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| <b>SDG Goal 13</b>          | <b>Climate action</b>  |
| <b>SDG Target 13.2</b>      | <b>Integrate climate change measures into national policies, strategies and planning</b> |
| <b>SDG Indicator 13.2.2</b> | <b>Total greenhouse gas emissions per year</b>   |
| <b>Time series</b>          | <b>Total greenhouse gas emissions</b>  |

### 1. General information on the time series

- Date of national metadata: 19 October 2023
- National data: <http://sdg-indicators.de/13-2-2/>
- Definition: The time series at national level measures emissions of the following greenhouse gases (substances or substance groups) in CO<sub>2</sub> equivalents: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), nitrogen trifluoride (NF<sub>3</sub>), hydroflourocarbons (HFC), perflourocarbons (PFC) as well as sulphur hexaflouride (SF<sub>6</sub>).
- Disaggregation: länder

### 2. Comparability with the global metadata

- Date of global metadata: March 2021
- Global metadata: <https://unstats.un.org/sdgs/metadata/files/Metadata-13-02-02.pdf>
- The time series is compliant with the global metadata.

### 3. Data description

- Germany: The data is provided annually by the German Environment Agency (UBA) as part of the reporting under the United Nations Framework Convention on Climate Change and the Kyoto Protocol. The determination and reporting of emissions is subject to a comprehensive quality management system.

Please note that the indicator according to the Kyoto Protocol does not show the carbon dioxide emissions arising from land use, land use change and forestry. Sea transport and international air transport are also excluded from the calculation.

To summarise the various greenhouse gases into a single index, they are each expressed in “CO<sub>2</sub> equivalents”, which means that they are converted into the quantity of CO<sub>2</sub> that would have a comparable impact on global warming. Because of cumulation, however, the development of an individual greenhouse gas cannot be determined. Thus, rising emissions in one greenhouse gas may be (over)compensated by a decreasing emissions of another greenhouse gas.

The calculation is made according to the polluter pays principle and according to the territorial concept. The following steps were carried out during the calculation:

1. Identification of the most important sources of emissions in Germany for all greenhouse gases and air pollutants
2. Determination of the level of emissions for these sources under certain conditions
3. Obtaining of specific emissions factors
4. Multiplication of the specific emission factors by the activity data of a source to quantify the amount of emissions

Länder: The data come from the Environmental Economic Accounts of the Statistical Offices of the Länder.

#### 4. Access to data source

- Emission of greenhouse gases covered by the UN Framework Convention on Climate:  
<https://www.umweltbundesamt.de/en/indicator-greenhouse-gas-emissions>
- Environmental-economic accounts of the Länder – Gases (only available in German):  
<http://www.statistikportal.de/de/ugrdl/ergebnisse/gase>

#### 5. Metadata on source data

- Submission under the United Nations Framework Convention on Climate Change and the Kyoto Protocol 2020, Chapter 1:  
<https://www.umweltbundesamt.de/en/publikationen/submission-under-the-united-nations-framework-5>
- Environmental-economic accounts – Methodology of air emission accounting (only available in German):  
<https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Umwelt/UGR/energiefluesse-emissionen/Publikationen/Downloads/methode-luftemissionsrechnung-5851317199004>

#### 6. Timeliness and frequency

- Timeliness: t + 19 months
- Frequency: Annual

#### 7. Calculation method

- Unit of measurement: Million tonnes of CO<sub>2</sub> equivalents
- Calculation:

**Not applicable.**