

# Waste management country profile

with a focus on municipal and packaging waste

# Bulgaria

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## Key messages

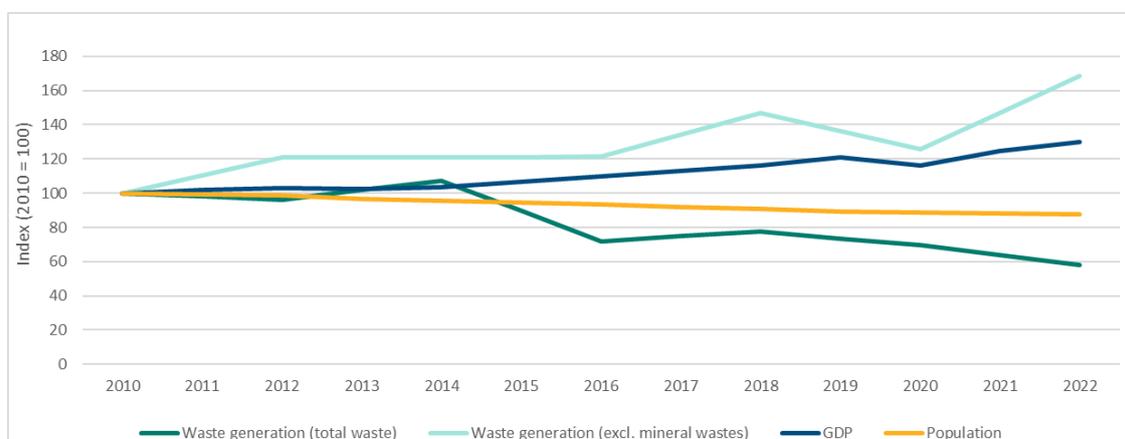
- The total amount of waste generated in Bulgaria has decreased over the last 12 years, however, total waste excluding major mineral wastes has increased. Taking these opposite trends into account, there are no clear indications of decoupling between economic growth and waste generation.
- Bulgaria has to speed up its progress towards reaching the 2025 targets for preparing for reuse and recycling of 55% or more of its municipal waste, and for recycling of 65% or more of its packaging waste. Bulgaria may also be 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.
- Since 2019, Bulgaria has not made progress on improving its rate of preparing for reuse and recycling of municipal waste. However, the landfill rate of municipal waste has significantly decreased. Municipal waste data indicate inconsistencies, especially for reference year 2021. There are also discrepancies in the data on packaging waste. This makes the assessment of progress difficult.
- There is a need for improving the separate collection system to increase the recycling rates, especially for bio-waste.

## Trends in waste generation and treatment

### Total waste generation

The total amount of waste generated in Bulgaria has decreased over the last 12 years (Figure 1). This trend is primarily driven by the largest waste categories, namely mineral waste from mining and quarrying. Total waste excluding major mineral wastes, on the other hand, shows an increasing trend, mainly due to an increase in recyclable and mixed ordinary waste. Except for a drop in 2020, most likely due to the Covid-19 outbreak, Bulgaria's GDP increased. While total waste generation has decoupled from economic growth, total waste excluding major mineral wastes has increased more than the economy.

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



**Source:** Eurostat (2024b, 2024a, 2024f)

**Note:** Waste generation data for odd years are interpolated.

## Municipal waste

Municipal waste generation per capita in Bulgaria has decreased between 2010 and 2022 (Figure 2, left). In 2022, the country generated 488 kg/cap of municipal waste, which is slightly below the (estimated) EU-27 average of 513 kg/cap in the same year.

**Figure 2 Municipal waste management (left) and rates of recycling (incl. preparing for reuse) and landfill (right), 2010-2022**



**Source:** Eurostat (2024d)

**Note:** The sum of municipal waste reported as landfilled, incinerated, materially recycled and composted/digested is much lower than the reported 'total treatment' values for 2021 and 2022. 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. However, it is unclear based on the information available whether these new reporting rules have been implemented in Bulgaria yet.

Bulgaria has shown low and stagnating waste recycling rates over the past years (Figure 2, right). In 2022, the municipal waste recycling rate stands at 25%, which is significantly below the (estimated) EU-27 average of 49% in the same year. Bulgaria's rate of composting and anaerobic digestion remains very low, at the level of 3% in 2022 (Figure 2, right).

Bulgaria still relies strongly on landfilling even though the landfilling rate decreased significantly over the past 10 years, reaching 54% in 2022. Bulgaria invested heavily in Mechanical-Biological Treatment (MBT) plants and has MBT capacity to treat 39% of its generated municipal solid waste in 2021 (ETC/CE, 2022). Municipal waste incineration plays a minor role in Bulgaria, as only 3% of the generated municipal waste was incinerated in 2022.

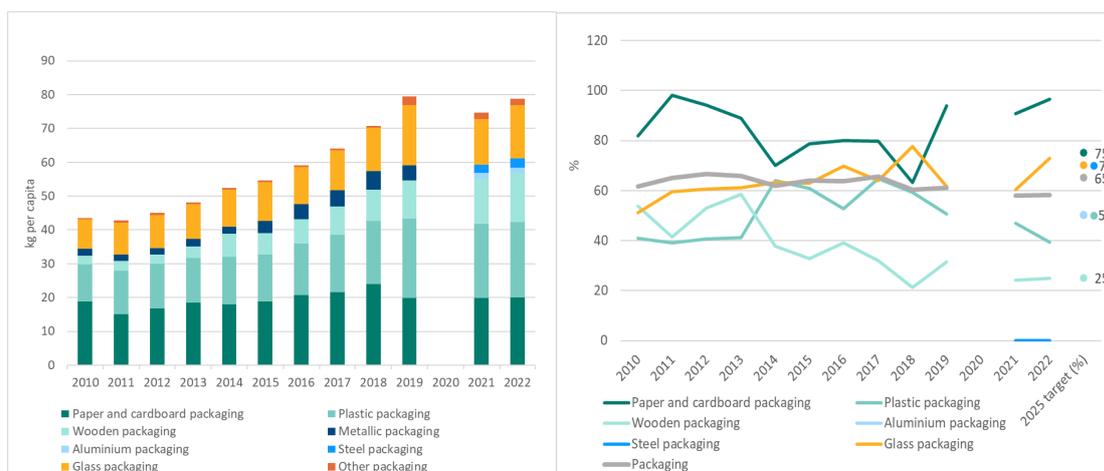
Data on municipal waste generation and treatment show a large gap for 2021 and 2022 (Figure 2, left), mainly due to a steep drop in landfilled volumes in 2021. It remains unclear how the waste, for which no treatment operation is indicated, has been managed.

Bulgaria has also reported data to show compliance with the preparing for reuse and recycling target of 55% for 2025, as laid down in the Waste Framework Directive. The difference between these (provisional) data, following the reporting obligation of the Waste Framework Directive, and the data shown in Figure 2 (voluntarily reported) is below 1 percentage point for the preparing for reuse and recycling rate, both in 2021 and in 2022. The 2022 data according to this reporting obligation are still awaiting validation by Eurostat (Eurostat, 2024c).

## Packaging waste

Bulgaria's packaging waste generation has continuously increased since 2010 (Figure 3, left). In 2022, the country generated 79 kg/cap of packaging waste, which is significantly below the (estimated) EU-27 average of 186 kg/cap for the same year <sup>(1)</sup> and the lowest among all EU-27 Member States. It is essential to view these data with caution, as they might be underestimated (EC, 2023; Eunomia, 2018; ETC/CE, 2022). Steps have been taken to improve data quality, addressing issues such as underreporting of packaging placed on the market and free riding. (ETC/CE, 2022)

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



**Source:** Eurostat (2024e)

**Note:** There are no data available for 2020. The recycling rates for both steel and aluminium packaging in 2021 and 2022 are 0%.

Bulgaria's overall packaging waste recycling rate has stagnated, standing at 58% in 2022 (Figure 3, right). The overall packaging waste recycling is mainly driven by plastic, paper and cardboard, and glass packaging waste as these constitute the largest fractions. The recycling rates are likely to be overestimated as they are calculated based on the underestimated amounts of packaging placed on the market. For the reference year 2020 and onwards, it is mandatory to report steel and aluminium packaging separately. Based on the recycling data, Bulgaria is not recycling these two fractions yet.

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

### Legislative framework and waste management plans

The main Bulgarian legislation related to municipal and packaging waste are the Ordinance on Packaging and Packaging Waste, the Waste Management Act, and the Ordinance on Separate Collection of Bio-waste and Treatment of Biodegradable Waste. The National Waste

<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.

Management Plan 2021-2028, including the National Waste Prevention Programme, was adopted in 2021 and refers to the entire territory of the Republic of Bulgaria. (ETC/CE, 2022)

### ***Waste prevention policies***

Bulgaria's National Waste Prevention Programme (NWPP) is integrated into the National Waste Management Plan (NWMP) 2021-2028 (EEA, 2023b; The Ministry of Environment and Water, 2021). Waste prevention measures are clearly indicated in a separate sub-programme with the strategic goal of reducing the harmful impact of waste by preventing its generation and promoting reuse. The priority waste streams for prevention, also covered by the whole NWMP, are food waste, household waste, industrial waste, construction waste, and hazardous waste.

In the NWPP, 22 measures for waste prevention are specified along with their implementation period and target for follow-up (EEA, 2023b; The Ministry of Environment and Water, 2021). Examples of targets are:

- To carry out at least two six-month waste prevention campaigns at the national level and at least 100 campaigns at the municipal level.
- To provide composters without charge to 100000 households.
- Expanding the range of plastic shopping bags covered in the Directive (EU) 2015/720 to be subject to a product fee.

The budget allocated for the implementation of the NWPP is BGN 239.48 million (around EUR 122.15 million). 32% of this budget is designated for the action programme on food waste prevention (EEA, 2023b; The Ministry of Environment and Water, 2021). Measures for preventing food waste include the collection of information on household food waste, improving cross-sector collaboration, identifying stakeholders across the food chain, developing a national programme within the Ministry of Agriculture and Forestry, raising public awareness about government initiatives, creating methodological manuals and information materials to prevent food waste generation, and providing necessary funding for the programme's implementation. These challenges are addressed through 12 actions described in the NWPP. One of these actions is implementing pilot projects to prevent food waste from households, restaurants and tourism, and the adoption and dissemination of best practices in the period 2022-2026.

The current NWMP incorporates a brief evaluation of previous prevention measures in the period 2014-2020. However, there is limited information on the methodology of the evaluation (The Ministry of Environment and Water, 2021). Examples of key results include the development of educational programmes and guidelines for municipal and regional waste management programmes, a decrease in industrial waste generation per unit of gross domestic product (GDP) from 2014 to 2018, and a reduction in household waste generation per capita over the same period (EEA, 2023b). Targeted activities and economic instruments for waste disposal are mentioned as contributing to the outcomes of reduced industrial and household waste. (The Ministry of Environment and Water, 2021; EEA, 2023b)

Bulgaria has not yet reported any data for reuse of textiles, furniture, electrical and electronic equipment and construction and building materials according to Commission Implementing Decision (EU) 2021/19 for the year 2021 by the reporting deadline (EEA, 2024).

### ***Policies to encourage separate collection and recycling***

In Bulgaria, waste is mainly collected through low-density bring points (< 5 per km<sup>2</sup>) and civic amenity sites. There is no door-to-door separate collection, except for waste electrical and electronic equipment. Bring points for textile waste and bio-waste are not in place in rural areas. (ETC/CE, 2022)

Typically, the packaging waste is collected via co-mingling collection systems. It is possible to use the packaging waste collection system for non-packaging waste if this is contracted between the municipality and the Extended Producer Responsibility (EPR) organisation. While this option is not widely used, in practice, citizens often use the containers for sorting non-packaging waste as well. Different waste streams are subsequently separated in sorting installations. (ETC/CE, 2022)

Currently, Bulgaria does not apply a pay-as-you-throw system for waste collection fees. Pay-as-you-throw has been introduced already in the Local Taxes and Fees Act but its application is not mandatory for municipalities. In line with priority actions recommended in the Environmental Implementation Review 2022 (EC, 2022), Bulgaria plans to enforce and use pay-as-you-throw systems in 2024 at the earliest. (EEA, 2023a)

Extended Producer Responsibility (EPR) systems cover packaging waste from both households and non-household sources, but there is no system of advanced fee modulation in place, i.e. fee modulation within the broad material categories, such as higher fees for difficult-to-recycle plastic types or for combinations of materials. Bulgaria has a packaging tax to be paid by producer responsibility organisations not meeting the recycling targets. (ETC/CE, 2022)

There is a voluntary deposit-return system for glass drink bottles, plastic crates and wooden packaging. (ETC/CE, 2022)

Following the policy recommendations provided by the European Commission in 2018 (EC, 2018), the requirements for the minimum density of separate collection containers for packaging waste have been increased since January 2019 (ETC/CE, 2022). However, further improvements in separate collection systems are needed, especially for bio-waste. Currently, bio-waste is collected via bring points and civic amenity sites. Measures to improve the collection of bio-waste, such as increasing the separate collection, expansion of composting capacity, and encouragement of home composting, are included in the National Waste Management Plan 2021-2028. However, the timing for the implementation of the measures is unclear. (EC, 2022, 2023; ETC/CE, 2022)

### ***Policies and instruments to discourage landfilling or incineration***

A landfill tax was introduced in Bulgaria in 2011. The tax was planned to be increased to BGN 95 per tonne in 2022 (EUR 50 per tonne) but it is unclear if this was implemented (EEA, 2023a). A landfill tax of EUR 50 per tonne would be above the average of landfill taxes of EU-27 Member States using such taxes (EUR 39-46 per tonne). Landfill tax revenues are designated for municipal use to enhance separate collection, waste treatment infrastructure, and waste prevention. If a municipality achieves goals specified under the Waste Management Act, the landfill tax is reduced by 50%. This deduction serves as an economic incentive, encouraging municipalities to decrease landfilling, increase recycling and recovery, and accumulate funds

for waste treatment infrastructure construction. In Bulgaria, there is no tax on municipal waste incineration and there are no plans to introduce such a tax. (ETC/CE, 2022)

Since waste is in some landfills not subject to adequate treatment and stabilisation of its organic fraction, the European Commission has initiated in 2021 an infringement procedure against Bulgaria for failing to comply with the Landfill Directive and the Waste Framework Directive (EC, 2022, 2023). The completion of the process of rehabilitation of non-compliant landfills and prevention of illegal dumping of waste are the priority actions recommended in the Environmental Implementation Review 2022 (EC, 2022).

## Prospects for meeting the targets on recycling and landfilling

In the EEA's early warning assessment (ETC/CE, 2022), Bulgaria has been identified as being at risk of not meeting the 2025 targets for preparing for reuse and recycling of 55% or more of its municipal waste, and for recycling 65% or more of its packaging waste. Bulgaria is also 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 (ETC/CE, 2022). Consequently, the European Commission issued a number of policy recommendations to improve Bulgaria's waste management performance (EC, 2023):

- Support preparing for reuse of municipal waste and reuse systems for packaging.
- Further increase separate collection of waste and develop waste recycling infrastructure, such as increasing the capacity to treat bio-waste and supporting home composting.
- Swiftly implement a national deposit-return scheme for beverage packaging and a pay-as-you-throw system for businesses and households.
- Improve the data quality management system on packaging waste to present consistent and verifiable datasets.

Since the publication of the early warning report (EC, 2023), Bulgaria has not made progress on improving its preparing for reuse and recycling rate of municipal waste. However, the landfill rate of municipal waste has significantly decreased, although data for 2021 seem to show inconsistencies. Bulgaria's rates of composting and anaerobic digestion remain significantly low and were previously identified as a key factor for weak performance (EC, 2022, 2023). There are discrepancies in the data on packaging waste and the actual progress is unclear. Priority actions recommended by the European Commission in the Environmental Implementation Review 2022 mainly highlight the improvement of the separate collection of waste to increase the recycling rates (EC, 2022).

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