



Approximated estimates for greenhouse gas emissions

Concept Name

Description

A

Data description (metadata)

Data description

Background, main characteristics of dataset

The regulation on the '[Governance of the Energy Union and Climate Action](#)' ((EU) 2018/1999) (also called 'Governance Regulation') requires Member States to annually report approximated GHG inventories for the preceding year. Other non-EU-member States, like Norway and Iceland, are also required to report their data, while other European Environment Agency member countries can do so voluntarily. The Governance Regulation stipulates that the European Environment Agency (EEA) should assist the European Commission with compiling and monitoring the data to be collected. That is why Member States report their approximated emissions to the EEA via the online reporting platform [Reportnet 3](#), and the EEA performs quality control as well as gapfilling on the data before publishing them.

This dataset contains the approximated estimates for GHG emissions per sector and gas for a given calendar year. The approximate estimates for GHG emissions serve as a preliminary indicator of a country's emissions. The more accurate total GHG inventory takes longer to compile and is published one year after the approximated estimates. For example, the approximated estimates for 2021 were published in 2022 and the final national GHG inventories for 2021 were published in 2023. Both the approximated and the final national GHG inventories are publicly available on the EEA's [Datahub](#).

Statistical population

Population about which information is to be sought

Anthropogenic greenhouse gas emissions and removals, i.e. originating in human activity.

Reference period

Calendar year.

Frequency of dissemination

The European Commission needs to disseminate the information annually.

Geographical reference area

- All EU Member States
- Switzerland (EFTA), Norway (EFTA), Iceland (EFTA)
- EU-27 (aggregate value of all EU Member States' values)

Unit of measure

Gg CO2 equivalent (corresponds to kt CO2 equivalent).

Basic statistical concepts and definitions

- Emissions (approximated GHG emissions in the unit Gg CO2 equivalent)
- Country
- Gas (type of greenhouse gas or aggregate value in question)
- Sector (type of economic sector in question as defined under the UNFCCC's Common Reporting Framework CRF)
- Year (calendar year which the approximated emission values are reported for)

For more information on the UNFCCC's CRF templates, see [here](#).

Gas

CH4; CO2; ESD (emissions falling under the Effort Sharing Regulation); ETS (emissions falling under the Emissions Trading System); HFCs; N2O; NF3; Non-ETS (emissions not falling under the EU Emissions Trading System); PFCs; SF6; Total (aggregate emissions of all gases); Unspecified Mix (aggregate of a mix of fluorinated gases)

Sector name (and corresponding CRF/sector code)

- 1. Energy and sub-sectors
- 2. Industrial processes and product use
- 3. Agriculture
- 4. LULUCF and sub-sectors (land use, land use change and forestry)*
- 5. Waste and sub-sectors
- 6. Other sector
- Indirect CO2**

Classifications used

Different totals are calculated by the EEA:


- Total emissions (UNFCCC)
- Total emissions with international aviation (EU 2020)
- Total emissions with international transport (EEA)
- Total ESR emissions
- Total ETS emissions
- Total net emissions (UNFCCC)
- Total net emissions with international aviation (EU NDC)
- Total net emissions with international transport (EEA)

** For carbon dioxide (CO2) from land use, land-use change and forestry, the net emissions/removals are to be reported. For the purposes of reporting, the signs for removals are always negative (-) and for emissions positive (+).*

*** For Member States that report indirect CO2, the national totals shall be provided with and without indirect CO2.*

Source

- MS data (the data is reported by the Member States)
- EEA (the data is gapfilled by the EEA)

Statistical Confidentiality	Data is required to be publicly accessible, in accordance with the Governance Regulation 2018/1999, Article 26(2).
B Data quality	
Relevance	<p>The data gives an approximation of a country's GHG emissions and allows to track progress towards the EU targets. Hence, the data can be used as an early indicator for the EU' and individual countries' progress on emission reductions. The indicator is also part of the EU Sustainable Development Goals (SDG) indicator set. It is used to monitor progress towards Goal 13 on climate action. SDG 13 aims to implement the commitment to the United Nations Framework Convention on Climate Change for achieving a climate neutral world by mid-century to limit global warming to well below 2°C and aiming at 1.5°C (compared to pre-industrial times). It also aims to strengthen countries' resilience and adaptive capacity to climate-related natural hazards and the resulting disasters.</p> <p>The main source of uncertainty in the dataset is the different availability of data in the respective countries.</p>
Timeliness <i>Length of time between data availability and the event or phenomenon they describe</i>	<p>T + 1 year</p> <p>The approximated data for a given year T is available within a year (ca. 10 months) after the year T has concluded. The reporting deadline is the 31 July of a given year. For example, the approximated GHG emissions for the calendar year 2021 were published in 2022.</p>
Accuracy and reliability	<p>Source data: Data is officially reported by national administrations on their national GHG emissions across sectors.</p> <p>Data collection and methods used: Countries report their data through the EEA's reporting platform 'Reportnet 3'. Member States use the 2006 IPCC Reporting Guidelines and the 2019 Refinement for creating the approximated GHG inventory but might use more gapfilling procedures due to limited data availability.</p>
Accessibility and clarity	<p>Publications: The data is shared publicly on the EEA's Datahub, and complementary information and visualizations of the data are shared on the EEA's 'Climate and Energy in the EU' website. The key data, further background information as well as analyses are available in the 'European Approximated Greenhouse Gas Inventory Report', which is published annually on the European Topic Centre website.</p> <p>Quality documentation: Information on procedures applied for quality management and quality assessment are published annually in the 'European Approximated Greenhouse Gas Inventory Report' on the European Topic Centre website.</p> <p>Quality documentation: Automatic quality assurance and quality control mechanisms are implemented in Reportnet 3. Details on the automatic quality control mechanisms are listed in the Excel document (sheet 'QC rules') available for download on the Reportnet 3 website. Navigate to the relevant year of the dataflow 'Approximated greenhouse gas inventories' and click on the button 'Download schema/s info'.</p>
Coherence and comparability	<p>Geographical: As countries are using the same template to report and the same reporting guidelines, the data is comparable across countries.</p> <p>Over time: There is good coherence in terms of time, as all data points relate to approximations for the same year. When comparing the approximated emissions data to previous inventories, the effect of any improvements in methodologies is unknown.</p> 
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