SDG Goal 8	Decent work and economic growth
SDG Target 8.4	Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-Year Framework of Programmes on Sustainable Consumption and Production, with developed countries taking the lead
SDG Indicator 8.4.2	Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP
Time series	Domestic material consumption (DMC)

1. General information on the time series

- Date of national metadata: 3 August 2022
- National data: http://sdg-indicators.de/8-4-2/
- Definition: The time series measures the amount of materials used in a national economy in metric tons. It is calculated as the domestic extraction of raw materials from the environment plus imports of goods (raw materials, semi-finished and finished products) minus exports of goods. Imports and Exports of goods enter the time series with their actual weight.
- Disaggregation: Not available.

2. Comparability with the global metadata

- Date of global metadata: February 2021
- Global metadata: https://unstats.un.org/sdgs/metadata/files/Metadata-08-04-02.pdf
- The time series is compliant with the global metadata.

3. Data description

- The data on domestic material consumption is calculated within the material flow accounting system run by the Environmental-Economic Accounts unit of the Federal Statistical Office. Data on domestic extraction of raw materials stems from various, mostly official, statistics and data sources. For imports and exports, data from foreign trade statistics is used.

  The population data comes from the intercensal population updates, the basis of which is the last census conducted in 2011. The population data is rolled forward using statistical results on natural population change (births, deaths) and migrations. For 2010, the population was calculated backwards using the 2011 census and migration, birth and death statistics.

  The data on GDP is calculated by the Federal Statistical Office's National Accounts as a secondary statistic. GDP is adjusted based on a price base changing every year (previous year's price base). After several revisions due to new data input, final results are available four years after the first preliminary release.

4. Access to data source

- Raw materials, material flows, water - domestic material consumption (DMC) (only available in German):
  https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Umwelt/UGR/rohstoffe-materialfluesse-wasser/_inhalt.html
- National accounts - Gross value added, gross domestic product (nominal/price-adjusted) – GENESIS online 81000-0001:
  https://www-genesis.destatis.de/genesis//online?operation=table&code=81000-0001&bypass=true&language=en
- Average population – GENESIS online 12411-0041:
  https://www-genesis.destatis.de/genesis//online?operation=table&code=12411-0041&bypass=true&levelindex=1&levelid=1639396599054#abreadcrumb
- Population data based on Census 2011 – 1991 to 2011 (only available in German):
  https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bevoelkerung/Bevoelkerungsstand/_inhalt.html#sprg233540

5. Metadata on source data

- Eurostat metadata on material flow accounts:
  https://ec.europa.eu/eurostat/cache/metadata/EN/env_ac_mfa_simsmf_de.htm
- Methodology of economy-wide material flow accouning (only available in German):
  https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Umwelt/UGR/rohstoffe-materialfluesse-wasser/Publikationen/Downloads/gesamtwirtschaftliches-materialkonto-fb_5851314189004.pdf
- Quality Report - Microcensus (only available in German):
  https://www.destatis.de/DE/Methoden/Qualitaet/Qualitaetsberichte/Bevoelkerung/einfuehrung.html

6. Timeliness and frequency

- Timeliness: t + 24 months
- Frequency: Annual

7. Calculation method

- Unit of measurement: Million tonnes; Tonnes per capita
- Calculation:

$$\text{DMC [Mn t]} = \text{Domestic Extraction [Mn t]} + \text{Imports [Mn t]} - \text{Exports [Mn t]}$$

$$\text{DMC [t per capita]} = \frac{\text{DMC [metric t]}}{\text{Average population [number]}}$$

$$\text{DMC per real GDP [2015} = 100] = \frac{\dfrac{\text{DMC}_{t1} \text{ [metric t]} \cdot 100 \, [\%]}{\text{DMC}_{t0} \text{ [metric t]}}}{\text{Real GDP [2015} = 100]} \cdot 100 \, [\%]$$

$t1$ = current year; $t0$ = base year (2015)