced fee modulation	There is no system of advanced fee modulation in place.
Robustness of the underlying information	Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

SRF P-5.3 Material specific EPR assessment

The material specific assessment is based on a combination of the coverage of the material-specific EPR schemes and the use of fee modulation for the specific packaging material. The assessment takes the different situations for different types of materials into account: Plastics packaging is the packaging material that is the most difficult to recycle out of the packaging materials targeted by the Packaging and Packaging Waste Directive. Fee modulation therefore plays a larger role for plastic packaging than for the other materials and is therefore rated differently from paper/cardboard, ferrous metals, aluminium and glass. The methodology foresees a green score for plastics packaging only if all four fee modulation assessment criteria mentioned above are met. On the other hand, wooden packaging is mainly generated by commercial and industrial sources and fee modulation is less relevant, therefore the methodology only relies on EPR schemes for wooden packaging from commercial and industrial sources.

In Bulgaria there are four licensed PROs (producer responsibility organisations) for packaging waste covering household, commercial and industrial packaging. They cover packaging made from paper and cardboard, ferrous metals, aluminium, glass, plastic, wood and composite packaging (ExEA and MOEW, 2021).

Summary result

SRF P-5.3.1 EPR scheme for Paper and cardboard packaging waste	EPR scheme covering household and non-household packaging, but no advanced fee modulation applied.	EPR schemes cover household, industrial and commercial packaging for all main packaging fractions. No advanced fee modulation is applied.
SRF P-5.3.2 EPR scheme for Ferrous metals packaging waste	EPR scheme covering household and non-household packaging, but no advanced fee modulation applied.	
SRF P-5.3.3 EPR scheme for Aluminium packaging waste	EPR scheme covering household and non-household packaging, but no advanced fee modulation applied.	
SRF P-5.3.4 EPR scheme for Glass packaging waste	EPR scheme covering household and non-household packaging, but no advanced fee modulation applied.	
SRF P-5.3.5 EPR scheme for Plastic packaging waste	EPR scheme covering household and non-household packaging, but no fee modulation applied.	
SRF P-5.3.6 EPR scheme for Wooden packaging waste	EPR scheme covering all non-household packaging	
Robustness of the underlying information		Credible information received from the Bulgarian authorities through the EEA-ETC/WMGE questionnaire.

2.3 Target on landfill of municipal waste

2.3.1 Current situation and past trends

SRF LF-1.1: Distance to target

The Landfill Directive (1999/31/EC), as amended by Directive (EU) 2018/850, sets a target to reduce, by 2035, the amount of municipal waste landfilled to 10 % or less of the total amount of municipal waste generated (by weight).

Data to show the current rate of landfilling in line with the reporting rules will only be reported by mid-2022. Therefore, this analysis calculates the landfilling rate based on the current Eurostat dataset *Municipal waste by waste management operations [env_wasmun]*; by dividing the amount of landfilled waste by the total amount of waste generated. The overall landfilling rate of Bulgaria was 61 % in 2018 (calculated based on Eurostat (2022a)).

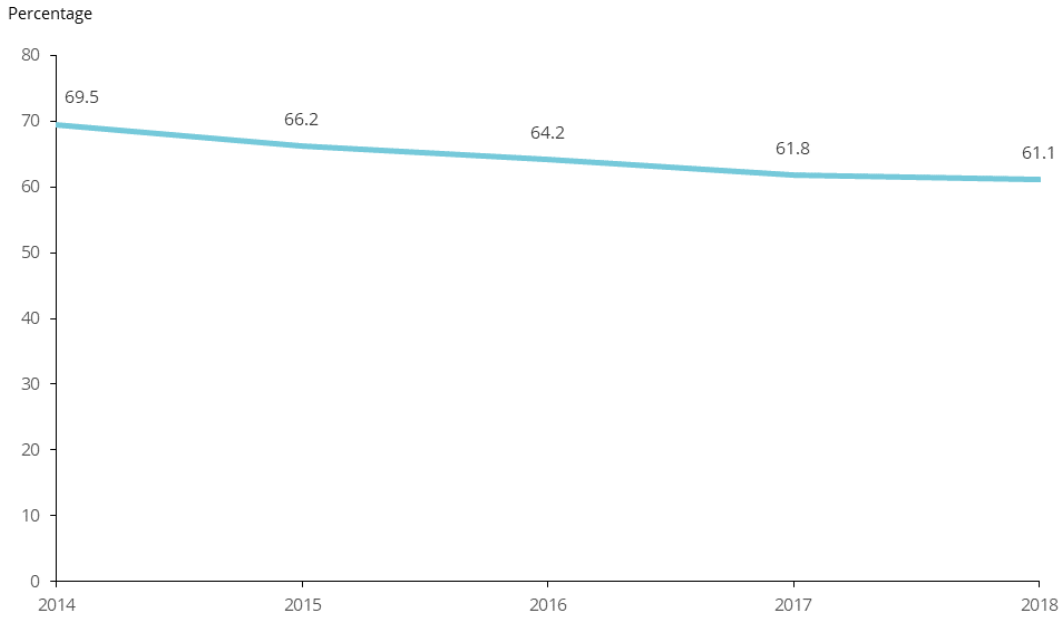
Summary result

Distance to target > 20 percentage points	The landfilling rate of Bulgaria was 61.1 % in 2018.
Robustness of the underlying information	The data are derived from Eurostat and are considered to be rather robust. However, the reported landfill rate might increase once the new calculation rules laid down in the Commission Implementing Decision (EU) 2019/1885 will be applied. Based on the available information, it is currently not possible to quantify the impact of the new calculation rules on the landfill rate.

SRF LF-1.2: Past trend in municipal solid waste landfill rate

The overall landfilling rate of Bulgaria decreased by 8.3 percentage points, from 69.5 % in 2014 to 61.1 % in 2018 (Figure 2.4).

Figure 2.4 Landfilling in Bulgaria between 2014 and 2018, in percentage



Source: Eurostat (2022a)

Summary result

Landfill rate in 2020 > 25% and decrease in last 5 years < 15 percentage points	During the five-year period 2014 - 2018, Bulgaria's landfilling rate decreased by 8.3 percentage points, from 69.5 % in 2014 to 61.1 % in 2018.
Robustness of the underlying information	The data is derived from Eurostat and is considered to be rather robust. There is no break in the time series data.

SRF LF-1.3: Diversion of biodegradable municipal waste from landfill

According to Art. 5(2c) of the EU Landfill Directive, Member States had to ensure that by 2016, biodegradable municipal waste going to landfills is reduced to 35 % of the total amount (by weight) of biodegradable municipal waste produced in 1995 or the latest year before 1995 for which standardised Eurostat data is available. However, Bulgaria has been granted a 4-year derogation period and thus has to meet the target by 2020.

Bulgaria generated about 2.25 million tonnes of biodegradable municipal waste in the reference year. In 2019 (latest available data), 38 % was still landfilled as related to the amount generated in 1995 (EC, 2022).

Summary result

For Member States with a derogation: Target for reducing the amount of biodegradable municipal waste (BMW) landfilled to 35% of BMW generated in 1995 has not been achieved yet, but data indicate a good chance to meet it by 2020	Bulgaria has reported 38 % biodegradable waste landfilled for 2019 of the total amount (by weight) of biodegradable municipal waste produced in 1995. The 2019 data indicate a good chance to meet the target by 2020.
Robustness of the underlying information	Based on officially reported data which is well in line with otherwise reported statistical data on landfilling of municipal waste.

3 Conclusion

This risk assessment indicates whether Bulgaria is at risk of not meeting the targets. The 'total risk' categorization is the result of the sum of the individual scores of each SRF as described in the previous chapter, where the assessment of each SRF results in a score of **2 points (green), 1 point (amber) or 0 points (red)**, depending on the assessment of the SRF. As some SRFs are considered to have a higher impact on meeting the target, the score of the SRF is multiplied by the defined weight of the SRF. As some SRFs might not be applicable to Bulgaria, only the SRFs relevant to Bulgaria are taken into account to define the maximum score. Bulgaria is considered to be 'not at risk' if its score is more than 50 % of this maximum score, and 'at risk' if its score is less than 50 % of this maximum score.

3.1 Prospects for meeting the recycling target for municipal solid waste

15 % **of maximum score**	Based on the provided information and the analysis done, it is concluded that Bulgaria is **at risk for not meeting the MSW recycling target in 2025**.
Current situation and past trends:	The recycling rate was 31.5 % in 2018, which is 23.5 percentage points below the 2025 target of 55 %. The application of the new reporting rules is expected to decrease the recycling rate. This rate has increased by 8.4 percentage points over the last five years (2014-2018).
Legal instruments:	The amended WFD was transposed into national law with a delay of less than 12 months. Responsibilities are clearly defined and enforcement mechanisms are in place, however, no support tools are in place to support improving the service level and recycling performance.
Economic instruments:	Bulgaria has a landfill tax that is stepwise increasing until 2022, but no tax on municipal waste incineration. There is no pay-as-you-throw system in place.
Separate collection systems:	Low-convenience collection points are the dominant systems in cities, towns and suburbs, and rural areas for paper and cardboard, plastics, metals, bio-waste, textiles and wood waste. Only for glass and WEEE door-to-door separate collection or high-convenience collection points are the dominant systems in cities, towns and suburbs, and rural areas. For plastics (separate collection of plastic bottles), textiles (planned EPR scheme) and bio-waste there are plans to improve the convenience and coverage of collection. However, timing and implementation is unclear.

Extended producer responsibility:	All main packaging fractions are covered by EPR schemes, covering household and non-household packaging. However, there is no system of advanced fee modulation applied.
Bio-waste treatment capacity and quality management:	The bio-waste treatment capacity is far below 80 % of total generated municipal bio-waste, but investments are underway to increase the capacity. This additional capacity would still leave a significant gap between the generated bio-waste and treatment capacity. Bulgaria has no national standards for compost/digestate quality and there is no quality management system in place.

3.2 Prospects for meeting the recycling targets for packaging waste

40 % **of maximum score**	Based on the provided information and the analysis done, it is concluded that Bulgaria is **at risk for not meeting the 65 % recycling target for packaging waste in 2025**	
61 % of maximum score	Paper and cardboard	Not at risk
61 % of maximum score	Ferrous metals packaging	Not at risk
50 % of maximum score	Aluminium packaging	Not at risk
44 % of maximum score	Glass packaging	At risk
39 % of maximum score	Plastics packaging	At risk
53 % of maximum score	Wooden packaging	Not at risk
Current situation and past trends:	The total packaging recycling rate is estimated to be 53.7 % if the new calculation rules were applied (accounting for losses in the recycling plants), 11.3 percentage point below the 2025 target, and it has decreased by 3.1 percentage points over the past five years. For metallic and paper and cardboard packaging both the recycling rate and its trend over the last five years show positive evolution. Separate data on ferrous and aluminium packaging is not yet available. The packaging waste streams of most concern are glass and plastic, with a current recycling rate below the 2025 targets (estimate if the new calculation rules were applied), and a negative trend over the past five years. There might still be an issue with underreporting of packaging put on the market, but steps have been taken to address free-riding, applicable from 2021.	
Legal instruments:	The amended Packaging and Packaging Waste Directive was transposed into national law with a delay of less than 12 months.	

	Responsibilities are defined and enforcement mechanisms are in place. Clear support mechanisms for the responsible entities seem to be missing.
Economic instruments:	Bulgaria has a landfill tax that is stepwise increasing until 2022, but no tax on municipal waste incineration. There is no PAYT system in place. Bulgaria has a packaging tax, but with the aim to support the enforcement of the packaging recycling targets. The tax is only paid by producers/PROs that are not meeting the targets. There are only voluntary DRS for reusable packaging, namely for some specific glass drink bottles, plastic crates and for some wooden packaging.
Separate collection systems:	The coverage and convenience level for the collection of packaging waste from households is low, except for glass. There are no plans to improve this, unless for plastics packaging. The detailed plans for implementation remain unclear however. Source separation is mandatory for non-household packaging waste.
Extended producer responsibility:	All main packaging fractions are covered by EPR schemes, covering household and non-household packaging. There is no system of advanced fee modulation in place .

3.3 Prospects of meeting the landfill of municipal waste target

7 % **of maximum score**	Based on the provided information and the analysis done, it is concluded that Bulgaria is **at risk for not meeting the 2035 target to reduce the amount of municipal waste landfilled to 10 % or less of the total amount of municipal waste generated.**
Current situation and past trends:	The landfilling rate in 2018 was 61.1 %, down from 69.5 % in 2014.
Diversion of biodegradable municipal waste from landfill:	For 2019, Bulgaria has reported 38 % biodegradable municipal waste landfilled related to the total amount (by weight) of biodegradable municipal waste produced in 1995. Bulgaria has been granted a derogation and has to meet the target by 2020. The 2019 data indicate a good chance for Bulgaria to meet the target by 2020.

List of abbreviations

Abbreviation	Name
DRS	Deposit Return System
EC	European Commission
EEA	European Environment Agency
EPR	Extended producer responsibility
ETC/CE	European Topic Centre on Circular Economy and resource use
ETC/WMGE	European Topic Centre on Waste and Materials in a Green Economy
ExEA	Executive Environment Agency
MBT	Mechanical-biological treatment
MOEW	The Ministry of Environment and Water
MS	Member state
MSW	Municipal solid waste
PAYT	Pay-as-you-throw
PPWD	Packaging and Packaging Waste Directive
PRO	Producer Responsibility Organisation
R&D	Research and development
RR	Recycling rate
SRF	Success and risk factor
SUP	Single Use Plastic
TOC	Total Organic Carbon
WEEE	Waste Electric and Electronic Equipment
WFD	Waste Framework Directive

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Annex 1 Implementation of previous early warning recommendations

In 2018, the European Commission assessed that Bulgaria would be at risk of not meeting the Waste Framework Directive's target to prepare for re-use and recycle at least 50 % of municipal waste, and provided a set of policy recommendations to improve the situation(EC, 2018a). This annex lists the recommendations and a self-assessment of the Bulgarian authorities on the status of taking them into account.

Recommendations on Extended Producer Responsibility for packaging

1) *Audits of the data reported by producers or Producer Responsibility Organisations (PROs) on amounts of packaging waste placed on the market, to ensure that it is in line with the data on municipal waste.*

Bulgaria has addressed this recommendation.
The activity of the PROs is audited annually. In a certified report to the Minister of Environment and Water, an independent financial auditor certifies the exact quantities placed on the market by the members of each PRO. The National Statistical Institute covers the total number of packages placed on the market at national level through its statistical observations, the methodology of which is recognized by Eurostat. The quantities of packaging placed on the market in the scope of recovery organizations for the period from 2017 to 2019 has increased by about 40,000 tons (ExEA and MOEW, 2021).

2) *Consider the following alternative options when reviewing the Packaging and Packaging Waste Ordinance:*
   a. re-specify the minimum collection service that PROs are required to provide so that there is a focus on door-to-door collection where this is appropriate; or
   b. limit the number of PROs dealing with each municipality to only one organisation and entitle the municipalities, which are effectively responsible for compliance with the recycling targets, to procure collection services (funded by the PRO) of a minimum standard required to comply

Bulgaria has (partly) addressed this recommendation.
The revision of the Ordinance on Packaging and Packaging Waste and the adopted amendment in 2018 have increased the minimum requirements for separate collection systems for packaging waste in terms of the frequency of placement of containers for separate collection, which ensures greater access to the system and the convenience of the citizens. The actual population covered in the systems for separate collection of packaging waste is increased by changing the way it is reported and the number of located containers is increasing. Since 01/01/2019 the requirements for the minimum density of separate collection containers have been increased - for settlements with less than 50,000 inhabitants, the number of containers is increased by an average of 15%, from 50,000 to 100,000 inhabitants - 9% and over 100,000 inhabitants - by about 7%. (ExEA and MOEW, 2021)
In addition with the same amendment the possibility for municipalities to sign a contract for the implementation of a system for separate collection system with more than one PRO for packaging waste is strictly limited to the capital and two other cities with city district division, where city districts have a form of particular administrative independence (ExEA and MOEW, 2021).

3) *Enforcement of the obligation for the producers to comply with the specific packaging recycling targets by imposing appropriate sanctions.*

Bulgaria has addressed this recommendation.

The legislation introduces a sanction regime by paying a product tax by producers who have not fulfilled their obligations to comply with the EPR regime – individually or by membership in PROs. The product tax significantly exceeds the amount of EPR fees they pay to collective organizations. Since 2017 the control was increased and the inspections of persons who have not fulfilled their obligations in the previous year are carried out with priority and set in the yearly inspection plan. (ExEA and MOEW, 2021)

Recommendations on Separate collection of bio-waste

4) *Review of the existing plans on collection and treatment of bio-waste in terms of their assumptions regarding the approach to collection, the capture of material, and the choice of bio-waste treatment, to ensure that they are both reasonable and internally consistent.*

Bulgaria has (partly) addressed this recommendation.

The review is done during preparation of the new National waste management plan. Composting is still the main preferred method (ExEA and MOEW, 2021).

5) *Development of national waste collection guidance for municipalities in the form of minimum service standards (to complement action 2). These standards could for example specify the type and volume of containers, the frequency of collection and the type of vehicle used, taking into account the type of housing stock, how rural the area is, typical climate, etc.*

Bulgaria has addressed this recommendation.

Since 2004, there has been national waste collection guidance for municipalities in the form of minimum service standards.
https://www.moew.government.bg/static/media/ups/tiny/%D0%A3%D0%9E%D0%9E%D0%9F/RAKOVODSTVO.doc (ExEA and MOEW, 2021).

6) *Roll-out of collection services to those types of premises / municipalities where the yield is likely to be highest.*

This recommendation was considered by Bulgaria in the preparation of the new National waste management plan (ExEA and MOEW, 2021).

7) *Establishment of a quality assurance mechanism to assure the quality of compost or digestate derived from waste.*

Bulgaria has not addressed this recommendation.

No quality assurance system, only laboratory testing (ExEA and MOEW, 2021).

8) *In the longer term, modification of the wording of the targets for bio-waste separate collection and recovery in the Waste Management Act so that they do not refer to a fixed amount of bio-waste from 2014. This approach tends to hinder bio-waste prevention, especially if decreases in waste generation can also be linked to other factors, such as decline in population*

Bulgaria has not addressed this recommendation.

Not envisaged new targets for bio-waste (ExEA and MOEW, 2021).

Recommendations on Separate collection – civic amenity sites

9) *Setting minimum criteria on density of civic amenity sites (i.e. container parks, household waste recycling centres) to ensure sites are located within reasonable distance to citizens, increasing convenience and the likelihood of them being used.*

Bulgaria has addressed this recommendation.

According to Art. 19, para. 3 of the Waste Management Act, the mayor of the municipality is responsible for the provision of civic amenity for delivery free of charge of separately collected waste from households, incl. bulky waste, hazardous waste and others in all settlements with a population of more than 10,000 inhabitants in the municipality, and if necessary in other settlements (ExEA and MOEW, 2021).

10) *Establishing key design principles of civic amenity sites, including: a. integration of re-use centres; b. layout of facilities; and c. rationale for high levels of staffing.*

The Waste Management Act, Art. 53. (1) (Suppl. - SG 19/21, in force from 05.03.2021) states:

The persons pursuant to Art. 14, Para. 2, fulfilling their obligations individually and the organizations of recovery shall develop and fulfill programmes for waste management in compliance with the requirements of this Act and the ordinances of Art. 13, Para. 1.

(3) (New - SG 19/21, in force from 05.03.2021) states that the programs under para. 1 shall include measures for conducting a regular dialogue between interested parties involved in the implementation of extended producer responsibility schemes, including producers and distributors, private or public operators operating in the field of waste, mayors, non-profit legal entities and, if applicable, enterprises under the Act on Enterprises of The Social and Solidarity Economy, re-use and repair networks, as well as operators preparing for re-use;

11) *Those sites could first be established in those municipalities where the collection service is most advanced (i.e. for example, where door-to-door separate collection is becoming well established) to maximise the likely effectiveness of these sites. This would also allow 'best practices' to be identified and used as a model for other municipalities*

With the Local Taxes and Fees Act, adopted in 2017, new requirements came into force regarding the determination of the amount of the fee for municipal waste. The date of entry into force of the new requirements has been changed several times due to the inability of municipalities to build capacity and information security to implement these requirements.

According to the latest amendments to the Local Taxes and Fees Act with the Act to amend and supplement the Emergency Measures and Actions Act, declared by a decision of the National Assembly of March 13, 2020, and to overcome the consequences of February 17, 2021, these requirements shall enter into force for the second year following the publication of the results of the census of the population and the housing stock in the Republic of Bulgaria in 2021.

Recommendations on Economic incentives

12) *Implementation of relevant changes to the Local Taxes and Fees Act so that Pay-As-You-Throw schemes can be implemented.*

Bulgaria has addressed this recommendation.

PAYT is implemented already in the Local Taxes and Fees Act but it is dispositive, it is not imperative - municipalities have the right to apply other ways for calculating the waste collecting tax. Responsible authority for this act is the Ministry of finance and it is adopted by the Parliament. The Ministry of environment and water is on the position PAYT must be obligatory (ExEA and MOEW, 2021).

13) *Roll out of pay-as-you-throw schemes first by municipalities where separate collection services of a minimum standard have been implemented (see action 6).*W

With the Local Taxes and Fees Act, adopted in 2017, new requirements come into force regarding the determination of the amount of the fee for municipal waste. The date of entry into force of the new requirements has been changed several times due to the inability of municipalities to build capacity and information security to implement these requirements. According to the latest amendments to the Local Taxes and Fees Act with the Act to amend and supplement the Emergency Measures and Actions Act, declared by a decision of the National Assembly of March 13, 2020, and to overcome the consequences of February 17, 2021, these requirements shall enter into force for the second year following the publication of the results of the census of the population and the housing stock in the Republic of Bulgaria in 2021.

14) *Effective sanctions for PROs (as per action 3) and for municipalities which fail to meet the targets, under an amendment to Section II of the Waste Management Act to provide a strong incentive to meet targets.*

Bulgaria has addressed this recommendation.

Effective sanctions are determined on the same principle as action 3. If a PRO fails to fulfill its obligations on behalf of its members, a bank guarantee in the amount of BGN 1 million is used and the full amount of the product fee is paid, corresponding to the entire quantity of packaging placed on the market for the reporting year (ExEA and MOEW, 2021).

Recommendations on Communications and awareness raising

15) *Development of a set of national communications materials addressed to the public for use at local level, with clear and consistent messages, and with particular focus on biowaste. These materials should be used as part of awareness-raising campaigns, in leaflets and at civic amenity sites.*

Bulgaria has addressed this recommendation.

Municipalities have an obligation to include such activities in their municipal waste management programs. Additionally, the projects financed by the Operational program Environment (OPE) for construction of composting plants include activities to raise public awareness about biowaste (ExEA and MOEW, 2021).

Recommendations on Technical support to municipalities

16) *Development of a system at national level that provides technical support for municipalities, specifically in the following areas:*

a. choosing collection services;

b. service procurement;

c. service management;

d. communication campaigns;

coupled with active sharing of good ideas and practices that can improve efficiency in terms of cost reduction and improvement in performance.

Bulgaria has addressed this recommendation.
For bio-waste there are such guidelines as of 2013:
http://www5.moew.government.bg/wp-content/uploads/filebase/Waste/Biowaste/Guideline_biowaste_management.pdf

https://www.moew.government.bg/static/media/ups/tiny/%D0%A3%D0%9E%D0%9E%D0%9F/%D0%91%D0%B8%D0%BE%D0%BE%D1%82%D0%BF%D0%B0%D0%B4%D1%8A%D1%86%D0%B8/V-I_Manual_Municipalities_SepColl-web.pdf

https://www.moew.government.bg/static/media/ups/tiny/%D0%A3%D0%9E%D0%9E%D0%9F/%D0%91%D0%B8%D0%BE%D0%BE%D1%82%D0%BF%D0%B0%D0%B4%D1%8A%D1%86%D0%B8/V-II_Manual_Municipalities_CompOrd_BGk-Master.pdf

https://www.moew.government.bg/static/media/ups/tiny/%D0%A3%D0%9E%D0%9E%D0%9F/%D0%91%D0%B8%D0%BE%D0%BE%D1%82%D0%BF%D0%B0%D0%B4%D1%8A%D1%86%D0%B8/III-I_SAR_composting.pdf

https://www.moew.government.bg/static/media/ups/tiny/%D0%A3%D0%9E%D0%9E%D0%9F/%D0%91%D0%B8%D0%BE%D0%BE%D1%82%D0%BF%D0%B0%D0%B4%D1%8A%D1%86%D0%B8/III-II_SAR_AD-web.pdf
(ExEA and MOEW, 2021).

Recommendations on Efficient spending

17) Review the funding needed to achieve the 50 % target, away from spending on treatment of mixed waste towards separate collection, sorting and recycling infrastructure.

This was reportedly implemented (ExEA and MOEW, 2021).

Annex 2 Detailed scoring of success and risk factors

Assessment sheet - Recycling target for municipal waste

MS Bulgaria

Date Jun-22

SRF		Assessment result	Weight	Score
Current situation and past trends				
MSWR-1.1	Distance to target	Distance to target > 15 percentage points or no data reported	5	0
MSWR-1.2	Past trends in municipal solid waste recycling rate	RR < 45% and increase in last 5 years < 10 percentage points	1	0
Legal instruments				
MSWR-2.1	Timely transposition of the revised WFD into national law	Transposition with a delay of less than 12 months	1	1
MSWR-2.2	Clearly defined responsibilities for meeting the targets and support and enforcement mechanisms	Clearly defined responsibilities and good set of support tools but weak/no enforcement mechanisms for meeting the recycling targets OR Unclear responsibilities but clearly defined enforcement mechanisms and a good set of support tools for meeting the recycling targets OR Clearly defined responsibilities and enforcement mechanisms but no/weak support tools for meeting the recycling targets	1	1
Economic instruments				
MSWR-3.1	Taxes and/or ban for landfilling residual or biodegradable waste	Ban, or landfill tax > 30 EUR/t* with escalator, or landfill tax > 45 EUR/t	1	2
MSWR-3.2	Taxes on municipal waste incineration	No incineration taxes or taxes < 7 EUR/t*	1	0
MSWR-3.3	Pay-as-you-throw (PAYT) system	No or less than 50% of the population covered by PAYT	1	0

Separate collection systems				
MSWR-4.1	Convenience and coverage of separate collection systems for the different household waste fractions			
	Paper and cardboard	A low share of the population is covered by high convenience collection services	0.46	0
	Metals	A low share of the population is covered by high convenience collection services	0.08	0
	Plastics	A low share of the population is covered by high convenience collection services	0.28	0
	Glass	A high share of the population is covered by high convenience collection services	0.18	0.36
	Bio-waste	A low share of the population is covered by high convenience collection services	0.84	0
	Wood	A low share of the population is covered by high convenience collection services	0.06	0
	Textiles	A low share of the population is covered by high convenience collection services	0.06	0
	WEEE	High to medium convenience collection services dominate	0.04	0.08
MSWR-4.2	Firm plans to improve the convenience and coverage of separate collection systems for the different household waste fractions			
	Paper and cardboard	No firm plans to improve the convenience and coverage	0.23	0
	Metals	No firm plans to improve the convenience and coverage	0.04	0
	Plastics	There are plans to improve the collection service but unclear plan for implementation	0.14	0.14
	Glass	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	0.09	0
	Bio-waste	There are plans to improve the collection service but unclear plan for implementation	0.42	0.42
	Wood	No firm plans to improve the convenience and coverage	0.03	0
	Textiles	There are plans to improve the collection service but unclear plan for implementation	0.03	0.03
	WEEE	N/A (for countries where high to medium convenience collection services dominate already)	0.02	0

Extended producer responsibility (EPR) and similar schemes				
MSWR-5.1	Fee modulation in EPR schemes for packaging	No advanced fee modulation OR fee modulation meets less than two assessment criteria	1	0
Bio-waste treatment capacity and quality management				
MSWR-6.1	Capacity for the treatment of bio-waste	Bio-waste treatment capacity below 80% of generated municipal bio-waste and no plans to extend capacity, or no capacity information available	1	0
MSWR-6.2	Legally binding national standards and Quality Management System for compost/digistate	No national standards or quality management system, or still under development	1	0
			Total score	**5.03**
			Maximum score	33.78
				15%

Assessment sheet - Recycling target for packaging waste

MS Bulgaria

Date Jun-22

SRF		Assessment result	Weight	Score
Current situation and past trends				
P-1.1	Distance to target - Overall packaging	5 - 15 percentage points below target	5	5
	Distance to target - Paper and cardboard packaging	< 5 percentage points below target, or target exceeded	5	10
	Distance to target - Ferrous metals packaging	< 5 percentage points below target, or target exceeded	5	10
	Distance to target - Aluminium packaging	< 5 percentage points below target, or target exceeded	5	10
	Distance to target - Glass packaging	5 - 15 percentage points below target	5	5
	Distance to target - Plastics packaging	5 - 15 percentage points below target	5	5
	Distance to target - Wooden packaging	< 5 percentage points below target, or target exceeded	5	10
P-1.2	Past trends in packaging waste recycling rate	RR < 55% and increase in last 5 years < 10 percentage points	1	0
	Past trends in paper and cardboard packaging recycling	RR > 70% and increase in last 5 years > 5 percentage points, or RR > 65% and increase in last 5 years > 10 %, or RR > 75%	1	2
	Past trends in ferrous metals packaging recycling	RR > 65% and increase in last 5 years > 5 percentage points, or RR > 60% and increase in last 5 years > 10 %, or RR > 70%	1	2
	Past trends in aluminium packaging recycling	RR > 45% and increase in last 5 years > 5 percentage points, or RR > 40% and increase in last 5 years > 10 %, or RR > 50%	1	2
	Past trends in glass packaging recycling	RR < 60% and increase in last 5 years < 10 percentage points	1	0

	Past trends in plastic packaging recycling	RR > 45% and increase in last 5 years < 5 percentage points, or RR > 40%, and increase in last 5 years < 10 percentage points, or RR < 40% and increase in last 5 years > 10 percentage points	1	1
	Past trends in wooden packaging recycling	RR > 20% and increase in last 5 years > 5 percentage points, or RR > 15% and increase in last 5 years > 10 %, or RR > 25%	1	2
Legal instruments				
P-2.1	Timely transposition of the revised Packaging and Packaging Waste Directive into national law	Transposition with a delay of less than 12months	1	1
P-2.2	Clearly defined responsibilities for meeting the targets and support and enforcement mechanisms	Clearly defined responsibilities and good set of support tools but weak/no enforcement mechanisms for meeting the recycling targets OR Unclear responsibilities but clearly defined enforcement mechanisms and a good set of support tools for meeting the recycling targets OR Clearly defined responsibilities and enforcement mechanisms but no/weak support tools for meeting the recycling targets	1	1
Economic instruments				
P-3.1	Taxes and/or ban for landfilling residual or biodegradable waste	Ban, or landfill tax > 30 EUR/t* with escalator	1	2
P-3.2	Taxes on municipal waste incineration	No incineration taxes or taxes < 7 EUR/t*	1	0
P-3.3	Packaging taxes	No packaging taxes	1	0
P-3.4	Pay-as-you-throw (PAYT) system	No or less than 50% of the population covered by PAYT	1	0
P-3.5	Deposit-return systems for aluminium drink cans	No or voluntary DRS for some drink cans	1	0
	Deposit-return systems for glass drink bottles	No or voluntary DRS for some drink bottles	1	0
	Deposit-return systems plastic drink bottles	No or voluntary DRS for some drink bottles	1	0
	Deposit-return systems for plastic crates	No or voluntary DRS for some plastic crates	1	0
	Deposit-return systems for wooden packaging	No or voluntary DRS for some wooden packaging	1	0

Separate collection systems				
P-4.1	Convenience and coverage of separate collection systems for the different packaging waste fractions			
	Paper and cardboard packaging (household)	A low share of the population is covered by high convenience collection services	1	0
	Paper and cardboard packaging (non-household)	Separation at source is mandatory for non-household paper and cardboard packaging waste	1	2
	Ferrous metals packaging (household)	A low share of the population is covered by high convenience collection services	1	0
	Ferrous metals packaging (non-household)	Separation at source is mandatory for non-household ferrous metals packaging waste	1	2
	Aluminium packaging	A low share of the population is covered by high convenience collection services	2	0
	Glass packaging (household)	A high share of population is covered by high convenience collection services	1	2
	Glass packaging (non-household)	Separation at source is mandatory for non-household glass packaging waste	1	2
	Plastics packaging (household)	A low share of the population is covered by high convenience collection services	1	0
	Plastics packaging (non-household)	Separation at source is mandatory for non-household plastic packaging waste	1	2
	Wooden packaging	Separation at source is not mandatory for non-household wooden packaging waste	2	0
P-4.2	Firm plans to improve the convenience and coverage of separate collection systems for the different packaging waste fractions			
	Paper and cardboard (household)	No firm plans to improve the convenience and coverage	0.5	0
	Paper and cardboard (non-household)	N/A (for countries already having mandatory sorting at source)	0.5	0
	Ferrous metals packaging (household)	No firm plans to improve the convenience and coverage	0.5	0
	Ferrous metals packaging (non-household)	N/A (for countries already having mandatory sorting at source)	0.5	0
	Aluminium packaging	No firm plans to improve the convenience and coverage	1	0
	Glass packaging (household)	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	0.5	0
	Glass packaging (non-household)	N/A (for countries already having mandatory sorting at source)	0.5	0

	Plastics packaging (household)	There are plans to improve the collection service but unclear plan for implementation	0.5	0.5
	Plastics packaging (non-household)	N/A (for countries already having mandatory sorting at source)	0.5	0
	Wooden packaging	No firm plans to introduce mandatory separation at source for non-household wooden packaging waste	1	0
Extended producer responsibility (EPR) and similar schemes				
P-5.1	Coverage of EPR schemes	All main packaging fractions* are covered by EPR schemes, covering household and non-household packaging	1	2
P-5.2	Fee modulation in EPR schemes for packaging	No fee modulation OR fee modulation meets less than two assessment criteria	1	0
P-5.3	Material specific EPR assessment - Paper and cardboard packaging waste	EPR scheme covering household and non-household packaging	1	1
	Material specific EPR assessment - Ferrous metals packaging waste	EPR scheme covering household and non-household packaging	1	1
	Material specific EPR assessment - Aluminium packaging waste	EPR scheme covering household and non-household packaging	1	1
	Material specific EPR assessment - Glass packaging waste	EPR scheme covering household and non-household packaging	1	1
	Material specific EPR assessment - Plastics packaging waste	EPR scheme covering household and non-household packaging, with a fee modulation meeting at least two assessment criteria	1	1
	Material specific EPR assessment - Wooden packaging waste	EPR scheme covering all non-household packaging	1	2
Total packaging recycling target				**13.12**
			Maximum score	32.99
				40%

Paper and cardboard recycling target

Total score	**19.00**
Maximum score	31.00
	61%

Ferrous metals packaging recycling target

Total score	**19.00**
Maximum score	31.00
	61%

Aluminium packaging recycling target

Total score	**17.00**
Maximum score	34.00
	50%

Glass packaging recycling target

Total score	**14.00**
Maximum score	32.00
	44%

Plastics packaging recycling target

Total score	**13.50**
Maximum score	35.00
	39%

Wooden packaging recycling target

Total score	**18.00**
Maximum score	34.00
	53%

Assessment sheet - Target for landfilling of municipal waste

MS Bulgaria

Date Jun-22

SRF		Assessment result	Weight	Score
Current situation and past trends				
LF-1.1	Distance to target	Distance to target > 20 percentage points, or no data reported	5	0
LF-1.2	Past trends in municipal solid waste landfill rat	Landfill rate in 2020 > 25% and decrease in last 5 years < 15 percentage points	1	0
LF-1.3	Diversion of biodegradable municipal waste from landfill	For Member States with a derogation: Target for reducing the amount of biodegradable municipal waste (BMW) landfilled to 35% of BMW generated in 1995 has not been achieved yet, but data indicate a good chance to meet it by 2020	1	1
			Total score	**1.00**
			Maximum score	14.00
				7%