# Waste management country profile

with a focus on municipal and packaging waste









## Key messages

- Waste generation in Portugal shows an increasing trend, and there is no decoupling from economic growth.
- Portugal is considered to be at risk of not meeting the 2025 targets for the preparing for reuse and recycling of municipal waste, several packaging waste recycling targets, and the 2035 target to reduce the landfilling of municipal waste.
- Progress on increasing recycling and reducing landfilling of municipal waste has stagnated since 2016, thus Portugal needs to speed up its efforts to improve municipal waste management.
- Recently implemented policies such as extending separate collection, treating biowaste at source, and increasing the landfill tax, can be expected to improve the situation but are not visible yet in the available data. Further economic instruments could be needed to support sorting at source.

# Trends in waste generation and treatment

#### Total waste generation

The total amount of waste generated in Portugal has increased over the last 12 years (Figure 1). This trend is mainly driven by the significant increase in the large waste categories: mixed waste and recyclable waste. Excluding major mineral wastes does not strongly affect the overall trend. However, a notable increase in 2022 was caused by the doubling of mineral and solidified waste, mainly due to a strong increase in soils and dredging spoils. Overall, Portugal's GDP increased with a small drop in 2020, most likely due to the Covid-19 outbreak. In general, there seems to be no decoupling of waste generation from economic growth.



# Figure 1 Generation of waste (total and excluding major mineral wastes), population and economic development, 2010-2022

Source: Eurostat (2024b, 2024c, 2024g)

Note: Waste generation data for odd years are interpolated.

#### Municipal waste

Municipal waste generation in Portugal has shown a moderate increase since 2013 (Figure 2, left). In 2022, Portugal generated 510 kg/cap of municipal waste, just below the (estimated) EU-27 average of 513 kg/cap. In 2020 and 2021, Portugal reported higher amounts of municipal

waste treated than generated. This situation is due to quantities that are stored one year and treated the next, and it may also be due to methodological issues which are currently analysed in more detail by the Portuguese Environment Agency with the National Institute of Statistics (INE) in order to ensure convergence of methodological information (APA, 2024).





#### Source: Eurostat (2024e)

**Note:** As of the reference year 2020, new reporting rules apply for calculating recycled municipal waste pursuant to the targets laid down in Article 11.2(c-e) of Directive 2008/98/EC. Portugal has applied the new calculation rules from the reference year 2021 onwards (APA, 2024).

The preparing for reuse and recycling rate of municipal waste in Portugal shows a moderate increase over the last 12 years (Figure 2, right), reaching 30% in 2022, which is significantly below the (estimated) EU-27 average of 49%. Portugal strongly relies on Mechanical biological treatment (MBT), and the amounts reported as composted and digested include MBT outputs. In 2020 and 2021, less waste was sent to MBT plants as a measure to contain the Covid-19 pandemic, and because of improvement and requalification works at the plants (APA, 2024). Compost derived from mixed waste will not be allowed to count towards the preparing for reuse and recycling target of the Waste Framework Directive from 2027 onwards, which could result in a decrease in Portugal's overall recycling rate in the future (ETC/CE, 2022).

However, both the Strategic Plan (PERSU) and the specific plans of the entities managing municipal and multi-municipal systems (PAPERSU, in the approval phase) include a strong commitment to separate collection of bio-waste or, when this is not viable, its treatment at source. Many municipal and multi-municipal systems have started the separate collection of bio-waste. The incineration rate remained quite stable during this period, standing at 20% in 2022. The Portuguese landfill rate has been increasing again since 2016 after a declining trend, resulting in a landfill rate of 55% in 2022 (Figure 2, right). Reasons for this development include a temporary closure of MBT plants during the Covid-19 outbreak and technical work on the equipment at waste treatment plants (APA, 2024).

The data shown in Figure 2 differ from the data reported by the Portuguese authorities to show compliance with the preparing for reuse and recycling target of 55% for 2025, as laid down in the Waste Framework Directive. Portugal reported a preparing for reuse and recycling rate in response to the target that was in the range of 1-5 percentage points higher than the data shown in Figure 2 for the reference year 2022. These data are provisional and still awaiting final validation by Eurostat (Eurostat, 2024d).

#### Packaging waste

The total packaging waste generation in Portugal has significantly increased since 2010. The country generated 188 kg/cap in 2022 (Figure 3, left), which is very close to the (estimated) EU-27 average of 186 kg/cap in the same year  $(^{1})$ .



#### Figure 3 Packaging waste generation (left) and recycling rates (right), 2010-2022

#### Source: Eurostat (2024f)

**Note:** As of the reference year 2020, the rules for calculating recycled packaging waste have changed, pursuant to Article 6a of Directive 94/62/EC. Portugal has applied the new reporting rules since the reference year 2020 (Eurostat, 2024a).

The Portuguese overall packaging waste recycling rate shows a moderate increase between 2010 and 2022, reaching 61% in 2022 (Figure 3, right). The wooden packaging category has been fluctuating over the past years, which is assumed to be caused by difficulties in distinguishing between reusable and non-reusable packaging (ETC/CE, 2022), which also led to recycling rates above 100% in some years. Paper and cardboard, plastic, and glass packaging waste are the largest fractions, which are mainly responsible for the total packaging recycling rate. Plastic packaging recycling showed a significant increase until 2015 but has stagnated since. For the reference year 2020 and onwards, it is mandatory to report steel and aluminium packaging separately. The reported recycling rate of steel packaging waste was above the 2025 target in 2022.

# Policies in place to encourage waste prevention measures and to increase recycling

#### Legislative framework and waste management plans

In Portugal, Decree-Law No. 178/2006, amended by Decree-Law No. 165/ 2014, established the general regime applicable to the prevention, production and management of waste. This law created the legislative basis for drawing up the strategic plan for municipal waste (PERSU) (Decreto-Lei n.o 73/2011, 2011). In addition to PERSU, Order 3350/2015 defines intermediate targets for each municipal waste management system (Despacho n.o 3350/2015, 2015). The

<sup>(&</sup>lt;sup>1</sup>) The EU-27 average might be influenced by the situation that not all Member States already fully apply the reporting rules for packaging waste as defined in the Commission Implementing Decision 2019/665.

Decree-Law 102-D/2020 repeals Decree-Law No. 178/2006 and has been amended three times. It includes three legal regimes, namely, specific waste streams; prevention, production and management of waste; and landfilling. This law transposes the EU Waste Framework Directive as amended in 2018, and focuses on waste prevention, separate collection, and the diversion of waste from landfill. It includes prevention targets to reduce the generation of municipal waste and food waste by 2025 and 2030 (Decreto-Lei n.o 102-D/2020, 2020). (ETC/CE, 2022)

The national macro-strategy on prevention and waste management is established by the National Waste Management Plan (PNGR), which defines the Strategic Plan for Municipal Waste (PERSU) and the Strategic Plan for Non-Municipal Waste (PERNU) (ETC/CE, 2022). They promote changes in the Portuguese waste management situation by means of encouraging waste prevention and a circular economy, in response to one of the priority actions recommended by the European Commission in the Environmental Implementation Review (EIR) 2022. The EIR suggests Portugal improve its waste management performance by means of increasing its recycling rates and promoting a circular economy (EC, 2022).

#### Waste prevention policies

Portugal's National Waste Prevention Programme (NWPP) is integrated into the Strategic Plan for Municipal Waste (PERSU 2030) (Presidency of the Council of Ministers, 2023b), the Strategic Plan for Non-Municipal Waste (PERNU 2030) (Presidency of the Council of Ministers, 2023a), as well as the National Waste Management Plan (PNGR 2030) (Presidency of the Council of Ministers, 2023c). These plans replace PNGR 2020 and PERSU 2020 and the adjustments made through PERSU 2020+. (EEA, 2023c)

This new programme incorporates measures, among other things, to align with the revised European directives . Evaluations of the PNGR 2030 are planned for 2026 and 2028, assessing the indicators established for each strategic objective. The evaluation results will serve as a basis for the new strategy after PNGR 2030. No information about the evaluation of policy effectiveness nor a budget supporting the implementation of the waste prevention measures could be found within the PGNR 2030, PERSU 2030 and PERNU 2030.(EEA, 2023c) It is planned to develop an action plan for the implementation of each of the measures in the plans, including budgets associated with the measures (APA, 2024).

The NWPP aims to promote resource efficiency, contribute to a circular economy, raise awareness about waste prevention, and reduce municipal waste generation. Furthermore, it promotes the reduction of hazardous substances in materials, products and waste. Portugal's priority waste streams for prevention are food/organic waste, hazardous waste, paper, packaging, waste of electrical and electronic equipment (WEEE), textiles, and bulky waste.

PNGR 2030 sets several ambitious quantified targets for waste prevention:

- Reduce, by 2030, total waste generation to 85.6% of the amount generated in 2018.
- Reduce the share of hazardous waste in total waste from 7.0% in 2018 to 4.4% in 2030.
- Reduce waste generation/gross domestic product from 0.08 t/k€ in 2018 to 0.059 t/k€ in 2030.

PERNU 2030 sets another set of ambitious targets for preventing non-municipal waste:

- Reduce non-municipal waste generation from 11427435 tonnes in 2019 to 9320010 tonnes in 2030.
- Reduce non-municipal hazardous waste generation from 1066055 tonnes in 2019 to 599261 tonnes in 2030.
- Reduce non-municipal waste generation/gross domestic product from 0.056 t/k€ in 2019 to 0.040 t/k€ in 2030.

Focusing on food waste, Portugal developed a strategy, 'Combat Food Waste', as well as an action plan in 2018. The strategy, inter alia, aims to increase education and awareness campaigns, facilitate and encourage food donations, and establish food waste monitoring (EEA, 2023c).

A National Action Plan for the Circular Economy 2018-2020 was adopted in December 2017 and is still valid, targeting carbon neutrality and resource efficiency (Ministry of Environment, 2017). Portugal also introduced an eco-design work plan to increase the repairability, durability, and recyclability of products (EEA, 2023c).

According to 2021 data reported to the EEA according to Commission Implementing Decision (EU) 2021/19 (EEA, 2024), Portugal reused:

- 915 tonnes of textiles,
- 6378 tonnes of electrical and electronic devices, and
- 8474 tonnes of furniture.

It should be noted that these data have been reported for the first time. As the reporting process matures, it is expected that these data will strengthen but for now, caution is advised in drawing insights from the dataset. More information about the interpretation and limitations of the dataset is available (EEA, 2024).

#### Policies to encourage separate collection and recycling

In Portugal, municipal waste is mainly collected via bring points and to a lesser extent via doorto-door collection, mainly in cities, complemented with civic amenity sites. Each municipal or multi-municipal system has the responsibility to choose the type of collection. The separate collection of glass, plastics, composites, and metals targets the collection of packaging waste only while non-packaging materials are collected at civic amenity sites. The separate collection of food waste is limited to some cities' neighbourhoods and mainly targets restaurants and bigger waste producers. But recently, some projects piloted a separate collection of bio-waste in towns and suburbs, both door-to-door and via nearby bring points. In rural areas, community composting is most common. Finally, textiles and wood waste are collected via civic amenity sites in Portugal. (ETC/CE, 2022)

While the separate collection of some waste streams, especially packaging, was already mandatory, the Decree-Law in force as of July 2021 (Decreto-Lei n.° 102-D/2020, 2020) mandates the separate collection of further waste streams: textiles, bio-waste, and hazardous municipal waste. Thus, an increase in separate collection coverage is expected, as well as some changes in the collection schemes. With these new requirements, Portugal will introduce collection schemes for bio-waste, textiles, and hazardous and bulky waste, all over the country. This will be done by improving the convenience for citizens by reducing the distance for people to bring points or civic amenity sites and increasing door-to-door collection. The Decree-Law

establishes the evaluation of the separate collection performance and the definition of targets with regard to the number of collection points and minimum quality standards of the collected material. (ETC/CE, 2022)

According to the Portuguese Water and Waste Services Regulation Authority (ERSAR), there are three Portuguese cities which have pay-as-you-throw tariffs, covering only a small share of the population (EEA, 2023b). The most recent Strategic Plan for Municipal Waste, PERSU 2030, has established measures to promote pay-as-you-throw (PAYT) systems in Portugal. Additionally, PERSU 2030 has a specific measure to improve the accessibility and functionality of civic amenity sites, measures to promote PAYT systems and to create tariff systems with benefits for homeor community composting.

In Portugal, there is a tax on plastic bags of EUR 0.10 per bag and there are firm plans for a contribution of EUR 0.30 per single-use packaging made of plastic or aluminium purchased in ready-to-eat meals. (ETC/CE, 2022)

Portugal has Extended Producer Responsibility (EPR) schemes in place for packaging waste from households and for premises whose daily packaging waste production does not exceed 1100 litres. These schemes are applied to paper and cardboard, ferrous metal, aluminium, glass, plastic, wood and composite packaging (ETC/CE, 2022). These EPR schemes use advanced fee modulation for paper and cardboard, ferrous metal, aluminium and wood packaging considering recyclability and recycled content. For glass and plastic packaging, the fee modulation also includes sortability. For composite packaging, only recycled content is considered (ETC/CE, 2022). According to Decree-Law 152-D/2017, producer responsibility organisations (PROs) are obliged to perform audits to ensure correct reporting. The decree also foresees harmonised criteria regarding fees for all PROs (ETC/CE, 2022).

Portugal has a voluntary deposit-return system (DRS) for reusable packaging in place (ETC/CE, 2022). A pilot project is developed to encourage the final consumer to return non-reusable plastic beverage containers. The data obtained during this project helped to design the rules and procedures of a DRS for non-reusable plastic, ferrous metal and aluminium beverage containers. The DRS had its licence approved at the end of May 2024 (APA, 2024).

## Policies and instruments to discourage landfilling or incineration

Portugal has no landfill bans but a landfill tax since 2007, which has been increasing since. The level of the landfill tax is defined in national legislation and is set at EUR 35 per tonne in 2025. The Portuguese landfill tax is close to the average landfill tax of EU-27 member states applying landfill taxes (EUR 39-46 per tonne (EEA, 2023a)). In Portugal, the tax rates depend on the suitability of the landfilled waste for being recycled or for its material recoverability. The tax increases when recyclable waste is sent to landfill instead of being recovered (ETC/CE, 2022). In order to promote the separate collection or recycling at source of bio-waste, a new rule was inserted into the legislation: the tax that will be paid will have the value of the previous year to the municipality that demonstrates compliance with the target on separate collection and/or recycling as defined in its municipal plan (approved by Portuguese authorities). (APA, 2024)

Portugal has an incineration tax which differs between incineration with and without energy recovery, amounting to 20% and 85% of the landfill tax, respectively.

# Prospects for meeting the targets on recycling and landfilling

Portugal is considered to be at risk of not meeting the 2025 target for the preparing for reuse and recycling of municipal waste, the 2025 targets for the recycling of glass, plastic, ferrous and aluminium packaging waste, and the 2035 target to reduce the landfilling of municipal waste (ETC/CE, 2022). The reported recycling rate for total packaging waste was 63% in 2021, just below the 2025 target of 65%.

Progress on increasing recycling and reducing landfilling of municipal waste has stagnated since 2016, thus Portugal needs to speed up its efforts in this respect. It seems that the recently introduced improvements such as the extension of separate collection, the treatment of biowaste at source, and the increase of the landfill tax, are not yet visible in the most recently available data.

In order to support Portugal's efforts to improve its performance in waste management, the European Commission issued a number of policy recommendations (EC, 2023):

- Support preparing for reuse of municipal waste and reuse systems for packaging.
- Improve separate collection of recyclables and different packaging waste fractions.
- Make the separate collection of bio-waste more convenient.
- Implement and strengthen economic instruments to encourage good waste management, such as increasing the landfill tax and implementing a mandatory pay-as-you-throw system and a deposit-return scheme.
- Further develop waste treatment infrastructure associated with the higher steps of the waste hierarchy.

Meanwhile, Portugal has decided to postpone the deadlines for meeting the 2025 targets for the recycling of aluminium packaging and glass packaging by five years each, making use of the postponement option in the Packaging and Packaging Waste Directive. (EC, 2024)

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