Country profile

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

Greece

June 2022

European Environment Agency

Contents

Acknowledgements

This draft 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 Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management in April 2021 to a questionnaire developed by the EEA and ETC/WMGE. The EEA and ETC/CE would like to thank the Greek 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 Greece. 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 Greece 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 affecting recycling performance. The assessment is largely 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 Greece 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 Greece to achieve the overall packaging waste and specific packaging materials' recycling targets for 2025. Chapter 2.3 examines the prospects for Greece 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.

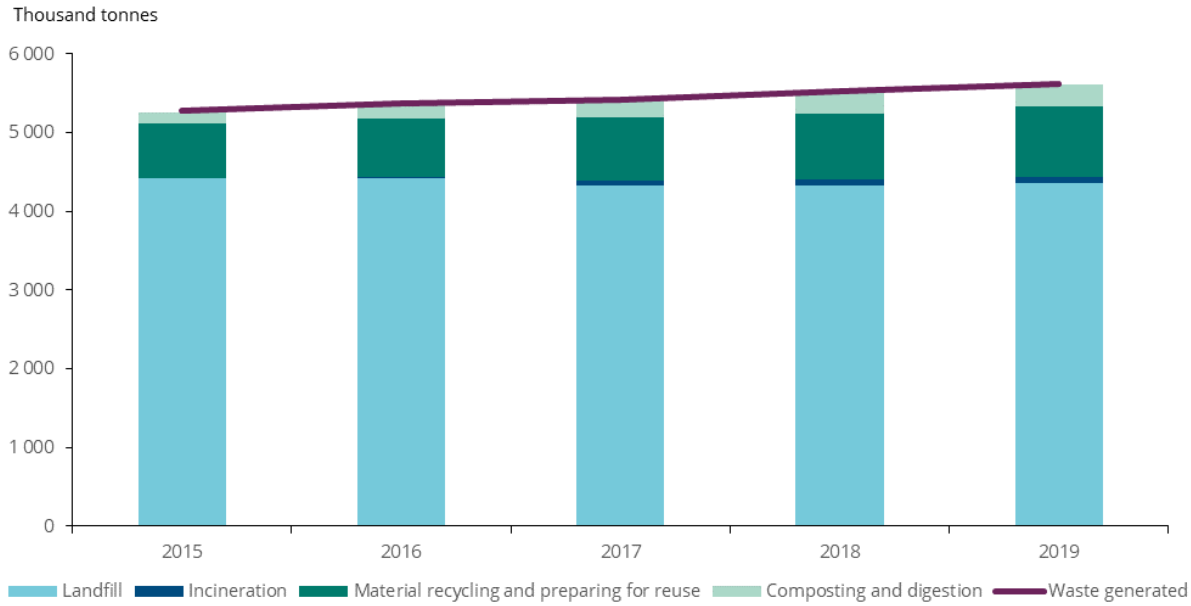
1.3 Member State profile – context parameters

Municipal waste generation and treatment

Greece generates around 5.6 million tonnes of municipal waste annually, and the waste generation has increased by 6 % since 2015 (Figure 1.1). This corresponds to 524 kg/cap in 2019, which is above the (estimated) EU average of 501 kg/cap. The country relies heavily on landfilling; although its share has decreased modestly by 6 percentage points from 2015, it was still 77.7 % in 2019. At the same time, the overall recycling rate has increased slightly by 5.2 percentage points from 15.8 % to 21 %. The share of material recycling increased from 13.2 % to 16 %, whereas composting and digestion increased from 2.6 % to 5 %. The share of energy recovery has remained stable at 1.3 % in 2019 and originates from the co-incineration of RDF/SRF and production of biofuels from waste edible oils and fats. There are no dedicated municipal waste incineration facilities in Greece.

According to the EC (2019b) a landfill tax was introduced in Greece in 2012 through law, but its implementation was postponed. A gate fee for landfills is implemented in Greece, not as an incentive for steering waste away from landfilling, but for covering the expenses of operating and aftercare for the landfill. The combination of a low landfill gate fee and cheap illegal landfills has not created any incentive to enhance recycling. In addition, a pay-as-you-throw (PAYT) scheme has not been officially implemented yet. The PAYT scheme is foreseen to be gradually implemented by the municipalities from the 1 January 2023 (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021). Extra measures are needed to prevent landfilling of biodegradable waste and to introduce door-to-door separate collection. However, Greece has shown a positive progress in increasing recycling and widening extended producer responsibility (EPR) schemes. In addition, it has managed to reduce the disposal of waste to illegal landfills (estimated at 100 000 tonnes in 2019). Greece has also used EU funds for waste management measures and building infrastructure (e.g. schemes for source separation, integrated plants for waste treatment).The EC notes that doubts exist whether too much money is spent on treatment of residual waste at the lower waste hierarchy levels versus investments made on recycling infrastructure, and therefore Greece needs to be careful that it does not just shift away from landfilling to waste treatment in poor quality MBT plants (EC, 2019b).

Figure 1.1 Municipal waste generation and treatment in Greece between 2015 and 2019, in thousand tonnes



Note: Data for landfilling for 2017-2018 and incineration for 2016-2019 are flagged as Eurostat estimates in Eurostat's database

Source: Eurostat (2022a)

Greece has no dedicated municipal waste incineration plants. Municipal waste is not exported for incineration either. There are currently 15 Mechanical Biological Treatment (MBT) plants in operation in Greece as well as 36 plants in planning or under construction; the overall planned capacity, including from plants in operation, is approximately 2 700 thousand tonnes (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021). There are six bio-waste treatment plants in Greece located mostly within the MBT plants in Serres, Epirus, Ano Liosia, Western Macedonia, Chania a separate composting facility in Fokida, which have a permit to treat separately collected bio-waste (garden and food waste). The annual treatment capacity of these plants is around 145 thousand tonnes for separately collected bio-waste. In 2019, the amount of recyclables extracted from residual waste was around 152 479 tonnes, of which approximately 85 % was bio-waste. According to the Greek authorities, the MBT plants established during the EU Structural Funds Programming Period 2014-2020 will be adapted to the circular economy approach by reducing the volume of residual MSW treated and enhancing the recovery of recyclables during the mechanical sorting, enhancing bio-waste treatment to be able to produce high quality compost and enhancing the final production of secondary materials to obtain less residue generated, in line with the targets of the National Waste Management Plan (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

Legal Framework

Generally, the legislative framework considering waste is very wide. The current general legislative framework concerning waste and packaging is presented below (Pavlopoulou, 2020; Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

- Law 4819/2021 on Integrated framework for waste management - Transposition of Directives 2018/851 and 2018/852 of the European Parliament and of the Council of 30 May

2018 amending Directive 2008/98/EC on waste and Directive 94/62/EC on packaging and packaging waste, organizational framework of the Hellenic Recycling Organization, provisions for plastic products and the protection of the natural environment, spatial planning, energy and related urgent arrangements (GG 129 A) (Government of Greece, 2021b)

- Law 4014/2011 on Environmental licensing of projects and activities, arbitrary regulation in relation to the creation of an environmental balance and other provisions within the competence of the Ministry of Environment (GG 209 A) (Government of Greece, 2011)
- Law 4555/2018 on Reform of the institutional framework of the First-level Local Administration-Deepening of Democracy-Strengthening the Participation-Improving the economic and development operation of the Local Authorities. ["KLISTHENIS I" Program]-Arrangements for the modernization of the framework of organization and operation of FODSA-Arrangements for more efficient, faster and uniform exercise of the responsibilities related to the granting of citizenship and naturalization-Other provisions of the Ministry of Interior and other provisions (GG 133 B) (Government of Greece, 2018)
- Joint Ministerial Decision 114218/1997 on Preparation of a framework of Specifications and general solid waste management programs (GG 1016 B) (Government of Greece, 1997)
- Ministerial Decision 56366/4351/2014 on Determination of requirements (specifications) for treatment works in the context of mechanical - biological treatment of mixed municipal waste and determination of characteristics of the produced materials according to their uses, according to subsection b of paragraph 1 of article 38 of Law 4042/2012 (GG 3339 B) (Government of Greece, 2014)
- Law 4736/2020 on Transposition of the Directive (EU) 2019/904 on the reduction of the impact of certain plastic products on the environment and other provisions (GG 200 A) (Government of Greece, 2020)
- Joint Ministerial Decision YPEN/DDA/90439/1846/2021 on Measures and terms for the landfill of waste in compliance with the provisions of Council Directive 99/31/EC of 26 April 1999 “on the landfill of waste", as amended by Directive (EU) 2018/850 of the European Parliament and of the Council of 30 May 2018 (GG 4514 B) (Government of Greece, 2021a)
- Joint Ministerial Decision No 31606/930/2019 on Regulation on the pricing of solid waste management bodies (FODSA) (GG 1277 B) (Government of Greece, 2019)

A more comprehensive list of legal provisions can be found in the report by Pavlopoulou (2020).

Waste management plan(s)

The National Waste Management Plan of Greece for the period of 2020-2030, prepared by the Ministry of Environment and Energy and approved by the Council of Ministers, can be accessed via the following link NWMP in Greek. The RWMPs (13 regional plans) had not been updated by the end of 2021. The targets set in the NWMP are in line with the relevant EU directives. For example, the plan includes a target to achieve an increase in the preparation for reuse and recycling of municipal solid waste (MSW) to at least 55 % by weight by 2025 and 60 % by weight by 2030. In addition, a target of minimising landfilling to 10 % of MSW generated by 2030 has been set. Specific measures, aiming at the development of separate collection in particular, are described in the NWMP to obtain the above targets, including separate collection of new waste streams, separation at source by waste producers, especially households, the implementation of the 'pay-as-you-throw' principle, the strengthening and upgrading of Recycling Material Sorting Centres (KDAYs), and information and awareness-raising campaigns. (Ministry of Environment and Energy, 2020; The Government of the Hellenic Republic, 2020).

Implementation of previous early warning recommendations

Greece had been considered 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 Greece on the status of taking them into account.

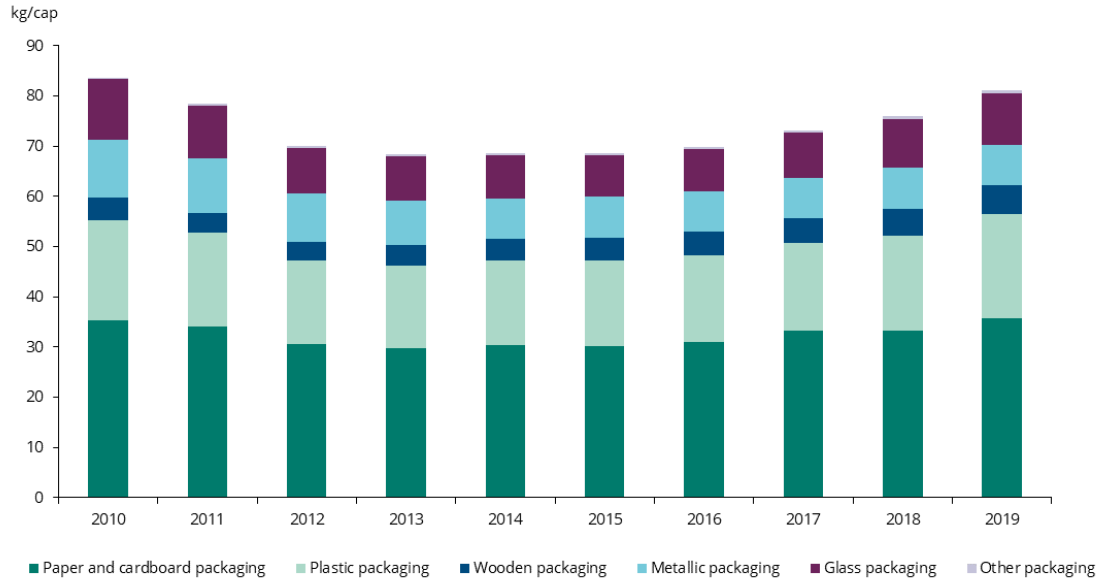
Packaging waste generation and treatment

In Greece, 869 500 tonnes (81 kg/cap) of packaging waste were generated in 2019 (Figure 1.2), which is well below the (estimated) EU average of 177 kg/cap. It should be noted that the Eurostat figures for 2011, 2018 and 2019 (excluding metallic packaging) are flagged as estimates. In addition, the data of other packaging is not available for 2009 and 2010. The total packaging waste generation decreased rapidly between 2010 and 2013 from around 83 kg/cap to 68 kg/cap, but since 2013 an increasing trend can be observed. Since 2014, the waste generation per capita has increased in almost every packaging waste category: for paper and cardboard packaging from 30 to 36 kg/cap, for plastic packaging from 17 to 21 kg/cap, for wooden packaging from 4 to 6 kg/cap, and for glass packaging from 9 to 10 kg/cap, whereas the amounts of metallic packaging remained at the level of approximately 8 kg/cap between 2014 and 2019. However, compared to the situation in 2010, the total waste generation has decreased for paper and cardboard packaging, for metallic packaging, and for glass packaging.

Between 2010 and 2019, the overall recycling rate for packaging waste fluctuated from 58.7 % in 2010 to 68.6 % in 2017. In 2019 the recycling rate was 60.1 % (flagged by Eurostat as estimated).

Greece obtains packaging waste data from the reports by the approved EPR scheme. The total amount of waste is an estimate calculated from the amount of packaging put on the market by a large and representative sample of producers (Eurostat, 2020b). Greece estimates for free riders to adjust the data, but it should be noted that this method of estimation of generated packaging waste might miss out on quantities generated also through online sales and de minimis rule. Greece plans to evaluate the packaging put on the market, mainly through a study on the composition of municipal waste to be carried out every three years, as well as by reducing the number of free riders by combining data of the General Commercial Register (GEMI) with the PRO register, and by including distance sales into the EPR scheme and obligations.

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



Note: Data for 2011, 2018 and 2019 are flagged by Eurostat as estimates. Data on other packaging is not available for 2010.

Source: Eurostat (2022b)

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.

Based on data from the Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, and Directorate for Waste Management (2021) on residual waste composition and separate collection volumes, the capture rates are calculated as the share of separately collected fraction to the total generation of that material. For Greece, Table 1.1 shows the calculated capture rates for different waste fractions.

Table 1.1 Capture rates for different waste fractions in Greece

	Residual waste composition (%)([b])	Residual waste composition (tonnes)([a])	Separately collected amounts (tonnes) ([b])	Materials in total MSW (tonnes)	Capture rates (%)
Reference year	2019	2019	2019		
Mixed municipal waste, total		4 542 267			
Paper and cardboard	16.1 %	731 305	629 514	1 360 819	46 %
Metals	3.1 %	140 810	66 766	207 576	32 %
Glass	4.4 %	199 860	35 809	235 669	15 %
Plastic	15.3 %	694 967	86 663	781 630	11 %
Bio-waste	48.4 %	2 198 457	196 416	2 394 873	8 %
Textiles					
Wood	4.1 %	186 233	15 174	201 407	8 %

([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 the Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, and Directorate for Waste Management

([b]) Source: As reported in the EEA-ETC/WMGE questionnaire by the Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, and Directorate for Waste Management

This indicates that there is room for improvement to capture higher shares of all generated recyclables.

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 Greece 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).

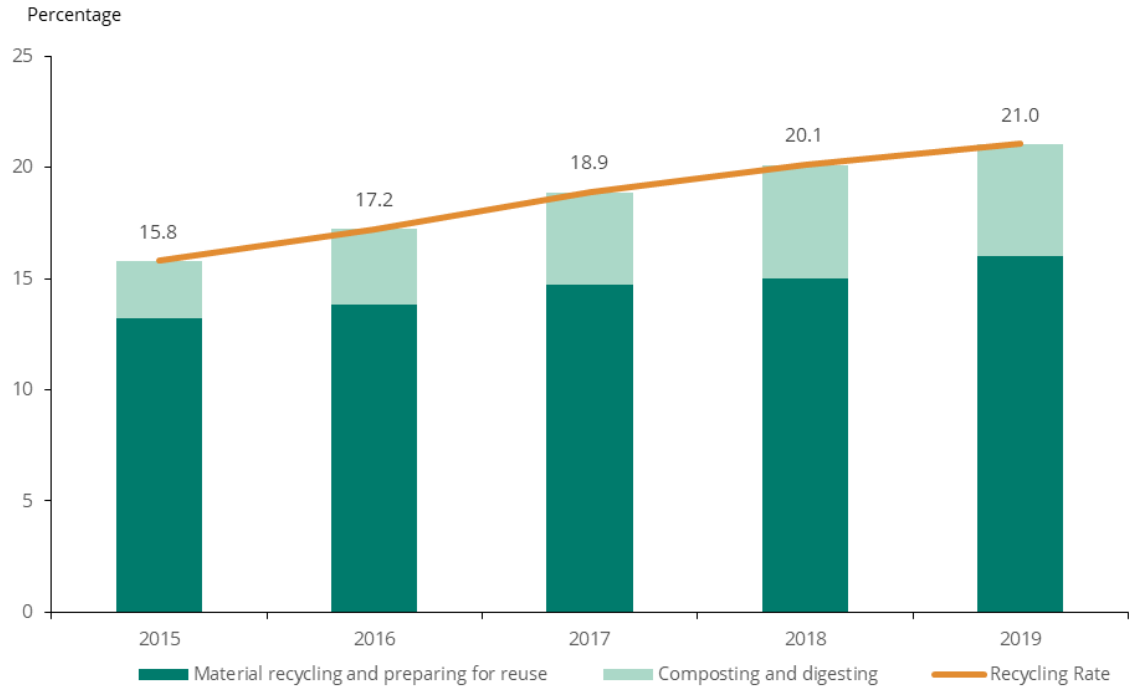
2.1.1 Current situation and past trends

SRF MSWR-1.1: Distance to target

The overall recycling rate of Greece shows a steady increase from 15.8 % in 2015 to 21.0 % in 2019. The recycling rate for materials increases by 2.8 percentage points between 2015 and 2019, from 13.2 to 16.0 %. A similar trend is seen for composting/digestion where there is an increase by 2.5 percentage points, from 2.6 to 5 % (Figure 1.2).

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 State, 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 as defined in Article 11a are not yet available.

Figure 2.1 Recycling rate in Greece between 2015 and 2019, in percentage



Source: Eurostat (2022b).

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 Greece, the recycling rate is 21 % in 2019, which is clearly below the target for 2025. The distance to the target of 55 % is 34 percentage points. Meeting the target will require an average increase of 5.7 percentage points annually in the period between 2019 and 2025, requiring a strong stepping up in pace compared to the average 1.3 percentage point annual increase in the previous five-year period (2015-2019).

However, the data used for this analysis are based on a different methodology than the calculation rules for the target. The impact of the application of the new calculation rules to the recycling rate has not been quantified yet in Greece, but according to the Greek authorities, the figures for 2020 will be calculated based on the new methodology (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 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 Greece 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 16 %. This assumption will not result in a change of the assessment for this SRF.

In Greece, the amount of recyclable waste refers to the output of the MBT plants and the output of sorting points. The MBT (including sorting facilities') operators need to report the amounts delivered for recycling in the Electronic Waste Registry. As all domestic operators have a reporting obligation, the data accuracy is better compared to the cross-checking and confirming data on waste exported for recycling (in particular to the third countries). However, the exports for recycling form a

significant share of the measured recycling amounts (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

Summary result

Distance to target > 15 percentage points	Based on currently available data Greece's recycling rate lies at 21.0 % (2019), so the distance to the 2025 target is 34.0 percentage points. 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 16.0 %, 39.0 percentage points below the target.
Robustness of the underlying information	Greece has not yet assessed the influence of the new calculation rules on the recycling rate. However, a recycling rate which would 5 percentage points below the currently reported one, would not change the assessment for this SRF.

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

The recycling rate over the last five years shows a small increase with 5.3 percentage points (Figure 2.1). This indicates that the efforts made over the last years to increase recycling in Greece have not been effective enough.

Summary result

RR < 45 % and increase in last 5 years < 10 percentage points	The recycling rate has increased by 5.3 percentage points between 2015 and 2019. For Greece the application of the new calculation rules would result in an estimated recycling rate of 16.0 %.
Robustness of the underlying information	There are no breaks in the time series data. The currently available data do not yet reflect the calculation rules applicable to the target.

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.

Greece has transposed the amended Waste Framework Directive into national law: Law 4819/2021 on Integrated framework for waste management - Transposition of Directives 2018/851 and 2018/852 of the European Parliament and of the Council of 30 May 2018 amending Directive 2008/98/EC on waste and Directive 94/62/EC on packaging and packaging waste, organizational framework of the Hellenic Recycling Organization, provisions for plastic products and the protection of the natural environment, spatial planning, energy and related urgent arrangements (GG 129 A) (Government of Greece, 2021b).

Summary result

Transposition with delay of > 12 months, or no full transposition yet	The WFD has been transposed into national legislation in late July 2021, slightly more than one year after the deadline of July 2020.
Robustness of the underlying information	The result of this SRF is based on timely transposition only. Information received from European Commission (status as of 12 November 2021) and the Greece authorities through the EEA-ETC/WMGE questionnaire.

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.

According to the Greek authorities, the policy for MSW management is the responsibility of the following authorities and stakeholders:

- Ministry of Environment and Energy (MoE) is responsible for the central planning of waste management, preparing national waste legislation as well as National Waste Management Plans and the National Waste Prevention Programme. The MoE also monitors the accomplishment of targets related to waste management, reports to the EC, enforces programmes related to the field, as well as takes measures to protect the environment and public health;
- Ministry of the Interior (MoI) has an executive role over local and regional authorities and it e.g., is responsible in particular for the provision of circulars, instructions and general guidelines, for the correct and uniform application of the legislation in force on local authorities and the legislation on the organisation, establishment and operation of their bodies, staff and their finances. In addition, the MoI is responsible for legislation regarding calculation and method of collection of fees related to municipal cleaning and lighting charges, including the management of municipal waste;
- Solid waste management bodies for waste management at regional level (FODSAs) are solely responsible for implementing actions promoting the prioritisation of waste management operations according to the provisions of the relevant Regional Waste Management Plan (PESDA). For example, they prepare programmes for waste prevention, build and operate treatment facilities for solid waste and stations for shipment, are responsible for landfilling and for MBTs treating residual municipal waste, support municipalities, monitor the implementation of the PESDAs objectives as well as the generation and management of waste within their area via the Electronic Waste Registry, prepare a business action plan and determine pricing policy to municipalities on an annual basis, collect waste generation and management data within their area from local authorities, as well as compile annual and 5-yearly reports describing the degree and the method of implementation of the PESDAs objectives and measures and the reasons for any revision of the PESDA;
- The obligations of municipalities (i.e. first-level local authorities) include preparation and implementation of local waste management plans (TOSDAs) forming the basis of contracts between the municipality, PROs, and other stakeholders in waste management, preparation of programmes for waste prevention and measures to promote waste hierarchy aiming to minimise the disposal of MSW, organization and carrying out source separation in accordance with local and regional waste management plans and separate collection for at least glass, plastics, metals and paper either by themselves of in collaboration with PROs as well as for kitchen waste from households, restaurants, and big producers and green waste originating from gardens and parks, collection and transport or both residual and source separated waste to appropriate handling in accordance with the PESDA, elimination of uncontrolled waste disposal sites and remediation of such sites, organization of information and awareness-raising campaigns to citizens and businesses, and preparation of projects and measures of the TOSDA for MSW treatment and their submission for funding. Municipalities can handle their responsibility to organise the municipal packaging waste management

either by themselves or in collaboration, with the PROs or the social and solidarity-based economy bodies[1].

- Hellenic Recycling Agency (EOAN) executes the management targets for waste falling under EPR (incl. packaging, WEEE, and portable batteries). It approves, monitors and controls PROs;
- Alternative Management Systems (SEDs), either on an individual basis (ASED) or on a collective basis (SSEDs) i.e. PROs for packaging waste, WEEE, and portable batteries are responsible for achieving the quantitative targets set for product categories falling under the EPR system. EOAN can set higher targets in order to meet national targets. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The responsibilities of EOAN, FODSAs, municipalities, and PROs are laid down in the legislation (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

According to the Joint Ministerial Decision No 31606/930/2019 (Government Gazette, Series B, No 1277) on the *Regulation on the pricing of solid waste management bodies (FODSA)*, regarding the determination of the contributions and fees paid to FODSA by its member municipalities, the gradation of costs per service is done by applying coefficients according to the waste hierarchy and in order to encourage and support municipalities to act at the highest levels on the waste hierarchy. For example, cost reduction rates are planned for municipalities based on their achievement in relation to the packaging waste targets. These pricing regulations are adopted by the majority of FODSAs. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Enforcement mechanisms for non-compliance with the responsibilities set in legislation are administrative penalties for producers, SEDs and municipalities.

The supportive measures in place described by the Greek authorities include:

- The MoE can use both legislative and non-legislative instruments to increase recycling.
  It provides support and collaboration on the implementation of regional plans, monitors the performance/achievement of recycling and waste management targets, organises national information and awareness raising campaigns and provides appropriate information to municipalities and FODSAs through the preparation of studies and guidelines and organization of workshops;
- FODSAs give scientific and technical support to municipalities related to actions and projects promoting the waste hierarchy. By request, the FODSAs can implement the separate collection on behalf of municipalities. Furthermore, they carry out pilot projects aiming to promote recycling;
- The Management Organization Unit of Development Programmes of the Ministry of Finance, Development and Investment provides support related to waste management projects co-financed by the EU;

[1] Operators that aim at the development of actions for collective and social benefit. Such bodies are e.g.: Social Cooperative Enterprises, Limited Liability Social Cooperatives, Employee Cooperatives, agricultural cooperatives, urban cooperatives.

- EOAN and the PROs organise information and awareness-raising campaigns annually. EOAN also organises conferences and educational programmes;
- Technical support for municipalities is also given via funding programmes;
- Law 4819/2021 transposing the WFD and PPWD into national law (Government of Greece, 2021b) sets out operating specifications for the recyclable material sorting centres (KDAYs) to maximise their recovery;
- In addition to the above-mentioned studies, also e.g. EOAN and EPERAA have published guidelines and manuals to give support in recycling related projects and actions. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

In summary, there seems to be several responsible public bodies or institutions involved in waste management, which may cause uncertainties in implementation of waste management tasks. Support and enforcement mechanisms are in place.

Summary result

Unclear responsibilities but clearly defined enforcement mechanisms and a good set of support mechanisms for meeting the recycling targets	Responsibilities are defined, though partly fragmented between several public bodies/institutions. Support and enforcement mechanisms are in place.
Robustness of the underlying information	Credible information received from the Greek authorities through the EEA-ETC/WMGE questionnaire. Some uncertainties remain regarding the definitions of responsibilities.

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.

In 2019, Greece landfilled 78 % of the municipal waste generated. According to the EC (2019b), a landfill tax was introduced in 2012 through law, but its implementation was postponed and in parallel a gate fee for landfills was paid to the responsible competent operating bodies. The combination of a low landfill gate fee and cheap illegal landfills has not created any incentive to enhance recycling.

According to the information available, the landfill fee took effect in the beginning of 2014. The rate of the fee was EUR 35 per tonne in 2014, and it was planned to increase by EUR 5 per tonne every year up to EUR 60 maximum. However, the fee was never paid in practice and was suspended as waste treatment plants were not ready yet to offer an alternative to landfilling (Hellenic Ministry of Environment and Energy, 2022). After the entry into force of the Article 43 of the Greek law on Waste Management No. 4042/2012 (Law 4042/2012 on Waste Management, 2012) in 2019, the landfill tax has been replaced by the so-called environmental contribution. Since the beginning of 2020, solid waste management bodies for waste management at regional level (FODSAs) pay for the amount of landfilled untreated municipal waste. Concerning the packaging waste collected using blue bins, the waste management of a residue generated in the sorting process by the KDAYs is the responsibility of a municipality, and the residue is not subjected to environmental contribution. Thus, the measure does not help in preventing the production of such residue. From the beginning

of 2020 the fee is EUR 10 per tonne, and it is again planned to be increased annually by EUR 5 up to EUR 35 per tonne.

In the NWMP for 2020-2030 an adoption of economic tools such as gradually increasing landfill tax and the implementation of PAYT schemes are introduced as means to diminish landfilling and enhance reuse and recycling. According to the law 4819/2021 transposing the WFD and PPWD into national law, from the beginning of 2022 a landfill fee is subjected to municipal waste disposed to landfills which are classified in chapter 20 and 15 01 of the European list of waste, and residual waste produced in KDAYs, in separately collected biowaste treatment facilities (MEVA), in MBT facilities, waste incineration facilities classified as 19 12 12, 19 12 10, 19 05, 19 06. The level of the fee will be EUR 20 per tonne in 2022 and it is to be increased annually by EUR 5 up to EUR 35 per tonne. From the beginning of 2026, the fee will be set at EUR 45 per tonne and in 2027 increased to EUR 55 per tonne, after which it shall remain constant. The fee will be paid to EOAN, and it will be used to support and fund mostly waste management actions (to municipalities and FODSA, including prevention, separate collection and recycling), to cover part of operation cost of municipal waste recycling facilities but also research and technology projects and in general actions for the protection of the environment. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

There is no landfill ban currently in place. However, according to the law 4819/2021 transposing the WFD and PPWD into national law (Government of Greece, 2021b), from the beginning of 2024 it will be prohibited to landfill textiles, electrical electronic equipment (EEE), products of daily hygiene, footwear, books unsuitable for sale or use, especially because of defects or faults in their packaging, labelling or weight, or because of withdrawal from the market or proximity to the expiry date, without the prior submission of a declaration of exhaustion of the waste hierarchy. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Summary result

Low tax (< 30 EUR/t([a]))	The current level of the landfill fee is EUR 20 per tonne applied from 2022 onwards (corresponding to EUR 23.31 per tonne rescaled based on purchasing power parities). No landfill ban currently exist.
Robustness of the underlying information	Credible information received from the Greek 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.

Greece does not have dedicated municipal waste incineration plants.

Summary result

N/A (for countries without capacities for incineration)	Greece does not have incineration capacity in place.
Robustness of the underlying information	The information is robust and was provided by Greek authorities through the EEA-ETC/WMGE questionnaire.

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

PAYT systems are designed to incentivise 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.

Currently, no PAYT schemes are used, with an exception of some small-scale pilot projects. The NWMP for 2020-2030 introduces an implementation of PAYT schemes as one mean to diminish landfilling and enhance reuse and recycling, and in the law 4819/2021 transposing the WFD into national law (Government of Greece, 2021b), an establishment of PAYT systems is regulated. A mandatory PAYT shall be implemented from the beginning of 2028 by municipalities with a population exceeding 20 000 and as of 2023 for municipalities with a population exceeding 100 000. This obligation will be gradually applied to large municipal waste producers from the beginning of 2023 in accordance with the specific provisions laid down in law. Municipalities shall decide the waste streams applied, the liability to pay, as well as technical details. Concerning the application of the PAYT scheme to specific businesses such as catering, tourist accommodations, hotels, and industry more specific arrangements are set in the law 4819/2021. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Summary result

No PAYT implemented but firm plans for rolling out	Currently, Greece has no PAYT scheme in use, but the system is planned to be implemented.
Robustness of the underlying information	The information is robust and was provided by Greek 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).

Packaging waste is mostly collected using the ´blue bins´ system organised by the SSED Hellenic Recovery Recycling Corporation (HERRco). HERRco is the largest PRO in Greece, and it has contracts with the largest share of producers. In 2020, its collection system covered 96 % of the country, and it is expected to reach full coverage in 2025. All packaging materials are collected, both co-mingled and sorted at the recycling centres (KDAYs). Alongside the blue bins (where packaging glass is also collected), ´blue bells´ (blue bell-shaped bins) are the main method for the collection of packaging glass in areas where large amounts of glass waste is produced. According to the current operational plan by HERRco, adopted in June 2020, blue bins are installed with a ratio of 1 per 75 inhabitants;

recycling modules for four streams consisting of three different colour bins and a blue bell are planned with a ratio of 1 per 1 000 inhabitants and 1 per 200 inhabitants in Athens and Thessaloniki areas. The collection will be carried out by municipalities. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The other packaging PRO, Rewarding Packaging Recycling, is planning to have a network of 600 reverse vending machines within the next six years, which enable the separate collection of metal, glass, paper, and plastic packaging waste. Other packaging waste will be collected using bins. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

According to the approval decisions of both packaging PROs, they may manage recyclable non-packaging materials as well, if they are collected together with packaging waste. According to the Greek authorities, most of the household packaging and non-packaging waste are collected co-mingled. For example, printed paper is collected together with paper and cardboard, plastic, metal, and glass packaging, and sorted separately at the KDAYs (sorting facilities). In some regions, such as Attica, however, printed paper is separately collected. It is planned to extend the separate collection to non-packaging recyclables by including new municipal waste streams under EPR (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

There are two PROs for WEEE: Appliances Recycling (covering all WEEE categories, both household- and non-household sources) and Fotocyclosis (covering lamps, lighting equipment, and some small appliances). They collect WEEE via bins located, for example, in public and private locations and shops. The PRO for portable batteries, AFIS SA, organises the separate collection via its partner network (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

A guideline on the separate collection of municipal waste directed to municipal authorities has been published on the webpage of the MoE. A proposed gradual approach for paper, plastic, metal, glass and bio-waste collection taking into consideration the specific municipal characteristics (urban, rural or island) and the performance criteria of a municipality regarding separate collection status (low, medium or advanced) is described in the guideline (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

According to the legislation, the separate collection of non-household packaging waste is mandatory for operators in public gathering areas, and as of 2022 in public spaces, as well as schools, restaurants, hotels, hospitals, universities, and catering companies able to serve over 100 customers. However, the Greek authorities note that the implementation of this provision has been delayed remarkably. They also state that a significant amount of non-household packaging waste generated in businesses and commercial activities is separately collected by packaging material and directed to recycling (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

Table 2.1 gives an overview of the collection system in Greece. The paper, metal, plastics, and glass door-to-door collection and bring point collection systems used in Greece are mostly limited to packaging waste.

Table 2.1 Characterisation of the collection system in Greece

	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		x				xx	
Ferrous metals		xx		x			xx		x				xx	
Aluminium		xx		x			xx		x				xx	
Glass		xx		x			xx		x				xx	
Plastic		xx		x			xx		x				xx	
Bio-waste														
food														
Garden	xx					xx								
Textiles			x											
Wood				x					x					
WEEE			xx						xx				xx	
Composite packaging		xx							xx				xx	
Other: Portable batteries			xx					xx					xx	

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

Source: (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

For Greece, according to the most recent data, the percentage of households living in cities is 43 %, in towns and suburbs 29 % and in rural areas 28 % (Eurostat, 2021). Taking this into account and based on the Table 2.1, the dominant separate collection system for paper and cardboard, metals, glass and plastics in cities, towns, and suburbs is high convenience door-to-door co-mingled collection. However, as described above, blue bins for co-mingled waste streams are currently placed with a ratio of 1 per 75 inhabitants which can be considered as a door-to-door collection system. In rural areas, high convenience bring points are the prevailing system to collect these fractions, and bring points are also used complementary in more densely populated areas. The Greek authorities did not report any existing collection system for food waste, but door-to-door separate collection of garden waste exists in cities, towns and suburbs. Textile wastes are only collected in cities, using high service level bring points. Wood waste is collected via lower service-level bring points in cities, towns and suburbs, but no collection method exists in rural areas. Additionally, there is a separate collection system for wood packaging from businesses, mainly pallets from big producers, supermarkets, warehouses, storage facilities. WEEE is collected at high service level bring points in cities and rural areas, and at lower service level bring points in towns and suburbs. Meanwhile, residual municipal waste is collected door-to-door.

Examining capture rates gives an overview of the effectiveness of the whole collection system for the different materials (See Section 1.3, Capture rates for recyclables). The modest capture rates for all waste fractions (between 3-46 %) clearly show that the separate collection in Greece is not

efficient, and that there is a need for incentives to enhance sorting at site and separate collection. For example, paper and cardboard, glass, metals and plastics are reported to have high convenience separate collection, but the capture rates lie only at 46 % for paper and cardboard, 32 % for metals, 15 % for glass, and 11 % for plastics.

With regard to the relatively poor performance of Greece on separate collection and recycling, in spite of the existence of a highly convenient separate collection system, the authorities report organizational reasons, such as failure in collection and transport, failure of non-households to sort MSW in combination with failure to separately collect non-household MSW sorted at site. In addition, the separate collection system targets packaging materials only and non-packaging fractions are excluded, as well as printed paper, for which there is no PRO. Due to failure of separate collection and recycling of waste sorted in households and delivered to the separate collection bins, there is lack of trust from the citizens' side in the Greece system for recycling, reducing the willingness of households to sort their waste. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The implementation of the new waste law is expected to improve the efficiency of the separate collection system in Greece, especially through better control of compliance of PROs and municipalities for the organization of separate collection, but also through the extended obligations for source separation. The enhancement of the supervisory and controlling role of EOAN to also provide support and direction to municipalities, the improved recording and monitoring of performance, and the implementation of awareness raising programs targeting citizens are all actions aiming to lead to quantitative and qualitative enhancement of recycling in Greece. In addition, the planned separate collection of bio-waste is expected to contribute to the recycling performance and also to result in less residues in the bins of separately collected recyclable materials. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Summary result

Paper and cardboard	A high share of the population is covered by high convenience collection services	In cities, towns and suburbs, door-to-door co-mingled collection is the dominant collection system for paper and cardboard. In rural areas bring points are dominating. Non-packaging paper and cardboard, e.g., printed paper, is often co-mingled with packaging waste.
Metals	A high share of the population is covered by high convenience collection services.	In cities, towns and suburbs, door-to-door co-mingled collection is the dominant collection system. In rural areas bring points are dominating.
Plastics	A high share of the population is covered by high convenience collection services	In cities, towns and suburbs, door-to-door co-mingled collection is the dominant collection system. In rural areas bring points are dominating.
Glass	A high share of the population is covered by high convenience collection services	In cities, towns and suburbs, door-to-door co-mingled collection is the dominant collection system. In rural areas bring points are dominating.
Bio-waste	A low share of the population is covered by high convenience collection services	Only garden waste is separately collected in cities, towns and suburbs, but in rural areas, no separate collection of bio-waste is provided.

Wood	A low share of the population is covered by high convenience collection services	Wood waste is collected via lower service level bring points in cities, towns and suburbs. For businesses there is a separate collection system covering only specific packaging waste, such as pallets. In rural areas, no separate collection of wood is provided
Textiles	A low share of the population is covered by high convenience collection services	Textile wastes are only separately collected in cities. In rural areas, no separate collection of textiles is provided
WEEE	High to medium convenience collection services dominate	WEEE is collected at high service level bring points in cities and rural areas, and at lower service level bring points in towns and suburbs.
Robustness of the underlying information		Credible information received from the Greek 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

According to Law 4819/2021 (Government of Greece, 2021b):

- Schools (primary and secondary level) shall from the 1 September 2022 separately collect (a) printed paper and packaging waste, (b) food waste (c) portable batteries;
- Government bodies shall implement separate collection of printed paper delivered for recycling, from the 1st January 2022;
- In every new building, a suitable area must be foreseen for the placement of containers/bins for the separate collection of at least four waste streams;
- Cinemas, theatres, concert halls, sports facilities, commercial centres, conference centres, hotels, airports, ports, railway stations, passenger - vehicle ferries, ships, catering companies must organise separate collection of four packaging waste streams by January 2022. The same obligation applies also to municipal sport facilities, playgrounds, and other public gathering areas organised by the responsible municipalities;
- Especially for hotels over 100 beds, separate collection of at least plastic packaging must be ensured in each room.

As stated in law 4819/2021 (Government of Greece, 2021b), in every new building, a suitable area must be foreseen for the placement of specific containers/bins for the separate collection of at least four waste streams. It is also mandated to develop an extensive network for separate collection of four streams of recyclable waste (paper, plastic, glass, metal), extending the current system for packaging waste and also including non-packaging waste.

The planned changes in the separate collection systems for the relevant material streams are:

- Metals: The current separate collection system will be extended to include also non-packaging waste;
- Aluminium: Through extended producer responsibility (EPR), and in accordance with the law 4819/2021 transposing the WFD and PPWD into national law (Government of Greece, 2021b), DRS for aluminium beverage packaging will be implemented from 5 January 2023;
- Glass: The current network will be significantly extended. The current collection system will be extended to include also non-packaging waste;
- Plastic: Through EPR, and in accordance with Law 4736/2020 transposing the Directive 2019/904, DRS for single-use plastic (SUP) products (beverage bottles up to 3 litres, incl. caps and lids) (Government of Greece, 2020) will be implemented from 5 January 2023. The current collection system will be extended to include also non-packaging waste;

- Bio-waste: Universal collection by the end of 2022 organised by municipalities. In addition, according to the current legislation as incorporated in new law 4819/2021 (Government of Greece, 2021b), by the end of 2022 catering companies, and as of 2023 also food processing and manufacturing companies, vegetable markets, supermarkets, and hotels with more than 100 beds are obliged to ensure the separate collection of bio-waste resulting from their activities. A penalty will be imposed by the municipal authority for non-compliance of this regulation;
- Textiles: Implementation of EPR by January 2022, according to law 4819/2021 (article 10) (Government of Greece, 2021b). The respective producers shall organise PRO by the end of 2023, the EPR requirements for textiles includes obligatory separate collection of textiles;
- Paper and cardboard: from 1 September 2022 schools (primary and secondary level) shall separately collect printed paper, government bodies shall implement separate collection of printed paper from 1 January 2022 onwards;
- Wood: no changes planned;
- WEEE: Fee modulation will be applied. Moreover, there are plans for the expansion of reuse centres;
- Composite packaging: no changes planned;
- Other: In the law 4819/2021 (article 10) transposing the WFD into national law (Government of Greece, 2021b), an application of EPR by January 2022 is introduced for the following waste categories, among others: medicinal products for domestic use beyond their expiry date, sleeping mattresses, furniture, toys and sports equipment. The respective producers shall organise PRO by the end of 2023 (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

In the law 4819/2021 transposing the WFD into national legislation (Government of Greece, 2021b) an extension to the separate collection obligation for non-household waste is provided. According to the Greek authorities, no changes are planned to distinguish between packaging waste and non-packaging waste collection, other than those described above considering the implementation of DRS. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Summary result

Paper and cardboard	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	Greece is planning to implement separate collection of printed paper in schools (primary and secondary level) and government bodies in 2022. In every new building, a suitable area must be foreseen for the placement of specific containers/bins for the separate collection of at least four waste streams. As there is a law mandating expansion of separate collection and to include non-packaging in the system, it can be considered a firm plan.
Metals	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	The current separate collection system will be extended to include also non-packaging waste. A nationwide DRS for aluminium beverage packaging will be implemented from 5 January 2023. As there is a law mandating expansion of separate collection and to include non-packaging waste in the system, it can be considered a firm plan

Plastics	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	The current separate collection system will be extended to include also non-packaging waste. A nationwide DRS for single-use plastic (SUP) products (beverage bottles up to 3 litres, incl. caps and lids) will be implemented from 5 January 2023. As there is a law mandating expansion of separate collection and to include non-packaging waste in the system, it can be considered a firm plan
Glass	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	The current network will be significantly extended. The current separate collection system will be extended to include also non-packaging waste. As there is a law mandating expansion of separate collection and to include non-packaging waste in the system, it can be considered a firm plan
Bio-waste	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	Universal collection by the end of 2022 organised by municipalities, and extension of the separate collection obligation for non-household waste.
Wood	No firm plans to improve the type and coverage	There are ongoing discussions to enhance separate collection of wood but no firm plans yet.
Textiles	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	Implementation of EPR by the end of 2023, the EPR requirements for textiles includes obligatory separate collection of textiles.
WEEE	N/A (for countries where high to medium convenience collection services dominate already)	
Robustness of the underlying information		Credible information received from the Greek authorities through the EEA-ETC/WMGE questionnaire and during the review of this assessment in April 2022

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 PRO that producers report correctly.

There is advanced fee modulation for plastics in place in Greece described in the law 4819/2021 (Government of Greece, 2021b). The law 4819/2021 states that PRO fees are to be modulated (where possible) by taking into account their durability, reparability, reusability and recyclability and

the presence of hazardous substances. There are criteria for fee modulation regarding plastic packaging with increasing fees for coloured PET bottles, multilayer plastic packaging, composite packaging, PVC and expanded polystyrene packaging, and PVC labels, as well as reduced fees for recycled material content (50 % reduction for plastic packaging that consist of at least 25% of recycled material with the exception of plastic carrier bags, where the reduction is set at 30 %), thus meeting the three first of the assessment criteria. Furthermore, HERRCo carries out audits of declarations of the contracted companies (producers), through certified auditors either selected by HERRCo or by contracted companies, regarding the total contributions paid to the HERRCo. In 2918, 77% of the total contributions paid to the HERRCO that year were audited.

In addition, minimum mandatory criteria for fee modulation of each type of packaging will be set in the near future. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

Summary result

At least one packaging fraction([a]) has an advanced fee modulation that meets at least two assessment criteria	There is advanced fee modulation for plastics meeting all of the four assessment criteria presented above.
Robustness of the underlying information	Credible information received from the Greek authorities through the EEA-ETC/WMGE questionnaire.

([a]) Note: Paper and cardboard, ferrous metals, aluminium, glass, plastic

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.

As reported by the Greek authorities, the country's separately collected bio-waste amounted to 155 197 tonnes in 2019 (including separately collected bio-waste 64 053 tonnes plus home composting 91 144 tonnes). The total generation of bio-waste was 2 394 873 tonnes in 2019. The annual bio-waste treatment capacity amounted to 145 000 tonnes, which is calculated mostly based on the annual treatment capacities of six bio-waste treatment plants in Greece located within the MBT facilities (Serres, Epirus, Ano Liosia, Western Macedonia, Chania) and Fokida (composting facility)), which have a permit to treat separately collected bio-waste (green and food waste). Home composting is not included in the estimated capacity (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

According to the Greek authorities, both the bio-waste separate collection network and treatment facilities are being developed. For example, a development of universal network for separate collection of bio-waste by the end of 2022 is currently being planned. During the EU Structural Funds Programming Period 2014-2020, municipal and inter-municipal composting units for processing pre-sorted bio-waste have been planned. The units will act either as independent units or as integrated separate processing lines within the residual waste treatment plants. This measure is directed to important areas of the country regarding population criteria (e.g. seven bio-waste treatment facilities located in Central Macedonia, three in Attica, and four in Epirus), and in areas where the separate collection of pre-sorted bio-waste is critical, such as in the islands of Leros, Milos, Andros,

Karpathos and Sporades. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The overall planned capacity for separately collected municipal bio-waste is approximately 700 000 tonnes: 41 composting/digestion plants (receiving and treating only separately collected bio-waste), located in facilities where MBTs (receiving mixed municipal waste) are foreseen, including those that are already in place, namely: six in operation, six under construction (operational within 2022), 12 in assignment stage (operational within 2024), nine in a tendering process during the first semester 2022 (operational within 2026), and eight in a tendering process by the end 2022 (operational within 2026, except two plants). Except from the facility of Fokida (in operation), there are additionally distinct (not located in facilities where MBTs of MSW also operate) composting/digestion plants in planning, namely five under construction, ten in tendering procedure (overall capacity 72 thousand tonnes). (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Summary result

Bio-waste treatment capacity below 80% of generated municipal bio-waste and plans to increase capacity are not sufficient to close the gap	The current treatment capacity (145 000 tonnes) is sufficient to treat only a very small share of the bio-waste generated. Greece is in the process of increasing capacity substantially, but after these plans materialise, the total capacity will still be below 50% of generated biowaste.
Robustness of the underlying information	Credible information received from the Greek authorities in response to the questionnaire by the EEA and ETC/WMGE.

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 defined quality for the product.

In Greece, there are requirements in the permits of composting facilities that the compost product must meet the criteria of the eco-label of soil improvers. A joint ministerial decision on compost from separately collected bio-waste is under preparation where compost and digestate quality specifications and specific provisions for quality management system are set. It is expected to be published in June 2022. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Summary result

Legally binding national standards for compost/digestate quality but no quality management system	There are national standards but no quality management system in use yet in Greece.
Robustness of the underlying information	Based on information provided by Greece to the EEA in 2020 as contribution to the EEA's work on bio-waste.

2.2 Target for the recycling of packaging waste

This chapter aims at assessing the prospects of Greece 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).

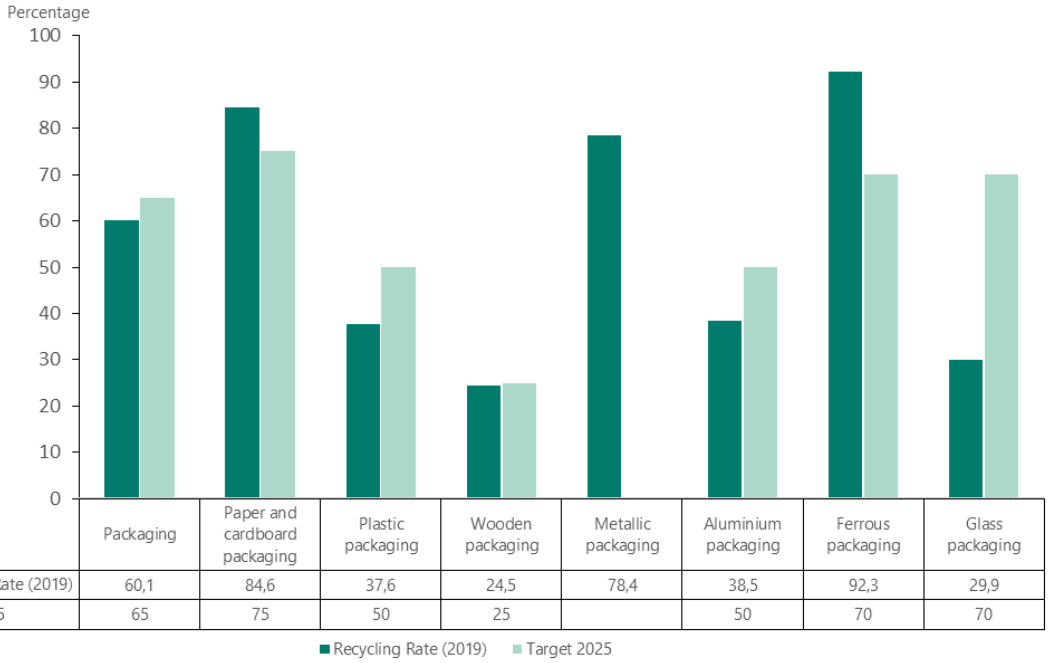
2.2.1 Current situation and past trends

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 Greece to Eurostat in accordance with Commission Decision 2005/270/EC as last amended by the Commission Implementing Decision 2019/665 (EC, 2019a), 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.

For Greece, the recycled quantities refer to the outputs of the sorting centres where an estimation of the losses from the recycling operation is already carried out (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021). The figures for 2019 are estimated, except for total metallic packaging. The performance of Greece for 2019 is illustrated in Figure 2.2.

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



	Packaging	Paper and cardboard packaging	Plastic packaging	Wooden packaging	Metallic packaging	Aluminium packaging	Ferrous packaging	Glass packaging
Recycling Rate (2019)	60,1	84,6	37,6	24,5	78,4	38,5	92,3	29,9
Target 2025	65	75	50	25		50	70	70

Note: Data for 2019 are flagged by Eurostat as estimates, except for total metallic packaging

Source: Eurostat (2022c), EU (2018)

The reported total recycling rate for packaging waste lies at 60.1 %, 4.9 percentage points below the 2025 target of 65 %. The recycling rates for paper and cardboard, and ferrous metals are very high and already exceed the target. For wooden packaging the recycling rate is 24.5 %, 0.5 percentage points below the target. For the other fractions, being glass, plastics and aluminium, the recycling rates are still well below the target: the distance to target for these ranges from 11.5 to 40.1 percentage points (Figure 2.2).

The good performance in paper and cardboard packaging waste as well as ferrous metals is mainly attributed to the collection and recycling of industrial packaging waste, where such materials form the majority of the collected waste. Additionally, ferrous metals can be easily recovered in the MBT plants and sorting facilities through magnet separation. Finally, the commercial value of these materials plays an important role, especially for ferrous metals, where public awareness and commitment in recycling of these two streams is higher.

Greece obtains packaging waste data from the reports by the approved EPR scheme. The total amount of waste is an estimate calculated from the amount of packaging put on the market by a large and representative sample of producers. The quantities of packaging waste generated were based on an initial expert judgment estimation taking into account a put on the market survey delivered to the MEE in 2006. For 2019, the adjustment per material was based on the fluctuation of packaging quantities put on the market in 2019 compared to those of 2018, according to the packaging quantities declared in the National Producers Registry (NPR) by packaging producers. That is, NPR enabled to broaden the range of producers thus increasing the accuracy compared to previous years. Free riders may lead to certain inaccuracy in packaging waste considered, but corrections have been made. It should be noted that this method of estimation of generated packaging waste might miss quantities generated through online sales, de minimis rule and free riders. As a result, the generated quantities might in fact be higher than reported, which also affects the recycling rates.

In the previous Early Warning report by EC (2018a) the reliability of the packaging waste statistics was questioned and it was recommended that Greece should *'Reset' the reported packaging figures such that they are consistent and accurate. Data provided by Greece, regarding the quantity and composition of municipal waste, suggest that the quantity of packaging waste (as represented by packaging placed on the market) is well below the quantity suggested by the municipal waste data.* According to the Greek authorities, the registration to the National Register of Producers (EMPA) is mandatory for all packaging producers, and the register is used for systematic monitoring of producers' compliance with the legislative provisions. It has been in operation since 2017 and has already led to improved data quality and helped to tackle the non-compliance of the payments of the liable bodies. Regarding the amount of packaging waste generated in relation to the municipal waste data, the Greek authorities state that the waste information is currently fragmented, and no uniform methodology is followed. In addition, the EMPA register contains data on the packaging quantities by legal packaging producers only. To be able to better monitor the amount of packaging put on the market, the collaboration with the General Commercial Register (GEMI) is considered necessary. Linking the two registers is regulated through article 15 of law 4819/2021. The use of GEMI will enable cross-checking of the data. Greece plans to evaluate the packaging put on the market, mainly through a study on the composition of municipal waste to be carried out every three years, as well as by reducing the number of free riders by combining data of SMEs with the PRO register and by including distance sales into the EPR scheme and obligations. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

In addition, Greece was also recommended to *Introduce audits on companies providing data regarding the amount of packaging placed on the market (producers or Producer Responsibility Organisation). In cases where there are fundamental questions regarding accuracy of the reported figures introduce more systematic audits.* (EC 2018a). According to the Greek authorities, based on the amended Law 2939/2001 (as replaced by law 4819/2021 (Government of Greece, 2021b)) and their approval decisions, the PROs are obliged to check the declarations of their producers. These checks are made by commissioned accountants with a view to reduce non-compliance of the payments. According to the same law, the responsibility of EOAN is to organise and carry out inspections, including on the liable producers, on the amounts of packaging put on the market in Greece. EOAN has established a Directorate for Inspections and Controls that performs regular and non-routine inspections and checks as well as evaluates their results. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Greece obtains packaging waste recycling data based on the data included in the annual reports of the four approved PROs for packaging waste. The submission of these annual reports to EOAN is a legal obligation of each approved PRO. Physical checks and inspections take place in order to clarify the quantities reported, while EOAN also verifies the data given by PROs.

However, 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.

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 84.6 % to 76.1 %
- Metal packaging: decrease by 14 %. Assuming that the effect is the same for ferrous and aluminium packaging, this leads to a decrease from 92.3 % to 79.4 % for ferrous metals and from 38.5 % to 33.1 % for aluminium
- Glass packaging: decrease by 5 % to account for recycling loss rates. The glass recycling rate drops from 29.9 % to 28.4 %.
- Plastic packaging: decrease by 21 %, from 37.6 % to 29.7 %
- Wooden packaging: decrease by 11 % from 24.5 % to 21.8 %
- Total packaging[2]: Calculated based on the amounts of each packaging material generated and recycled in 2019, the recycling rate would drop from 60.1 % to 52.9 %

The assessment in the summary table below takes into account these estimated reduced recycling rates.

[2] For other packaging, a loss of 10 % is assumed for the calculation.

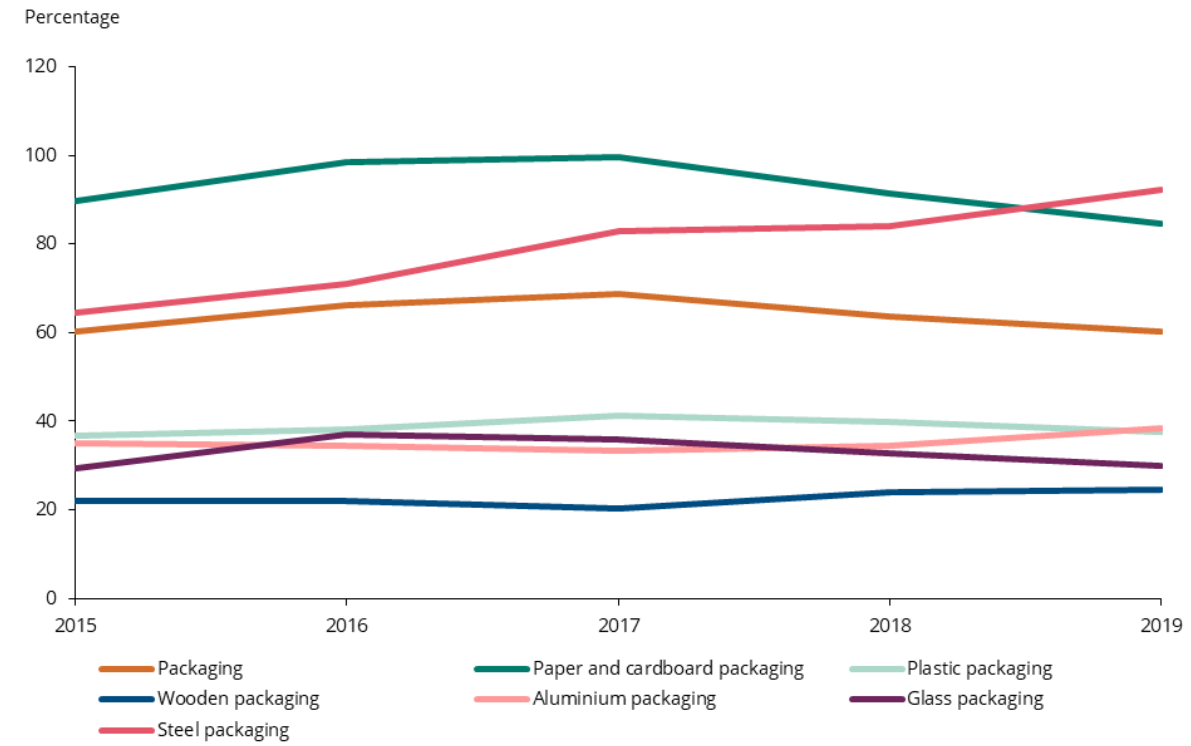
Summary

Total packaging	5 - 15 percentage points below target	Greece reports recycling rate of 60.1 %. However, if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 52.9 %, 12.1 percentage points below the target.
Paper and cardboard packaging	Target exceeded	Greece reports a paper and cardboard packaging recycling rate of 84.6 %. However, if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 76.1 %, 1.1 percentage points above the target.
Ferrous metals packaging	Target exceeded	Greece reports a ferrous metals packaging recycling rate of 92.3 %. However, if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 79.4 %, 9.4 percentage points above the target.
Aluminium packaging	> 15 percentage points below target	Greece reports an aluminium packaging recycling rate of 38.5 %. However, if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 33.1 %, 16.9 percentage points below the target.
Glass packaging	> 15 percentage points below target	Greece reports a glass packaging recycling rate of 29.9 %. However, if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 28.4 %, 41.6 percentage points below the target.
Plastics packaging	> 15 percentage points below target	Greece reports a recycling rate of 37.6 %. However, if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 29.7 %, 20.3 percentage points below the target.
Wooden packaging	< 5 percentage points below target	Greece reports a wooden packaging recycling rate of 24.5 %. However, if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 21.8 %, 3.2 percentage points below the target.
Robustness of the underlying information		The assessment is limited by the fact that the recycling rates for 2019 reported by Greece 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. There might be inconsistencies in the packaging data, which result in incorrect recycling rates. The current method of estimation of generated packaging waste might miss on quantities generated through online sales, de minimis rule and free riders. As a result, the generated quantities might in fact be higher than reported, which also affects the recycling rates. .

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 Greece are illustrated in Figure 2.3.

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



Note: Data for 2018 and 2019 are flagged by Eurostat as estimates. There is a break in the time series for ferrous metals in 2017.

Source: Eurostat (Eurostat, 2022c)

The trend in overall packaging recycling rate has been fluctuating in Greece during the past five years, with an overall decrease of 0.2 percentage points from 2015 to 2019. The recycling rate peaked in 2017 at 68.6 % but then dropped by 8.5 percentage points between 2017 and 2019. An increasing trend can however be observed throughout most individual packaging waste categories, except for paper and carboard, for which the recycling rate has decreased with 5 percentage points between 2015 and 2019. The recycling rate increased most prominently for ferrous metals packaging, with 27.9 percentage points between 2015 and 2018. However, according to Eurostat (2020) the increase in ferrous metals recycling in 2017 is caused by a change in data collection. The reliability of the data for 2017 is better compared to previous years, as waste amounts from all metal scrap facilities have been taken into account. Previously, only outputs from the facilities having a contract with HERRco were included in the statistics (Eurostat, 2020b). The increase of the recycling rate for aluminium packaging was 3.6 percentage points, for wooden packaging 2.5 percentage points, for plastic packaging 0.8 percentage points, and for glass packaging 0.5 percentage points between 2015 and 2019. In order to meet the 2025 targets, improvements for glass packaging, aluminium packaging, and plastic packaging recycling are needed.

Summary result

Total packaging	RR < 55% and increase in last 5 years < 10 percentage points	The recycling rate decreased by 0.2 percentage points over the past five years and is estimated at 52.9 % 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 decreased by 5.0 percentage points over the past five years and is estimated at 76.1 % if the new calculation rules would be applied (taking into account losses in the recycling plants). The recycling rate already exceeds the target.
Ferrous metals packaging	RR > 65 %	The recycling rate is estimated at 79.4 % if the new calculation rules would be applied (taking into account losses in the recycling plants) and thus already exceeding the target.
Aluminium packaging	RR < 40% and increase in last 5 years < 10 percentage points	The recycling rate increased by 3.6 percentage points over the past five years and is estimated at 33.1 % if the new calculation rules would be applied (taking into account losses in the recycling plants).
Glass packaging	RR < 60% and increase in last 5 years < 10 percentage points	The recycling rate increased by 0.5 percentage points over the past five years and is estimated at 28.4 % 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 increased by 0.8 percentage points over the past five years and is estimated at 29.7 % if the new calculation rules would be applied (taking into account losses in the recycling plants).
Wooden packaging	RR > 20 % and increase in last 5 years < 5 percentage points	The recycling rate increased by 2.5 percentage points over the past five years and is estimated at 21.8 % 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 reported by Greece 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. Reliability of the data has been questioned and the amounts put on the market might be underestimated.

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.

Greece has transposed the amended PPWD into national law through Law 4819/2021 (Government of Greece, 2021b).

Summary result

Transposition with delay of > 12 months, or no full transposition yet	The PPWD has been transposed into national legislation in late July 2021, slightly more than one year after the deadline of July 2020.
Robustness of the underlying information	The result of this SRF is based on timely transposition only. 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.

According to the Greek authorities, the recycling policy for packaging waste is in the responsibility of the following authorities and stakeholders:

- Ministry of Environment and Energy (MoE);
- Ministry of the Interior (MoI);
- Hellenic Recycling Agency (EOAN);
- Municipalities; and
- Alternative Management Systems (SEDs), either on an individual basis (ASED) or on a collective basis (SSEDs). (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Their responsibilities, as well as the support and enforcement mechanisms in place are further described in Section 2.1.2. In addition, regarding the method of collaboration between PROs (SSEDs) and municipalities, in accordance with *Decision No οικ.:2203/29-06-2020 of the Board of Directors of EOAN on the renewal of the approval of the SED*, the following responsibilities are undertaken:

- The PRO shall provide appropriate collection equipment for collaborating municipalities for the source separation of packaging waste, provide collection vehicles or corresponding monetary contribution to collaborating municipalities to cover the collection costs, and cover maritime transports and long-distance transports (in a different regional unit), take care of the collection of glass packaging from the collection points such as points where health establishments of hygienic interest are gathered (i.e. restaurants, bakeries) and recycling arrays, and the collection of special aluminium bins, organise the maintenance of waste collection bins and vehicles; in case the operation of the adjacent KDAY is ceased, ensure the treatment of packaging waste generated in a municipality, either by delivering the waste in another KDAY or by finding another temporary solution (specific contract type A); in case not undertaken by the municipality, ensure that the packaging waste sorting and all related services are carried out by collaborating KDAY or KDAY operating contractors; prepare and carry out an information and awareness-raising programme for inhabitants in collaboration with municipality; and undertake to pay municipalities for the packaging waste collection on the basis of the packaging waste recovery rate they have met, which also provides an incentive to enhance the performance of municipalities;
- Municipalities shall take care of the separate collection of packaging waste from the blue bins and its transport to the sorting facilities collaborating with the SSED Hellenic Recovery Recycling Corporation (HERRCo), or of their own choice, provide appropriate documentation on the quantities recovered to the HERRCo if the municipality has taken over the sorting phase, manage the residue generated as a result from sorting of packaging waste by the KDAYs for final disposal, and organise the maintenance of the collection equipment. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Furthermore, according to article 89 of Law 4819/2021 (Government of Greece, 2021b) (replacing Article 8 of former Law 2939/2001 on *Packaging and recycling of packaging and other products* -

Establishment of the National Organization for Recycling of Packaging and other Products as amended by Law 4496/2017), municipalities are able to implement the alternative packaging waste management on their own. So far, no requests have been made by municipalities in order to implement this possibility. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

According to law 4819/2021 (Government of Greece, 2021b) (replacing Law 2939/2001) administrative penalties for the violation of the provisions of the law can be set for producers, PROs and municipalities. The cancellation of the approval decision of the PRO can be made in case the PRO is found to deviate substantially from its business plan and its approval conditions, and it does not comply with the conditions set by the EOAN for two times. Joint Ministerial Decision *Determination of administrative penalties for first degree local authorities* for packaging waste describes a method of determining the administrative fines imposed on municipalities infringing their obligations regarding to their responsibility concerning municipal packaging waste management. Until now, there has been no penalty imposed (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

In summary, the responsibility to organise packaging waste management seems to be fragmented between PROs and municipalities. Support and enforcement mechanisms are in place.

Summary result

Unclear responsibilities but clearly defined enforcement mechanisms and a good set of support mechanisms for meeting the recycling targets	Responsibilities are defined though partly fragmented between PROs and municipalities. Support and enforcement mechanisms are in place.
Robustness of the underlying information	Credible information received from the Greek 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, Greece has a low-level landfill fee and no landfill ban.

Summary result

Low tax (< 30 EUR/t([a]))	The current level of landfill fee is 20 EUR/t applied from 2022 onwards (corresponding to 23.31 EUR/t rescaled based on purchasing power parities). No landfill ban currently exist.
Robustness of the underlying information	Credible information received from the Greek 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, Greece does not have waste incineration plants.

Summary result

N/A (for countries without capacities for incineration)	Greece does not have incineration capacity.
Robustness of the underlying information	The information is robust and was provided by Greek 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.

Greece has a tax on disposable plastic bags in force from 2018 (law 4496/2017), as reviewed in 2020 (law 4685/2020) and lately implemented according to the law 4819/2021 (Government of Greece, 2021b). An environmental fee of EUR 0.07 (+ VAT) per carrier bag is paid by consumers, except for biodegradable and compostable plastic bags. The environmental fee has a two-way nature and the revenue from it is public. It is collected by the Independent Authority for Public Revenue which then pays the fees to EOAN. In addition, according to the Law 4736/2020 (GG 200 A) (Government of Greece, 2020) transposing the Directive (2019/904) on the reduction of the impact of certain plastic products on the environment an environmental levy of EUR 0.04 (+ VAT) per specific single-use plastic product categories (beverage cups and food containers) will be implemented in the beginning of 2022. The Independent Authority for Public Revenue collects the fee and allocates it to the Green Fund. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

In article 80 of the law 4819/2021 (Government of Greece, 2021b) a specific provision has been set where an environmental levy of EUR 0.08 (+ VAT) is imposed to products with packaging which contain PVC, from 1 June 2022 onwards.

However, the taxes on some plastic items refer to a small fraction of the packaging and therefore, it is assumed that Greece has only limited packaging taxes in place.

Summary result

Limited packaging tax in place	Greece has packaging taxes for plastic carrier bags (as of 2018), single-use plastic beverage cups and food containers as of 2022 and for packaging products containing PVC as of June 2022.
Robustness of the underlying information	Credible information received from the Greek 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 2.1.3 in more detail, Greece has no PAYT system in place yet.

Summary result

No PAYT implemented but firm plans for rolling out	Greece has currently no PAYT scheme in use, but the system is planned to be implemented.
Robustness of the underlying information	Credible information received from the Greek 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.

Greece has no DRS systems in use, except for limited application for glass drink bottles by private initiatives. According to the law 4819/2021 transposing the WFD and PPWD into national law (Government of Greece, 2021b) a nationwide DRS for aluminium, glass and plastic beverage packaging will be implemented in January 2023 by beverage packaging producers.

Summary result

Aluminium drink cans	No DRS for drink cans	No DRS in Greece yet.
Glass drink bottles	No DRS for drink bottles	No DRS in Greece, except for limited application for glass drink bottles by private initiatives.
Plastic drink bottles	No DRS for drink bottles	No DRS in Greece yet.
Plastic crates	No DRS for plastic crates	No DRS in Greece.
Wooden packaging	No DRS for wooden packaging	No DRS in Greece.
Robustness of the underlying information		Credible information received from the Greek authorities through the EEA-ETC/WMGE 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 have. The material specific assessment considers packaging waste from both household and non-household sources. Both sources are of similar size (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021). 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.

According to legislation, the separate collection of non-household packaging waste is mandatory for operators of public gathering areas, and catering companies able to serve over 100 customers. However, the Greek authorities note that the implementation of this provision has been delayed remarkably. They also state that a significant amount of non-household packaging waste generated in businesses and commercial activities is separately collected and directed to recycling. (Ministry of

Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Summary result

Paper and cardboard packaging	**1. Packaging waste from households** A high share of the population is covered by high convenience collection services	In cities, towns and suburbs, door-to-door co-mingled collection points is the dominant collection system for packaging waste. In rural areas bring points are dominating.
	2. Packaging waste from non-household sources Separation at source is not mandatory for all non-household paper and cardboard packaging waste	Separate collection of non-household packaging waste is not mandatory for all non-household sources. It is however mandatory for operators of public gathering areas, and catering companies able to serve over 100 customers. These operators are likely responsible for only a small part of non-household packaging generation. In addition, the Greek authorities note that the implementation of this provision has been delayed remarkably.
Ferrous metals packaging	**1. Packaging waste from households** A high share of the population is covered by high convenience collection services	In cities, towns and suburbs, door-to-door co-mingled collection points is the dominant collection system for packaging waste. In rural areas bring points are dominating.
	2. Packaging waste from non-household sources Separation at source is not mandatory for all non-household ferrous metals packaging waste	Separate collection of non-household packaging waste is not mandatory for all non-household sources. It is however mandatory for operators of public gathering areas, and catering companies able to serve over 100 customers. These operators are likely responsible for only a small part of non-household packaging generation. In addition, the Greek authorities note that the implementation of this provision has been delayed remarkably.
Aluminium packaging	**Packaging waste from households** A high share of the population is covered by high convenience collection services	In cities, towns and suburbs, door-to-door co-mingled collection points is the dominant collection system for packaging waste. In rural areas bring points are dominating.
Glass packaging	**1. Packaging waste from households** A high share of the population is covered by high convenience collection services	In cities, towns and suburbs, door-to-door co-mingled collection points is the dominant collection system for glass packaging waste. In rural areas bring points are dominating.
	2. Packaging waste from non-household sources Separation at source is not mandatory for all non-household glass packaging waste	Separate collection of non-household packaging waste is not mandatory for all non-household sources. It is however mandatory for operators of public gathering areas, and catering companies able to serve over 100 customers. These operators are likely responsible for only a small part of non-household packaging generation. In addition, the Greek authorities note that the implementation of this provision has been delayed remarkably.

Plastics packaging	**1. Packaging waste from households** A high share of the population is covered by high convenience collection services	In cities, towns and suburbs, door-to-door co-mingled collection points is the dominant collection system for packaging waste. In rural areas bring points are dominating.
	2. Packaging waste from non-household sources Separation at source is not mandatory for all non-household plastic packaging waste	Separate collection of non-household packaging waste is not mandatory for all non-household sources. It is however mandatory for operators of public gathering areas, and catering companies able to serve over 100 customers. These operators are likely responsible for only a small part of non-household packaging generation. In addition, the Greek authorities note that the implementation of this provision is has been delayed remarkably.
Wooden packaging	**Packaging waste from non-household sources** Separation at source is not mandatory for all non-household wood packaging waste	Separate collection of non-household packaging waste is not mandatory for all non-household sources. For businesses there is a separate collection system covering only specific packaging waste.
Robustness of the underlying information		Credible information received from the Greek authorities through the EEA-ETC/WMGE questionnaire.

Note: The main source for aluminium packaging waste is drink cans from households, therefore the assessment does not consider aluminium non-household 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 only 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[3]. Again, the material specific assessment considers packaging waste from both household and non-household sources.

In the law 4819/2021 transposing the WFD into national legislation (Government of Greece, 2021b) an extension to the separate collection obligation for non-household waste is provided. According to the Greek authorities, no changes are planned to distinguish between packaging waste and non-packaging waste collection, other than those considering the implementation of DRS (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021). According to Law 4819/2021:

- Obligation of separate collection of packaging waste (including both household and non-household). Separate collection (source separation) of non-household packaging waste must be undertaken by companies, industries, businesses either served by the municipal network for packaging waste but also in cases where they further deliver packaging waste to suitable permitted companies for collection and treatment, themselves;
- Schools (primary and secondary level) shall from the 1 September 2022 separately collect packaging waste;
- In every new building, a suitable area must be foreseen for the placement of containers/bins for the separate collection of at least four waste streams;

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

- Cinemas, theatres, concert halls, sports facilities, commercial centres, conference centres, hotels, airports, ports, railway stations, passenger - vehicle ferries, ships, catering companies must organise separate collection of four packaging waste streams by January 2022. The same obligation applies also to municipal sport facilities, playgrounds, and other public gathering areas organised by the responsible municipalities;
- Especially for hotels over 100 beds, separate collection of at least plastic packaging waste must be ensured in each room.
- Through extended producer responsibility (EPR), a nationwide DRS for aluminium, glass and plastic beverage packaging will be implemented from 5 January 2023

Summary result

Paper and cardboard packaging	**1. Packaging waste from households** N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	
	2. Packaging waste from non-household sources Firms plans to introduce mandatory separation at source for non-household paper and cardboard packaging waste	In the recently adopted law 4819/2021 transposing the WFD into national legislation an extension to the separate collection obligation for non-household waste is provided.
Ferrous metals packaging	**1. Packaging waste from households** N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	
	2. Packaging waste from non-household sources Firms plans to introduce mandatory separation at source for non-household ferrous packaging waste	In the recently adopted law 4819/2021 transposing the WFD into national legislation an extension to the separate collection obligation for non-household waste is provided.
Aluminium packaging	**Packaging waste from households** N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	A nationwide DRS for aluminium beverage packaging will be implemented from 5 January 2023. However, more information about the responsible entities and defined targets is needed to consider this a firm plan.
Glass packaging	**1. Packaging waste from households** Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	The current network will be significantly extended. As there is a law mandating expansion of separate collection it can be considered a firm plan
	2. Packaging waste from non-household sources Firms plans to introduce mandatory separation at source for non-household glass packaging waste	In the recently adopted law 4819/2021 transposing the WFD into national legislation an extension to the separate collection obligation for non-household waste is provided.

Plastics packaging	**1. Packaging waste from households** N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	A nationwide DRS for single-use plastic (SUP) products (beverage bottles up to 3 litres, incl. caps and lids) will be implemented from 5 January 2023. However, more information about the responsible entities and defined targets is needed to consider this a firm plan.
	2. Packaging waste from non-household sources Firms plans to introduce mandatory separation at source for non-household plastic packaging waste	In the recently adopted law 4819/2021 transposing the WFD into national legislation an extension to the separate collection obligation for non-household waste is provided.
Wooden packaging	**Packaging waste from non-household sources** No firm plans to introduce mandatory separation at source for non-household wood packaging waste	There are ongoing discussions to enhance separate collection of wood but no firm plans yet.
Robustness of the underlying information		Credible information received from the Greek 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

In Greece, there are four PROs for packaging; two so called Alternative Management Systems on a collective basis (SSEDs) i.e. Hellenic Recovery Recycling Corporation (HERRco) and Rewarding Packaging Recycling, and one Alternative Management System on an individual basis (ASED), called AB Vassilopoulos, as well as PRO KEPED that is responsible for packaging of lubricating oils. The EPR scheme covers both household and non-household sources for all packaging material categories. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021). In the recently adopted law 4819/2021 (Government of Greece, 2021b) an extension to the separate collection obligation for non-household waste is provided.

Summary result

All main packaging fractions([a]) are covered by EPR schemes, covering household and non-household packaging	Greece has EPR schemes in place covering household and commercial packaging for all packaging fractions.
Robustness of the underlying information	Credible information received from the Greek 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

Summary result

At least one packaging fraction([a]) has an advanced fee modulation that meets at least two assessment criteria	There is advanced fee modulation for plastics meeting all of the four assessment criteria presented above.
Robustness of the underlying information	Credible information received from the Greek authorities through the EEA-ETC/WMGE questionnaire.

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

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.

Greece has an EPR scheme covering both household and non-household sources and all packaging types. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

Summary result

SRF P-5.3.1 EPR scheme for Paper and cardboard packaging waste	EPR scheme covering household and non-household packaging	Greece has an EPR scheme in place covering household, industrial and commercial packaging for paper and cardboard packaging waste.
SRF P-5.3.2 EPR scheme for Ferrous metals packaging waste	EPR scheme covering household and non-household packaging	Greece has an EPR scheme in place covering household, industrial and commercial packaging for ferrous metals packaging waste.
SRF P-5.3.3 EPR scheme for Aluminium packaging waste	EPR scheme covering household and non-household packaging	Greece has an EPR scheme in place covering household, industrial and commercial packaging for aluminium packaging waste.
SRF P-5.3.4 EPR scheme for Glass packaging waste	EPR scheme covering household and non-household packaging	Greece has an EPR scheme in place covering household, industrial and commercial packaging for glass packaging waste.
SRF P-5.3.5 EPR scheme for Plastic packaging waste	EPR scheme covering household and non-household packaging, with a fee modulation meeting all four assessment criteria	Greece has an EPR scheme in place covering household, industrial and commercial packaging for plastic packaging waste. There is fee modulation for plastics meeting all of the four assessment criteria presented above.

SRF P-5.3.6 EPR scheme for Wooden packaging waste	EPR scheme covering all non-household packaging	Greece has an EPR scheme in place covering household, industrial and commercial packaging for wood packaging waste.
Robustness of the underlying information		Credible information received from the Greek 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 Greece was 77.7 % in 2019 (calculated based on Eurostat (2022a)). For 2020, no data are available yet.

In the National Waste Management Plan, a target of 10 % landfilling of municipal waste has been set. In order to achieve this, Greece aims to increase the MBT capacity (receiving MSW), composting/digestion capacity (receiving separately collected biowaste) and the capacity of waste to energy facilities (where residues from MBTs and SRF/RDF will be the input). (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Summary result

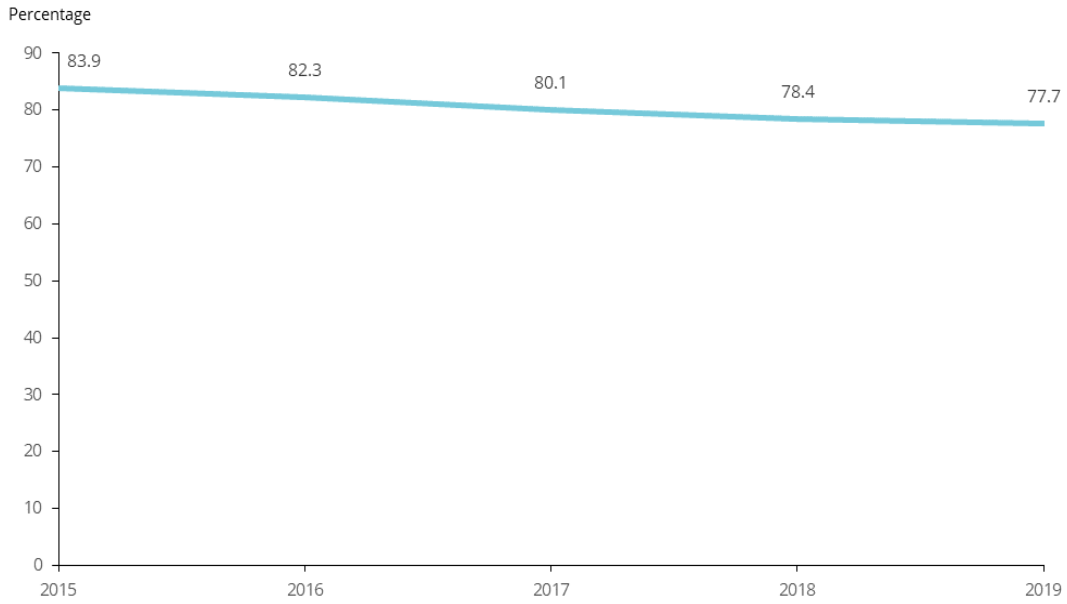
Distance to target > 20 percentage points	Greece is 67.7 percentage points from reaching the target.
Robustness of the underlying information	The data are derived from Eurostat and are considered to be rather robust. However, the reported landfill rate might increase once the new calculation rules laid 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

Over the past five years, the overall landfilling rate of Greece has decreased by 6.2 percentage points, from 83.9 % to 77.7 % (Figure 2.4).

Despite the progress, the distance to target is very big: 67.7 percentage points. To meet the target Greece has to speed up the pace of reducing landfilling.

Figure 2.4 Landfilling in Greece between 2015 and 2019, in percentage



Note: The landfill data for 2017 and 2018 were flagged as ´Eurostat estimate´[4]
Source: Eurostat (2022a)

Summary result

Landfill rate in 2020 > 25 % and decrease in last 5 years < 15 percentage points	The distance to target is very high, and the decrease over the last five years has been only 6.2 percentage points.
Robustness of the underlying information	The landfill data for 2017 and 2018 were flagged as ´Eurostat estimate´. 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-1.3: 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, Greece benefits from a four-year derogation period and thus has to meet the target by 2020.

The amount of biodegradable municipal waste landfilled was 109 % in 2016, and 107 % in 2017, 2018 and 2019 of the total amount (by weight) of biodegradable municipal waste produced in 1995 (EC, 2021).

[4] According to the Hellenic Ministry of Environment and Energy (2022), official data have been submitted in September 2021

Summary result

Target for reducing the amount of biodegradable municipal waste (BMW) landfilled to 35 % of BMW generated in 1995 has not been achieved in 2016 or in the year specified in the derogation where applicable	Greece has reported 109 % biodegradable waste landfilled for 2016, and 107 % for 2017, 2018 and 2019, and has not achieved the target yet. It is also very unlikely that it is able 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 Greece 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 Greece, only the SRFs relevant to Greece are taken into account to define the maximum score. Greece 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

25 % **of maximum score**	Based on the provided information and the analysis done, it is concluded that Greece is **at risk for not meeting the MSW recycling target in 2025**.
Current situation and past trends:	The recycling rate in Greece was 21 % in 2019, which is 34 percentage points below the target of 55 %. 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 16 %. The recycling rate has increased only by 5.3 percentage points since 2015.
Legal instruments:	The amended WFD was transposed into national law in July 2021, a little more than one year after the deadline (July 2020). Responsibilities for meeting the recycling targets are defined though partly fragmented between several public bodies/institutions. Support and enforcement mechanisms are in place.
Economic instruments:	The current level of landfill fee or 'environmental contribution' is EUR 20 per tonne, applied as of 2022 (corresponding to EUR 23.31 rescaled based on purchasing power parities). No landfill ban currently exist. There are no incineration taxes in Greece, as there are no incineration facilities in the country. Greece currently does not export waste for incineration. There is no PAYT system in place, but there are firm plans for rolling out.

Separate collection systems:	A high share of the population is covered by high convenience collection services targeting metal, glass, plastic, and paper and cardboard packaging waste. In cities, towns and suburbs, door-to-door co-mingled collection points is the dominant collection system, in rural areas bring points are dominating. A low share of the population is covered by high convenience collection services for bio-waste, wood, and textiles. For WEEE high to medium convenience collection services dominate. The current separate collection system will be extended to include also non-packaging waste. A nationwide DRS for aluminium, plastic and glass beverage packaging will be implemented in 2023. Greece is planning to implement separate collection of printed paper from schools (primary and secondary level) and government bodies in 2022. For bio-waste, universal collection will be implemented in 2022, organised by municipalities, and extension of the separate collection obligation for non-household waste. Greece presents no plans to improve the collection of wood waste, but discussions to enhance separate collection are ongoing. For textiles, Greece will implement EPR by January 2022. The respective producers shall organise PRO by the end of 2023 with requirements including obligatory separate collection of textile waste.
Extended producer responsibility:	EPR schemes are in place for all packaging materials from households and non-households. There is currently advanced fee modulation applied only to plastics.
Bio-waste treatment capacity and quality management:	The current bio-waste treatment capacity is insufficient. There are plans to increase the capacity of bio-waste treatment but the planned treatment capacity would only be sufficient for treating 30 % of the total bio-waste generation. There are national standards but yet no quality management system for compost quality.

3.2 Prospects for meeting the recycling targets for packaging waste

44 % **of maximum score**	Based on the provided information and the analysis done, it is concluded that Greece is **at risk for not meeting the 65 % recycling target for packaging waste in 2025**	
66 % of maximum score	Paper and cardboard	Not at Risk
66 % of maximum score	Ferrous metals packaging	Not at Risk
27 % of maximum score	Aluminium packaging	At Risk
25 % of maximum score	Glass packaging	At Risk
24 % of maximum score	Plastics packaging	At Risk
50 % of maximum score	Wooden packaging	Not at Risk
Current situation and past trends:	The total packaging recycling rate (revised estimate to account for the impact of the new calculation rules) is 52.9 %, 12.1 percentage points below the 2025 target. Waste streams more than 15 percentage points below target are plastic, aluminium and glass. The total packaging recycling rate has decreased by 0.2 percentage points over the past five years. Packaging waste streams of most concern are: glass, aluminium, and plastics packaging. There are some uncertainties whether all packaging put on the market is reported and included in the waste generation data: amounts put on the market might be underestimated.	
Legal instruments:	The amended Packaging and Packaging Waste Directive has been transposed into national law in July 2021, a little more than one year after the deadline (July 2020). Responsibilities for meeting the recycling targets are defined though partly fragmented between PROs and municipalities. Support and enforcement mechanisms are in place.	
Economic instruments:	The current level of landfill fee or 'environmental contribution' is EUR 20 per tonne applied from 2022 (corresponding to EUR 23.31 rescaled based on purchasing power parities). No landfill ban currently exist. Greece has packaging taxes in place for plastic carrier bags (as of 2018), single-use plastic beverage cups and food containers as of 2022 and for packaging products containing PVC as of 2022. There is no PAYT system in place but the system is planned to be implemented. Greece has no DRS systems in use, except for limited application for glass drink bottles by private initiative.	

Separate collection systems:	The collection system for paper and cardboard, metals, glass, and plastic packaging wastes organised by HERRco. A high share of the population is covered by high convenience collection services targeting metal, glass, plastic, and paper and cardboard packaging waste. In cities, towns and suburbs, door-to-door co-mingled collection points is the dominant collection system, in rural areas bring points are dominating. Separate collection of non-household packaging waste is not mandatory for all non-household sources. It is however mandatory for operators of public gathering areas, and catering companies able to serve over 100 customers. These operators are likely responsible for only a small part of non-household packaging generation. In addition, the Greek authorities note that the implementation of this provision is has been delayed remarkably. In the recently adopted law 4819/2021 transposing the WFD into national legislation an extension to the separate collection obligation for non-household waste is provided. There are plans to improve the collection service for aluminium, plastic, and glass, but unclear plan for implementation. No firm plans exist to improve the type and coverage of separate collection of wood packaging waste. A nationwide DRS for aluminium and plastic beverage packaging will be implemented in 2023.
Extended producer responsibility:	All main packaging fractions are covered by EPR schemes, covering household and non-household packaging, but only plastic packaging implements advanced fee modulation.

3.3 Prospects of meeting the landfill of municipal waste target

0 % **of maximum score**	Based on the provided information and the analysis done, it is concluded that Greece 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 for municipal waste was 78 % in 2019, indicating a distance to target of 68 percentage points. Over the past five years, the overall landfilling rate of Greece has decreased by 6.2 percentage points.
Diversion of biodegradable municipal waste from landfill:	Greece has reported 109 % biodegradable waste landfilled for 2016, and 107 % for 2017, 2018 and 2019, and has not achieved the target yet. It is also very unlikely that it is able to meet the target by 2020.

List of abbreviations

Abbreviation	Name
ASED	Alternative Management System on an individual basis
CE	Circular Economy
DRS	Deposit Return System
EC	European Commission
EEA	European Environment Agency
EMPA	National Register of Producers
EOAN	Hellenic Recycling 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
FODSA	Solid waste management body for waste management at regional level
GEMI	General Commercial Register
HERRco	Hellenic Recovery Recycling Corporation
KDAY	A sorting facility of recyclable materials
MEVA	Separately collected biowaste treatment facility (composting/digestion plant)
MBT	Mechanical biological treatment
MoE	Ministry of Environment and Energy
MoI	Ministry of the Interior
MS	Member state
MSW	Municipal solid waste
NWMP	National Waste Management Plan
PAYT	Pay-as-you-throw
PESDA	Regional Waste Management Plan
PPWD	Packaging and Packaging Waste Directive
PRO	Producer Responsibility Organisation
RR	Recycling rate
SED	Alternative Management System
SSED	Alternative Management System on a collective basis
SRF	Success and risk factor
SUP	Single-use plastic
TOSDA	Local waste management plan
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 Greece 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 Greek authorities on the status of taking them into account.

Recommendations on economic instruments

1) To introduce the landfill tax (set to apply from 2018). In doing so, to consider how to ensure that the system is made responsive to higher disposal costs. It would be preferable (see below) if HERRco was only a conduit of funds, and if municipalities had their own obligations in terms of separate collection. HERRco would be responsible for funding the full costs of the packaging element of separate collection by municipalities. The system would be made more responsive to a tax as a result (see point 6).

The Greek authorities note that this recommendation is seen to consist of two different "economic tools". The first one is to prevent landfilling, and the second one is related to the responsibilities and role of Alternative Management System's (SEDs) in covering the necessary separate collection costs. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

After the entry into force of the Article 43 of the Greek law on Waste Management No. 4042/2012 in 2020, the landfill tax has been replaced by the 'environmental contribution'. From the beginning of 2020 solid waste management bodies for waste management at regional level (FODSAs) shall pay for the amount of landfilled untreated municipal waste. Concerning the packaging waste collected using blue bins, the waste management of a residue generated in the sorting process by the KDAYs is in the responsibility of a municipality, and the residue is not subjected to environmental contribution. Thus, the measure does not help in preventing the production of such residue. However, in the law 4819/2021 transposing the WFD into national legislation a landfill tax is being introduced, which inter alia, covers the residues resulting from the KDAY process, from facilities for the treatment of separately MBTs and waste incineration facilities. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

According to the Joint Ministerial Decision No 31606/930/2019 (Government Gazette, Series B, No 1277) on the *'Regulation on the pricing of solid waste management bodies (FODSA)'*, regarding the determination of the contributions and fees paid to FODSA by its member municipalities, the gradation of costs per service is done by applying coefficients according to the waste hierarchy and in order to encourage and support municipalities to act at the highest levels on the waste hierarchy. For example, cost reduction rates are planned for municipalities based on their achievement in relation to the packaging waste targets. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Regarding the method of collaboration between the HERRCo and the municipalities, in accordance with *Decision No οικ.:2203/29-06-2020 of the Board of Directors of EOAN on the renewal of the approval of the SED*, the following responsibilities are undertaken:

- The PRO shall provide appropriate collection equipment for collaborating municipalities for the source separation of packaging waste; provide collection vehicles or corresponding monetary contribution to collaborating municipalities to cover the collection costs, and cover maritime transports and long-distance transports (in a different regional unit); take care of the collection of glass packaging from the collection points, such as points where health establishments of hygienic interest are gathered (i.e. restaurants, bakeries) and recycling arrays, and the collection of special aluminium bins; organise the maintenance of waste collection bins and vehicles; ensure the disposal of packaging waste generated in a municipality in case the operation of the adjacent KDAY is ceased either by serving the municipality by a KDAY of the wider area or by finding another temporary solution (specific contract type A); in case not undertaken by the municipality, ensure that the packaging waste sorting and all related services are carried out by collaborating KDAY or KDAY operating contractors; prepare and carry out an information and awareness-raising programme for inhabitants in collaboration with municipality; and undertake to pay municipalities for the packaging waste collection on the basis of the packaging waste recovery rate they have met, which also provides an incentive to enhance the performance of municipalities.
- Municipalities shall take care of the separate collection of packaging waste from the blue bins and its transport to the sorting facilities collaborating with the HERRCo, or of their own choice; provide appropriate documentation on the quantities recovered to the HERRCo if the municipality has taken over the sorting phase; manage the residue generated as a result from sorting of packaging waste by the KDAYs for final disposal; and organise the maintenance of the equipment. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

In addition, according to article 89 of Law 4819/2021 (replacing Article 8 of former Law 2939/2001 on '*Packaging and recycling of packaging and other products - Establishment of the National Organization for Recycling of Packaging and other Products*' as amended by Law 4496/2017), municipalities are able to implement the alternative packaging waste management on their own. So far, no requests have been made by municipalities in order to implement this possibility. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The Greek authorities consider this recommendation as implemented, as far as the operation of HERRco is concerned. The full implementation and payment of landfill tax begins from 1st January 2022 (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

2) To consider introducing pay-as-you-throw (PAYT) schemes, as a means to reduce waste to landfills and to enhance participation of the public in the separate collection of waste.

So far, only pilot projects in some municipalities have been implemented. According to the proposed law 4819/2021 transposing the WFD into national law, a mandatory PAYT shall be implemented from the beginning of 2028 by municipalities with population exceeding 20 000. However, this obligation will be applied to large municipal waste producers from the beginning of 2023 in accordance with the specific provisions laid down in the law, as described in section 2.1.3 (SRF MSWR-3.3: Pay-as-you-throw (PAYT) system in place). (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The Greek authorities consider this recommendation not implemented (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

Recommendations on accurate and internally consistent reporting

3) 'Reset' the reported packaging figures such that they are consistent and accurate. Data provided by Greece, regarding the quantity and composition of municipal waste, suggest that the quantity of packaging waste (as represented by packaging placed on the market) is well below the quantity suggested by the municipal waste data.

EOAN maintains the National Register of Producers (EMPA). The registration to the register is mandatory to all packaging producers, and acts as a prerequisite for their lawful operation and participation in public tendering procedures. The register is used for systematic monitoring of producers' compliance with their legislative provisions. Its main objective is to collect information on the quantities and types of packaging and other products POM in Greece. It has been in operation since 2017, and according to the Greek authorities, it has already improved the data quality and helped to tackle the non-compliance of the payments of the liable bodies. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Regarding to the amount of packaging waste generated in relation to the municipal waste data, the Greek authorities state that the waste information is currently fragmented, and no uniform methodology is followed. In addition, the EMPA register contains data on the packaging quantities by legal packaging producers only. To be able to better monitor the POM of packaging, the collaboration with the General Commercial Register (GEMI) is considered necessary. Article 15 of law 4819/2021regulates the linking of the two registers. The use of GEMI will enable the cross-checking of data. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

Regarding to the composition of municipal waste, see answer to recommendation No. 5) below.

The Greek authorities consider this recommendation partly implemented (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

4) Introduce audits on companies providing data regarding the amount of packaging placed on the market (producers or Producer Responsibility Organisation). In cases where there are fundamental questions regarding accuracy of the reported figures introduce more systematic audits.

According to the former Law 2939/2001 (as replaced by law 4819/2021) and their approval decisions, the PROs are obliged to check the declarations of their producers. These checks are made by chartered accountants with a view to reduce non-compliance of the payments. According to the same law, the responsibility of EOAN is to organise and carry out inspections, including on the liable producers, on the amounts of packaging POM in Greece. EOAN has established a Directorate for Inspections and Controls that performs regular and non-routine inspections and checks as well as evaluates their results. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The Greek authorities consider this recommendation implemented (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

5) Conduct statistically representative compositional analysis of municipal waste and to seek to reconcile / minimise differences between the datasets on municipal waste and packaging waste.

A study on the composition of municipal waste has been carried out as part of the "*Technical support for the implementation of the National Waste Management Plan (NWMP) of Greece"* (January 2019 to March 2021) and on behalf of the Secretariat-General for Waste Management Coordination. The study gives a guidance on implementing waste composition analyses at regional and national level. According to the provision laid down in the law 4819/2021 (article 53) transposing the WFD and PPWD into national law, the relevant analysis of municipal waste needs to be carried out once in every three years by FODSA and the relevant data shall be submitted in standard electronic platform, which interoperate with the Electronic Waste Registry. Among the waste streams investigated, also packaging wastes will be included. In addition, according to article 31 of law 4819/2021, from the 1st January 2022, KDAY are obliged to measure the amount of packaging and other recovered materials after separate collection by municipalities, as well as the corresponding impurities(residue), using a uniform sampling and analysis method in the basis of the incoming waste. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The Greek authorities consider this recommendation partly implemented (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

Recommendations on a more effective packaging waste collection system

6) Reconceive the interaction between HERRco and municipalities as a means to drive the required improvement in the performance of the recycling service - given the underperformance of the packaging scheme, and the level of losses that are believed to take place from the existing collection services, there is urgent need to reconfigure the service, and reduce the extent of contamination / losses from the dry recycling service. This can be done: a. either by cascading down recycling targets to municipalities along with sanctions for non-compliance b. or by setting out the minimum service standard for waste collection that municipalities must meet and any financial support from central government is made contingent on the municipalities signing up to meet the standard.

To improve the performance of municipalities, the targeting of municipalities and the coverage of collection costs by the Alternative Management Systems have been set in Law 4496/2017 as replaced by law 4819/2021. New approval decisions have been provided for specific conditions of collaboration between PROs and municipalities with incentives and commitments. The collaboration with municipalities shall be carried out in clear terms and contain both qualitative and quantitative targets aimed directly to the specific recycling project, the timetable to achieve these targets, the specifications of the materials recovered, as well as the framework, conditions and criteria for calculating the contribution paid by the PRO (Article 5 (8) of Law 2939/2001 as in force). The PRO shall submit to EOAN the valid versions of the standard cooperation contracts before their implementation and include in them any observations given by EOAN on subjects within its competence and/or follow its guidelines. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

In addition, in accordance with the Article 35 of Law 4042/2012, replaced by article 56 of Law 4819/2021, local waste management plans need to be submitted electronically and their objectives shall be compliant with the objectives of the relevant Regional Waste Management Plan (PESDA). (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The Greek authorities consider this recommendation partly implemented (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

7) In any of the options listed above, HERRco should fund, in full, the delivery of the part of the collection service which relates to the collection of packaging and non-packaging paper in line with an agreed funding formula.

See answer to the recommendation No. 1) related to the obligations of HERRCo. In particular, HERRCo is responsible for the entire separate collection of glass packaging waste. The separate collection from the blue bins continues to be in the responsibility of municipalities, with collection vehicles or monetary contribution provided by the PRO. To be able to increase the amount of waste recovered, funding to municipalities is based on the recovered amount and not the collected amount. The methodology of the determination of the recovered packaging waste quantities per municipality will be approved by EOAN, and it should be based on data on actual performance in each municipality and other available information to assure the objectivity of the calculations. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The other PRO called REWARDING RECYCLING places the equipment used for the separate collection of packaging waste free of charge within the area of the collaborating municipalities. Both PROs can also manage non-packaging recyclable materials (e.g. printed paper, plastics or non-packaging metal products, if collected co-mingled with packaging waste), which helps to promote recycling in Greece. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The Greek authorities consider this recommendation partly implemented (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

Recommendations on a more effective use of EU Funds

8) Maximise the beneficial use of EU Funds through ensuring that funds support: a) Activities in the upper tiers of the waste hierarchy, notably, at recycling and the tiers above; b) Capacity building at the municipal level to support the development of high quality recycling services (see point 10); c) The delivery of high quality recycling services by local authorities, including enhanced dry recycling services for packaging, which should be funded by HERRco (see above), and convenient door-to-door collection systems for food waste, consistent with the types of performance that will need to be achieved in future; d) Delivery of biowaste treatment to manage separately collected biowastes (to be integrated with the development of collection systems, and working collaboratively, as necessary, with other municipalities) e) The provision of green points designed to a) support re-use through the development of 'up front' re-use shops; and b) support recycling of bulky materials, including garden waste.

During the EU Structural Funds Programming Period 2014-2020, the Special Service for the Management of the Operational Programme Infrastructure for the Transport of Environment and Sustainable Development planned funding of the recycling projects with EUR 120 Million, equipment for the bio-waste collection and transport, and the establishment of Green Points and Recycling Corners, as described in the Regional Waste Management Plan of each region. At this point, measures with a total budget of EUR 87 Million are being implemented. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

All the calls issued by the Funding Programme include technical consultancy to municipalities in planning, performing studies and supervising the implementation of the corresponding actions. In addition, several guidelines to assist municipalities have been published. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

During the Programming Period 2014-2020, municipal and inter-municipal composting units for processing of pre-sorted bio-waste have been planned to act either as independent units or integrated as separate processing lines within the residual waste treatment plants, with around EUR 120 Million budgeted. This measure is directed to important areas of the country regarding population criteria (e.g. 7 bio-waste treatment facilities located in Central Macedonia, 3 in Attica, and 4 in Epirus), and in areas where the separate collection of pre-sorted bio-waste is critical, such as in the islands of Leros, Milos, Andros, Karpathos and Sporades. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The Greek authorities consider this recommendation implemented (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

9) There should be a corresponding reduction in the emphasis on provision of capacity for the treatment of residual waste.

The MBTs established during the Programming Period 2014-2020 will be adapted to the circular economy approach by reducing the volume of residual MSW treated and enhancing the recovery of recyclables during the mechanical sorting, enhancing bio-waste treatment to be able to produce high quality compost and enhancing the final production of secondary materials to obtain less residue generated, in line with the targets of the National Waste Management Plan (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

The following measures are planned for the next Programming Period 2021-2027:

- Establishment of composting plants on islands of the South and North Aegean and the Ionian Islands
- Standardization for green waste collection equipment and material
- Adjustment of the MBT plants established during the Programming Period 2014-2020 to the CE and the new NWMP — production of solid recovered fuel to be used as energy and/or an increase in treatment capacity of pre-sorted organic waste

- Waste treatment plants designed to comply with the new Directives and not requiring adaptation (e.g. Attica — Eastern and Western Thessaloniki sectors)
- Upgrading the existing sorting plants (KDAYs)
- Management units for hazardous waste
- Recycling at the source of origin — Reuse of non-packaging materials (Creative Reuse Centres of Materials) not collected by the PROs (e.g. textiles, mattresses, furniture, household articles) — Collection equipment for other recyclable materials (printed paper, single-use plastics, etc.); and
- Collection equipment for separate collection of bio-waste (Brown bins)— Smart PAYT systems — Vehicles for transporting separately collected bio-waste. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The Greek authorities consider this recommendation implemented (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

Recommendations on capacity building

10) Establish a national programme of ongoing technical support aimed at upskilling the staff within municipalities (see above regarding Funding). This would target all regions and municipalities including islands and remote areas.

See Section 2.1.2 for more information.

In order to support and guide local government and with a view to improving the performance of separate collection and recycling, on the website of the Ministry of the Environment and Energy, inter alia, relevant studies/guides were published as follows:

- Guide on separate collection of municipal waste, which describes a proposed step-by-step approach for each waste stream (paper, plastic, metal, glass and bio-waste), taking into account specific characteristics of municipalities (urban, rural, insular) and waste management efficiency criteria (low, medium or advanced)
- Guide on separate collection of bio-waste, accompanied by a guide on home composting, posters and brochures
- Guide on improving cost accounting of waste management operations, accompanied by a computer tool.
- Guides for the implementation of separate bio-waste collection in six municipalities/pilots in Attica, to whom technical support had been provided.

These studies were carried out as part of the project 'Technical support for the implementation of the Greek National Waste Management Plan (NWMP)', funded by the European Union (EU), through the Directorate-General DGREFORM of the European Commission, and the Federal Ministry of Environment, Nature Protection and Nuclear Safety (BMU) of Germany and implemented by Deutsche Gesellschaft für Internationale Zusamarbeit GmbH together with the Ministry of Environment and Energy, 2021, in cooperation with the European Commission from January 2019 until March 2021.

At the same time, both the above project and the TAIEX technical assistance programme carried out information and training days /workshops targeting Municipalities and FODSA, at which both the abovementioned studies and good practices for separate collection of waste were presented.

In addition, since November 2019, the integrated project LIFE-IP "Implementation of the circular economy in Greece" has been implemented with the Ministry of the Environment and Energy, as the coordinating partner, which is intended to make a decisive contribution to the implementation of the National Waste Management Plan, the National Waste Prevention Programme and the National Circular Economy Strategy, focusing on the promotion of good practices and behavioural change. Project actions include, but are not limited to: the implementation of pilot projects of separate waste collection and pay-as-you-throw systems, the organisation and operation of separate collection and re-use centres, the development and operation of integrated waste management systems, capacity building through dedicated thematic seminars tailored to the needs of all stakeholders and distance training, awareness raising, information and dissemination of project results through the organisation of regional information days and conferences, and finally the mobilisation of financial resources.

Attention should also be drawn to the important role played by FODSAs in scientific and technical support for first-level local authorities in the design, implementation and creation of actions and projects to promote the waste hierarchy (also in accordance with Law 4555/2018). They shall implement, on behalf of first-level local authorities, on request, separate collection for recycling under programme contracts, and shall carry out pilot projects (e.g. DIADYMA, FODSA of Western Macedonia) with a view to promoting recycling, supporting first-level local authorities.

In addition, the Management Organization Unit Of Development Programmes (MOU SA) of the Ministry of Finance, Development and Investment, through its Beneficiary Support Teams, provides advisory, management and technical support to bodies managing and implementing projects co-financed by the European Union. In particular for waste management projects, support to municipalities is mainly provided through the Environmental Technical Support Unit and can take the following forms:

(a) project-specific support on the ground, including all stages of project implementation, such as planning, maturity, inclusion in funding programmes, implementation, management and monitoring.

(b) training, organisation of seminars and technical meetings, etc.

(c) issuing tools such as guides, manuals, etc. MOU has so far issued the following two manuals:

- Green Point Development Methodology (2018)
- Methodology for developing a municipal bio-waste management system (2019)

In addition to the above-mentioned guides drawn up by the MEE and MoU S.A., guides and manuals have also been issued by other bodies to support municipalities and other bodies in designing, implementing and operating recycling projects and actions.

The following are examples:

- Guide on the implementation of sorting at source programmes & Biowaste Management Systems, 2012, EPERAA
- Open composting facilities operating guide (aerobic treatment) of pre-sorted biowaste, 2014, EPERAA
- Green Point Guide, 2015, EOAN
- Guide to Design, Organisation & Operation of Green Points, 2015, EPERAA
- Green Points/ KAEDISP & ESDA, 2015, Network of Solid Waste Management Bodies.

Finally, technical support for municipalities is also part of the funding programmes. The National Strategic Reference Framework (NSRF) calls for the financing of municipal projects for recycling, green point development and bio-waste management typically include as eligible costs the provision

of services for their technical support, usually related to the design, implementation and operation of the relevant projects and actions.

EOAN undertakes information and awareness-raising actions through the programme it prepares each year and is posted on its website (for all streams of waste falling under extended producer responsibility). For this reason there is also a special directorate at EOAN, the Directorate for Research, Prevention and Communication and a special department in the Directorate for Alternative Management for Local Authorities.

Also, through the budget approved for this reason and as part of the obligations of the SEDs to carry out information measures, the SEDs must draw up and implement a detailed annual information and awareness-raising programme for the public and specific groups of bodies/enterprises, including at least the actions, the purpose, the means of implementation and the budget for their costs (annual programming report).

The Greek authorities consider this recommendation partly implemented (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

Recommendations on communications and awareness raising

11) To ensure that, drawing on funding from HERRco and other producer responsibility schemes, and with national level coordination, there is: a. A national programme of communications designed to foster awareness about proper management of waste, and a recycling consciousness; b. Consistent iconography, and other marketing collateral, developed so that this may be used by municipalities in local communications work. This will ensure that residents encounter clear and consistent signage at Green Points, recycling containers and on communications leaflets for recycling services.

The Secretariat-General for Waste Management Coordination is currently running an awareness-raising project on recycling and source separation aimed at inhabitants. The project consists of seven individual sub-projects:

- Preparation of a communication strategy and action plan on recycling
- Consultancy on communication and support for the execution of the above action plan
- Studies on executing the policies and incentives to obtain the targets of the NWMP, and targeted research about the potential of implementation of source separation and CE programmes
- Integrated information system for inhabitants, businesses and institutions
- A service centre for inhabitants, businesses and institutions
- Preparation and publication of communication and information material; and
- Organization of events and workshops. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

In addition, PROs are required to organise information and awareness-raising programmes annually. EOAN supervises the implementation of these actions. (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021)

The Greek authorities consider this recommendation implemented (Ministry of Environment and Energy, Secretariat-General for Waste Management Coordination, Directorate for Waste Management, 2021).

Annex 2 Detailed scoring of success and risk factors

Assessment sheet - Recycling target for municipal waste

MS Greece

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 delay of > 12 months, or no full transposition yet	1	0
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	No landfill taxes or low tax (< 30 EUR/t*)	1	0
MSWR-3.2	Taxes on municipal waste incineration	N/A (for countries without capacities for incineration)	1	0
MSWR-3.3	Pay-as-you-throw (PAYT) system	PAYT scheme implemented in some regions/ municipalities (50-80% of population covered) OR No or less than 50% of the population covered by PAYT but firm plans for rolling out	1	1

Separate collection systems				
MSWR-4.1	Convenience and coverage of separate collection systems for the different household waste fractions			
	Paper and cardboard	A high share of the population is covered by high convenience collection services	0.46	0.92
	Metals	A high share of the population is covered by high convenience collection services	0.08	0.16
	Plastics	A high share of the population is covered by high convenience collection services	0.28	0.56
	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	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	0.23	0.46
	Metals	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	0.04	0.08
	Plastics	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	0.14	0.28
	Glass	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	0.09	0.18
	Bio-waste	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	0.42	0.84
	Wood	No firm plans to improve the convenience and coverage	0.03	0
	Textiles	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	0.03	0.06
	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	At least one packaging fraction* has an advanced fee modulation that meets at least two assessment criteria	1	1
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	Legally binding national standards for compost/digestate quality but no quality management system	1	1
			Total score	**7.98**
			Maximum score	31.96
				25%

Assessment sheet - Recycling target for packaging waste

MS Greece

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	> 15 percentage points below target, or no data reported	5	0
	Distance to target - Glass packaging	> 15 percentage points below target, or no data reported	5	0
	Distance to target - Plastics packaging	> 15 percentage points below target, or no data reported	5	0
	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 < 40% and increase in last 5 years < 10 percentage points	1	0
	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 < 40% and increase in last 5 years < 10 percentage points	1	0
	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 percentage points, or RR < 15% and increase in last 5 years > 10 percentage points	1	1
Legal instruments				
P-2.1	Timely transposition of the revised Packaging and Packaging Waste Directive into national law	Transposition with delay of > 12 months, or no full transposition yet	1	0
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	No landfill taxes or low tax (< 30 EUR/t*)	1	0
P-3.2	Taxes on municipal waste incineration	N/A (for countries without capacities for incineration)	1	0
P-3.3	Packaging taxes	Limited packaging tax	1	1
P-3.4	Pay-as-you-throw (PAYT) system	PAYT scheme implemented in some regions/ municipalities (50-80% of population covered) OR No or less than 50% of the population covered by PAYT but firm plans for rolling out	1	1
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 high share of the population is covered by high convenience collection services	1	2
	Paper and cardboard packaging (non-household)	Separation at source is not mandatory for non-household paper and cardboard packaging waste	1	0
	Ferrous metals packaging (household)	A high share of the population is covered by high convenience collection services	1	2
	Ferrous metals packaging (non-household)	Separation at source is not mandatory for non-household ferrous metals packaging waste	1	0
	Aluminium packaging	A high share of the population is covered by high convenience collection services	2	4
	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 not mandatory for non-household glass packaging waste	1	0
	Plastics packaging (household)	A high share of the population is covered by high convenience collection services	1	2
	Plastics packaging (non-household)	Separation at source is not mandatory for non-household plastic packaging waste	1	0
	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)	N/A (for countries in which a high share of the population is already covered by high convenience collection services)	0.5	0
	Paper and cardboard (non-household)	Firm plans to introduce mandatory sorting at source for non-household paper and cardboard packaging waste	0.5	1
	Ferrous metals packaging (household)	N/A (for countries in which a high share of the population is already covered by high convenience collection services)	0.5	0
	Ferrous metals packaging (non-household)	Firm plans to introduce mandatory sorting at source for non-household ferrous metals packaging waste	0.5	1
	Aluminium packaging	N/A (for countries in which a high share of the population is already covered by high convenience collection services)	1	0
	Glass packaging (household)	Firm plans to improve the separate collection system, with clear responsible entities and defined targets and timeline	0.5	1
	Glass packaging (non-household)	Firm plans to introduce mandatory sorting at source for non-household glass packaging waste	0.5	1

	Plastics 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
	Plastics packaging (non-household)	Firm plans to introduce mandatory sorting at source for non-household plastics packaging waste	0.5	1
	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	At least one packaging fraction* has a fee modulation that meets at least two assessment criteria	1	1
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 all four assessment criteria	1	2
	Material specific EPR assessment - Wooden packaging waste	EPR scheme covering all non-household packaging	1	2
Total packaging recycling target				**13.73**
			Maximum score	31.33
				44%

Paper and cardboard recycling target

Total score	**19.00**
Maximum score	29.00
	66%

Ferrous metals packaging recycling target

Total score	**19.00**
Maximum score	29.00
	66%

Aluminium packaging recycling target

Total score	**8.00**
Maximum score	30.00
	27%

Glass packaging recycling target

Total score	**8.00**
Maximum score	32.00
	25%

Plastics packaging recycling target

Total score	**8.00**
Maximum score	33.00
	24%

Wooden packaging recycling target

Total score	**16.00**
Maximum score	32.00
	50%

Assessment sheet - Target for landfilling of municipal waste

MS Greece

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	Target for reducing the amount of biodegradable municipal waste (BMW) landfilled to 35% of BMW generated in 1995 has not been achieved in 2016 or in the year specified in the derogation where applicable, or data not reported. Or in case of derogation: Target for reducing the amount of biodegradable municipal waste (BMW) landfilled to 35% of BMW generated in 1995 has not been achieved yet and available data indicate that it is unlikely to be achieved	1	0
			Total score	**0.00**
			Maximum score	14.00
				0%