Waste management country profile

with a focus on municipal and packaging waste

Poland

March 2025

European Environment Agency

Key messages

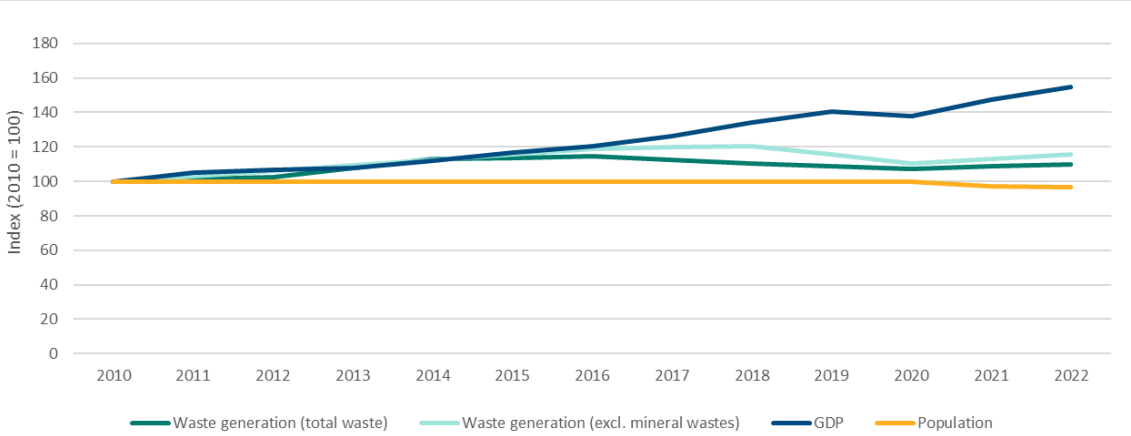
- The total amount of waste generated in Poland has increased slightly over the last 12 years, however, waste generation increased less than GDP.
- Poland is considered to be at risk of not meeting the 2025 targets for preparing for reuse and recycling of 55% or more of its municipal waste and for recycling of 65% or more of its packaging waste. Poland is also considered to 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.
- After a period of stagnation, Poland managed to slightly increase the rate of preparing for reuse and recycling of municipal waste to 41% in 2022 and to reduce the landfill rate. However, provisional data concerning compliance with the 2025 target for preparing for reuse and recycling indicate a lower performance. Thus, further efforts are needed.
- To improve the waste management performance, Poland would need to improve the efficiency of the separate collection systems and increase the recycling capacity.

Trends in waste generation and treatment

Total waste generation

Over the last 12 years, Poland's total waste generation has increased, driven primarily by the largest waste category 'other mineral wastes' (which is part of the major mineral waste category) (Figure 1). Waste generation increased until 2016, and started to slowly decline afterwards. This was largely due to a reduction in mineral waste from mining and quarrying, following the closing of several mines, especially coal mines, and other changes in the mining industry. It is assumed that this trend will continue (Polish Ministry of Climate and Environment, 2024b). Excluding major mineral wastes resulted in an increase until 2018, followed by a drop in 2020 and a small increase in 2022. While combustion wastes declined, mixed and recyclable wastes, both large waste categories as well, strongly increased. Poland's GDP increased since 2010 with a drop in 2020, most likely due to the Covid-19 outbreak. Since 2016, waste generation decoupled from economic growth.

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



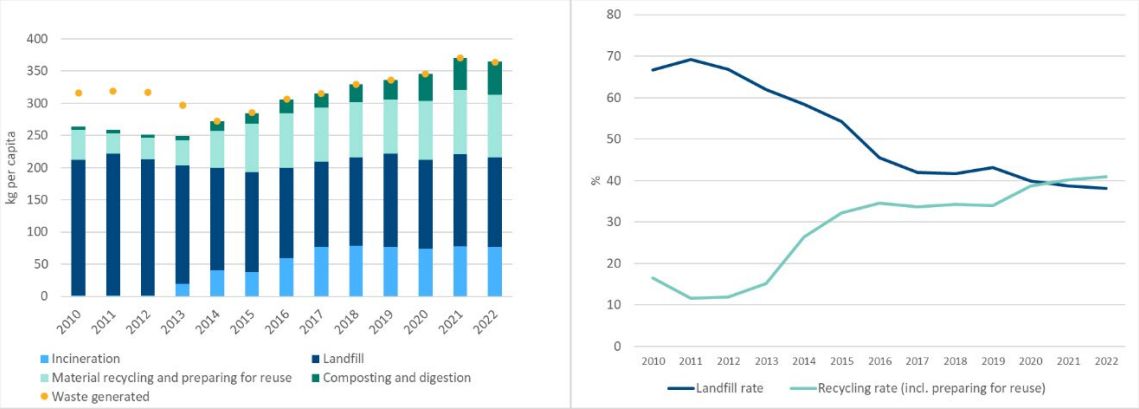
Source: Eurostat (2024a, 2024b, 2024f)

Note: Waste generation data for odd years are interpolated.

Municipal waste

Municipal waste generation per capita in Poland has increased between 2010 and 2022 (Figure 2, left). In 2022, the country generated 364 kg/cap of municipal waste, which is significantly 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: There is a break in series in 2013 and 2014, and data for the years 2010- 2017 are flagged as estimates. As of 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. Poland has implemented the new reporting rules, however, data following these rules are submitted separately to the European Commission and are not shown in the figure above.

The municipal waste recycling rate (incl. preparing for reuse) in Poland significantly increased over the past years (Figure 2, right). In 2022, the municipal waste recycling rate was 41%, which is slightly below the (estimated) EU-27 average of 49% in the same year. Rates of composting and anaerobic digestion remain low in Poland but have been slowly increasing over the past years and were at the level of 14% in 2022, due to the wide introduction of separate collection of bio-waste. Municipal waste incineration has increased over time and was at the level of 21% of the generated municipal waste in 2022. At the same time, the landfilling rate significantly decreased to 38% (Figure 2, right).

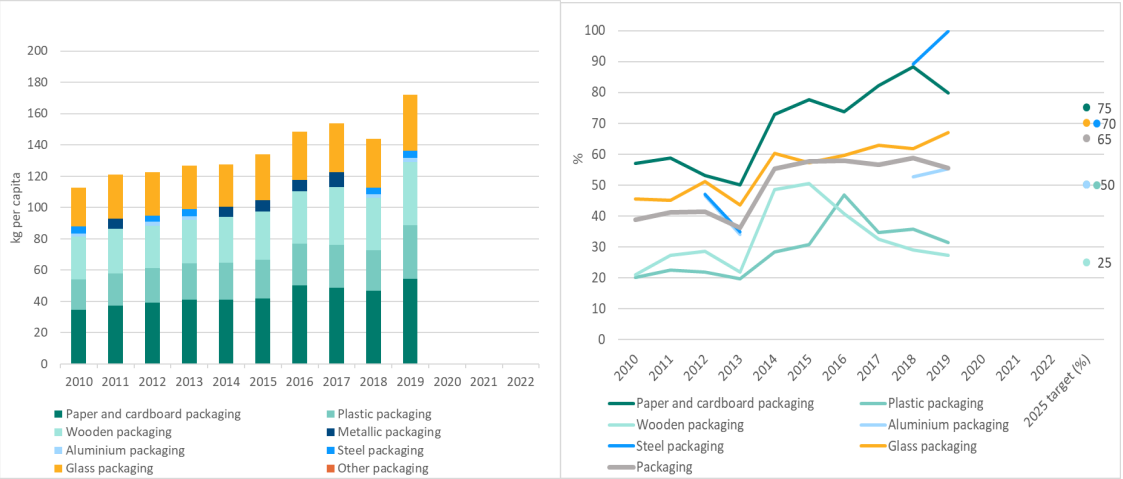
The data shown in Figure 2 differ from the data reported by the Polish authorities to show compliance with the preparing for reuse and recycling target of 55% for 2025, as laid down in the Waste Framework Directive. Provisional data reported in response to the target indicate preparing for reuse and recycling rates of 10-20 percentage points below the data shown in Figure 2 both for reference year 2021 and 2022. The 2022 data is still awaiting final validation by Eurostat (Eurostat, 2024c).

Packaging waste

Poland's packaging waste generation has significantly increased since 2010 (Figure 3, left). In 2019, the country generated 172 kg/cap of packaging waste, which is close to the (estimated)

EU-27 average of 177 kg/cap in the same year ([1]). The reported data do not include estimates for online sales, private imports/exports, free riding, and companies placing very small amounts of packaging on the market (de minimis rule) (Eurostat, 2021). However, measures to prevent free riding have been applied and since 2019, information on packaging put on the market has to be reported through an electronic registry by all entities regardless of the amount of packaging products placed on the market. (ETC/CE, 2022b; Polish Ministry of Climate and Environment, 2024b)

Figure 2: Packaging waste generation (left) and recycling rates (right), 2010-2019



Source: Eurostat (2024e)

Note: There are no data available for 2020, 2021, and 2022. Data for steel and aluminium packaging separately is not available for 2011 and for 2014-2017. As of the reference year 2020 the rules for calculating recycled packaging waste have changed, pursuant to Article 6a of Directive 94/62/EC. These new reporting rules have been implemented in Poland for the reference year 2022 onwards (Polish Ministry of Climate and Environment, 2024b).

Poland's overall packaging waste recycling rate has significantly increased between 2010 and 2019, reaching 56% in 2019 (Figure 3, right). The overall packaging waste recycling is mainly driven by paper and cardboard packaging waste and glass packaging waste. These fractions constitute the largest fractions of all packaging waste generated and have the highest recycling rates. The recycling rates for paper and cardboard packaging waste and for glass packaging waste have increased over the past years and were in 2019 at the level of 80% and 67%, respectively. Steel packaging waste had the highest reported recycling rate in 2019 (100%), but since it is a very small fraction within packaging waste, the contribution to the overall packaging waste recycling rate is limited.

([1]) 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.

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

Legislative framework and waste management plans

The main legislations in Poland related to municipal and packaging waste are the Act on Maintaining Cleanliness and Order in Municipalities (Sejm, 2024c), the Act on Waste (Sejm, 2023b), and the Act on the Management of Packaging and Packaging Waste (Sejm, 2024b). Additionally, there are acts related to waste management obligations for entrepreneurs (Sejm, 2024a) and on counteracting food wastage (Sejm, 2020). Poland's National Waste Management Plan 2028 (NWMP 2028) was published in July 2023. The objectives and tasks presented in the NWMP 2028 relate to the years 2023-2028 and prospectively to 2035 (Council of Ministers of the Republic of Poland, 2023).

Waste prevention policies

Poland's National Waste Prevention Programme (NWPP) 2028 is integrated into the National Waste Management Plan 2028 (NWMP 2028), which was made during the updating process in 2023 (Council of Ministers of the Republic of Poland, 2023).

The Polish waste prevention objectives follow the overall strategic development of efficient use of resources and respect for the environment, by using less raw materials and energy and enabling the use of recyclable raw materials and renewable energy sources. The programme identifies the following priority waste streams: food waste, packaging waste, mining waste, waste from the energy sector, electrical and electronic equipment (WEEE) and end-of-life vehicles (ELVs).

The goals and objectives related to waste prevention include the development of reuse, especially increasing the mass of equipment recovered for reuse (electrical and electronic equipment) and increasing the reuse of parts from end-of-life vehicles. The NWPP includes a separate food waste prevention programme. Indicators related to monitoring food waste prevention are mentioned, such as mass of food donated to food banks and reducing the weight of food waste related to the year 2020 (EEA, 2023c).

In general, qualitative and quantitative indicators were defined to monitor and evaluate the progress of the implementation of the waste prevention measures. The values of the indicators will be calculated for subsequent years in 3-year periods as part of the reports on the implementation of the NWMP 2028 (Chapter 8). No specific budget for the implementation of the programme is included (EEA, 2023c).

Pursuant to Article 39(1) of the Waste Act, the Ministry of Climate and Environment prepares a report on the implementation of the NWMP, including the NWPP, within 18 months from the end of the reporting period, covering a period of three calendar years. This report includes an assessment of the status of the implementation of tasks and achievement of objectives. The report on the NWPP included in the National Waste Prevention Programme 2028 for the years 2020-2022 is currently in the approval process, and the report for 2023-2025 will be prepared by 30 June 2027. Reports on the implementation of the previous editions of the NWMP are published by the Ministry of Climate and Environment (Polish Ministry of Climate and Environment, 2024c).

In 2019, the 'Roadmap towards the Transition to Circular Economy' was adopted by the Polish Council of Ministers. Measures on food waste and reuse were presented in the roadmap, highlighting educational campaigns that raise awareness among consumers and the food industry concerning food waste (Council of Ministers of the Republic of Poland, 2019).

Information and education campaigns on waste prevention, including food waste, have been carried out by a number of institutions, including the Ministry of Climate and Environment, the Ministry of Agriculture and Rural Development, the Chief Inspectorate for Environmental Protection, and the Federation of Polish Food Banks (ETC/CE, 2022b, 2022a). For example, in 2022, the Chief Inspectorate for Environmental Protection conducted an educational campaign 'Together on the Way to a Clean Environment', where one of the topics raised was counteracting food wastage. The campaign was conducted in two ways: for children and for adults, to reach as many citizens as possible (Chief Inspectorate for Environmental Protection, 2022). In 2023, during the Easter period, the Chief Inspectorate for Environmental Protection published information on how to combat food wastage by promoting food pantries (community fridges) (Chief Inspectorate for Environmental Protection, 2023).

Based on the 2021 data submitted to the EEA in compliance with Commission Implementing Decision (EU) 2021/19 (EEA, 2024), Poland reused:

- 0 tonnes of textiles,
- 4.8 tonnes of electrical and electronic devices, and
- 34.93 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

Door-to-door separate collection is mandatory for the collection of paper and cardboard, glass, bio-waste, metals, and plastics. Metals, plastics and composites are collected co-mingled. The system is complemented with collection at bring points and civic amenity sites. Textile waste is mostly collected at civic amenity sites. (ETC/CE, 2022b; Polish Ministry of Climate and Environment, 2024b)

Currently, Poland has a mandatory pay-as-you-throw system in place, but it is targeted only to non-household sources of municipal waste, while no pay-as-you-throw system is applied to households (ETC/CE, 2022b).

The Extended Producer Responsibility (EPR) system covers all packaging waste fractions from both households and non-household sources. Nevertheless, 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 combinations of materials (ETC/CE, 2022b). As recommended by the European Commission in the Environmental Implementation Review 2022 (EC, 2022), work on the existing EPR schemes is ongoing and advanced fee modulation is planned to be a part of the system. (ETC/CE, 2022b)

Poland has a tax for plastic carrier bags. In addition, single-use-plastic fees have been implemented since 1 January 2024 (Sejm, 2023a). Currently, the largest Polish breweries run a voluntary deposit-return system covering some specific glass drink bottles. However, provisions for the operation of a nationaldeposit-return system (DRS) were implemented in 2024, and it is planned that the system will become operational in 2025. The system will cover plastic bottles up to 3l, metal cans up to 1l, and returnable glass bottles up to 1.5l (Polish Ministry of Climate and Environment, 2024a).

Policies and instruments to discourage landfilling or incineration

Poland has a landfill tax of PLN 270 per tonne (EUR 60 per tonne) (EEA, 2023b). There is a reduced landfill tax for mechanical biological treatment (MBT) outputs that meet certain conditions. The landfill tax is considerably higher than the average EU-27 landfill tax of EUR 39-46 pertonne (EEA, 2023a). Poland has banned landfilling of separately collected biodegradable waste in 2013. In addition, since 2016, there has been a ban on landfilling of combustible waste with a total organic carbon content (TOC) above 5%, loss of ignition (LOI) value above 8% and calorific value exceeding 6 MJ/kg (ETC/CE, 2022b). The completion of the process of closure and rehabilitation of non-compliant landfills is one of the priority actions recommended in the Environmental Implementation Review 2022 (EC, 2022).

Poland has no incineration tax in place and there is no tax on waste exported for incineration, however, waste incineration plants have to pay environmental fees for gas and dust emissions. Priority actions recommended by the European Commission in the Environmental Implementation Review 2022 highlight the avoidance of excessive infrastructure for waste incineration and the introduction of incineration fees to make recycling and reuse economically more attractive. (EC, 2022)

Prospects for meeting the targets on recycling and landfilling

Based on the EEA's early warning assessment (ETC/CE, 2022b), Poland has to speed up its progress towards reaching the 2025 target for preparing of municipal waste for reuse and recycling of 55%, the 2025 target for packaging recycling of 65%, and the 2035 target to reduce landfill to 10% of the generated municipal waste. Insufficient separate collection of bio-waste and plastic packaging waste, combined with insufficient recycling capacity for bio-waste, are identified as key factors for this weak performance. (EC, 2023) Consequently, the European Commission issued a number of policy recommendations to improve Poland's waste management performance (EC, 2023):

- Support preparing for reuse of municipal waste and reuse systems for packaging.
- Further develop waste treatment infrastructure associated with the higher steps of the waste hierarchy (such as increasing treatment capacity for bio-waste and supporting home composting).
- Increase the efficiency of separate-collection systems and swiftly implement a national deposit-return scheme for beverage packaging (including promotion of multi-use systems among local bottlers).
- Extend the pay-as-you-throw system to all households, and fully introduce the cost-coverage rules as part of Extended Producer Responsibility (EPR) for packaging.

After a period of stagnation, Poland managed to increase the rate of preparing for reuse and recycling of municipal waste in 2020-2022 to 40.9%, and to reduce the landfill rate. However,

provisional data, reported for showing compliance with the 2025 target for preparing for reuse and recycling to be met by 2025, indicate a lower recycling rate for 2021 and 2022 (Eurostat, 2024c). For packaging waste, the latest available data refer to the reference year 2020 and indicate a need to speed up the recycling of total packaging and plastic packaging. Meanwhile, Poland has decided to postpone the deadline for meeting the 2025 target for municipal waste by 5 years, making use of the postponement option in the Waste Framework Directive. (EC, 2024)

References

Chief Inspectorate for Environmental Protection, 2022, Together on the road to a clean environment (in Polish), (https://www.gios.gov.pl/projekt_droga/) accessed 9 November 2024.

Chief Inspectorate for Environmental Protection, 2023, Food sharing, one way not to waste food! (in Polish), (https://www.gov.pl/web/gios/jadlodzielnie-czyli-jeden-ze-sposobow-na-niemarnowanie-zywnosci) accessed 9 November 2024.

Council of Ministers of the Republic of Poland, 2019, Roadmap towards the Transition to Circular Economy (in Polish), (https://www.gov.pl/web/rozwoj-technologia/rada-ministrow-przyjela-projekt-mapy-drogowej-goz) accessed 9 November 2024.

Council of Ministers of the Republic of Poland, 2023, *National waste management plan 2028 (Krajowy plan gospodarki odpadami 2028)*, Council of Ministers of the Republic of Poland (https://dziennikustaw.gov.pl/M2023000070201.pdf) accessed 29 May 2024.

EC, 2022, *Environmental Implementation Review 2022 Country Report - POLAND*, COMMISSION STAFF WORKING DOCUMENT No SWD(2022) 269 final, Directorate-General for Environment (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=comnat%3ASWD_2022_0269_FIN) accessed 20 March 2024.

EC, 2023, *The early warning report for Poland*, COMMISSION STAFF WORKING DOCUMENT No SWD(2023) 196 final (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=SWD%3A2023%3A196%3AFIN) accessed 7 December 2023.

EC, 2024, Postponement of the recycling targets of Directive 2008/98/EC and 94/62/EC as notified by EU Member States, information provided by the European Commission to the EEA by email dated 16 May 2024.

EEA, 2023a, *Economic instruments and separate collection systems — key strategies to increase recycling*, EEA Briefing (https://www.eea.europa.eu/publications/economic-instruments-and-separate-collection) accessed 12 February 2025.

EEA, 2023b, *Technical note accompanying the EEA briefing 'Economic instruments and separate collection – key instruments to increase recycling' — European Environment Agency*, File (https://www.eea.europa.eu/publications/economic-instruments-and-separate-collection/technical-note-accompanying-the-eea/view) accessed 18 January 2024.

EEA, 2023c, *Waste Prevention Country Profile - Poland*, EEA (https://www.eea.europa.eu/themes/waste/waste-prevention/countries/2023-waste-prevention-country-fact-sheets/poland_waste_prevention_2023) accessed 22 March 2024.

EEA, 2024, *Reuse flows according to the implementing decision (EU) 2021/19 Information on the database structure and use*, No Database version 1, European Environment Agency (EEA) (https://sdi.eea.europa.eu/catalogue/srv/api/records/50b2430b-8218-471c-86ea-65236a870a28/attachments/Reuse%20metadata%20annex%20Version%201.pdf) accessed 5 March 2024.

ETC/CE, 2022a, *Circular economy country profile – Poland* (https://www.eionet.europa.eu/etcs/etc-ce/products/etc-ce-reports-2022-5-circular-economy-country-profiles-a-set-of-30-country-profiles-that-summarise-policies-and-initiatives-in-the-area-of-circular-economy) accessed 9 November 2024.

ETC/CE, 2022b, *Poland-Early Warning Assessment Related to the 2025 Targets for Municipal and Packaging Waste*, File, European Environment Agency (EEA) (https://www.eea.europa.eu/publications/many-eu-member-states/poland/view) accessed 20 March 2024.

Eurostat, 2021, Quality check report according to Art. 10(3b) of the Packaging and Packaging Waste Directive for Poland for the reference year 2019.

Eurostat, 2024a, 'GDP and main components (output, expenditure and income) [nama_10_gdp]' (https://ec.europa.eu/eurostat/databrowser/view/nama_10_gdp__custom_9301905/default/table) accessed 15 October 2024.

Eurostat, 2024b, 'Generation of waste by waste category, hazardousness and NACE Rev. 2 activity (env_wasgen)' (https://ec.europa.eu/eurostat/databrowser/view/env_wasgen/default/table?lang=en) accessed 22 October 2024.

Eurostat, 2024c, Information provided by Eurostat on provisional data in response to the reporting obligation in Art. 37(1) Waste Framework Directive related to the target on the preparing for reuse and recycling for municipal waste (Art. 11(2c)).

Eurostat, 2024d, 'Municipal waste by waste operations [env_wasmun]' (https://ec.europa.eu/eurostat/databrowser/view/ENV_WASMUN/default/table) accessed 22 October 2024.

Eurostat, 2024e, 'Packaging waste by waste management operations (env_waspac)' (https://ec.europa.eu/eurostat/databrowser/view/ENV_WASPAC__custom_842634/default/table?lang=en) accessed 28 October 2024.

Eurostat, 2024f, 'Population change - Demographic balance and crude rates at national level [demo_grind]' (https://ec.europa.eu/eurostat/databrowser/view/demo_gind__custom_9301558/default/table) accessed 15 October 2024.

Polish Ministry of Climate and Environment, 2024a, 'Deposit-refund system in Poland' (https://www.gov.pl/web/climate/deposit-refund-system-in-poland) accessed 9 November 2024.

Polish Ministry of Climate and Environment, 2024b, Information provided during the Eionet review of the draft EEA country profile on waste management for Poland.

Polish Ministry of Climate and Environment, 2024c, 'Reports on the implementation of the national waste management plan (in Polish)' (https://bip.mos.gov.pl/strategie-plany-programy/krajowy-plan-gospodarki-odpadami/sprawozdania-z-realizacji-krajowego-planu-gospodarki-odpadami/) accessed 9 November 2024.

Sejm, 2020, The Act of 19 July 2019 on counteracting food wastage (Journal of Laws of 2020, item 1645), (https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20200001645) accessed 9 November 2024.

Sejm, 2023a, Act of 14 April 2023 amending the Act on the obligations of entrepreneurs in the management of certain waste and on the product fee and certain other acts (Journal of Laws of 2023, item 877), (https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20230000877) accessed 9 November 2024.

Sejm, 2023b, Act of 14 December 2012 on waste (Journal of Laws of 2023, item 1587, as amended), (https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20230001587) accessed 9 November 2024.

Sejm, 2024a, Act of 11 May 2001 on the obligations of entrepreneurs in the management of certain waste and on the product fee (Journal of Laws of 2024, item 433), (https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20240000433) accessed 9 November 2024.

Sejm, 2024b, Act of 13 June 2013 on the management of packaging and packaging waste (Journal of Laws of 2024, item 927), (https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20240000927) accessed 9 November 2024.

Sejm, 2024c, Act of 13 September 1996 on maintaining cleanliness and order in municipalities (Journal of Laws of 2024, item 399), (https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20240000399) accessed 9 November 2024.