

8th Environment Action Programme

Circular material use rate in Europe



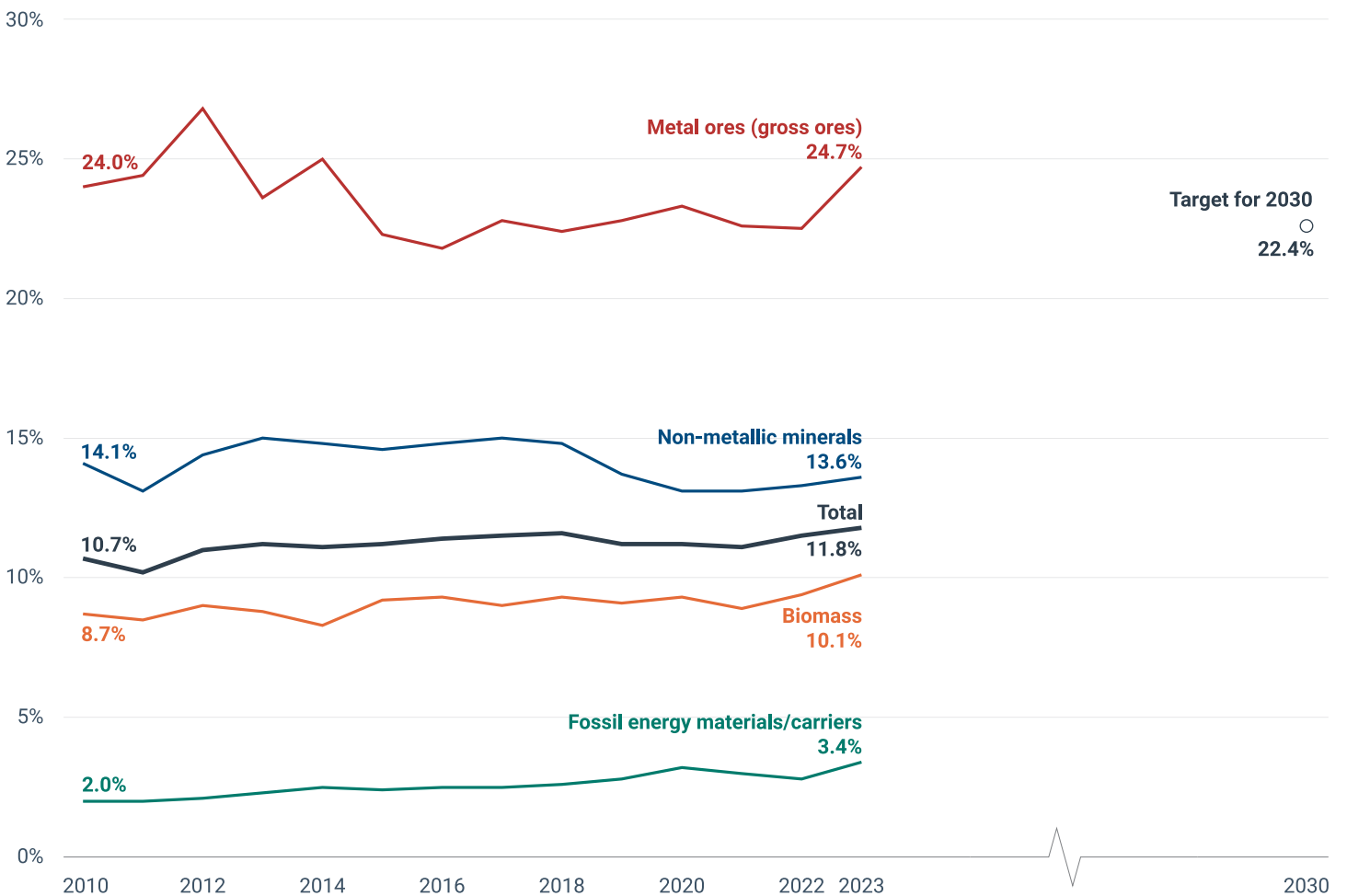
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The European Union aims to double recycled material use, in terms of its share of the economy's total material use, between 2020 and 2030, as set in the 2020 circular economy action plan. Increasing the use of secondary materials would reduce the extraction of primary raw materials and related environmental impacts. Recycled material accounted for 11.8% of material used in 2023, an increase of 1.1 percentage points from 2010. This slow progress, along with projected increased material demand by 2030, implies that the EU is not currently on track to double the circular material use rate by 2030.

Figure 1. Circular material use rate in the EU and breakdown by material group between 2010 and 2023



The EU's [circular economy action plan](#) aims to reduce pressure on natural resources and double its **circular material use rate** (CMUR) in the coming decade^[1]. The CMUR measures the circularity of materials in the economy and refers to the share of the total amount of material used in the economy that is accounted for by recycled waste.

Increasing the CMUR (by increasing the amount of recycled waste or decreasing the amount of material used) would reduce the amount of primary material extracted for production and the associated negative impacts on the environment and climate. A reduction in the EU's reliance on primary resources, particularly imported materials, would increase its strategic autonomy. This way, the EU would increase its ability to meet its own needs, without **relying on third countries**.

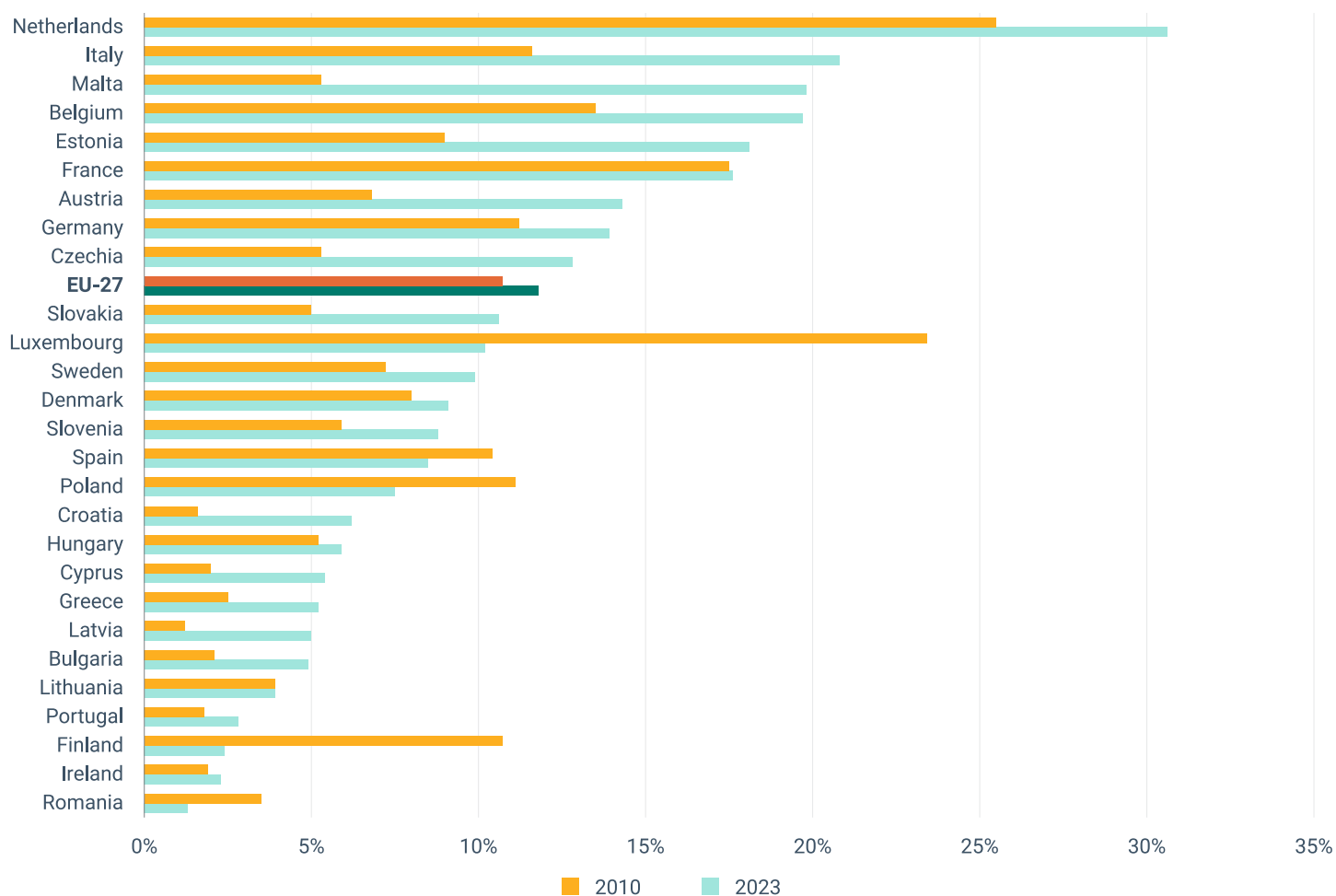
Although the EU's CMUR has increased slightly in the the last 13 years, from 10.7% in 2010 to 11.8% in 2023, it is still considered low, indicating the economy is mostly linear. This trend is mainly due to **increases** in waste recycling efforts, driven by Member States to meet EU recycling targets. Meanwhile, domestic material consumption has remained stable^[2].

Non-metallic minerals account for more than 50% of total material consumption and their CMUR has decreased since 2010. The CMURs increased for biomass, metals and fossil-based materials between 2010 and 2023. The CMURs for the various material groups differ significantly with almost 25% for metal ores in 2023 and only slightly above 3% for fossil materials. This reflects the different nature of materials and their use. Metals are technically easier and more economical to recycle, feeding back into the economy. Fossil fuels are mostly burned and thus cannot be recycled.

Circular economy strategies aim to retain the value and extend the life of products. They can reduce resource consumption and hence reduce impacts on the environment and climate. Meeting the **target** of doubling the CMUR would mean an increase from 11.8% (2023) to 22.4% by 2030. This requires the CMUR to increase annually with more than 1.5 percentage points, which is twice the increase of the entire past decade. Therefore, the EU is not on track to double the CMUR by 2030, also considering [OECD projections](#) of increased future materials demand. The latter is important as increasing recycling alone will not allow the EU to [achieve the target](#).

Increased recycling coupled with reduced material use is required. Reducing the use of heavier material groups like non-metallic minerals and metals has a greater potential for increasing the CMUR. Since material extraction has different **environmental impacts**, measures should also focus on reducing the consumption of fossil energy materials and increasing the sustainability of biomass production in view of reducing environmental pressures.

Figure 2. Circular material use rate by EU country



Considerable differences in CMURs are observed among countries, ranging from 30.6% (in the Netherlands) to 1.3% (in Romania) in 2023. This reflects significant structural difference in countries’ recycling capacities and in their levels of material consumption^[2]. In the Netherlands and Italy, more than 20% (one of five tonnes) of material used was recycled material. The CMUR level for the Netherlands is already much higher (by more than seven percentage points) than the EU target for 2030, suggesting that rates are achievable.

Most EU countries (22 out of 27) have increased their CMURs since 2010. The largest absolute CMUR increases (more than five percentage points) were seen in Malta, Italy, Estonia, Austria, Czechia, Belgium and Slovakia. Some countries show impressive relative increases in their CMURs, with Latvia, Croatia and Malta more than tripling their CMURs between 2010 and 2023, although from a very low base. However, significant decreases in CMURs were seen in Finland, Romania, Luxembourg and Poland.

Supporting information

Definition

The CMUR measures an economy’s circularity. This is defined by the circular use of materials, which is approximated by the amount of waste recycled in domestic recovery plants minus imported waste destined for recovery plus exported waste destined for recovery abroad, divided by the material use. The material use is the sum of domestic material consumption and the aforementioned circular use of materials^[3].

Methodology

This indicator is directly based on data published by Eurostat and the underpinning methodology can be found in [Eurostat \(2021\)](#)^[4].

Policy/environmental relevance

The EU's circular economy action plan calls for a doubling of the Union's CMUR in the coming decade^[1]. This policy objective aims to increase the EU economy's circularity and thus benefit the environmental and climate. These benefits would mainly stem from the reduced need for natural resource extraction.

This indicator is a headline indicator for monitoring progress towards achieving the aims of the 8th Environment Action Programme^[5]. By measuring the use of secondary materials in the economy, it is used to evaluate the sustainability of the industrial sector towards the 8th EAP priority objective for 2030 set out in Article 2.f which requires: 'promoting environmental aspects of sustainability and significantly reducing key environmental and climate pressures related to the Union's production and consumption, in particular in the areas of energy, industry, buildings and infrastructure, mobility, tourism, international trade and the food system'. The European Commission Communication on the 8th EAP monitoring framework specifies that this indicator should monitor the 'doubling of the ratio of circular material use by 2030 compared to 2020'. The CMUR is also a performance indicator in the Long-Term Competitiveness Strategy recently adopted by the Commission to set the direction for industry beyond 2030.

Accuracy and uncertainties

No uncertainties have been specified.

Data sources and providers

- [Circular material use rate by material type](#), Statistical Office of the European Union (EUROSTAT)
- [Circular material use rate](#), Statistical Office of the European Union (EUROSTAT)

▼ Metadata

DPSIR

Impact

Topics

Circular economy # Resource use and materials # Waste and recycling

Tags

8th EAP # Material use # waste # WST009 # Circular economy

Temporal coverage

2010-2023

Geographic coverage

Austria
Bulgaria
Cyprus
Denmark
Finland
Germany
Hungary
Italy
Lithuania
Malta
Poland
Romania
Slovenia
Sweden

Belgium
Croatia
Czechia
Estonia
France
Greece
Ireland
Latvia
Luxembourg
Netherlands
Portugal
Slovakia
Spain

Typology

Performance indicator (Type B - Does it matter?)

UN SDGs

SDG12: Responsible consumption and production

Unit of measure

Percentage

Frequency of dissemination

Once a year

▼ References and footnotes

1. EC, 2020, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'A new circular economy action plan for a cleaner and more competitive Europe', COM(2020) 98 final.
[a](#) [b](#)
2. Eurostat, 2018, *Circular material use rate – calculation method*, Manuals and Guidelines, Publications Office of the European Union, Luxembourg.
[a](#) [b](#)
3. Eurostat, 2020, 'Circular material use rate', *Product Datasets* (https://ec.europa.eu/eurostat/web/products-datasets/-/cei_srm030) accessed June 30, 2022.
[e](#)
4. Eurostat, 2021, 'Circular economy – material flows', *Statistics Explained* (https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Circular_economy_-_material_flows#Circularity_rate_E2.80.93_methodology) accessed June 30, 2022.

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5. EC, 2022, 'Environment action programme to 2030', *European Commission* (https://environment.ec.europa.eu/strategy/environment-action-programme-2030_en) accessed June 24, 2022.

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