

SDG Goal 6

Clean water and sanitation

SDG Target 6.4

By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

SDG Indicator 6.4.2

Level of water stress: freshwater withdrawal as a proportion of available freshwater resources

Time series

Water withdrawal

1. General information on the time series

- Date of national metadata: March 6, 2026
- National data: <https://sdg-indicators.de/6-4-2>
- Definition: The time series shows the amount of fresh water withdrawn in relation to total renewable water resources. Both fresh water and renewable water resources refer to the sum of groundwater and surface water. Renewable water resources are included in the calculation as a long-term average for the years 1991 to the respective reporting year. As additional information, the shares in total water withdrawal of the sectors “agriculture, forestry, and fishing” “mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply; constructions” and all other service sectors are also shown.
- Disaggregation: time series; economic activity

2. Comparability with the UN metadata

- Date of UN metadata: June 2024
- UN metadata: <https://unstats.un.org/sdgs/metadata/files/Metadata-06-04-02.pdf>
- The time series is not compliant with the UN metadata, but provides additional information. The total renewable freshwater resources are used as denominator - without subtracting the environmental water requirements.

3. Data description

- The data on groundwater and surface water extracted from the environment are taken from the Federal Statistical Office's water accounts. The water accounts, as part of the environmental economic accounts (UGR), serve primarily to clearly map and balance the water flows between the environment and the domestic economy (including private households) as well as the foreign economy. The conceptual framework of the water accounts is based on internationally and Europe-wide uniform recommendations, in particular the System of Environmental-Economic Accounting Central Framework (SEEA-CF) as the international statistical standard of the United Nations. To close definitional gaps, additional recommendations from the previously published SEEA-Water and the Handbook on Physical Water Flow Accounts (PWFA) published by the Statistical Office of the European Union (Eurostat) are used.

The values for the reporting years 2011/12, 2014/15, 2017/18, and 2020/21 are less accurate because they are based on additional estimates. The reason for this is that no official water statistics are available for these reporting years.

The data on total renewable water resources (water availability) come from the Federal Institute of Hydrology (BfG). Water availability indicates the quantities of groundwater and surface water that can potentially be used. It is based, on the one hand, on the area's native (internal) water resources, which are derived from the water balance, i.e., the difference between precipitation and evapotranspiration (evaporation from the soil and vegetation cover). On the other hand, inflows from neighboring countries, which are determined from the outflows at gauges close to the border, are added to the internal water resources.

The ratio of fresh water withdrawn to renewable water resources is used to assess the degree of water stress. A ratio of less than 20 to 25% is considered "no stress."

4. Access to data source

- Statistical Report – Environmental-economic accounting – Water accounting (only available in German):
https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Umwelt/UGR/rohstoffe-materialfluesse-wasser/_inhalt.html#sprg380298
- Water balance for Germany (only available in German):
<https://www.umweltbundesamt.de/daten/wasser/wasserressourcen-ihre-nutzung#die-wasserressourcen-deutschlands>

5. Metadata on source data

- Quality Report – Economic Accounts: Water Accounts (only available in German):
https://www.destatis.de/DE/Methoden/Qualitaet/Qualitaetsberichte/Umwelt/ugr_wassergesamtrechnung.html?templateQueryString=wassergesamtrechnung

6. Timeliness and frequency

- Timeliness: t + 18 months
- Frequency: Annual

7. Calculation method

- Unit of measurement: Percentage
- Calculation:

$$\text{Withdrawn water to the total renewable resources} = \frac{\text{Withdrawn ground water [Mn. m}^3\text{]} + \text{Withdrawn surface water [Mn. m}^3\text{]}}{\sum_{i=1991}^n \text{Renewable resources in year } i / (n-1991)} \cdot 100 [\%]$$

$$\text{Withdrawal by sectors } j \text{ to total withdrawal} = \frac{\text{Ground- or surface water, withdrawn by sectors } j \text{ [Mn. m}^3\text{]}}{\text{Total withdrawn Ground- or surface water [Mn. m}^3\text{]}} \cdot 100 [\%]$$

With j =
ISIC code A;
ISIC codes B, C, D and F;
ISIC codes E, G to T