

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



Italy 

June 2022

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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 Italy. 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 Italy is at risk of missing the targets for municipal waste and packaging waste set in EU legislation for 2025. In addition, it provides a preliminary assessment of the prospects for meeting the 2035 target for landfilling of municipal waste.

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

1.2 Approach

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

More specifically, chapter 2.1 assesses the likelihood for Italy 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 Italy to achieve the overall packaging waste and specific packaging materials' recycling targets for 2025. Chapter 2.3 examines the prospects for Italy 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.

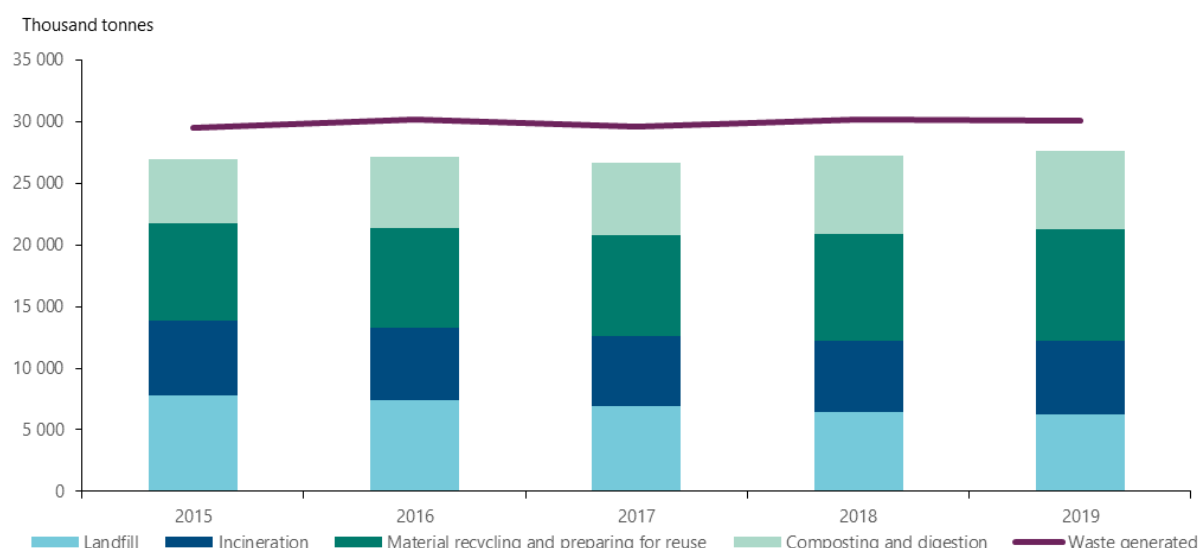
1.3 Member State profile – context parameters

Municipal waste generation and treatment

Since 2015, Italy generates about 30 million tonnes of municipal waste annually, with marginal yearly variations (Figure 1.1). Waste generation corresponded to 503 kg/cap in 2019, slightly above the (estimated) EU average of 501 kg/cap. The country has substantially reduced landfilling, showing a decrease of the landfill share from 26.5 % to 20.9 % in the period 2015 - 2019. The total tonnage of landfilled waste over the same period went down from 7.8 to 6.3 million tonnes. The amount of waste sent to incineration was fairly stable, fluctuating between 5.6 and 6.0 million tonnes annually, and accounting for about 20 % of the total volume of generated waste. The rate of material recycling and composting/digestion increased from 44 % to 51 % between 2015 and 2019.

In summary, in the case of municipal waste treatment in Italy, the trend that is observed between 2015 and 2019, is a constant volume of municipal waste generation, both per capita and in absolute terms, accompanied by a moderate growth of the share and tonnage of the volumes that are recycled, composted or digested, at the expense of landfilling.

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



Source: Eurostat (2022b)

In Figure 1.1, it is observed that, in 2019, about 2.2 million tonnes of generated waste is not reported as treated through either landfilling, incineration, material recycling, or composting and digestion. This is because ISPRA reports on additional categories of waste management operations applied to MSW such as home composting (1 % of the total generated MSW in 2019), co-incineration (1 %), use as landfill cover (1 %), intermediate sorting and biostabilization (<4 %), exports (2 %), and process losses and waste in storage at the end of the year (2 %), that cannot always be associated to one of the four treatment options that are considered for the present assessment (ISPRA, 2020).

Legal Framework

In September 2020 the Italian Government published four Legislative Decrees that, as a whole, bring into force provisions of the 2018 European Directives 849 to 852 of the so-called European Circular

Economy Package. The changes in the national legal framework are expected to impact waste management, especially for Extended Producer Responsibility (EPR) Schemes, municipal waste, construction and demolition waste, packaging and packaging waste, WEEE, waste from batteries and accumulators, end-of-life vehicles, landfill construction and management (Interreg Europe, 2021). Legislative Decree 116/2020 amends Legislative Decree 152/2006 and implements Directive (EU) 2018/851 amending Directive 2008/98/EC on waste, and Directive (EU) 2018/852 amending Directive 1994/62/EC on packaging and packaging waste.

The amended Legislative Decree no. 152/2006, the Environmental Consolidated Act (ECA) (Norme in materia ambientale or Codice dell'Ambiente), consists of seven parts:

- Environmental general principles;
- Environmental Impact Assessment (EIA) and Integrated Pollution Prevention and Control (IPPC) permit (Autorizzazione Integrata Ambientale) (AIA);
- Water resources management and soil protection;
- Waste and packaging management;
- Remediation of contaminated sites;
- Air protection and air emissions;
- Environmental damage.

The Italian state has exclusive competence in environmental regulation. The principal national authority is the Ministry of Ecological Transition (Ministero della Transizione Ecologica) (MiTE) (formerly the Ministry of the Environment and Protection of Land and Sea (Ministero dell'Ambiente e della Tutela del Territorio e del Mare) (Legislative Decree no 22/2021 converted into law no 55/2021) (Thomson Reuters, 2021).

Where they have delegated legislative powers, Italian regions can issue environmental regulations. These include the regulation of waste management activities, such as the separate collection of municipal waste, including hazardous waste, food-borne waste and waste of vegetable and animal products.

Municipalities within optimal management areas (Ambito Territoriale Ottimale or ATO) organise municipal waste collection and management in line with the area plans.

Waste management plan(s)

No national waste management plan is in place in Italy. However, article 198-bis of the Legislative Decree 152/2006 has introduced into Italian law the preparation of a national waste management plan. Such plan has been elaborated by the Ministry of Ecological Transition (MiTE) and is currently in the public consultation phase under the strategic environmental assessment procedure.

Regions hold the responsibility for the preparation, adoption and updating –after consulting the Provinces, Municipalities and local authorities– of regional waste management plans.

It has been observed that the centre and south of the country perform less well in waste management than the north, although considerable progress has been made. For instance, in Campania, a functional waste management network has been put in place, and a protocol containing an action plan on waste fires was signed in 2018. Several Italian regions have integrated a circular economy approach into their regional waste planning. Ex-ante conditionalities of the European Regional Development Fund (ERDF) have contributed to the elaboration of waste management plans

in conformity with EU law, in particular in southern regions in need of waste management infrastructure. (European Commission, 2019)

Italy is also recognized as the birthplace of the Zero Waste Cities initiative in Europe and continues to be home to the highest number of municipalities who are implementing zero waste strategies today. Zero Waste Italy now works with 311 municipalities, covering over 6 million inhabitants (Zero Waste Europe, 2020a).

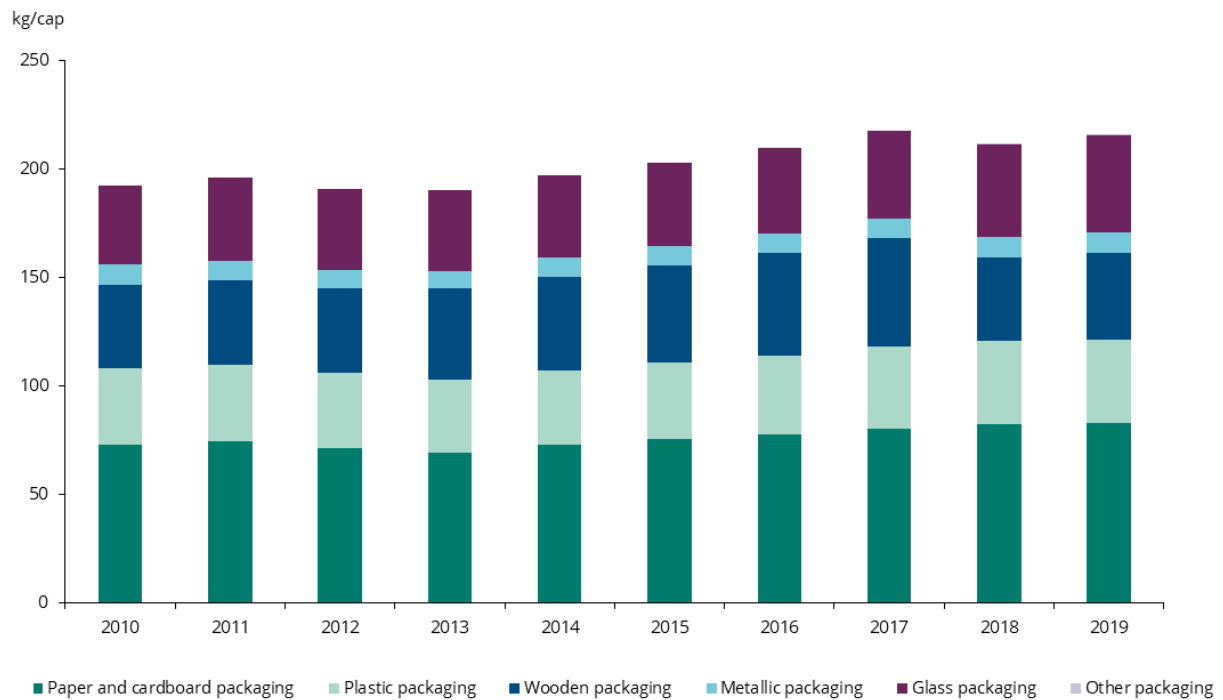
Information on regional level is currently available with regard to the regions of Sicily and Lazio.

- Sicily: The Regional Waste Management Plan (RWMP) has been approved by the Sicilian Region with the Presidential Decree 12 March 2021, n. 8 - Implementation regulation of art. 9 of the regional law 8 April 2010, n. 9 *Approval of the regional plan for the management of municipal waste in Sicily*. The plan is a revision of the previous Municipal Waste Management Plan approved with decree prot. n. GABDEC-2012-0000125 of 11 July 2012 and amended in 2016. Application period is 2018 – 2023. The WMP covers all municipal waste streams. Special (industrial) waste is covered by a separate plan, the *Update of regional special waste management plan*, adopted with O.C.D. n. 1260 of 30/09/2004, updated in 2017 (Piano Regionale di Gestione dei Rifiuti Urbani, Regione Siciliana, 2018).
- Lazio: The Regional Waste Management Plan (RWMP) has been approved by the Lazio region with decision of the Regional Council n. 4 of 05.08.2020 (delibera del Consiglio regionale n. 4 del 05.08.2020). The plan is a revision of the previous WMP, approved with decision of the Regional Council n. 14/2012 (delibera del Consiglio regionale n. 14/2012). The plan's application period is 2019 – 2025 and it will be reviewed after six years from its legal adoption. The WMP covers all waste streams (municipal and industrial/special waste)(Piano Regionale di Gestione dei Rifiuti della Regione Lazio, 2020).

Packaging waste generation and treatment

In Italy, about 12.9 million tonnes (216 kg/cap) of packaging waste were generated in 2019, well above the EU average of 177 kg/cap. In the period from 2010 to 2019, the total weight of packaging waste generation per capita has fluctuated between 190 and 217 kg/cap. Remarkably, the relative shares of the different packaging materials have barely changed between 2010 and 2019 (Figure 1.2).

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



Source: Eurostat, (2022c)

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.

The residual MSW composition that was used for calculating the contribution of a specific material group to the total MSW volume refers to a 2014-2019 average. Data on the volumes of separately collected material streams were provided by ISPRA (Institute for Environmental Protection and Research, 2021). It is important to note that these data do not differentiate between households and non-household sources. For Italy, Table 1.1 shows the calculated capture rates for different waste fractions.

Table 1.1 Capture rates for different waste fractions in Italy

	Residual waste composition (%) ^(b)	Residual waste composition (tonnes) ^(a)	Separately collected amounts (tonnes) ^(b)	Materials in total MSW (tonnes)	Capture rates (%)
Reference year	Av. 2014-2019	2019	2019		
Mixed municipal waste, total		11 479 767			
Paper and cardboard	21 %	2 410 751	3 523 637	5 934 388	59 %
Metals	2.5 %	286 994	362 734	649 728	56 %
Glass	2.6 %	298 474	2 270 731	2 569 205	88 %
Plastic	17 %	1 951 560	1 528 142	3 479 702	44 %
Bio-waste	30.5 %	3 501 329	7 296 808	10 798 137	68 %
Textiles	5 %	573 988	157 703	731 691	22 %
Wood	1.3 %	149 237	930 261	1 079 498	86 %

(^a) Note: Share of material in residual waste (household waste only) multiplied with the amount of residual waste as reported in the questionnaire by Institute for Environmental Protection and Research (2021)

(^b) Source: As reported in the EEA-ETC/WMGE questionnaire by Institute for Environmental Protection and Research (2021)

Capture rates in Italy evidence a modest potential for improving the separate collection rates for glass and wood, and with some more room for improvement for paper and cardboard, metals and bio-waste. As for many EU member states, the potential for increased capture is highest for plastics and textiles.

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 Italy 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).

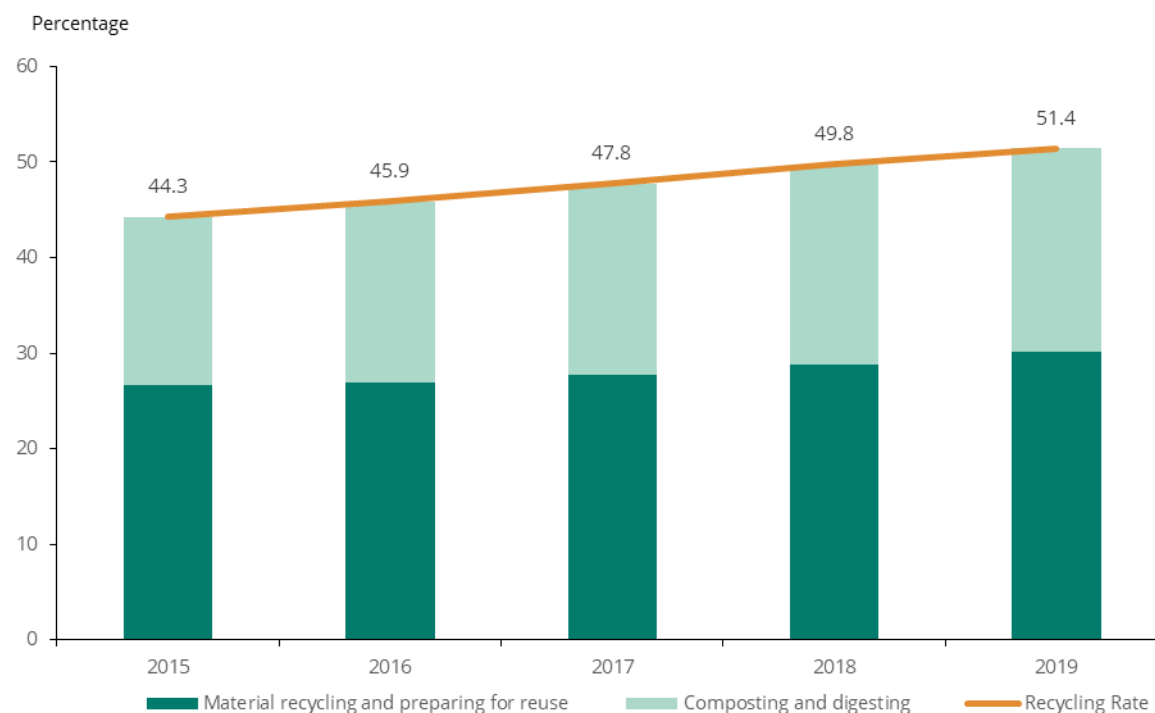
2.1.1 Current situation and past trends

SRF MSWR-1.1: Distance to target

The overall recycling rate of Italy has been constantly increasing between 2015 and 2019, from 44.3 % to 51.4 % respectively (Figure 2.1).

In this analysis the recycling rate is calculated by dividing the summed amounts of recycling of materials and of composting/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 defined in Article 11a are not yet available.

Figure 2.1 - Recycling rate in Italy between 2014 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 Italy, the recycling rate is 51.4 % in 2019, which is 3.6 percentage points below the target.

However, the data used for this analysis are based on a different methodology than the calculation rules for the target. A complete assessment of the impact of the new calculation methodologies has not been carried out in Italy. ISPRA however believes that the application of the new calculation rules will, in the case of some constituent fractions of municipal waste, reduce the calculated recycling rates as compared to those determined with the previous methodology. At the same time, it is expected that no substantial differences will be seen with respect to the recovery of fractions that are separately collected, in particular packaging waste and biowaste fractions, since these are calculated with a methodological approach already somewhat aligned with the new calculation criteria. Examples of such alignment include the following:

- The reported figures on composting and digestion already exclude residual fractions and inorganic contaminants that are removed in organic waste pre-treatment;
- All plastic packaging waste contaminants that are removed before reception at the final recycling plant, are not counted as recycled packaging.

When applying this approach, the percentage of total municipal waste recycled in Italy is estimated around 47 % in 2019 (Institute for Environmental Protection and Research, 2021).

Composting figures from Italy do not include outputs from mechanical biological treatment (MBT) but consider anaerobic treatments. Residual fractions from sorting operations that are landfilled, are not included in the recycling figures (Eurostat, 2017).

Summary result

Distance to target 5 - 15 percentage points	Based on currently available data Italy's recycling rate lies at 51.4%, 3.6 percentage points below the 2025 target. Considering, however, the impact of the new calculation rules, the recycling rate is estimated to lie around 47 %, 8 percentage points below the target.
Robustness of the underlying information	The assessment is preliminary as it is based on currently available data that deviate from the calculation rules defined for the target. The reduced recycling rate due to the application of the new calculation rules is an estimation.

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

For Italy, the recycling rate over the past five years shows a significant and sustained improvement of almost 2 percentage points annually. Both enhanced material recycling rates and growing rates of digestion and composting of bio-waste, contribute equally to the improvement (Figure 2.1). Taking the impact of the application of the new calculation rules into account, however, could lower the recycling rate to below 50 % (around 47 % as estimated by the Institute for Environmental Protection and Research) and thus increases the distance to target. Meeting the target will therefore require an annual increase of a little less than two percentage points annually in the period 2019-2025, which appears to still be achievable in consideration of the past trend.

Summary result

RR > 45%, and increase in last 5 years < 10 percentage points	The recycling rate increased by 7 percentage points in the period 2015 – 2019. For Italy, the application of the new calculation rules would result in a recycling rate of about 47 % in 2019.
Robustness of the underlying information	There is no break 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.

Italy has transposed the amended Waste Framework Directive into national law. The corresponding law, L. n. 116/2020, was published in the *Gazzetta Ufficiale della Repubblica Italiana* on 11 September 2020, more than 2 months after the deadline of 5 July 2020 (Federalismi.it, 2020).

Summary result

Transposition with a delay of less than 12 months	Italy has transposed the amended WFD into national law with a delay of less than 12 months.
Robustness of the underlying information	Full information on the progress of the legislative process is publicly available, and was confirmed by information received from the European Commission (status as of 12 November 2021).

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

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

In Italy, clearly defined responsibilities at different government levels are contained in the Legislative Decree 152/2006 Environmental Code. The Decree establishes responsibilities at the level of state, region, province, Optimal Territorial Area (OTA) and municipality. The OTAs are generally represented by provinces. Pursuant to Law 191/2009 regions are responsible for organizing the integrated management of municipal waste within ATOs (EEA, 2016). Regional obligations include the preparation and updating of regional waste management plans and the regulation of waste management activities, including the separate collection of municipal waste. Municipalities, as part of the OTA, contribute to the management of municipal waste and establish the methods for municipal waste collection and transport, as well as the procedures for separate collection and further management of the obtained waste fractions (Institute for Environmental Protection and Research, 2021).

Article 205 of Legislative Decree no. 152/2006, in particular fixes separate collection objectives to be achieved at the OTA level or, if the OTA is not established, at the municipality level. If an OTA does not achieve the separate collection targets, the Legislative Decree 152/2006 foresees a financial penalty to be paid, consisting of a cumulative addition of 20 % on the landfill tax, to be divided

among the municipalities whose bad performances failed to obtain the result (EEA, 2016; Institute for Environmental Protection and Research, 2021).

In the event of non-observance of international laws and treaties, or of European Union regulation, or in case of serious risks to public health and safety, legal procedures are in place that enable the government to take back control from regions, metropolitan cities, provinces, and municipalities, respecting subsidiarity and loyal cooperation principles. When, pursuant to article 222, subparagraph 5bis, of the Legislative Decree 152/2006, the Ministry of Ecological Transition can demonstrate that local administrations did not implement adequate separate collection systems, or that implemented systems are insufficient to reach the separate collection targets, it can deploy subsidiary measures, even invoking support of public entities, collective systems, consortia or private companies (identified by a public tender), for a maximum period of 24 months. Additionally, if the specific, national separate collection targets on packaging waste, as laid out in article 205, are exceeded, the Consorzio Nazionale Imballaggi (CONAI), under article 224 subparagraph 13, can finance actions that incentivize or implement waste collection in those areas where the targets are not met yet.

Summary result

Clearly defined responsibilities and enforcement mechanisms but no/weak support tools for meeting the recycling targets	Clearly defined responsibilities at different government levels are in place in Italy, established in the Legislative Decree 152/2006 and Law 191/2009. There are no support tools in place to facilitate improved performance on recycling.
Robustness of the underlying information	Credible information received from the Italian authorities through the EEA-ETC/WMGE questionnaire.

2.1.3 Economic instruments

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

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

In Italy, a nationwide tax for landfilling of residual waste was introduced by Law 549/1995 and subsequently revised by Law 62/2005. However, it is the individual regions that decide on the amount of the tax applicable in their territory, which cannot be less than 5.17 EUR/t and with a maximum of 25.82 EUR/t¹. These amounts are set yearly, through regional laws to be issued by 31 July of each year.

Article 205 of Legislative Decree no. 152/2006, set a minimum nation-wide separate collection target of 65 %, to be achieved by the end of 2012 at latest at the OTA level or, if such area is not established, at the municipality level. The article establishes that where the separate collection target is not achieved at the OTA level, an additional 20 % is applied to the landfill tax, to be paid by the Area Authority, dividing the burden among those municipalities of its territory that have not reached the minimum percentages. By means of a specific law, and after agreement with the Ministry of Ecological Transition (MiTE), the regions can indicate greater recycling and recovery objectives.

¹ Pursuant to Article 26 of Law 62 of 18 April 2005

With respect to the monitoring of targets, the Legislative Decree no. 152/2006 gives the responsibility to the regions for the calculation and verification of separate collection rates, the development of compensation systems, and the definition of payment modes. Regional Environmental Protection Agencies (ARPA) are responsible for data validation and reporting to the regional authority, which, every year, defines the separate collection level for every municipality and OTA. The region, on its turn, shares the information on indicators and targets with the Ministry of Ecological Transition (MiTE), as to provide evidence on the implementation status of the measures defined in Regional Waste Management Plans (PRGR). OTAs use the PRGRs to define their local waste management programs and plans, which include separate collection targets. Local plans and the monitoring of the programmes' environmental impacts are subject to a Strategic Environmental Assessment (VAS) procedure. This may include monitoring of separate collection rates, which is performed by competent authorities with ARPA support.

In the national waste management plan, that will be developed according to article 198 bis of the Legislative Decree 152/2006, a strategic approach will be defined for increasing separate collection rates, providing criteria for planning, and seeking for achieving EU waste targets, establishing the corresponding policies and intermediate goals.

Where the collection targets have been achieved or exceeded, without prejudice to the minimum amount of 5.17 EUR/t, which can in no case be further reduced, the extent of the disposal tax can be modulated by the regions, according to the following table:

Exceeding the separate collection target level with	Corresponding landfill tax reduction (down to minimum 5.17 EUR/t)
0.01 % to 10 %	30 %
10 %	40 %
15 %	50 %
20 %	60 %
25 %	70 %

Such rewarding mechanism is in place in the regions of Abruzzo, Liguria, Lombardy, Marche, Puglia, Sardinia, Tuscany, Valle d'Aosta and Veneto (Ballabio, et al., 2020).

It is acknowledged that since its first adoption, the landfill tax (or *ecotassa* in Italian) has always maintained the maximum value of 50 000 lire per tonne, which then became 25.82 EUR/t with the advent of the Euro. This means that in the 25 years since its first introduction, the landfill tax has lost about a third of its real value, eroded mainly by inflation (Ballabio, et al., 2020).

Summary result

Low tax (< 30 EUR/t ^(a))	In Italy, there is a legally established maximum amount, for regionally issued landfill taxes, of 25.82 EUR/t (corresponding to 25.5 EUR/t rescaled based on purchasing power parities) The tax value expressed in Euro has not changed in the last 25 years, and no escalator mechanism is currently applied nor planned.
Robustness of the underlying information	The provided information is contained in publicly available legislation

(^a) Note: Rescaled based on purchasing power parities Eurostat (2020)

SRF MSWR-3.2: Taxes on municipal waste incineration

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

An eco-tax of an amount of 20 % of the ordinary landfill tax is due for waste incineration in incineration plants without energy recovery, classified as *D10 Incineration on land*, for MSW and residues from sorting, recycling and composting plants, and for sludge² (Ballabio, et al., 2020). In 2019, only 3 % of incinerated municipal waste was incinerated without energy efficiency, so the tax has minimal effect (Eurostat, 2021b).

The amount of the landfill tax is determined at regional level, with a maximum of 25.82 EUR/t, which results in a maximum eco-tax for incineration without energy recovery of 5.16 EUR/t.

Summary result

Taxes < 7 EUR/t ^(a)	Incineration tax in Italy only applies for incineration without energy recovery, with a maximum amount of 5.16 EUR/t (corresponding to 5.1 EUR/t rescaled based on purchasing power parities).
Robustness of the underlying information	The provided information is contained in publicly available legislation

^(a) Note: Rescaled based on purchasing power parities Eurostat (2020)

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

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

ISPRA (Institute for Environmental Protection and Research, 2021) has indicated that in 2019 about 10.8 % of the population is covered by PAYT charging systems. This corresponds to 9.5 % of the total number of municipalities in Italy (Fise Assoambiente, 2021). In the Italian context, charged door-to-door collection is characterized by overall higher performance as compared to systems of free access waste containers on the road, in particular in terms of the quality of the differentiated fractions. Door-to-door collection also has resulted in increased separate collection, reduced residual waste per capita, increased capture and effective recovery rates, whilst simultaneously reducing the average household costs in regions and cities with door-to-door collection (Folli, 2018).

In some cases, to optimize service costs, PAYT systems have been introduced that are shared by more than one household. This is the case for the so-called *condominiums* (apartment blocks), and in rural areas with low housing densities. Also some non-household waste collection points are equipped with containers that are shared among multiple users. In the latter case, users must

² Article 3, c. 40, Law n. 549/1995, pursuant to which for waste disposed of in incineration plants without energy recovery or in any case classified exclusively as disposal plants by means of operation '*D10 Incineration on land*', for the residues and overflows of automatic sorting, recycling and composting plants, as well as for the sludge, a tax is due in the amount of 20 percent of the amount of the landfill tax.

identify a person responsible for compliance with the requirements of the Urban Hygiene Regulations (Institute for Environmental Protection and Research, 2021).

Three different tariff types are in place (ISPRA, 2020):

- *Tari Tributo Puntuale*, corresponds to a variable part of the waste tax, that is calculated through the actual measurement of the quantity of waste at the ‘point of generation’; the application of such measurement systems envisaged by the Ministerial Decree of 20 April 2017 for this tariff is optional and not mandatory.
- *Tariffa Puntuale Corrispettiva*, is a non-tax waste fee that can be applied by the municipal authorities that have implemented waste measurement systems at the ‘point of generation’. It is specifically aimed at guaranteeing the effective proportioning between the rate charged to each user and the actual service offered to and/or used by this user. The corresponding fee is regulated through the combined provisions of article 1, c. 667 and c. 668 of Law 147/2013 and, compared to the traditional tax on waste, it is characterized by a greater implementation of the polluter pays principle. For the asset-related waste fee, the application of the measurement systems provided for by the Ministerial Decree of 20 April 2017 is mandatory. This way, the waste tax is no longer exclusively based on presumptive parameters such as square meters or the number of family members, but also on the actual production of residual waste, through measurement at the ‘point of generation’.
- Finally, the *Tariffa Puntuale Corretta*, is a non-tax waste fee. In this case, the distribution of the costs of the waste management service among the users consider, in addition to the precise measurement of the quantity of waste generated by each of them, the corrective systems foreseen in the provisions of article 9 of the Ministerial Decree of 20 April 2017.

The most used economic instrument in the waste management area in Italy is however still the TARI, the tax on waste. The tax for domestic users is not calculated according to the amount of waste generated, but instead on the surface area of the housing and its site; and the number of occupants. Examples of the TARI are available in (Comune di Cumiana, 2021) and (Comune di Padova, 2021). The system can be characterised as a weak PAYT scheme as the economic incentive to sort waste at source is not very visible to citizens compared to weight-based or sack-based schemes.

Summary result

Less than 50% of the population covered by PAYT	In Italy, 10.8% of the population is covered by different categories of pay-as-you-throw based taxes and fees.
Robustness of the underlying information	Data provided by responsible bodies (Istituto Superiore per la Protezione e la Ricerca Ambientale, ISPRA) in response to the questionnaire by the EEA and ETC/WMGE.

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 km², bring points with a density of < 5 per km², 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 taking into account the different materials

according to their average share in municipal waste. This is described in more detail in the methodology (ETC/CE & ETC/WMGE, 2022).

For Italy, according to the most recent data, the percentage of households living in cities is 35 %, in towns and suburbs 47 % and in rural areas 18 % (Eurostat, 2021a).

There is not sufficient data with national coverage available on the nature and incidence of collection systems for residual waste and separately collected waste fractions, for assessing the convenience and coverage of separate collection systems for each of the different household waste fractions individually, and the convenience and coverage of separate collection systems for different waste materials has therefore been estimated based on different other types of information.

Italian waste management authorities (Institute for Environmental Protection and Research, 2021) indicated that a detailed analysis on the prevalence of different waste collection systems (both for residual waste as for separately collected waste streams) was carried out in cities with a resident population greater than 200 000 inhabitants, 15 cities in total. In 2019, the corresponding municipalities represented a total population of almost 9.9 million inhabitants, equivalent to 16.4 % of the Italian population, and a share of 18.6 % of the total generation of municipal waste at national level. The analysis considered the prevailing collection system as the one that covered at least 70 % of the studied population and adopted the categorization of collection systems used by ISTAT (National Institute of Statistics).

According to information relating to 2017, among the 109 provincial capitals or metropolitan cities of Italy, many implemented initiatives to encourage citizens' engagement for improving waste collection. Some of these initiatives are common in almost all of the 109 cities, such as on-demand collection service for bulky waste and other specific types of waste (such as garden waste, toner), representing services implemented by over 97 % of the administrations. Bring points ('on street systems'), door-to-door collection, and the separate collection of waste in schools, are present in over 94 % of the capitals. Awareness campaigns on the importance of correct source separation are developed by 86 % of the municipal administrations, especially in the north. All metropolitan cities, in addition to the 15 cities with more than 200 thousand inhabitants, have carried out such campaigns, except for Messina.

In 70 % of the regional capitals, especially in the north and centre of Italy, special containers or bags for separate collection are made available to households. Mobile or mini *ecological islands* are active in at least half of the cities, while special *waste collection days* have been organized by 35 % of the provincial capitals.

In overall terms, ISTAT estimates that in 2018 about 66 % of Italian families were served by door-to-door waste collection services (Institute for Environmental Protection and Research, 2021).

Table 2.1 gives an overview of the collection systems in Italy, as informed by ISPRA (Institute for Environmental Protection and Research, 2021). Although detailed data are available on the incidence of different types of collection systems used in the administrative regions of Italy, such information is not available per individual waste material category (Associazione Nazionale Comuni Italiani, 2021; ISPRA, 2020). The national, material specific information in Table 2.1 is therefore estimated by ISPRA based on the available information, including the studies mentioned above.

Overall, the system delivers high capture rates for glass and wood, moderate capture rates for paper and cardboard, metals and bio-waste, and rather poor capture rates for plastics and especially textiles (Section 1.3). In 2019, 61 % of the municipal waste was collected separately, with highest separate collection rates in Northern Italy (Institute for Environmental Protection and Research, 2021).

Table 2.1 Characterisation of the collection system in Italy

	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 km ²)	Bring point (<5 per km ²)	Civic amenity site	Door-to-door - separate	Door-to-door - co-mingled	Bring point (>5 per km ²)	Bring point (<5 per km ²)	Civic amenity site	Door-to-door - separate	Door-to-door - co-mingled	Bring point	Civic amenity site
Residual waste	x		xx			x		x			x		x	
Paper and Cardboard	x	x	xx		x	x	x	x		x	x	x	x	x
Ferrous metals	x	xx	xx		x	x	xx	x		x	x	xx	x	x
Aluminium	x	xx	xx		x	x	xx	x		x	x	xx	x	x
Glass	x	x	xx		x	xx	x	xx		x	xx	x	xx	x
Plastic	x	xx	xx		x	x	xx	x		x	x	xx	x	x
Bio-waste	x		xx			x		x			x		x	
food	x		xx			x		x			x		x	
garden			xx		x			xx		x			xx	x
Textiles			xx		x			xx		x			xx	x
Wood	x*				x	x*				x	x*			x
WEEE	x*		x***		x	x*		x***		x	x*		x***	x
Composite packaging	x		xx		x	x		x		x	x		x	x
Bulky waste	x*				x	x*				x	x*			x

Note: xx: dominant system; x: other significant systems. Grey cells indicate high convenience collection systems. The term ‘civic amenity site’ has been interpreted by the Italian authorities in this table as referring to *ecological islands*, as they have been implemented in several municipalities, according to their size, and within urban areas. The ecological islands can receive different types of municipal waste such as: paper, cardboard, glass, wood, rubble, metals, plastic packaging, appliances, oils, paints, solvents, and others.

*mainly on call

***based on regulatory provisions, distributors collect very small WEEE from private households free of charge and without obligation to purchase EEE of an equivalent type (one versus zero criterion).

Source: Institute for Environmental Protection and Research (2021)

From the abundant data and information that was provided by ISPRA, it is further concluded that different separate collection systems are in place in Italy, covering most of the population, whether living in major cities, provincial capitals or rural municipalities. The prevalence of the diverse waste collection methods has been studied in detail. Most of available quantitative information however relates to either (i) the share of different categories of waste collection systems, for all types of

wastes, deployed in a city or administrative area, and/or (ii) to the population share served by a certain collection method, also without specifying the collected waste materials.

Only for a limited number of cities and regions, quantitative data are available that specifies the prevalence and share of a determinate collection method for one particular waste material category, e.g. how much of the rural population is served by separate door-to-door collection of glass not co-mingled with other materials. As an example of such information, for the Emilia Romagna region (one of the best performing regions in terms of the share of separately collected municipal waste), it is reported that 5 % of the glass is collected separately by a door-to-door collection system, as well as 23 % of the separately collected paper and cardboard waste, whereas 55 % of the separately collected metals is received at civic amenity sites (ARPAE, 2021).

In general, in Italy, door-to-door and bring point collection of glass, plastics and metals refers to packaging waste. Other types of waste, consisting of the same materials, are either collected on-demand or can be dropped off at civic amenity sites. Only for the paper and cardboard category, packaging and non-packaging (e.g. magazines, newspapers, etc.) are collected jointly. Wood, both from packaging and construction waste is often received at civic amenity sites only but also collected via bulky waste collection on call (Institute for Environmental Protection and Research, 2021).

Summary result

Paper and cardboard	A high share of the population is covered by high convenience collection services	A mix of high-density bring point and door-to-door collection systems (including co-mingled collection) are used with high coverage across the country, complemented with collection at civic amenity sites. Packaging and non-packaging paper and cardboard are collected together.
Metals	A high share of the population is covered by high convenience collection services	High convenience bring points and co-mingled collection door-to-door are the dominant collection systems, but other collection systems exist as well.
Plastics	A high share of the population is covered by high convenience collection services	High convenience bring points and co-mingled collection door-to-door are the dominant collection systems, but other collection systems exist as well.
Glass	A high share of the population is covered by high convenience collection services	High convenience bring points and door-to-door collection are the dominant collection systems, but other collection systems exist as well.
Bio-waste	A medium share of the population is covered by high convenience collection services	Food and garden waste are mainly collected at bring points, food waste also door-to-door, and garden waste at civic amenity sites. However, only a medium share of the population is covered by door-to-door collection which is the only system considered as high convenience.
Wood	A medium share of the population is covered by high convenience collection services	Wood waste is mainly collected at civic amenity sites, but many municipalities offer collection on call as bulky waste.
Textiles	A high share of the population is covered by high convenience collection services	Textiles are mainly collected at high convenience bring points.

WEEE	High to medium convenience collection services dominate	WEEE is mainly collected via take back systems for small WEEE, and many municipalities offer pick-up on call from households for larger WEEE items.
Robustness of the underlying information		Detailed information on the coverage and convenience of waste material-specific collection systems by material is not available at national level. Nevertheless, for at least one region (Emilia Romagna) and for the 15 major cities in Italy, such information has been published. This information is however not representative for the whole country and for all population density typologies. For instance, in 2019, the average separate collection rate of the 15 major cities stands at 44.6 %, which is more than 17 points lower than the national average (ISPRA, 2020).

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

No firm plans with clear responsible entities, defined targets and timeline were informed by ISPRA (Institute for Environmental Protection and Research, 2021). A national Waste Management Plan (WMP) has been elaborated by the Ministry of Ecological Transition (MiTE), which is in the public consultation phase under the strategic environmental assessment procedure. However, the bio-waste stream is always addressed in the regional WMPs, because of the obligation for the regional WMP to include the programme for the reduction of biodegradable waste to be placed in landfills, as per Decree 152/2006 art. 199 (q), and to art.182-ter which requires the competent authorities to implement measures aimed at encouraging the separate collection of bio-waste.

Plans and measures on regional level have been identified for instance in the WMPs of the regions of Sicily and Lazio (Piano Regionale di Gestione dei Rifiuti Urbani, Regione Siciliana, 2018) (Piano Regionale di Gestione dei Rifiuti della Regione Lazio, 2020). The Lazio regional WMP sets specific targets for the increase of the capture rate of biodegradable waste by 2025. In general, door-to-door collection is being expanded where possible and is one of the main separate collection systems envisaged in the region. The Sicilian WMP includes measures to reduce the landfill of biodegradable waste, with measures such as the promotion and increase of home composting, community and proximity composting; increasing composting of organic fraction from separate collection; biostabilisation of under-sieve fraction of pre-treated waste.

However, no comprehensive, countrywide inventory of measures included in regional plans is available.

Summary result

Paper and cardboard	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	
Metals	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	
Plastics	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	
Glass	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	
Bio-waste	No firm plans to improve the convenience and coverage	It is noted that several regions may have included objectives, plans and measures related to bio-waste in their regional Waste Management Plans (e.g. Lazio, Sicily), but no countrywide inventory of bio-waste related measures included in regional plans is available.
Wood	No firm plans to improve the convenience and coverage	It is noted that several regions may have included objectives, plans and measures related to wood waste in their regional Waste Management Plans (e.g. Lazio, Sicily), but no countrywide inventory of wood waste related measures included in regional plans is available.
Textiles	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	
WEEE	N/A (for countries where high to medium convenience collection services dominate already)	
Robustness of the underlying information		No information was provided on plans to improve the convenience and coverage of separate collection for the bio-waste and wood fractions in Italy. Although many regional plans probably include objectives, plans and measures related to bio-waste in their regional Waste Management Plans (e.g. Lazio, Sicily), no countrywide inventory of bio-waste related measures included in regional plans is available.

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.

Packaging fee modulation has since long been applied in Italy. The following fee levels are applicable to plastic packaging waste since 1 January 2021 (CONAI - Consorzio Nazionale Imballaggi, 2020):

- LEVEL A – Packaging with an effective and consolidated industrial sorting and recycling chain, mainly from the *Commerce & Industry* circuit: 150 EUR/t;
- LEVEL B1- Packaging with an effective and consolidated industrial sorting and recycling chain, mainly from the *Household* circuit: 208 EUR/t;
- LEVEL B2 – Packaging with an industrial sorting and recycling chain in the process of consolidation and development – from the *Household* and/or *Commerce & Industry* circuit: 560 EUR/t;
- LEVEL C – Packaging with experimental sorting/recycling activities in progress or not sortable/recyclable with current technologies: 660 EUR/t.

The packaging fee, known in Italy as the CONAI Environmental Contribution (CAC) for cellulose-based packaging decreased from EUR 55 per tonne to EUR 25 per tonne as from 1 July 2021, for all paper and cardboard packaging. For paper-based composite beverage cartons, there is an additional contribution of EUR 20 per tonne, resulting in a total CAC of EUR 45 per tonne. For paper-based composite packaging other than beverage cartons, CONAI's Board of Directors has established ecomodulation principles too, which will come into force on 1 January 2022. Ecomodulation will be applied to four types of paper-based composite packaging, other than that for liquids, based on the weight of the paper component in the total packaging weight:

- The first two types, A and B, with a paper component greater than or equal to 90 % and 80 %, respectively, they will pay the paper CONAI Environmental Contribution (CAC) (from 1 July 2021 reduced to 25 EUR/t) and no additional contribution will be applied to them;
- The third type, C, is that which qualifies packaging in which the paper component is greater than or equal to 60 % and less than 80 %. The recycling operations of this packaging are complex and costly: out of 100 kg of packaging, more than 60 kg become non-recyclable waste with the current state of technology. As from 1 January 2022, packaging in this level will pay an extra-CAC of EUR 110 per tonne.
- The fourth type, D, is that of composite packaging in which the paper component is less than 60%: a percentage that compromises the recyclability of the packaging, making it impossible, with obvious consequences in terms of environmental impact. Indeed, in the recycling process, 100 kg of this packaging produces more than 85 kg of dry waste and almost 150 kg of wet waste to be disposed of in landfills, after consuming water and electricity. For this packaging the extra contribution will therefore be EUR 240 per tonne. Packaging whose paper component is not explicitly stated will also be included in level D. Furthermore, since this composite packaging cannot be recycled with paper and cardboard, the companies that produce and use it are asked to suggest on the label that it be disposed of in residual waste collection, in order to minimize the environmental impact linked to its end-of-life management (CONAI - Consorzio Nazionale Imballaggi, 2021).

Summary result

There is advanced fee modulation for at least two of the main packaging fractions ^(a) AND fee modulation for one packaging fraction meets three assessment criteria	Fee modulation has been established for paper and cardboard packaging, plastics packaging, and cellulose-based composite packaging. The latter fee modulation meets the assessment criteria on recyclability, sortability and compliance check. The plastics packaging fee modulation might also meet the three assessment criteria, assuming that compliance checks, as foreseen in article 11 of the CONAI Regulation (Regolamento, 2018) are performed in a systematic way.
Robustness of the underlying information	Information retrieved from the official PRO websites

(^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.

In Italy, more than 7 million tons of municipal bio-waste was collected separately in 2019. In the same year, 267 000 tonnes of bio-waste were estimated to have been treated directly by citizens through home- composting.

The Italian city of Milan is the largest city in Europe to cover 100 % of the population with a food waste collection scheme, capturing 103 kg per capita in 2018. According to 2018 data, in Italy around 5 000 municipalities (76 % of the population) collected more than 60 kg per capita of food waste. The current capture rate of the total potential generation of bio-waste (food + garden) in Italy is estimated to be about 55 %, with a collection of 98 kgs per person/year in 2018. For food waste alone, the capture rate is 47 % (Zero Waste Europe, 2020b).

Calculations in Section 1.3 (Table 1.1) indicate that almost 68 % of the organic fraction of MSW generated in Italy is separately collected. At the same time, bio-waste accounts for 30.5 % of the total volume of mixed residual waste collected in Italy (2014-2019 average), which represents a total volume of 3.7 million tons of bio-waste.

Treatment capacity for separately collected bio-waste in Italy is 10.8 million tonnes (Institute for Environmental Protection and Research, 2021). Since 2019, 7 million tonnes were collected (accounting for home-composting), an additional 3.8 million tonnes could be treated in existing installations, which is more than the total bio-waste content of the residual waste, equivalent to 3.7 million tonnes.

From the above, it can be concluded that, at a national level, Italy has sufficient bio-waste treatment capacity to treat all generated municipal bio-waste. However, among the issues hampering the treatment of separately collected municipal bio-waste in Italy, the geographical concentration of treatment installations in the north of the country is relevant to mention. The north houses 172 composting plants of the 281 operating at national level, 29 of the 41 integrated bio-waste treatment installations, and 21 of the 23 of anaerobic digestion plants. The relative deficit of installations in the centre and south of the country currently requires bio-waste to be transported to processing plants located in the north. In the case of Campania, for example, the separate collection of bio-waste amounted, in 2019, to almost 619 000 tonnes, of which only a quarter is processed in plants in the region (Institute for Environmental Protection and Research, 2021).

In 2019, about 1.7 million tonnes of bio-waste were moved from one region to another, comprising 81.5 % biodegradable kitchen and canteen waste (code EER 20 01 08), 15.9 % biodegradable waste from gardens and parks (code EER 20 02 01), and 2.6 % waste from markets (code EER 200302). (ISPRA, 2020)

Summary result

Enough bio-waste treatment capacity for 80% of generated municipal bio-waste	In 2019, at the national level, Italy had sufficient bio-waste treatment capacity to treat all generated municipal bio-waste. However, regional deficits with respect to bio-waste treatment capacity could render the full utilisation of this impracticable.
Robustness of the underlying information	Sources of information are reliable, and data are consistent over the years.

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.

Italy has developed and implemented compost quality management and assurance schemes (EEA, 2020). In Italian legislation, compost is considered as a soil-amendment. Three categories of compost are distinguished, according to the feedstock:

- Green Compost (GWC): compost produced from green-waste only;
- Bio-waste Compost (BWC): compost produced from both food-waste and green-waste;
- Sludge Compost (SWC): compost produced from feedstock including sludges.

The Italian standards for end-of-waste compost, as set in the Legislative Decree on Fertilizers D.Lgs 75/2010 and subsequent amendments, consider both agronomical and environmental parameters.

A 2003 initiative, the *CIC Quality Label* for compost (CQL), aims to assess the quality of compost produced by CIC's members. In 2016, there were 46 composting-facilities complying with the CIC's Quality Label scheme. In order to join the *CIC Quality Label*, companies have to pay an annual membership fee, depending on the particular type of compost to be labelled (Consorzio Italiano Compostatori, 2017b).

Summary result

Legally binding national standards for compost/digestate quality in place, and quality management system in place	Legally binding standards are set in the Legislative Decree on Fertilizers D.Lgs 75/2010 and subsequent amendments, and consider both agronomical and environmental parameters. A mature quality management system is in place.
Robustness of the underlying information	Robust information: legal texts are publicly available; the Italian Composting and Biogas Association (CIC) is a founding member of the European Composting Network (ECN), and is engaged in multiple international activities and memberships. (Consorzio Italiano Compostatori, 2017a)

2.2 Target for the recycling of packaging waste

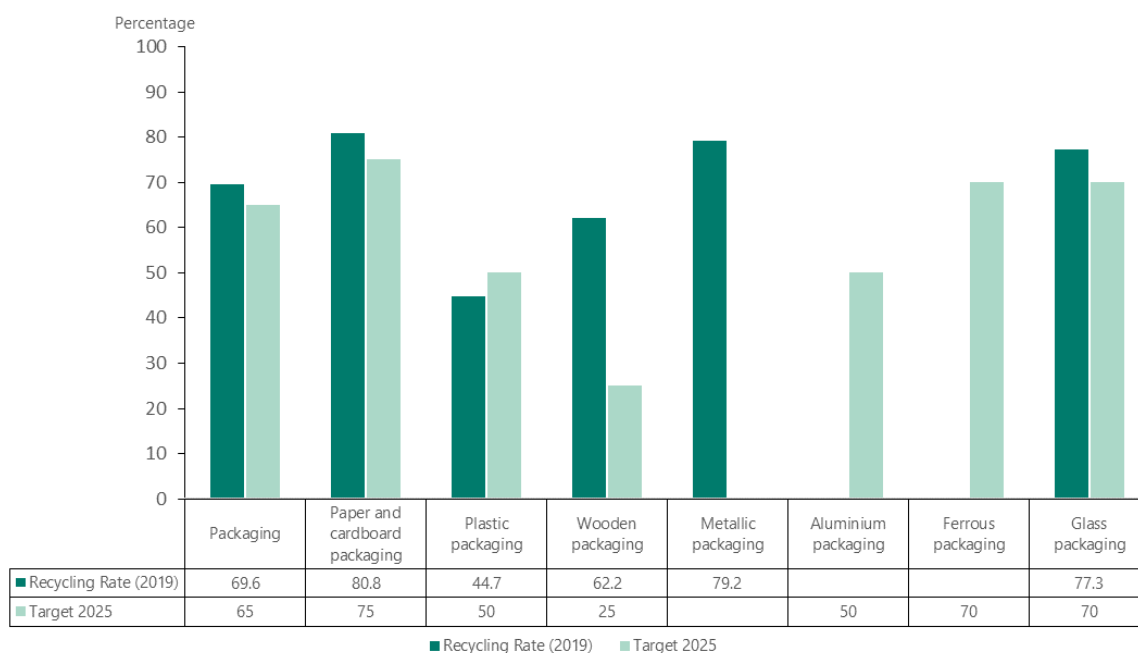
This chapter aims at assessing the prospects of Italy to achieve the **65 % recycling target for packaging waste** in 2025 as well as the **material specific packaging waste recycling targets** (50 % of plastic; 25 % of wood; 70 % of ferrous metals; 50 % of aluminium; 70 % of glass; 75 % of paper and 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 Italy to Eurostat in accordance with Commission Decision 2005/270/EC as last amended by the Commission Implementing Decision 2019/665 (EC, 2019), published in the dataset *Recycling rates of packaging waste for monitoring compliance with policy targets, by type of packaging [env_waspr]*. The latest available data refer to 2019. The performance of Italy for 2019 is illustrated in Figure 2.2.

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



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

For Italy, the reported recycling rates in 2019 for total packaging, paper and cardboard, wooden, aluminium, ferrous and glass packaging already exceeded the 2025 targets. For plastics packaging, the distance to target is 5.3 percentage points.

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 80.8 % to 72.7 %
- Ferrous packaging: decrease by 14 %, from 80.6 % to 69.3 %
- Aluminum packaging: decrease by 14 %, from 70.0 % to 60.2 %
- Glass packaging: decrease by 5 %, from 77.3 % to 73.4 %
- Plastic packaging: decrease by 21 %³, from 44.7 % to 35.3 %
- Wooden packaging: decrease by 11 % from 62.2 % to 55.4 %
- Total packaging: calculated based on the amounts of each packaging material generated and recycled in 2019, the recycling rate would drop from 69.6 % to 62.3 %.

As already indicated in Section 2.1.1, Italy already applies a methodological approach that considers only the packaging quantities actually destined to the final recycling plant, excluding contaminants and residual fractions that leave the sorting installations but that are not effectively recycled.

Summary result

Total packaging	< 5 percentage points below target	Italy reports a recycling rate of 69.6 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 62.3 %, 2.7 percentage points below the 2025 target.
Paper and cardboard packaging	< 5 percentage points below target	Italy reports a recycling rate of 80.8 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 72.7 %, 2.3 percentage points below the 2025 target
Ferrous metals packaging	< 5 percentage points below target	Italy reports a recycling rate of 80.6 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 69.3 %, 0.7 percentage points below the 2025 target.
Aluminium packaging	target exceeded	Italy reports a recycling rate of 70.0 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 60.2 %, 10.2 percentage points above the 2025 target
Glass packaging	target exceeded	Italy reports a recycling rate of 77.3 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 73.4 %, 3.4 percentage points above the 2025 target

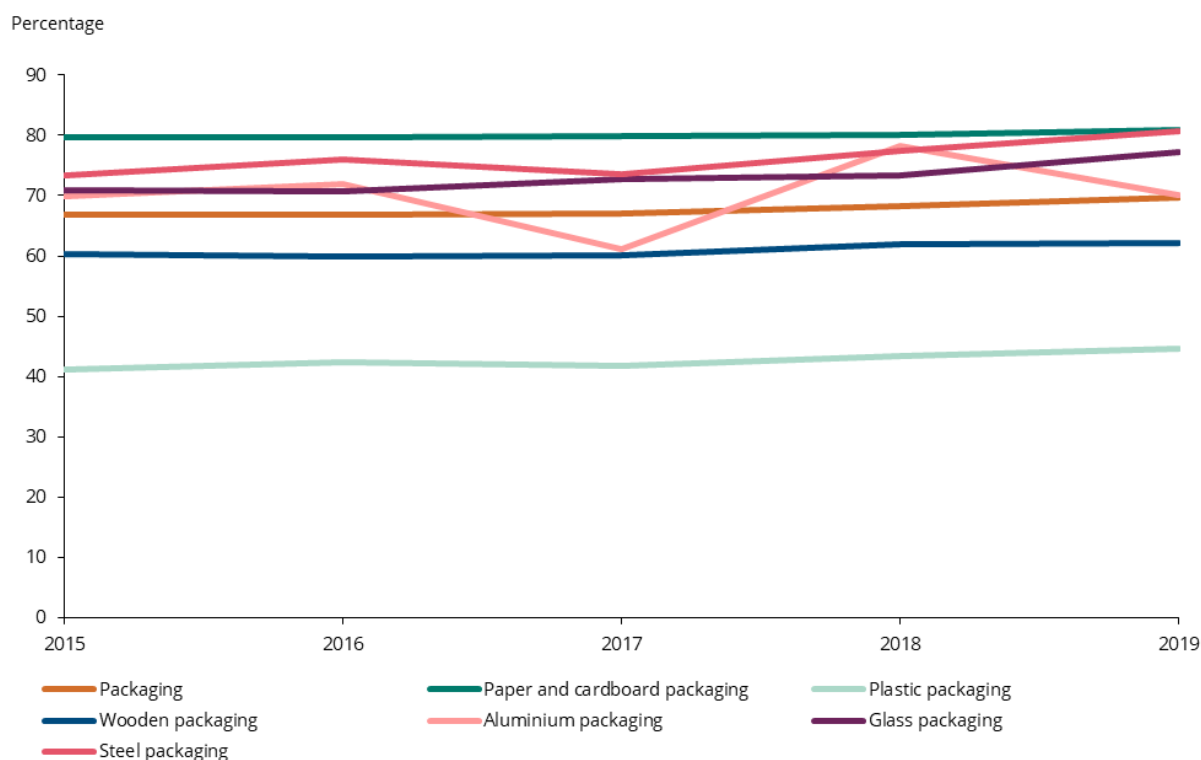
³ This is the weighted recycling loss taking into account the 29 % recycling loss for packaging waste from household sources (66 %) and the 5 % recycling loss for packaging waste from commercial sources (33 %).

Plastics packaging	5 - 15 percentage points below target	Italy reports a recycling rate of 44.7 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 35.3 %, 14.7 percentage points below the 2025 target.
Wooden packaging	target exceeded	Italy reports a recycling rate of 62.2 %. However if the new calculation rules are applied (taking into account losses in the recycling plants), the estimated recycling rate would drop to 55.4 %, 30.4 percentage points above the 2025 target.
Robustness of the underlying information		Data is robust. In Italy, the main data source for estimating the quantities of packaging put on market is the National Packaging Consortium. This authority validates the data by cross-referencing different information flows, such as sector studies, single declaration forms, processed data on the separate collection of waste (obtained from the replies of public and private bodies to dedicated questionnaires) and targeted surveys of plants (Eurostat, 2022a). However, Italy relies solely on EPR data, and does not correct the data for free riders, de minimis, internet sales, etcetera. The actual recycling rates when applying the new calculation rules are estimated based on literature.

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 Italy are illustrated in Figure 2.3.

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



Source: Eurostat (2021c)

The recycling rates throughout all waste packaging streams has been increasing continuously throughout the past five years, most dominantly for glass and steel packaging waste by respectively 6.4 and 7.2 percentage points.

Summary result

Total packaging	RR > 60% and increase in last 5 years < 5 percentage points	The recycling rate increased by 2.8 percentage points over the past five years and is estimated at 62.3 % if the new calculation rules would be applied (taking into account losses in the recycling plants)
Paper and cardboard	RR > 70% and increase in last 5 years < 5 percentage points	The recycling rate increased by 1.1 percentage points over the past five years and is estimated at 72.7 % if the new calculation rules would be applied (taking into account losses in the recycling plants)
Ferrous metals	RR > 65% and increase in last 5 years > 5 percentage points	The recycling rate increased by 7.2 percentage points over the past five years and is estimated at 69.3 % if the new calculation rules would be applied (taking into account losses in the recycling plants)
Aluminium	RR > 50%	The recycling rate increased by 0.1 percentage points over the past five years and is estimated at 60.2 % if the new calculation rules would be applied (taking into account losses in the recycling plants)
Glass	RR > 70%	The recycling rate increased by 6.4 percentage points over the past five years and is estimated at 73.4 % if the new calculation rules would be applied (taking into account losses in the recycling plants)

Plastic	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 35.3 % if the new calculation rules would be applied (taking into account losses in the recycling plants)
Wood	RR > 25%	The recycling rate increased by 1.9 percentage points over the past five years and is estimated at 55.4 % 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 Italy 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 are no breaks nor inconsistencies in the time series data.

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.

Italy has transposed Directive (EU) 2018/852 amending directive 1994/62/EC on packaging and packaging waste. The corresponding law, L. n. 116/2020, was published in the *Gazzetta Ufficiale della Repubblica Italiana* on 11 September 2020, more than two months after the deadline of 5 July 2020 (*Gazzetta Ufficiale della Repubblica Italiana*, 2020).

Summary result

Transposition with a delay of less than 12 months	Italy has transposed the amended Packaging and Packaging Waste Directive into national law with a delay of less than 12 months.
Robustness of the underlying information	Full information on the progress of the legislative process is publicly available, and was confirmed by information received from the European Commission (status as of November 12 th , 2021)

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

In Italy, the responsibilities of authorities and other stakeholders for meeting the targets are set in national legislation, in particular in the Legislative Decree No 152/2006, known as the Environmental Consolidated Act (ECA). Article 221 establishes that companies are responsible for the management of any packaging and packaging waste produced by the consumption of their products and consequently they should join the National Packaging Consortium (CONAI). The statute of CONAI is approved via Decree, by the Ministry for the Ecological Transition in conjunction with the Ministry of Economic Development. Packaging producers are required to join one of the Industry Consortia. Optimal Territorial Areas (OTA), generally represented by provinces, are responsible for checking any failure to join CONAI or the Industry Consortia and for collecting any administrative fines (CONAI - Consorzio Nazionale Imballaggi, n.d.).

The Industry Consortia stipulate agreements with the municipalities for the separate collection of packaging waste. The Consortia pay the municipalities an economic fee for the collection according

to the quantity and quality of collected packaging (Institute for Environmental Protection and Research, 2021).

CONAI is accountable for reaching the recovery and recycling targets on packaging waste defined in article 220 of the Legislative Decree 152/2006. In order to enable the verification of the reaching of targets, CONAI receives data concerning recycling and recovery from each of the parties that operate in the packaging and packaging waste sector. The provided data on packaging volumes, by material and by type, that are placed on the market or reused, and on generated, recycled or recovered packaging waste, are then shared with the national section of the Waste Register (Catasto dei rifiuti, article 189 of Legislative Decree 152/2006), through a dedicated statement form. Apart from the coordinating role of CONAI, autonomous systems, voluntarily established by producers, contribute by ensuring the coverage of the system, and the recovery and recycling of additional categories of waste. These autonomous systems are equally recognized by the Italian Ministry for the Ecological Transition, pursuant to article 221bis of the Legislative Decree 152/2006.

In the near future, new extended producer responsibility systems on single-use plastics, introduced by the EU's Directive on single-use plastics, are expected to add to the existing forms.

In accordance with article 220, paragraph 5bis, of Legislative Decree 152/2006, if the recycling and recovery targets on packaging waste are not met for the different packaging types, it's mandated through a prime minister's Act to apply economic measures, proportionate to the distance to the targets. The income from such measures is then allocated to the Italian Ministry for the Ecological Transition to encourage measure to increase waste prevention, separate collection, recovery and recycling.

Summary result

Clearly defined responsibilities and enforcement mechanisms but no/weak support tools for meeting the recycling targets	Clearly defined responsibilities at different government levels are in place in Italy, established in the Legislative Decree 152/2006 and Law 191/2009. There are no support tools in place to facilitate improved performance on recycling.
Robustness of the underlying information	Information on enforcement mechanisms was provided by the Italian waste management authorities.

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, Italy has a nation-wide tax for landfilling of residual waste, which cannot be less than 5.17 EUR/t and with a maximum of 25.82 EUR/t. The exact amount is set yearly, by the individual regions, through regional laws to be issued by 31 July of each year.

Summary result

Low tax (< 30 EUR/t ^(a))	In Italy, there is a legally established maximum amount, for regionally issued landfill taxes, of 25.82 EUR/t (corresponding to 25.5 EUR/t rescaled based on purchasing power parities). The tax value expressed in Euro has not changed since 25 years, and no escalator mechanism is currently applied nor planned.
Robustness of the underlying information	The provided information is contained in publicly available legislation

(^a) Note: Rescaled based on purchasing power parities Eurostat (2020)

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, Italy has introduced an eco-tax of an amount of 20 % of the ordinary landfill tax, that is due for waste incineration in incineration plants without energy recovery, classified as *D10 Incineration on land*, for MSW and residues from sorting, recycling and composting plants, and for sludge. The amount of the landfill tax on its turn, is determined at regional level, with a maximum of 25.82 EUR/t, which results in a maximum eco-tax for incineration without energy recovery, of 5.16 EUR/t.

Summary result

Taxes < 7 EUR/t ^(a)	Incineration tax in Italy only applies for incineration without energy recovery, with a maximum amount of 5.16 EUR/t (corresponding to 5.1 EUR/t rescaled based on purchasing power parities).
Robustness of the underlying information	The provided information is contained in publicly available legislation

(^a) Note: Rescaled based on purchasing power parities Eurostat (2020)

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.

A contribution of EUR 0.005 on plastic water bottles was established in the Finance Law for 2007 (Law 296/07). The revenues from this contribution are used to finance a fund aimed at guaranteeing water purification and fair access to water resources. Therefore, the contribution does not produce any noticeable consequence on waste management.

The 2021 Budget Law (Law no. 178 of 30 December 2020) established the entry into force of a new single use plastic packaging tax on 1 July 2021 and introduced some significant changes to the methods of application. The tax, to be paid by producers, distributors and importers, would be 0.45 EUR/kg of plastic. Plastic stemming from recycling processes is not subjected to this tax. The rule therefore exempts from the payment of the tax those subjects (manufacturers, sellers, buyers or importers) that use processes and materials that derive from recycling. The so-called *Sostegni-bis Decree* (Legislative Decree no. 73 of 25 May 2021) however extended the entry into force again to 1 January 2022. The Planning Document for the drafting of the 2022 Budget Bill already contained the postponement to 2023 of the plastic packaging tax (ReMade in Italy, 2022). Paragraph 12 of the law of 30 December 2021, n. 234, definitely postponed the entry into force to 1 January 2023.

Summary result

No packaging taxes	No taxes were identified. A new single use plastic packaging tax to be levied on non-recycled plastic packaging of 0.45 EUR/kg will enter into force on 1 January 2023.
Robustness of the underlying information	Italian authorities informed on the existence of different non-tax contributions related to packaging through contributions to EPR systems (Institute for Environmental Protection and Research, 2021)

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.

ISPRA (Institute for Environmental Protection and Research, 2021) have indicated that in 2019 about 10.8% of the population is covered by PAYT charging systems. This is described in Section 2.1.3 in more detail.

No information was provided on PAYT systems in place that specifically target packaging waste.

Summary result

Less than 50% of the population covered by PAYT	In Italy, 10.8 % of the population is covered by different categories of pay-as-you-throw based taxes and fees. This percentage includes both collection systems for residual waste as for separately collected waste. The coverage of PAYT for packaging waste materials is therefore less than 10.8 %.
Robustness of the underlying information	Data provided by responsible bodies (Istituto Superiore per la Protezione e la Ricerca Ambientale, ISPRA) in response to the EEA and 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.

No DRS systems are in place in Italy. A one-year experiment was initiated in 2017, to reintroduce, on a voluntary basis, a deposit-refund system, limited to water and beer bottles from bars, shops, and restaurants (Sordo, 2020).

Summary result

Aluminium drink cans	No or voluntary for some drink cans	No DRS systems are in place in Italy.
Glass drink bottles	No or voluntary for some drink bottles	No DRS systems are in place in Italy.
Plastic drink bottles	No or voluntary for some drink bottles	No DRS systems are in place in Italy.
Plastic crates	No or voluntary for some plastic crates	No DRS systems are in place in Italy.
Wooden packaging	No or voluntary for some wooden packaging	No DRS systems are in place in Italy.
Robustness of the underlying information	Credible information provided by the Italian 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 can deliver. The material specific assessment considers packaging waste from both household and non-household sources. For assessing the convenience and coverage of separate collection systems for households, the same methodology is used here as described in Section 2.1.4.

The separate collection system for households is described in detail in Section 2.1.4. In Italy, separate collection of various fractions (paper and cardboard, metals, glass, plastic and, where feasible, wood) is mandatory also for non-household users that produce municipal waste.

Summary result

Paper and cardboard packaging	1. Packaging waste from households A high share of the population is covered by high convenience collection services	A mix of high-density bring point and door-to-door collection systems are used with high coverage across the country, complemented with collection at civic amenity sites. Packaging and non-packaging paper and cardboard are collected together.
	2. Packaging waste from non-household sources Separation at source is mandatory for non-household paper and cardboard packaging waste	In Italy, separate collection is mandatory for paper and cardboard waste collected at non-households.
Ferrous metals packaging	1. Packaging waste from households A high share of the population is covered by high convenience collection services	High convenience bring points and co-mingled collection door-to-door are the dominant collection systems, but other collection systems exist as well.
	2. Packaging waste from non-household sources Separation at source is mandatory for non-household ferrous metals packaging waste	In Italy, separate collection is mandatory for metal waste collected at non-households.
Aluminium packaging	Packaging waste from households A high share of the population is covered by high convenience collection services	High convenience bring points and co-mingled collection door-to-door are the dominant collection systems, but other collection systems exist as well.
Glass packaging	1. Packaging waste from households A high share of the population is covered by high convenience collection services	High convenience bring points and door-to-door collection are the dominant collection systems, but other collection systems exist as well.
	2. Packaging waste from non-household sources Separation at source is mandatory for non-household glass packaging waste	In Italy, separate collection is mandatory for glass waste collected at non-households.

Plastics packaging	1. Packaging waste from households A high share of the population is covered by high convenience collection services	High convenience bring points and co-mingled collection door-to-door are the dominant collection systems, but other collection systems exist as well.
	2. Packaging waste from non-household sources Separation at source is mandatory for non-household plastic packaging waste	In Italy, separate collection is mandatory for plastic waste collected at non-households
Wooden packaging	Packaging waste from non-household sources Separation at source is mandatory for non-household wooden packaging waste	While separation at source is not strictly mandatory in Italy, the assessment recognises however that it is within the EPR and thus collected separately.
Robustness of the underlying information		Detailed information on the coverage and convenience of waste material-specific collection systems for households is not available at national level. Nevertheless, for at least one region (Emilia Romagna) and for the 15 major cities in Italy, such information has been published. For instance, in 2019, the average separate collection rate of the 15 major cities stands at 44.6 %, which is more than 17 points lower than the national average (ISPRA, 2020).

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 waste⁴. Again, the material specific assessment considers packaging waste from both household and non-household sources.

As already indicated under section 2.1.3, the National Waste Management Program (Programma Nazionale Gestione Rifiuti, PNGR) considers a review of the implementation status of recycling targets set by European regulations in order to define the policies and intermediate targets to be achieved in view of compliance with EU requirements. No further firm plans to improve the convenience and coverage of separate collection for different packaging waste fractions, with clear responsible entities and defined targets and timeline, were informed by the authorities (Institute for Environmental Protection and Research, 2021).

⁴ Based on data from Eurostat on the share of packaging materials in total packaging generated in 2018.

Summary result

Paper and cardboard packaging	1. Packaging waste from households N/A (for countries in which a high share of the population is already covered by high convenience collection services)	
	2. Packaging waste from non-household sources N/A (for countries already having mandatory sorting at source)	
Ferrous metals packaging	1. Packaging waste from households N/A (for countries in which a high share of the population is already covered by high convenience collection services)	
	2. Packaging waste from non-household sources N/A (for countries already having mandatory sorting at source)	
Aluminium packaging	Packaging waste from households N/A (for countries in which a high share of the population is already covered by high convenience collection services)	
Glass packaging	1. Packaging waste from households N/A (for countries in which a high share of the population is already covered by high convenience collection services)	
	2. Packaging waste from non-household sources N/A (for countries already having mandatory sorting at source)	
Plastics packaging	1. Packaging waste from households N/A (for countries in which a high share of the population is already covered by high convenience collection services)	
	2. Packaging waste from non-household sources N/A (for countries already having mandatory sorting at source)	
Wooden packaging	Packaging waste from non-household sources N/A (for countries already having mandatory sorting at source)	
Robustness of the underlying information		Credible information received from the Italian 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

The Italian National Packaging Consortium (Consorzio Nazionale Imballaggi - CONAI) was established with the Legislative Decree 22/1997, and later replaced by the Legislative Decree no. 152/2006, the Environmental Consolidated Act (ECA) (Norme in materia ambientale or Codice dell'Ambiente).

CONAI directs the activities and guarantees the recovery results of material-specific Consortia, ensuring the necessary link between these Consortia and public administration. In October 2020, the consortium for the management of the end of life of biodegradable and compostable plastic packaging certified in compliance with the standard EN 13432, was added to the existing consortia relating to the fractions of steel, aluminium, paper and cardboard, wood, plastic and glass (CONAI, n.d.):

- steel (Ricrea)
- aluminium (Cial)
- paper/cardboard (Comieco)
- wood (Rilegno)
- plastic (Corepla)
- glass (Coreve)
- biodegradable and compostable packaging (Biorepack)

The current legislation also provides for the possibility of setting up, as an alternative to the CONAI system, autonomous voluntary systems for the management of packaging. There are currently three autonomous systems:

- management of plastic crates and pallets (CONIP);
- management of HDPE films (PARI by Aliplast);
- management of bottles for liquid foodstuffs in PET (CORIPET).

Summary result

All main packaging fractions ⁽³⁾ are covered by EPR schemes, covering household and non-household packaging	All packaging fractions are covered by material-specific PRO Consortia, covering household and non-household packaging.
Robustness of the underlying information	Information was received from the Italian authorities in response to the EEA and ETC/WMGE questionnaire.

⁽³⁾ **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.

In Italy, basic fee modulation, i.e. different fees for the main packaging material groups, has been in place since long. More advanced fee modulation has been introduced for paper and cardboard packaging, plastics packaging and cellulose-based composites.

Summary result

There is advanced fee modulation for at least two of the main packaging fractions ^(a) AND fee modulation for one packaging fraction meets three assessment criteria	Advanced fee modulation has been established for paper and cardboard packaging, plastics packaging, and composite packaging. The latter fee modulation meets the assessment criteria on recyclability, sortability and compliance check. The plastics packaging fee modulation might also meet the three assessment criteria, assuming that compliance checks, as foreseen in article 11 of the CONAI Regulation (Regolamento, 2018) are performed in a systematic way.
Robustness of the underlying information	Information retrieved from the official PRO websites

^(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.

Summary result

SRF P-5.3.1 EPR scheme for Paper and cardboard packaging waste	EPR scheme covering household and non-household packaging, with a fee modulation meeting at least two assessment criteria	Modulated fees are applied for paper and cardboard packaging and different types of cellulose-based composite packaging, e.g. distinguishing beverage cartons and other, based on the weight of the paper component in the total packaging weight. The fee modulation meets the assessment criteria on recyclability, sortability and compliance check
SRF P-5.3.2 EPR scheme for Ferrous metals packaging waste	EPR scheme covering household and non-household packaging	Italy has an EPR scheme in place covering household and non-household metal packaging, but with no or only basic fee modulation.
SRF P-5.3.3 EPR scheme for Aluminium packaging waste	EPR scheme covering household and non-household packaging	Italy has an EPR scheme in place covering household and non-household glass packaging, but with no or only basic fee modulation.
SRF P-5.3.4 EPR scheme for Glass packaging waste	EPR scheme covering household and non-household packaging	Italy has an EPR scheme in place covering household and non-household glass packaging, but with no or only basic fee modulation.
SRF P-5.3.5 EPR scheme for Plastic packaging waste	EPR scheme covering household and non-household packaging, with a fee modulation meeting at least two assessment criteria	Different plastics packaging fees are applicable, according to the source of the packaging (household or non-household) and/or the effectiveness and degree of consolidation of the corresponding industrial sorting and recycling chains.

SRF P-5.3.6 EPR scheme for Wooden packaging waste	EPR scheme covering all non- household packaging	The EPR system covers household and non- household wooden packaging.
Robustness of the underlying information		Information retrieved from the official PRO websites.

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 Italy was 20.9 % in 2019 (calculated based on (Eurostat, 2022b)).

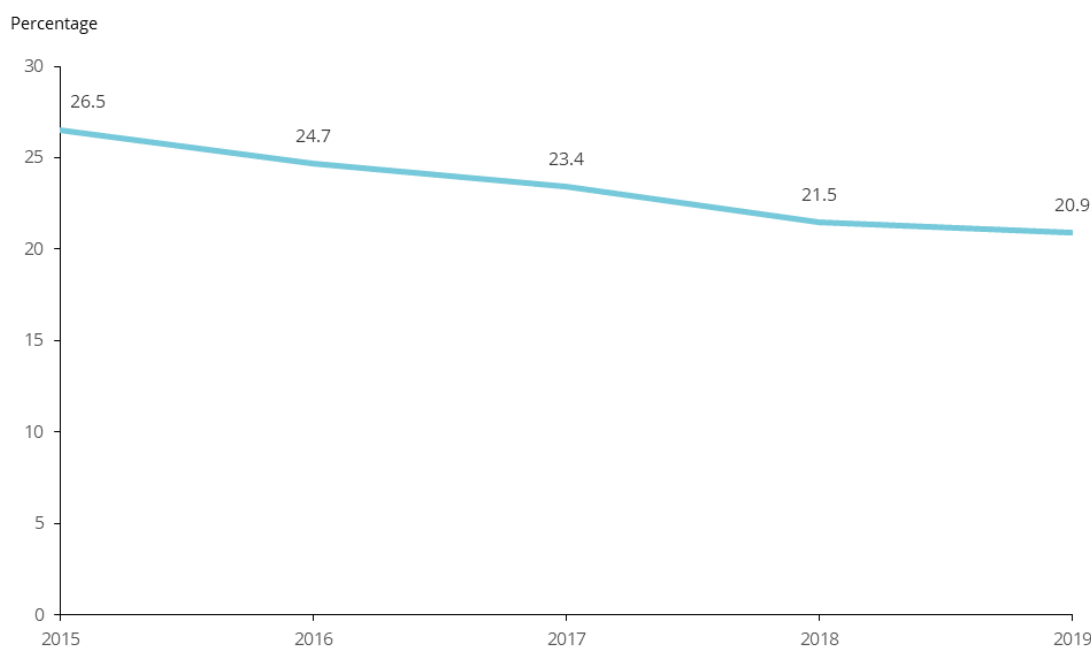
Summary result

Distance to target 10 – 20 percentage points	The distance to target is 10.9 percentage points with a landfilling rate of 20.9 % in 2019.
Robustness of the underlying information	There are no breaks in the time series data. The data are derived from Eurostat and are considered to be rather robust. However, the reported landfill rate might change 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 Italy has declined by 5.6 percentage points (Figure 2.4).

Figure 2.4 - Landfilling in Italy between 2015 and 2019, in percentage



Source: Eurostat (2022b).

Summary result

Landfill rate in 2020 < 25%, and decrease in last 5 years < 10 percentage points	The landfill rate has decreased by 5.6 percentage points during the period 2015 – 2019, bringing the landfill rate down to 20.9 % in 2019.
Robustness of the underlying information	There are no breaks in the time series data. The data are derived from Eurostat and is 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-1.3: 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.

Italy generated about 25.8 million tonnes of biodegradable municipal waste in the reference year 1995. In 2016, a volume corresponding to 17 % of this amount was still being landfilled, which further decreased to 15 % in 2019 (EC, 2022).

Summary result

Target for reducing the amount of biodegradable municipal waste (BMW) landfilled to 35% of BMW generated in 1995 has been achieved in 2016 or in the year specified in the derogation where applicable	Italy has reported 17 % biodegradable waste landfilled for 2016 (compared to the weight produced in 1995) and therefore performs well within the target.
Robustness of the underlying information	Based on data officially reported to the European Commission which is in line with otherwise reported statistical data on landfilling of municipal waste.

3 Conclusion

This risk assessment indicates whether Italy 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 Italy, only the SRFs relevant to Italy are taken into account to define the maximum score. Italy 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

52 % of maximum score	Based on the provided information and the analysis done, it is concluded that Italy is not at risk for not meeting the MSW recycling target in 2025.
Current situation and past trends:	Based on currently available data, Italy’s recycling rate lies at 51.4 % but is estimated to lie at around 47 % if the new calculation rules are applied, so the distance to the 2025 target would be 8 percentage points. The recycling rate increased with almost 2 percentage points annually in the past five years, and Italy would meet the 2025 target if this pace of improvement can be sustained.
Legal instruments:	The amended WFD has been fully transposed into national law, with a slight delay of 2 months. Clearly defined responsibilities at different government levels are in place in Italy, established in the Legislative Decree 152/2006 and Law 191/2009. There are no support tools in place to facilitate improved performance on recycling.
Economic instruments:	Landfill taxes are in place in all regions of Italy, with a legally established maximum amount of 25.82 EUR/t. Incineration tax in Italy only applies for incineration without energy recovery, with a maximum amount of 5.16 EUR/t. The amounts are probably too low to be maximally effective, and it is observed that in the 25 years since its first introduction, the landfill tax has lost about one third of its real value, eroded mainly by inflation. At current, only 10.8 % of the Italian population is covered by different categories of PAYT based taxes and fees, so little or no incentives are provided for the citizens to prevent (residual) waste generation.

<p>Separate collection systems:</p>	<p>Convenient separate collection systems are in place in Italy in most municipalities, covering most of the population, whether living in major cities, provincial capitals or rural municipalities. There is clear evidence that these systems enable an efficient separate collection of recyclable material fractions in Italy. However, separate collection of food waste is not yet rolled out to all the population, and separate collection of plastics and metals is usually limited to packaging waste.</p> <p>Nevertheless, while good information is available on the prevalence of the type of collection systems, this information is not available on a material basis, and the material-based prevalence of the type of collection systems is therefore estimated and therefore uncertain.</p>
<p>Extended producer responsibility:</p>	<p>In Italy, basic fee modulation, i.e. different fees for the main packaging material groups, is since long in place. More advanced fee modulation has been introduced for paper and cardboard packaging, plastic packaging and cellulose-based composites. The latter fee modulation meets the assessment criteria on recyclability, sortability and compliance check. The plastic packaging fee modulation might also meet the three assessment criteria, assuming that compliance checks, as foreseen in article 11 of the CONAI Regulation (Regolamento, 2018) are performed in a systematic way.</p>
<p>Bio-waste treatment capacity and quality management:</p>	<p>In 2019, at the national level, Italy had sufficient bio-waste treatment capacity to treat all generated municipal bio-waste. Regional deficits with respect to biowaste treatment capacity would however render the realization of such ambition impracticable. Legally binding compost standards are set in the Legislative Decree on Fertilizers D.Lgs 75/2010 and subsequent amendments, and consider both agronomical and environmental parameters. A mature compost quality management system is in place.</p>

3.2 Prospects for meeting the recycling target for packaging waste

66 % of maximum score	Based on the provided information and the analysis done, it is concluded that Italy is not at risk for not meeting the 65 % recycling target for packaging waste in 2025	
63 % of maximum score	Paper and cardboard	Not at risk
63 % of maximum score	Ferrous metals packaging	Not at risk
59 % of maximum score	Aluminium packaging	Not at risk
59 % of maximum score	Glass packaging	Not at risk
35 % of maximum score	Plastics packaging	At risk
63 % of maximum score	Wooden packaging	Not at risk
Current situation and past trends:	For Italy, the reported recycling rates in 2019 for total packaging, paper and cardboard, metal, wooden and glass packaging already exceed the 2025 targets. For plastics packaging, the distance to target is only 14.7 percentage points. The recycling rates throughout all waste packaging streams has been increasing continuously throughout the past five years, most dominantly for glass and steel packaging waste by respectively 6.4 and 7.2 percentage points. The total packaging recycling rate increased with 2.8 percentage points over the past five years.	
Legal instruments:	The transposition of the revised Packaging and Packaging Waste Directive into national law has been delayed by more than 2 months. Responsibilities are clearly defined and enforcement mechanisms are in place. No support tools are available to facilitate improved performance on recycling.	
Economic instruments:	There is a low landfill tax in place, which has not changed since 25 years. Incineration taxes are low and only apply for incineration without energy recovery. There are no packaging taxes in place. No Deposit Return Systems (DRS) are in place in Italy. The population coverage of PAYT is less than 10.8%	

<p>Separate collection systems:</p>	<p>Although aggregated data are available on the incidence of different types of collection systems used in the administrative regions of Italy, such information is not available per individual packaging waste material category, at least not at national level.</p> <p>However, it is estimated that convenient separate collection systems are in place in Italy, covering most of the population, whether living in major cities, provincial capitals or rural municipalities. There is clear evidence that this highly convenient systems enable an efficient separate collection of packaging waste in Italy. Only for wooden packaging, separation at source is not mandatory for non-household waste.</p>
<p>Extended producer responsibility:</p>	<p>EPR schemes cover both household and non-household packaging. Advanced fee modulation is applied to paper and cardboard packaging, plastics and composite packaging.</p>

3.3 Prospects of meeting the landfill of municipal waste target

<p>57 % of maximum score</p>	<p>Based on the provided information and the analysis done, it is concluded that Italy is not 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.</p>
<p>Current situation and past trends:</p>	<p>Based on currently available data, Italy's landfilling rate lies at 20.9 % in 2019, so the distance to the 2025 target is 10.9 percentage points. The landfill rate decreased by 5.6 percentage points during the last five years.</p>
<p>Diversion of biodegradable municipal waste from landfill:</p>	<p>Italy has reported 17 % biodegradable waste landfilled for 2016 (by weight) of biodegradable municipal waste produced in 1995.</p>

List of abbreviations

Abbreviation	Name
(R)WMP	(Regional) Waste Management Plan
AIA	Autorizzazione Integrata Ambientale
ARPA	Regional Environmental Protection Agencies
ATO	Ambito Territoriale Ottimale
BWC	Bio-waste Compost
CAC	CONAI Environmental Contribution
CONAI	Consorzio Nazionale Imballaggi
DRS	Deposit Return System
EC	European Commission
ECA	Environmental Consolidated Act
EEA	European Environment Agency
EEE	Electrical and Electronic Equipment
Eionet	European Environmental Information and Observation Network
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
GWC	Green Compost
ISTAT	National Institute for Statistics
MATTM	Ministero dell'Ambiente e della Tutela del Territorio e del Mare
MBT	Mechanical Biological Treatment
MiTE	Ministry of Ecological Transition (Ministero della Transizione Ecologica)
MSW	Municipal Solid Waste
PAYT	Pay As You Throw
PPWD	Packaging and Packaging Waste Directive
SWC	Sludge Compost
TOC	Total Organic Carbon
WEEE	waste electrical and electronic equipment
WFD	Waste Framework Directive

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Annex 1 Detailed scoring of success and risk factors

Assessment sheet - Recycling target for municipal waste

MS Italy
Date

Jun-22

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

Separate collection systems				
MSWR-4.1	Convenience and coverage of separate collection systems for the different household waste fractions			
	Paper and cardboard	A 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 medium share of the population is covered by high convenience collection services	0.84	0.84
	Wood	A medium share of the population is covered by high convenience collection services	0.06	0.06
	Textiles	A high share of the population is covered by high convenience collection services	0.06	0.12
	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	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	0.23	0
	Metals	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	0.04	0
	Plastics	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	0.14	0
	Glass	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	0.09	0
	Bio-waste	No firm plans to improve the convenience and coverage	0.42	0
	Wood	No firm plans to improve the convenience and coverage	0.03	0
	Textiles	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	0.03	0
	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	There is an advanced fee modulation for at least two of the main packaging fractions* AND fee modulation for one packaging fraction meets three assessment criteria	1	2
Bio-waste treatment capacity and quality management				
MSWR-6.1	Capacity for the treatment of bio-waste	Enough bio-waste treatment capacity for 80% of generated municipal bio-waste	1	2
MSWR-6.2	Legally binding national standards and Quality Management System for compost/digestate	Legally binding national standards for compost/digestate quality in place, and quality management system in place	1	2
			Total score	17.10
			Maximum score	32.90

52%

Assessment sheet - Recycling target for packaging waste

MS Italy
Date

Jun-22

SRF		Assessment result	Weight	Score
Current situation and past trends				
P-1.1	Distance to target - Overall packaging	< 5 percentage points below target, or target exceeded	5	10
	Distance to target - Paper and cardboard packaging	< 5 percentage points below target, or target exceeded	5	10
	Distance to target - Ferrous metals packaging	< 5 percentage points below target, or target exceeded	5	10
	Distance to target - Aluminium packaging	< 5 percentage points below target, or target exceeded	5	10
	Distance to target - Glass packaging	< 5 percentage points below target, or target exceeded	5	10
	Distance to target - Plastics packaging	5 - 15 percentage points below target	5	5
	Distance to target - Wooden packaging	< 5 percentage points below target, or target exceeded	5	10
P-1.2	Past trends in packaging waste recycling rate	RR > 60% and increase in last 5 years < 5 percentage points, or RR > 55%, and increase in last 5 years < 10 percentage points, or RR < 55% and increase in last 5 years > 10 percentage points	1	1
	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 percentage points, or RR < 65% and increase in last 5 years > 10 percentage points	1	1
	Past trends in ferrous metals packaging recycling	RR > 65% and increase in last 5 years > 5 percentage points, or RR > 60% and increase in last 5 years > 10 %, or RR > 70%	1	2
	Past trends in aluminium packaging recycling	RR > 45% and increase in last 5 years > 5 percentage points, or RR > 40% and increase in last 5 years > 10 %, or RR > 50%	1	2
	Past trends in glass packaging recycling	RR > 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 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 %, or RR > 25%	1	2
Legal instruments				
P-2.1	Timely transposition of the revised Packaging and Packaging Waste Directive into national law	Transposition with a delay of less than 12months	1	1
P-2.2	Clearly defined responsibilities for meeting the targets and support and enforcement mechanisms	Clearly defined responsibilities and good set of support tools but weak/no enforcement mechanisms for meeting the recycling targets OR Unclear responsibilities but clearly defined enforcement mechanisms and a good set of support tools for meeting the recycling targets OR Clearly defined responsibilities and enforcement mechanisms but no/weak support tools for meeting the recycling targets	1	1
Economic instruments				
P-3.1	Taxes and/or ban for landfilling residual or biodegradable waste	No landfill taxes or low tax (< 30 EUR/t*)	1	0
P-3.2	Taxes on municipal waste incineration	No incineration taxes or taxes < 7 EUR/t*	1	0
P-3.3	Packaging taxes	No packaging taxes	1	0
P-3.4	Pay-as-you-throw (PAYT) system	No or less than 50% of the population covered by PAYT	1	0
P-3.5	Deposit-return systems for aluminium drink cans	No or voluntary DRS for some drink cans	1	0
	Deposit-return systems for glass drink bottles	No or voluntary DRS for some drink bottles	1	0
	Deposit-return systems plastic drink bottles	No or voluntary DRS for some drink bottles	1	0
	Deposit-return systems for plastic crates	No or voluntary DRS for some plastic crates	1	0
	Deposit-return systems for wooden packaging	No or voluntary DRS for some wooden packaging	1	0

Separate collection systems				
P-4.1	Convenience and coverage of separate collection systems for the different packaging waste fractions			
	Paper and cardboard packaging (household)	A high share of the population is covered by high convenience collection services	1	2
	Paper and cardboard packaging (non-household)	Separation at source is mandatory for non-household paper and cardboard packaging waste	1	2
	Ferrous metals packaging (household)	A high share of the population is covered by high convenience collection services	1	2
	Ferrous metals packaging (non-household)	Separation at source is mandatory for non-household ferrous metals packaging waste	1	2
	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 mandatory for non-household glass packaging waste	1	2
	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 mandatory for non-household plastic packaging waste	1	2
	Wooden packaging	Separation at source is mandatory for non-household wooden packaging waste	2	4
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)	N/A (for countries already having mandatory sorting at source)	0.5	0
	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)	N/A (for countries already having mandatory sorting at source)	0.5	0
	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)	N/A (for countries in which a very high share of the population is already covered by high convenience collection services)	0.5	0
	Glass packaging (non-household)	N/A (for countries already having mandatory sorting at source)	0.5	0

	Plastics packaging (household)	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)	N/A (for countries already having mandatory sorting at source)	0.5	0
	Wooden packaging	N/A (for countries already having mandatory sorting at source)	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	There is fee modulation in at least two of the main packaging fractions* AND fee modulation for one packaging fraction meets three assessment criteria	1	2
P-5.3	Material specific EPR assessment - Paper and cardboard packaging waste	EPR scheme covering household and non-household packaging, with a fee modulation meeting at least two assessment criteria	1	2
	Material specific EPR assessment - Ferrous metals packaging waste	EPR scheme covering household and non-household packaging	1	1
	Material specific EPR assessment - Aluminium packaging waste	EPR scheme covering household and non-household packaging	1	1
	Material specific EPR assessment - Glass packaging waste	EPR scheme covering household and non-household packaging	1	1
	Material specific EPR assessment - Plastics packaging waste	EPR scheme covering household and non-household packaging, with a fee modulation meeting at least two assessment criteria	1	1
	Material specific EPR assessment - Wooden packaging waste	EPR scheme covering all non-household packaging	1	2
Total packaging recycling target				21.00
Maximum score				32.00

66%

Paper and cardboard recycling target

Total score	19.00
Maximum score	30.00

63%

Ferrous metals packaging recycling target

Total score	19.00
Maximum score	30.00

63%

Aluminium packaging recycling target

Total score	19.00
Maximum score	32.00
59%	

Glass packaging recycling target

Total score	19.00
Maximum score	32.00
59%	

Plastics packaging recycling target

Total score	12.00
Maximum score	34.00
35%	

Wooden packaging recycling target

Total score	20.00
Maximum score	32.00
63%	

Assessment sheet - Target for landfilling of municipal waste

MS Italy
Date

Jun-22

SRF		Assessment result	Weight	Score
Current situation and past trends				
LF-1.1	Distance to target	Distance to target 10 – 20 percentage points	5	5
LF-1.2	Past trends in municipal solid waste landfill rat	Landfill rate in 2020 < 20% and decrease in last 5 years < 5 percentage points, or Landfill rate in 2020 < 25%, and decrease in last 5 years < 10 percentage points, or Landfill rate in 2020 > 25% and decrease in last 5 years > 15 percentage points	1	1
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 been achieved in 2016 or in the year specified in the derogation where applicable	1	2
Total score			8.00	
Maximum score			14.00	

57%