RMIS COUNTRY PROFILES

DATA SOURCES AND FURTHER INFORMATION

- WASTE, RESOURCE EFFICIENCY & CIRCULAR ECONOMY –

1. DOMESTIC MATERIAL CONSUMPTION

Data source: United Nations Statistics Division
Data source URL: https://unstats.un.org/sdgs/dataportal/database (EN_MAT_DOMCMPG)
Downloaded on: 03/2024
Unit of measure: kilograms per constant 2015 USD
Reference period: 2010 and 2022

2. GENERATION OF WASTE (hazardous/non-hazardous) BY NACE *(EU countries)*

Data source: ESTAT (env_wasgen)
Data source URL:
https://ec.europa.eu/eurostat/databrowser/view/env_wasgen/default/table?lang=en
Downloaded on: 02/2025
Unit of measure: million tonnes
Reference period: 2012-2022 (with a frequency of 2 years)

3. E-WASTE GENERATION *(extra-EU countries)*

Original name: The Global E-Waste Monitor 2024 - Table A2.4. Key e-waste statistics, by country or territory (2022)
Data source: United Nations Institute for Training and Research (UNITAR), International Telecommunication Union (ITU) and Fondation Carmignac
Data source URL: https://ewastemonitor.info/the-global-e-waste-monitor-2024/
Downloaded on: 05/2024
Unit of measure: Kg/capita
Reference period: 2022

4. WASTE OF ELECTRICAL AND ELECTRONIC EQUIPMENT *(EU countries)*

Data source: ESTAT (env_waseleeos)
Data source URL:
https://ec.europa.eu/eurostat/databrowser/view/env_waseleeos/default/table?lang=en
Unit of measure: kg per capita
Downloaded on: 02/2025
Reference period: 2013-2022
Operations: Waste generated; Waste collected; Waste treatment; Recovery and Recycling.

5a. TRADE IN RECYCLABLE RAW MATERIALS *(EU countries)*

Data source: ESTAT (cei_srm020)
Data source URL: https://ec.europa.eu/eurostat/databrowser/view/cei_srm020/default/table?lang=en
Unit of measure: million EUR
Downloaded on: 05/2024
Reference period: 2013-2023 (it may vary by country)

5b. TRADE IN WASTE AND SECONDARY RAW MATERIALS *(extra-EU countries)*

Data source: UN COMTRADE via WITS
Unit of measure: million USD
Downloaded on: 06/2024
Reference period: 2017-2023

6. CIRCULAR MATERIAL USE RATE *(EU countries)*

Data source: ESTAT (env_ac_cur)
Data source URL: https://ec.europa.eu/eurostat/databrowser/view/ENV_AC_CUR/default/bar?lang=en
Downloaded on: 02/2025
Unit of measure: %
Reference period: 2013-2023

7. COUNTRY-SPECIFIC WASTE TRADE CHALLENGES *(extra-EU countries)*

This textbox is only available for a selection of African countries.

FURTHER INFORMATION

1. DOMESTIC MATERIAL CONSUMPTION

The Domestic Material Consumption (DMC) is a standard material flow accounting indicator and reports the apparent consumption of materials in a national economy. The DMC data used for this chart are made available by the United Nations Statistic Division as indicator 8.4.2 of the Sustainable Development Goals series.

The figure displays the material consumption, per unit of GDP, for the material categories that are relevant to our product scope: ferrous ores, non-ferrous ores, non-metallic minerals and wood. The figure also compares the selected country with the EU (EU-27 from 2020) and the specific region (Africa, LAC - Latin America and Caribbean, North America etc)) over two periods, 2010 and 2022. Regional values are calculated as medians.

2. GENERATION OF WASTE (HAZARDOUS/NON-HAZARDOUS) BY NACE *(EU countries)*

Generation of waste by economic sector following the NACE Rev.2 classification as reported by Member States. Waste is considered as any substance or object that the holder discards or intends or is required to discard. The sludges (including the dredging spoils) are measured in dry matter. These data include all typologies of hazardous and non-hazardous waste.

3. E-WASTE GENERATION *(extra-EU countries)*

E-waste is a special waste stream due to its varied nature which includes a complex composition of materials and components, a broad array of product types and a rapidly evolving product stream which increasingly comprises miniaturised parts, embedded electronics in traditional equipment, clothing, and toys etc., and more and more interoperable products having the ability to connect to the Internet.

Per capita e-waste is computed as total e-waste generated divided by country population size.

The map uses color gradients for waste per capita for each country, while their actual e-waste levels are visible when the mouse is hovered over the countries.

The bar chart in the legend compares the values of the current country with the EU and world average. The EU average has been calculated as the simple average of the Member States' values for this indicator.

4. WASTE OF ELECTRICAL AND ELECTRONIC EQUIPMENT *(EU countries)*

Waste electrical and electronic equipment (WEEE), as defined in Article 3 of Directive 2012/19, aims to monitor countries' compliance with the quantitative targets for collection, preparation for re-use and recycling and recovery of WEEE set out in Article 7 (collection rate) and Article 11 and Annex V (recovery targets).

More details can be found at: http://ec.europa.eu/environment/waste/weee/index_en.htm.

The graph allows the visualisation of several categories of waste operations, which can be selected from the drop-down menu below the graph title: Waste collected; Waste treatment; Recovery and Recycling.

5a. TRADE IN RECYCLABLE RAW MATERIALS *(EU countries)*

The graph shows the values and quantities of trade flows (imports and exports) of recyclable waste and scrap and other secondary raw materials (by-products) between EU Member States (intra-EU) and across EU borders (extra-EU). Data are presented by raw material group: Mineral; Metal – ferrous; Metal – non-ferrous – precious metals; Metal – non-ferrous – copper; aluminium and nickel; Metal – non-ferrous – other; Plastic; Rubber; Paper and cardboard.

The full list of CN 8 trade codes used is that mentioned in the metadata of the ESTAT indicator (https://ec.europa.eu/eurostat/documents/8105938/8292490/Recyclable_products_CN-codes.pdf/305ed951-b13c-e842-d165-4845d38dea71?t=1651822779801), but this list goes beyond the product scope of non-food, non-fuel raw materials (it also includes other materials such as: glass, textiles and organic materials).

5b. TRADE IN WASTE AND SECONDARY RAW MATERIALS *(extra-EU countries)*

The graph shows the value of trade flows (imports and exports) of waste and secondary raw materials between the country and *different regions*.

The regional groups of countries are based on the ESTAT Geonomenclature (Table 6.2), used for foreign trade statistics: Africa, Australia_and_New Zeeland, EU (EU27 from 2020), EU_Candidate_countries, LAC (Central America & Caribbean plus South America), Near_and_Middle East_countries, North_America, Other_Asian_countries and Other_European_countries_non-EU.

The trade flows are also presented *by type (product group)*: Metals; Wood and paper; Plastics; Rubber and tyres; Batteries; Other secondary products.

The trade flows shown in the figure are computed as net trade flows (as reported in WITS). The list of trade codes used to build this figure, as well as the grouping by materials, was developed by JRC and is reported below. For this figure only, we are also covering plastic waste because of the very relevant role it is having in many regions of the world.

The rationale is to identify the official trade flows of waste and secondary raw materials. It should be underlined that the data do not cover e-waste (due to lack of dedicated codes) and illicit trade of waste and end-of-life or broken IT devices (very relevant in some regions). Considering its relevance in Africa, where possible, the official trade data are complemented with a textbox highlighting the key waste trade challenges that are not reflected by official statistics.

Therefore, a comprehensive picture of waste trade cannot be based on official data only, and no conclusions should be based on this figure alone.

In the raw data on trade, all missing values are treated as zeros, with no particular assumption about the nature of the missing values.

List of trade codes:

HS6	Description	Waste product group
251720	Macadam of slag, dross or similar industrial waste, whether or not incorporating the materials cited in subheading 2517.10	Other secondary
252530	Mica waste	Other secondary
261800	Granulated slag (slag sand) from the manufacture of iron or steel.	Metals
261900	Slag, dross (other than granulated slag), scalings and other waste from the manufacture of iron or steel	Metals
262011	Slag, ash and residues (other than from the manufacture of iron or steel) containing hard zinc spelter	Metals
262019	Other slag, ash and residues (other than from the manufacture of iron or steel) containing mainly zinc	Metals
262021	Slag, ash and residues (other than from the manufacture of iron or steel) containing leaded gasoline sludges and leaded anti-knock compound sludges	Metals
262029	Other slag, ash and residues (other than from the manufacture of iron or steel) containing mainly lead	Metals
262030	Slag, ash and residues (other than from the manufacture of iron or steel) containing mainly copper	Metals
262040	Slag, ash and residues (other than from the manufacture of iron or steel) containing mainly aluminium	Metals
262060	Slag, ash and residues (other than from the manufacture of iron or steel) containing arsenic, mercury, thallium or their mixtures, of a kind used for the extraction of arsenic or those metals or for the manufacture of their chemical compounds	Other secondary
262091	Slag, ash and residues (other than from the manufacture of iron or steel) containing antimony, beryllium, cadmium, chromium or their mixtures	Other secondary
262099	Other slag, ash and residues (other than from the manufacture of iron or steel) containing metals, arsenic or their compounds	Other secondary
262190	Other slag and ash, including seaweed ash (kelp)	Other secondary
400400	Waste, parings and scrap of rubber (other than hard rubber) and powders and granules obtained therefrom.	Rubber & tyres
401220	Used pneumatic tyres	Rubber & tyres
440130	Sawdust and wood waste and scrap, whether or not agglomerated in logs, briquettes, pellets or similar forms	Wood & paper
470620	Pulps of fibres derived from recovered (waste and scrap) paper or paperboard	Wood & paper
470710	Recovered (waste and scrap) unbleached kraft paper or paperboard or corrugated paper or paperboard	Wood & paper

470720	Other recovered (waste and scrap) paper or paperboard made mainly of bleached chemical pulp, not coloured in the mass	Wood & paper
470730	Recovered (waste and scrap) paper or paperboard made mainly of mechanical pulp (for example, newspapers, journals and similar printed matter)	Wood & paper
470790	Other, including unsorted waste and scrap paper	Wood & paper
711230	Ash containing precious metal or precious metal compounds	Metals
711291	Waste and scrap of gold, including metal clad with gold but excluding sweepings containing other precious metals	Metals
711292	Waste and scrap of platinum, including metal clad with platinum but excluding sweepings containing other precious metals	Metals
711299	Other waste and scrap of precious metal or ofmetal clad with precious metal; other waste and scrap containing precious metal or precious metal compounds, of a kind used principally for the recovery of precious metal.	Metals
720410	Waste and scrap of cast iron	Metals
720421	Waste and scrap of stainless steel	Metals
720429	Waste and scrap of other alloy steel	Metals
720430	Waste and scrap of tinned iron or steel	Metals
720441	Other turnings, shavings, chips, milling waste, sawdust, filings, trimmings and stampings, whether or not in bundles	Metals
720449	Other waste and scrap	Metals
720450	Remelting scrap ingots	Metals
740400	Copper waste and scrap	Metals
750300	Nickel waste and scrap	Metals
760200	Aluminium waste and scrap	Metals
780200	Lead waste and scrap	Metals
790200	Zinc waste and scrap	Metals
800200	Tin waste and scrap	Metals
810197	Tungsten (wolfram) waste and scrap	Metals
810297	Molybdenum waste and scrap	Metals
810330	Tantalum waste and scrap	Metals
810420	Magnesium waste and scrap	Metals
810530	Cobalt waste and scrap	Metals
810730	Cadmium waste and scrap	Metals
810830	Titanium waste and scrap	Metals
810930	Zirconium waste and scrap	Metals
811020	Antimony waste and scrap	Metals

811213	Beryllium waste and scrap	Metals
811222	Chromium waste and scrap	Metals
811252	Thallium waste and scrap	Metals
854810	Waste and scrap of primary cells, primary batteries and electric accumulators; spent primary cells, spent primary batteries and spent electric accumulators	Batteries
391510	Waste, parings and scrap of polymers of ethylene	Plastic
391520	Waste, parings and scrap of polymers of styrene	Plastic
391530	Waste, parings and scrap of polymers of vinyl chloride	Plastic
391590	Waste, parings and scrap of other plastic	Plastic

6. CIRCULAR MATERIAL USE RATE *(EU countries)*

The circular material use rate, also called 'Circularity rate', measures in percentage the share of material recycled and fed back into the economy - thus saving extraction of primary raw materials - in overall material use.

A higher Circularity rate value indicates more secondary materials substituting for primary raw materials i.e. avoiding the environmental impacts of extracting primary material.

The graph shows the evolution of the Member State's circularity rate compared to the EU average.

7. COUNTRY-SPECIFIC WASTE TRADE CHALLENGES *(extra-EU countries)*

This textbox is only available for a selection of African countries. The aim is to highlight the key country-specific challenges associated with trade of waste and of secondary raw materials.

The motivation for inserting such a textbox is two-fold. Firstly, one (if not the most) relevant type of waste for Africa, e-waste, is not identifiable in trade data due to the lack of dedicated codes.

Secondly, but not less importantly, the role of illicit trade of waste and of end-of-life or broken devices is unfortunately very relevant in Africa.

Illicit waste trade is very elusive, and data are very scarce. Where possible, we have collected information from official data sources and/or from reputable media to identify the main topics relevant to the African country.