

The Global Waste Management Outlook and waste data

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Data overview

- **Bottom-up approach**
Global and regional waste generation are estimated by adding up country reported level.
- **Scope**
Municipal solid waste only, at national level.
- **Forecasting models**
Future waste quantities estimated using linear regression model

Data sources

The data set is a composite from existing data sources which are either international, interregional or national. Full detailed list can be found in Annex 1 of the GWMO 2024, but the major sources for the composite data set are:

- **World Bank** (2016). What A Waste Global Database. <https://datacatalog.worldbank.org/search/dataset/0039597>
- **United Nations Statistics Division** (2022). https://unstats.un.org/unsd/envstats/country_files
- **OECD** (2021). <https://data.oecd.org/>
- **Eurostat** (2023). https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_statistics

GWMO Data Variables and methodology

- Base year 2020
- Data availability per year differs (2010-2020)
- Forecast regression model used to fill in missing values

Variable	Value type	Count	Description
Country	Nominal (196)	195	Country name
Region	Nominal (13)	195	Region name
Income group	Cardinal (4)	195	Which income group the observation belongs to (high income, upper mid-income, lower-mid income, low income)
Population	Continuous		Country population size in 2020
MSW generated	Continuous	195	Thousands of tonnes of municipal solid waste generated each year
MSW kg/capita/day	Continuous	195	Per capita kg of waste generated each day in a given country
Collection rate	Percentage	115	% of MSW collected for disposal
Recycling rate	Percentage	120	% of MSW recycled
Landfill rate	Percentage	121	% of MSW taken to landfill
Thermal treatment rate	Percentage	119	% of MSW incinerated (with and without energy recovery)
Controlled waste disposal rate	Percentage	114	% of MSW disposed of in a controlled way, i.e. not openly dumped in the environment or openly burned.
Uncontrolled disposal rate	Percentage	114	% of MSW openly dumped in the environment or openly burned.

Data gaps and limitations

Missing values

For reliable regression estimates and forecasting, annual data is ideal. Most countries have only one data point from which to estimate future quantities.

Waste definitions

Except for certain regions definitions are inconsistent and non fixed

Reporting methodology

How waste is measured/estimated varies greatly between countries

Other data uncertainties

- When, where and how is the waste measured
- Informal collection and recycling
- Household disposal (composting, burning in household)
- Waste collection does not mean sound disposal of waste

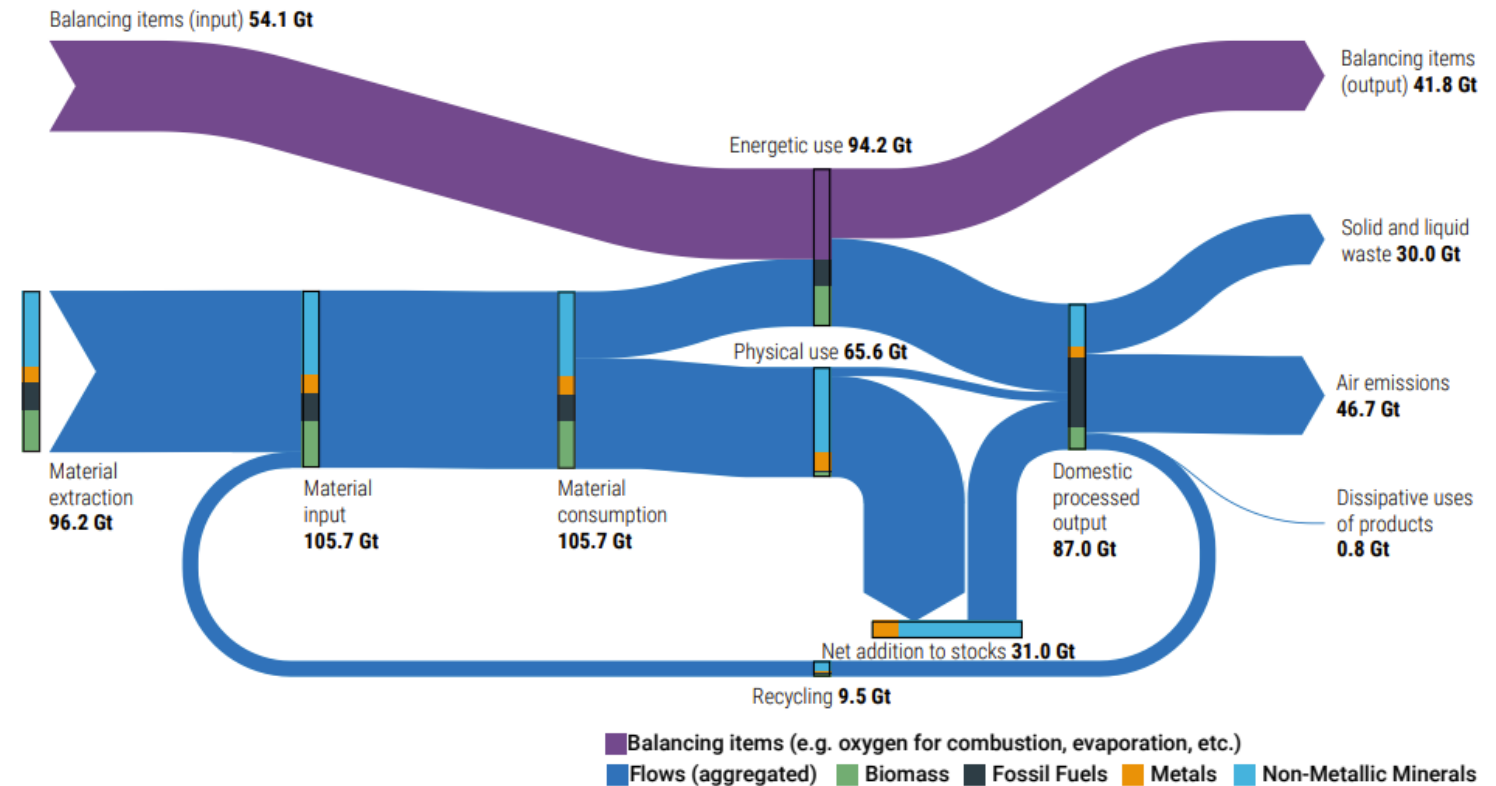


Other waste data – Global Resource Outlook 2024

Material flow analysis

- Top-down approach
- Balanced input/output system
- Waste estimate 14 times larger than GWMO
- Waste includes ALL waste, including sewage sludge and industrial waste
- Cannot break down waste components further... yet (coming 2025)

Figure 2.8: Global material flows, waste and emissions, 2019, billion tonnes.



Other waste data – The Lloyd's Register Foundation World Risk Poll

Household level survey data

- 142 countries
- 147,000 respondents
- Every 2 years
- 2023 first year with waste related questions
- First hand behavioral data
- Data under embargo until September

Significance

- Behavioral data on HH level gives us a direct insight on waste before it even leaves the house
- Actual

Challenges in comparing data

- Qualitative data rather than quantitative
- Perception bias
- Interviewer bias

Why it is important?

We already know waste is increasing and is a issue, data is showing what we already know?

What is new?

- Back it up with facts so it cannot be questioned
- Leveraging funds and prioritizing the waste sector
- Tailor solutions, policies and strategies. The more detailed data, the more targeted and effective approach
- Transparency
- Benchmarking
- Tracking of transboundary movement of waste



Left unaddressed, the total global cost of municipal solid waste in 2050 is projected to reach
US\$640.3 billion.

Thank you



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