



# 8th Environment Action Programme

Circular material use rate in Europe

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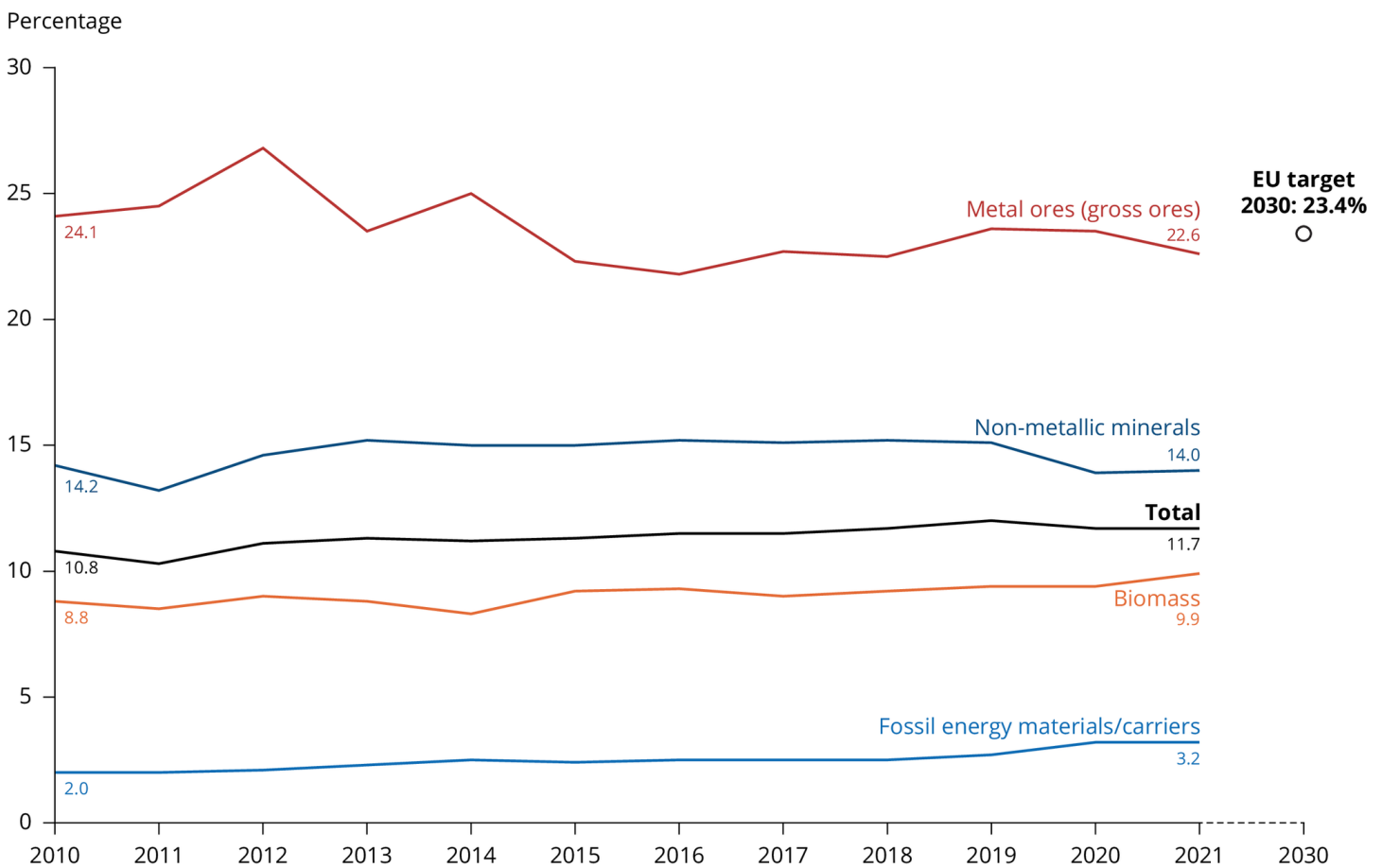
# Circular material use rate in Europe

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The EU aims to double its use of recycled material, in terms of its share in the total amount of material used by the economy, between 2020 and 2030, as set out in the circular economy action plan. Increasing the use of secondary materials would reduce the extraction of primary raw materials and related environmental impacts. In 2021, recycled material accounted for 11.7% of material used, an increase of less than 1 percentage point since 2010. This rather slow progress together with projections for increased material demand in the EU by 2030 signify that currently the EU is not 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 2021



Source: Eurostat.



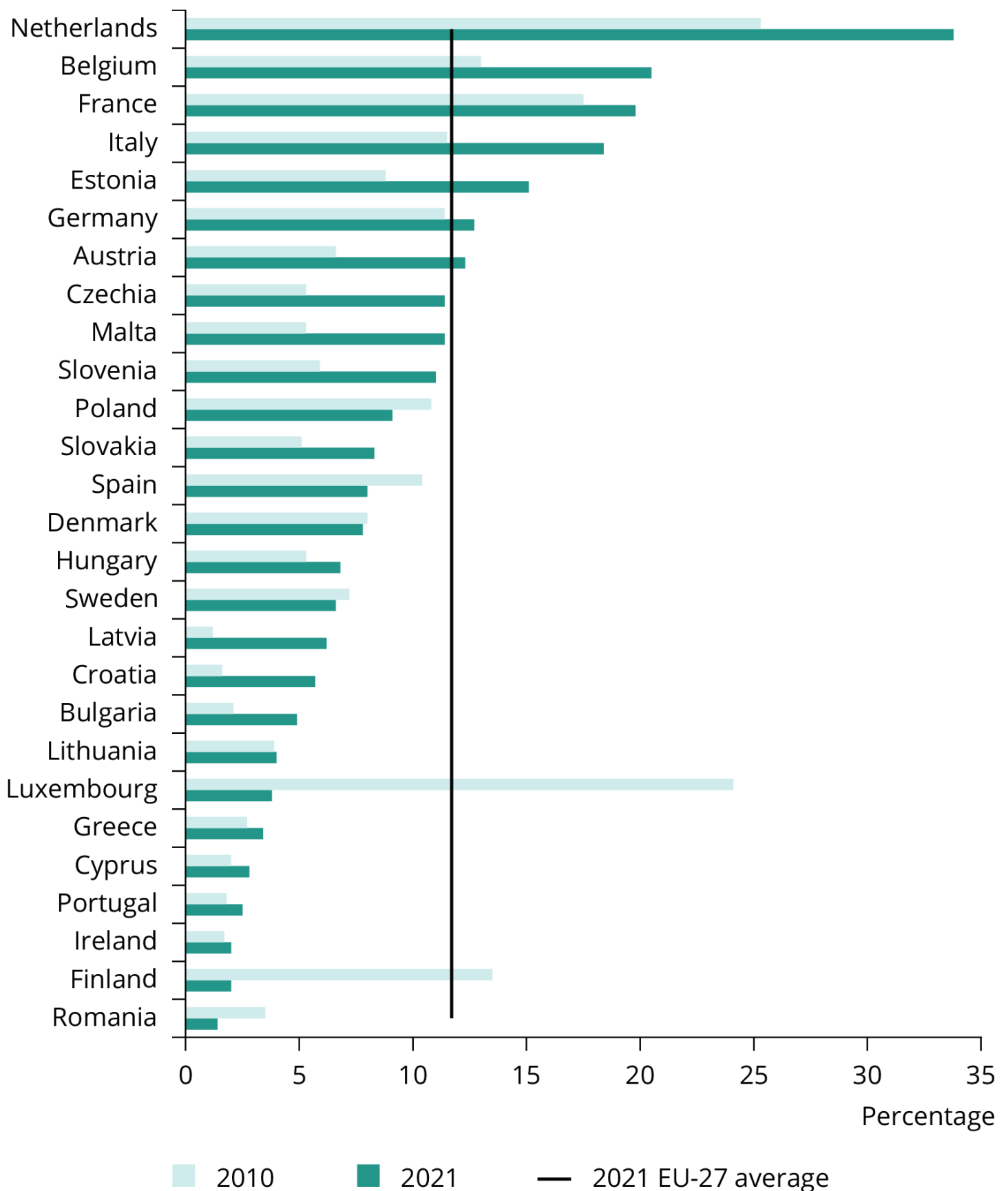
The EU's circular economy action plan aims to reduce pressure on natural resources and states that the EU aims to double its circular material use rate in the coming decade <sup>[1][2]</sup>. The circular material use rate (CMUR) indicates the circularity of materials in the economy and refers to the share of the total amount of material used in the economy that is accounted for by recycled waste. Increasing the CMUR – either 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. Moreover, a reduction in the EU's reliance on primary resources, including imported materials, would increase its strategic autonomy, as the EU would increase its ability to meet its own needs, without relying on countries outside the EU.

Although the EU's CMUR has increased slightly in the past decade, from 10.8% in 2010 to 11.7% in 2021, it is still considered low. This trend is explained mainly by increases in the amount of waste recycled, while the domestic material consumption has remained rather stable <sup>[3]</sup>. Non-metallic minerals account for more than half of total material consumption and decreases in the consumption of these materials could contribute significantly to an increase in the CMUR.

The CMURs increased for the biomass and fossil-based materials, but decreased for metals and non-metallic minerals between 2010 and 2021. The CMURs for the various material groups differ significantly, however, being above 22% for metal ores in 2021 and only 3% for fossil fuels. This reflects the different natures of the materials and how they are used. For instance, metals are technically easier and economically more attractive to recycle and feed back into the economy, while fossil fuels are mostly burned and therefore cannot be recycled.

Circular economy strategies, by aiming to retain the value and extend the life of products, can reduce resource consumption and consequently reduce the impacts on the environment and climate. Meeting the target of doubling the CMUR would mean an increase from 11.7% in 2021 to 23.4% by 2030 and the average CMUR growth rate of 2011-2021 would have to increase sixfold. This is rather unlikely, considering the very slight increase in the CMUR in the previous decade, no increase at all between 2020 and 2021 and projections by the [OECD](#) predicting an increased future demand for materials in the EU by 2030. The latter is important, since increasing recycling alone will not allow the EU to **achieve the target**. Increased recycling coupled with reduced material use would be required. Reducing the use of heavier material groups like non-metallic minerals and metals has a greater potential for increasing the CMUR. However, 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, 2010 and 2021**



Source: Eurostat.



Considerable differences in CMURs are observed among countries, ranging from 33.8% (in the Netherlands) to 1.4% (in Romania) in 2021. This reflects significant structural difference in countries' recycling capacities and in their levels of material consumption <sup>[3]</sup>. In the Netherlands and Belgium, more than 20% (1 out of 5 tonnes) of material used was recycled material, while the CMUR level for the

Netherlands is already much higher than the EU target for 2030. Countries with the highest CMURs have both high recycling capacities and low levels of material consumption.

Most (20 out of 27) countries' CMURs have increased since 2010. The largest absolute CMUR increases (between 6 and 8.5 percentage points) were seen in the Netherlands, Belgium, Italy, Estonia, Czechia and Malta. Some countries show impressive relative increases in their CMURs, with Latvia, Croatia, Bulgaria, Czechia and Malta more than doubling their CMURs between 2010 and 2021. On the other hand, significant decreases in CMURs were seen in Finland, Luxembourg and Romania.

## ✓ Supporting information

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### 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 <sup>[4]</sup>.

### Methodology

This indicator is directly based on data published by Eurostat and the underpinning methodology can be found in [Eurostat \(2021\)](#)<sup>[5]</sup>.

### Policy/environmental relevance

The EU's circular economy action plan calls for a doubling of the Union's CMUR in the coming decade<sup>[1]</sup>. 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 Eighth Environment Action Programme <sup>[6]</sup>. 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 8<sup>th</sup> 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 \(CEL\\_SRM030\)](#), Statistical Office of the European Union (Eurostat)
- [Circular material use rate by material type \(env\\_ac\\_curm\)](#), Statistical Office of the European Union (Eurostat)

## ▼ Metadata

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### DPSIR

Impact

### Topics

# Waste and recycling # Resource use and materials # Circular economy

### Tags

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

### Temporal coverage

2010-2021

### Geographic coverage

Austria	Belgium
Bulgaria	Croatia
Cyprus	Czechia
Denmark	Estonia
Finland	France
Germany	Greece
Hungary	Ireland
Italy	Latvia
Lithuania	Luxembourg
Malta	Netherlands
Poland	Portugal
Romania	Slovakia
Slovenia	Spain
Sweden	

### Typology

Performance indicator (Type B - Does it matter?)

### UN SDGs

Responsible consumption and production

## Unit of measure

Percentage

## Frequency of dissemination

Once a year

## Contact

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## ▼ References and footnotes

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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. EC, 2022, 'Circular economy action plan', *European Commission* ([https://environment.ec.europa.eu/strategy/circular-economy-action-plan\\_en](https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en)) accessed June 29, 2022.  
[↵](#)
3. Eurostat, 2018, *Circular material use rate – calculation method*, Manuals and Guidelines, Publications Office of the European Union, Luxembourg.  
[a](#) [b](#)
4. Eurostat, 2020, 'Circular material use rate', *Product Datasets* ([https://ec.europa.eu/eurostat/web/products-datasets/-/cei\\_srm030](https://ec.europa.eu/eurostat/web/products-datasets/-/cei_srm030)) accessed June 30, 2022.  
[↵](#)
5. 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](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Circular_economy_-_material_flows#Circularity_rate_.E2.80.93_methodology)) accessed June 30, 2022.  
[↵](#)
6. EC, 2022, 'Environment action programme to 2030', *European Commission* ([https://environment.ec.europa.eu/strategy/environment-action-programme-2030\\_en](https://environment.ec.europa.eu/strategy/environment-action-programme-2030_en)) accessed June 24, 2022.  
[↵](#)