Waste management country profile

with a focus on municipal and packaging waste

Türkiye

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European Environment Agency

Key messages

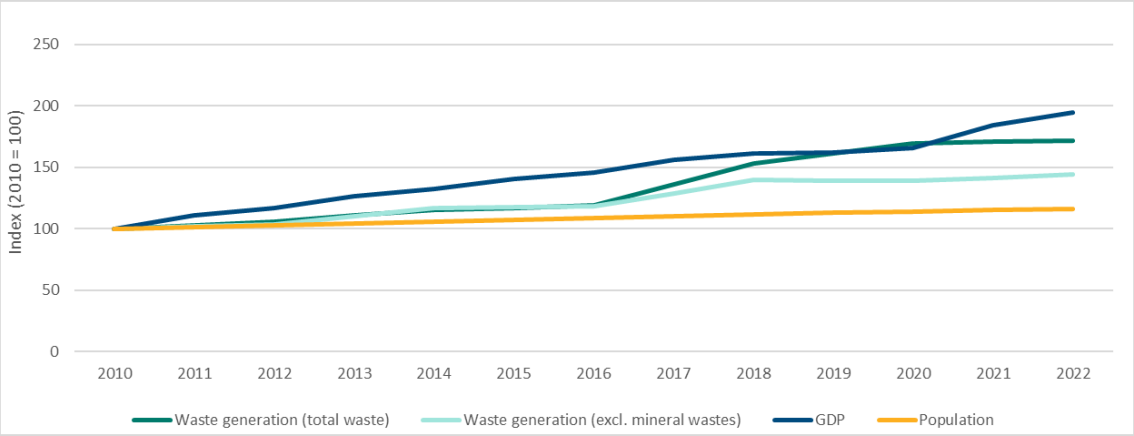
- Waste generation in Türkiye showed a significant increase throughout the last 12 years. There appears to be no decoupling from economic growth.
- While discrepancies in the reported data make definitive conclusions difficult, Türkiye's landfill rate remains very high, whereas the recycling rate remains low. Composting and digestion of bio-waste have been very limited although nearly half of the municipal waste is biodegradable.
- As a significant proportion of recoverable household waste is still disposed of through landfilling, greater incentives are needed to promote sorting at source and separate collection practices.
- Türkiye reports notable advancements in the recovery of packaging waste, with recovery rates reaching 93% for paper and board, 68% for metal, 63% for plastic and 34% for composite packaging. The number of recovery facilities has also significantly increased.
- The 'Zero waste policy' initiated several new policy initiatives supporting better waste management. These include the development of infrastructure for bio-waste treatment; the introduction of a recycling contribution fee to be paid by producers for packaging, electrical and electronic equipment, plastic bags, batteries and accumulators, and tyres; and the introduction of a deposit-refund scheme for certain types of beverage packaging. Once fully implemented, these policies are likely to improve the situation, but their actual effect remains to be seen.

Trends in waste generation and treatment

Total waste generation

The total amount of waste generated in Türkiye has significantly increased since 2010 (Figure 1). Excluding the major mineral waste categories affects the increasing trend slightly, but the overall increase remains significant. Within wastes excluding major mineral wastes, combustion wastes and mixed household and similar wastes are the largest waste categories, which increased throughout the considered time frame. While constituting a relatively smaller proportion, the amounts of recyclables increased three-fold throughout this period. Türkiye's GDP showed steady growth, while the population also increased. Waste generation appears not to have decoupled from economic growth.

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



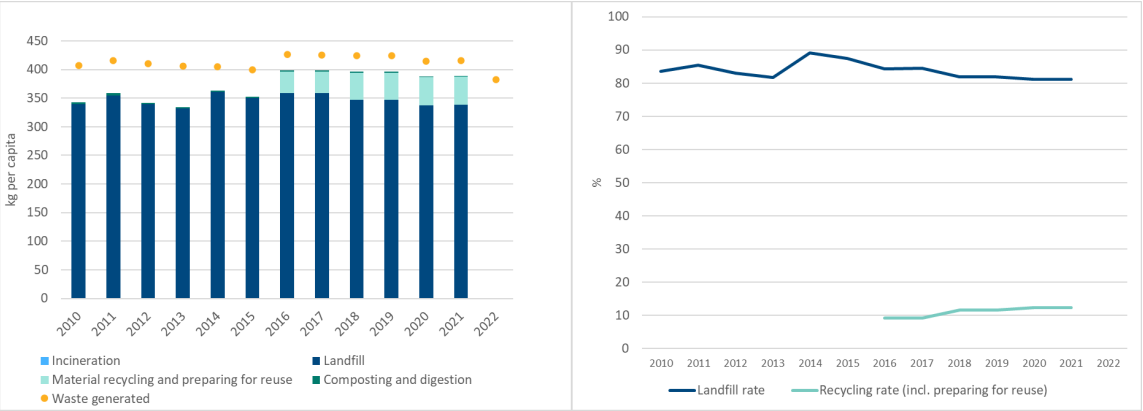
Source: Eurostat (2024a, 2024b, 2024d)

Note: Waste generation data for odd years are interpolated. The dataset covers waste from the manufacturing industry, energy sector, mining establishments, municipalities, villages, clinical waste from health institutions, and the amounts of waste treated in waste treatment facilities. It excludes waste from agriculture, forestry and fishing sectors; construction; and waste from the waste sector (Turkish Statistical Institute, 2024).

Municipal waste

Municipal waste generation per capita in Türkiye stagnated between 2010 and 2021 (Figure 2, left). In 2021, the country generated 416 kg/cap of municipal waste, which is significantly below the (estimated) EU-27 average of 527 kg/cap. In 2022, the municipal waste generation decreased to 382 kg/cap.

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



Source: Eurostat (2024c)

Note: There is a break in the time series flagged for 2016. Data for waste treatment are not available for 2022.

Türkiye's landfill rate decreased slightly since 2014 and has stagnated at a very high level since around 2018, reaching 81% in 2021 (Figure 2, right). The break in the data series in 2016 for municipal waste treatment (Figure 2, left) is attributed to the inclusion of recoverable municipal waste in the reported figures from 2016 onwards. Although recycling operations

existed prior to 2016, they were not reported systematically and therefore not accounted for in the reported data until that year (Eurostat, 2022). In 2021, only 12% of the generated municipal waste was recycled, which is significantly below the (estimated) EU-27 average of 49% in the same year. In Türkiye, there is no or very limited composting and digestion of municipal waste, nor is incineration used to treat this type of waste.

The Turkish Statistical Institute provides some more detail on the first destinations of municipal waste. In 2020, 69.4% of the municipal waste was sent to controlled landfill sites, 17% to municipal dumping sites, 13.2% to waste recovery facilities and 0.4% was disposed of through open burning, burying and dumping into rivers or onto land. (Turkish Statistical Institute, 2021)

Analysis performed for the Ministry of Environment, Urbanisation and Climate Change for the development of the National Waste Management Strategy and Plan 2025-2035 indicates different numbers than the data reported to Eurostat by the Turkish Statistical Institute.

The Turkish Statistical Institute (TurkStat) has been collecting data from all municipalities every two years since 1992 and reporting the results. In previous years, waste that was collected separately by municipalities and sent to recycling facilities, as well as domestic waste processed in biogas plants, was reported as recovered. However, with the increase in the number of integrated waste treatment facilities in recent years, it has become more difficult to determine the destinations of the waste. Companies and municipalities have started to send such waste directly to waste treatment facilities, which has led to the need to improve the calculations. Therefore, as of 2020, only data on waste services of municipalities are submitted to Eurostat. The Ministry of Environment, Urbanization and Climate Change calculates the recovery rate based on data from waste treatment facilities and municipalities. TurkStat and the Ministry are developing a methodology to improve these calculations. It is planned to produce a joint and holistic publication on municipal waste with a calculation based on waste processing facilities. (Ministry of Environment, Urbanisation and Climate Change, 2025b)

According to the analysis performed by the Ministry, the share of municipal waste recycled increased from 13% to 35% from 2017 to 2023, however, these data only refer to the waste collected by municipalities, which provide waste collection and transportation services. (Ministry of Environment, Urbanisation and Climate Change, 2025b)

Packaging waste

There are no data on packaging waste published by Eurostat for Türkiye. National packaging data indicate that in 2022, 1031326 tonnes of packaging waste were declared in the waste declaration system, and around half of this is paper and cardboard packaging (Ministry of Environment, Urbanisation and Climate Change, 2025a). Nationally reported data for the reference year 2018 indicate recovery rates of 63% for plastic packaging, 68% for metal packaging, 93% for paper and cardboard packaging, and 64% for composite packaging (Ministry of Environment, Urbanisation and Climate Change, 2022).

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

Legislative framework and waste management plans

The Ministry of Environment and Urbanization oversees the implementation of the waste policies, including infrastructure development for waste disposal and recovery, regulation enforcement, and public education initiatives. Provincial Directorates of Environment and Urbanization monitor and inspect waste management at the local level. (Ministry of Environment and Urbanization, 2016) The legal framework on waste management is partially aligned with the EU acquis.

The OECD's Environmental Performance Review 2019 (OECD, 2019) found that Türkiye's waste generation increased less than its economic growth, but that policy implementation is often hampered by a lack of coherence, institutional clarity, or the necessary financial and human resources. However, since then, a number of policy amendments and changes have been introduced.

The National Waste Management and Action Plan (2016-2023) aims for sustainable and integrated waste management, focusing on minimising waste at the source, promoting collection, recycling, recovery and improving disposal methods, and aligning Turkish waste policy with international norms and national priorities. (Ministry of Environment and Urbanization, 2016; ETC/WMGE, 2016).

In line with the principles of sustainability and the circular economy, as well as the zero waste approach, Türkiye's waste management strategies and policies are developed with the aim of ensuring a healthy and livable environment for current and future generations. These strategies and policies are developed within the framework of Environmental Law No. 2872, taking into account international norms and national priorities. In order to achieve this goal, the National Waste Management Strategy and Plan has been prepared (not yet published). This plan determines the recovery, pretreatment, and disposal methods for all waste types that will be used for waste management activities until 2035. It also identifies the required capacity and investment in facilities. Accordingly, 60% of waste is targeted to be recycled by 2035. (Ministry of Environment, Urbanisation and Climate Change, 2025b)

Key by-laws include:

- The By-law on Waste Management (2015) sets the framework for environmentally sound waste management.
- The By-law on the Control of Packaging Waste (2021) aims to minimise packaging waste generation and increase recycling rates.
- Pursuant to Article 11 of Environmental Law no. 2872, metropolitan municipalities are obliged to establish, install, and operate disposal facilities for domestic solid waste, or to make them operated.
- The Metropolitan Municipality Law No. 5216 and the Municipality Law No. 5393 state that local governments are responsible for planning, managing, and monitoring waste. Metropolitan municipalities handle waste recovery, storage, disposal, and related services, excluding waste collection at the source. Municipalities outside metropolitan areas are responsible for the collection of household waste at the source and its transport to transfer stations or disposal sites.

- The ‘Zero Waste Policy’, launched in 2017, aims to, inter alia, increase the recycling rate for municipal waste to 35% by 2023. This policy focuses on raising public awareness and engaging local authorities, public-private organisations, and citizens in waste management efforts. The By-law on Zero Waste entered into force in 2019 (Resmi Gazete, 2019).

In order to ensure the effectiveness of the Zero Waste Project 2017, the legal basis was established through the amendments of the Environmental law made in 2018, 2020 and 2022 concerning the application of the Recycling Contribution Fee (GEKAP), environment label, mandatory deposit-refund, etc. (Ministry of Environment, Urbanisation and Climate Change, 2022)

Waste prevention policies

Türkiye’s National Waste Prevention Programme (NWPP) is integrated into the National Waste Management and Action Plan (OECD, 2019). As part of the 2019 By-law on Zero Waste, authorities should establish policies on waste prevention and monitor and evaluate their implementation (Ministry of Environment, Urbanisation and Climate Change, 2022). Under the Zero Waste Project, 11 guides on waste prevention and reduction were developed addressing different stakeholders such as citizens, restaurants, and the industry, with the aim to spread awareness about the basic principles of waste prevention and the circular economy. (EEA, 2022)

Priority waste streams for prevention are food waste and plastic waste (OECD, 2019). Türkiye has set several qualitative targets and goals related to food waste, but there are no specific quantitative targets related to waste prevention. (EEA, 2022)

In 2020, Türkiye developed a national strategy and action plan for food waste prevention, reduction, and monitoring of food loss. The strategy defines several goals including the prevention and reduction of food loss and waste, as well as the redistribution of surplus food. It seeks to raise awareness; to measure, monitor and evaluate food loss; to build capacity to increase efficiency within the food supply chain; to optimise packaging and its use for all actors, including consumers; and to enable cold chain management. Furthermore, it promotes preventing and reducing food waste in food services, at the retail level and at the household level. (Food and Agriculture Organization of the United Nations, 2020).

The programme mentions no foreseen budget for its implementation, nor does it mention the evaluation of the previous waste prevention programme or how the results hereof were integrated into the current programme.

Policies to encourage separate collection and recycling

As mentioned before, according to the Metropolitan Municipality Law No. 5216 and the Municipality Law No. 5393, the collection of household waste at the source and its transportation to transfer stations or disposal sites is managed by municipalities. Municipalities collect and transport municipal waste either by themselves or through private companies. (Ministry of Environment and Urbanization, 2016)

Many municipalities in Türkiye conduct environmental education programmes in households, workplaces, and especially schools, to improve the efficiency of source-separated collection. The collection of waste varies based on population density, settlement characteristics (e.g. dense housing, apartment complexes), and physical structure (e.g. narrow streets). (Ministry of Environment and Urbanization, 2016) Biodegradable waste, which constitutes one of the largest fractions, has been designated for separate collection under the Zero Waste Regulation, with provisions made for compost production. The municipal wastes separated in mechanical separation units are treated in biomethanisation and composting facilities. 19 biomethanisation and 18 composting facilities are in operation. (Ministry of Environment, Urbanisation and Climate Change, 2022, 2025b)

Currently, Türkiye does not apply a pay-as-you-throw system. The country's current waste management strategies focus more on separate collection systems and compliance with broader EU waste directives, especially as part of its efforts to align with EU environmental standards. Through the Zero Waste Project, legislation has been put in place for introducing a mandatory deposit-return system for certain beverage packaging. The Turkish Environment Agency was assigned, by law, with the task of monitoring this system on a national basis. (Ministry of Environment, Urbanisation and Climate Change, 2022) Implementation of the system will start in the region of Sakarya (Turkish Environment Agency, 2025).

The By-law on the Control of Packaging Waste, finalised in 2021, mandates municipalities to separately collect packaging waste at the source. It assigns all management costs to stakeholders, including producers and market introducers, under the 'polluter pays' principle. Market introducers must register through the 'Packaging Electronic Software Program' and either establish or contract an authorised institution to manage these processes.

Furthermore, the implementation of the Recycling Contribution Fee (GEKAP) was initiated as part of the Zero Waste Policy. This fee, which has been applicable since 2020, is collected from product manufacturers and importers based on the 'polluter pays' principle and is a reflection of the Extended Producer Responsibility (EPR) principle. It aims to fund the development of waste management infrastructure for the collection, transportation, recovery, recycling, disposal, and reduction of specific wastes, including packaging, plastic bags, electrical and electronic equipment, batteries & accumulators, and tyres. The amount of the fee depends on the type and volume or weight of the products. (Ministry of Environment, Urbanisation and Climate Change, 2022)

As of 1 January 2019, Türkiye has introduced a fee of TRY 0.50 per plastic bag presented to the customers at the point of sale in order to prevent plastic pollution and unnecessary use of plastic bags. The Ministry of Environment, Urbanisation and Climate Change estimates that this fee prevented the accumulation of 1806150 tonnes of plastic waste in the period 2019-2024 (first 9 months). Furthermore, the Ministry assessed that this reduction led to the prevention of the import of plastic raw materials required for the production of plastic bags in Türkiye, saving approximately TRY 12 billion and preventing approximately 74695 tonnes of greenhouse gas emissions.

Policies and instruments to discourage landfilling or incineration

In Türkiye, municipal waste is still primarily disposed of through sanitary landfilling (Figure 2). By 2024, there are 94 landfills serving 75.9 million people across 1248 municipalities. According to the National Waste Management and Action Plan, there are nearly 200

dumpsites, and all these dumpsites have been rehabilitated (Ministry of Environment, Urbanisation and Climate Change, 2025b). Currently, there are no taxes, pretreatment requirements, or bans on landfilling or waste incineration in Türkiye.

National policy targets on recycling and landfilling

A significant portion of the household waste is recyclable and can be recovered (Ministry of Environment, Urbanisation and Climate Change, 2022). However, many of these recyclable wastes such as bio-waste, plastics, paper/cardboard, glass, and metals are sent to landfills because they are not sorted at the source. Waste characterisation reveals that nearly half of the waste generated is bio-waste, highlighting the importance of composting and digestion processes for biodegradable waste. The Ministry notes that to meet Türkiye's 2053 Net Zero Emission Target, it is essential to collect and process biodegradable wastes separately at the source. (Ministry of Environment, Urbanisation and Climate Change, 2022)

The National Waste Management and Action Plan (2016-2023) targeted that, by 2023, 35% of the waste generated should be recovered (Ministry of Environment and Urbanization, 2016), and the Ministry of Environment, Urbanisation and Climate Change (2025b) notes that this target was achieved. According to the Ministry's strategies, the objective is to achieve a 60% reduction in waste by the year 2035 (Ministry of Environment, Urbanisation and Climate Change, 2025b). In 2018, 2057 facilities were operational for recovering materials like metals, plastics, and paper, processing approximately 48 million tonnes of packaging waste. By 2020, the number of these facilities increased to 2568, with approximately 49 million tonnes of total waste processed. (Ministry of Environment, Urbanisation and Climate Change, 2022)

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