Domestic Material Consumption (DMC) as an important policy indicator

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Global Webinar on Geospatial and Other Data Sources for Environment Statistics: Assessing the Impact of the Economy on the Environment

Introduction

- Increase the knowledge about statistics on the impact of economy on environment

- classical economics theory:

  natural resources = production factors

- SEEA-CF = statistical accounting framework

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Policies

- Responsible production and consumption patterns

- Resource productivity / resource efficiency

- Circular economy

- Statistics for the Green Deal

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Responsible production and consumption

- … means using resources efficiently, respecting resource constraints and reducing pressures on natural capital to increase overall well-being.

- Increase the knowledge about statistics on the impact of economy on environment

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Responsible production and consumption

- Monitoring of Sustainable Development:

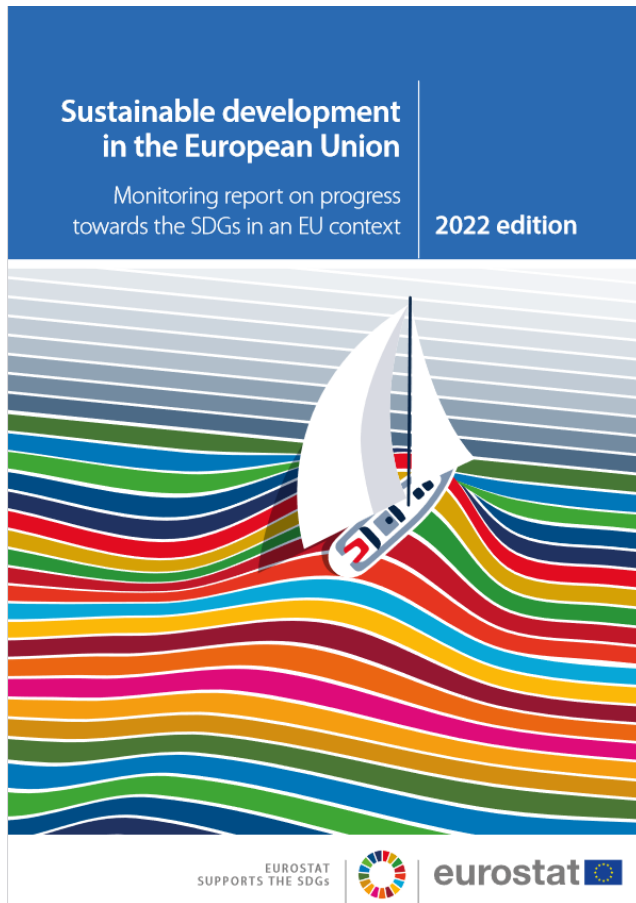**Table 12.1:** Indicators measuring progress towards SDG 12, EU

Indicator	Long-term trend (past 15 years)	Short-term trend (past 5 years)
Decoupling environmental impacts from economic growth		
Consumption of hazardous chemicals	↗ (green)	↘ (red)
Material footprint	↗ (green)	↓ (red)
🎯 Average CO$_2$ emissions from new passenger cars	↗ (green) (¹)	↘ (red)
Energy productivity (*)	↑ (green)	↑ (green)
Green economy		
Gross value added in the environmental goods and services sector	↑ (green)	↑ (green)
Waste generation and management		
Circular material use rate	↑ (green)	↑ (green)
Generation of waste excluding major mineral wastes	↘ (red) (²)	↓ (red) (³)

(*) Multi-purpose indicator.
(¹) Past 13-year period.
(²) Past 14-year period.
(³) Past 4-year period.

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Resource productivity

- EU to decouple economic growth and the improvement of living standards from resource use and its possible negative environmental impacts.

- DMC is used to monitor resource productivity

Resource productivity

Development of resource productivity in comparison with GDP and DMC, EU, 2000-2021
(2000 = 100)

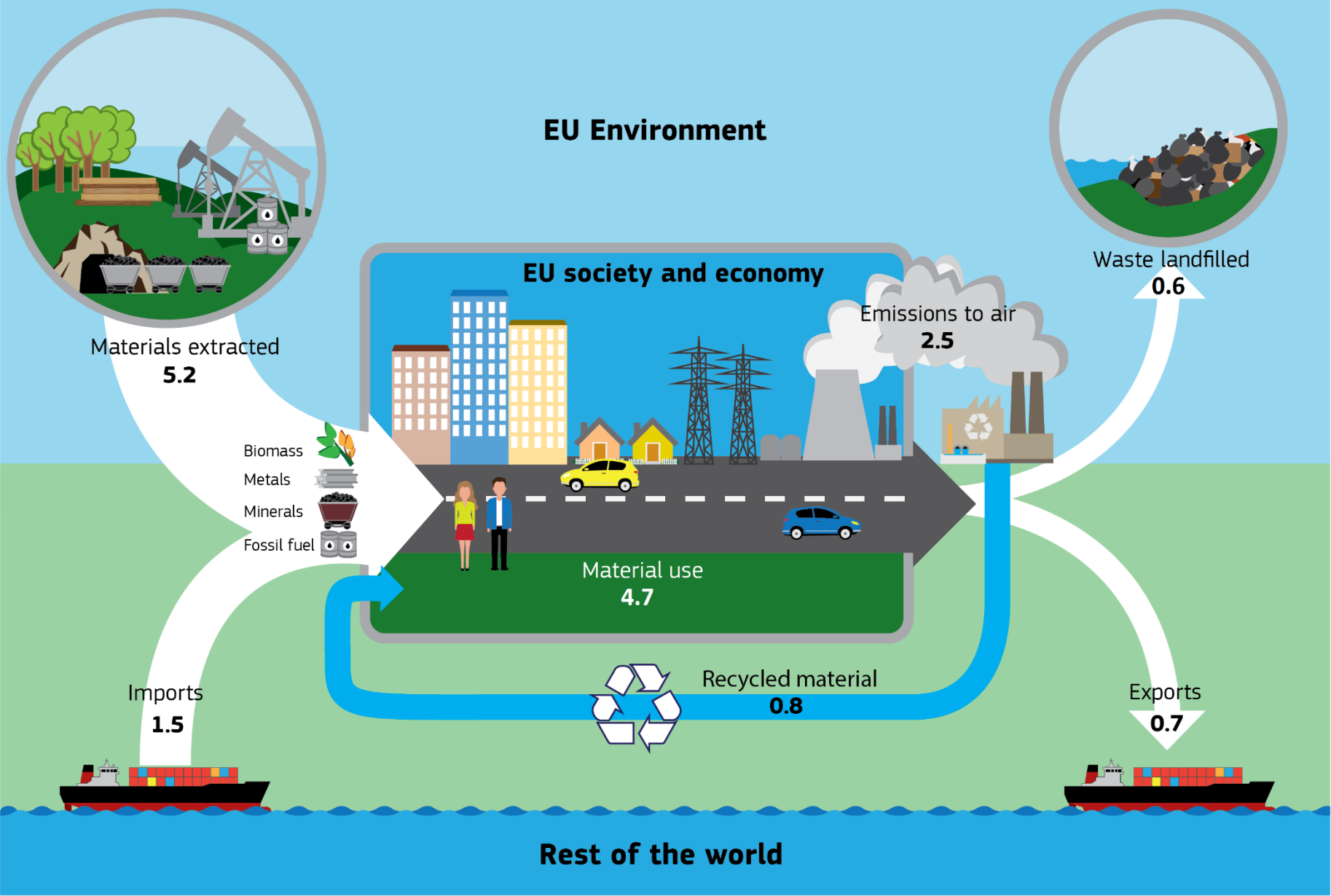Note: GDP in chain-linked volumes, reference year 2015.
Source: Eurostat (online data code: nama_10_gdp; env_ac_mfa; env_ac_rp)

Circular Economy

- …increasing the circularity of materials in the economy,

- thereby reducing both the need for resource extraction and

- the amount of waste ending up in landfills or incineration.

Material flows in the EU, 2021, billion tonnes per year (GT/year)

EU Environment

EU society and economy

Materials extracted
5.2

Biomass
Metals
Minerals
Fossil fuel

Emissions to air
2.5

Waste landfilled
0.6

Material use
4.7

Recycled material
0.8

Imports
1.5

Exports
0.7

Rest of the world

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Circular Economy

- Indicator: circular material use rate (CMU)

$$CMU = U/M$$

with

$$U = RCV_R - IMPw + EXPw$$

with

RCV_R: Recycling, on the basis of the treatment operations defined in the Waste Framework Directive 2008/98/EC

IMP_W: amount of imported waste bound for recycling, and

EXP_W: amount of exported waste bound for recycling

and

$$M = DMC + U$$

A European Green Deal

- European Green Deal => political strategy 2019-2024 for the EU

- => Europe aims to be the first climate-neutral continent by becoming a modern, resource-efficient economy.

- => Monitoring dashboard by Eurostat

European Union

| OVERVIEW | REDUCING our climate impact | PROTECTING our planet and health | ENABLING a green and just transition |

Greenhouse gas emissions
Net | index, 1990=100

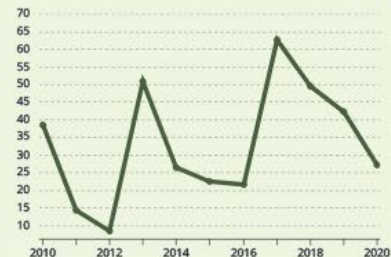★**66.7**
2020

GHG emissions by sector
Energy | % of total gross GHG

★**74.2%**
2020

Climate related economic losses
Euro per capita

★**27€/capita**
2020

Forest and other wooded land
Total | % of land area

★**42.3%**
2018
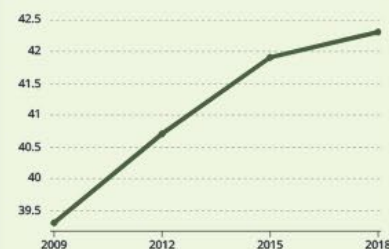
Protected areas
Land | % of total country area

★**26.4%**
2021

Common bird index
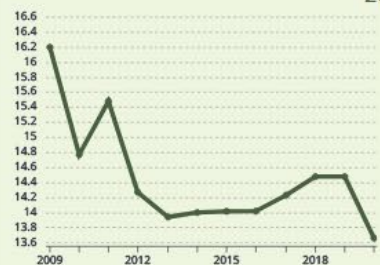All species | index, 2000=100

★**89.5**
2021

Raw material consumption
Total | tonnes per capita

★**13.7 t / capita**
2020

Circular material use rate
% of material input for domestic use

★**11.7%**
2021

R&D expenditure
Total | % of GDP

★**2.26%**
2021

Renewable energy
Total | % of gross final energy consumption

★**21.8%**
2021

Thank you

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