Member States' greenhouse gas (GHG) emission projections

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 report, by 15 March 2021, and every two years thereafter, national projections of anthropogenic GHG emissions (Art. 18). Updating GHG projections on even years is voluntary, unless significant changes have occurred (Art. 18.3). Other EFTA countries that are not EU Member States, like Norway and Iceland, can report their data voluntarily. The Governance Regulation provides that the European Environment Agency (EEA) should assist the European Commission with compiling and performing quality assurance and quality control procedures on the information reported by Member States on projections (Art. 42). The Governance Regulation also provides that Member States shall use the e-platform for the purposes of submitting this information (Art. 28). That is why Member States report their emission projections to the EEA via the online reporting platform Reportnet 3, and the EEA performs quality control and fills some gaps in the data before publishing them. EU Member States and other countries (see section 'Geographical reference area') report their GHG projections including quantitative estimates for a sequence of at least six future years ending with 0 or 5, immediately following the reporting year by gas (or group of gases) and by sector. National projections take into consideration any policies and measures adopted at Union level. GHG projections data are presented per country, year, scenario, sector category and gas. Three types of projections are presented: projections considering the (current) existing domestic policies and measures (WEM, with existing measures) and projections also taking into account additional (planned) domestic policies and measures (WAM, with additional measures). A third scenario is projecting emission developments without policies and measures. Reporting of the WEM scenario is mandatory for countries. If available, countries also report on WAM and WOM scenarios. The Governance Regulation provides definitions for those scenarios (Article 2). Domestic policies and measures are those taking place within the national boundaries. Existing policies and measures are those for which one or more of the following applies: a) national legislation is in force; b) one or more voluntary agreements have been established; c) financial resources have been allocated; d) human resources have been mobilised; e) an official government decision has been made and there is a clear commitment to proceed with implementation. Additional (planned) policies and measures are options under discussion with a realistic chance of being adopted and implemented in time to influence the emissions during the commitment period.
Statistical population *Population about which information is to be sought*	This dataset refers to the official nationally reported projection data and therefore applies to the entire statistical population of the national entity in relation to the specific information within the dataset.
Reference period	**Datapoints:** The dataset consists of projected annual GHG emissions between 2021 up to the time horizon set in the Governance Regulation (in intervals of one year). Member States choose the reference year (base year) used for their projections. This reference year is usually the latest year in the GHG inventory, which is two years before the inventory due date (T-2). This ensures consistency between the starting point of the projections and the historical emissions. However, the reference year for projections of Member States is not always identical to the latest year in the GHG inventory (T-2). Member States state that they develop projections at the same time as the inventory, and that is why many Member States use T-3 for their reference year. Reporting on at least six years in five-year intervals (2025, 2030, 2035 etc.) is mandatory. Reporting for years in one-year intervals in between is voluntary for countries. The time period, which Member States need to provide projections for, changes at five-year intervals: In 2020 – 2024: countries report projections up to 2050 In 2025 – 2029: countries report projections up to 2055 In 2030 – 2034: countries report projections up to 2060 Etc.
Frequency of dissemination	Every two years, unless an update has occurred. (First year of reporting: 2021).
Geographical reference area	- All EU member states - Switzerland (EFTA), Norway (EFTA), Iceland (EFTA) - EU-27 (aggregate value) - Total (aggregate value)
Unit of measure	Kilotonnes CO2 equivalent (ktCO2e).
Basic statistical concepts and definitions	GHG emissions from reporting year to 2050 (per country, gas, sector, scenario). Country, year, gas, sector, scenario.
Classifications used	Sector category - 1. Energy and sub-sectors - 2. Industrial processes - 3. Agriculture - 4. LULUCF and sub-sectors (land use, land use change and forestry) - 5. Waste - IB Aviation (International Bunkering) - IB Navigation (International Bunkering)

- Indirect CO2 (if available) (i.e. emissions are not produced by the facility in question but are linked to their activities (e.g., electricity use that was produced elsewhere using fossil fuels)
- Total excluding LULUCF

Scenario

WAM (Projections with additional measures); WEM (Projections with existing measures); WOM (Projections without measures).

Gas

CH4; CO2; HFC; N2O;NF3; PFC; SF6; Unspecified.

Further details on the various categories, concepts and definitions can be found in the 'Guidance for reporting on GHG projections under Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action' on the Eionet Portal.

Statistical Confidentiality	Data is required to be made publicly accessible, in accordance with the Governance Regulation 2018/1999, Article 18 & 28.

B	Data quality

Relevance	Users can use the data to compare projected emissions across different sectors and across different countries. This can help to identify, e.g., sectors where we need special efforts to reduce emissions and to reach the EU's emissions targets. The dataset can also give insights into the projected effect of existing and additional policy measures on future GHG emissions. Furthermore, the data informs how countries are projected to contribute to emission reductions for the sectors under the Effort Sharing Regulation (ESR) and the LULUCF sector.
	Member States are expected to report on the sectors and subsectors as listed in Annex XXV of the Implementation Regulation 2020/1208. Particularly for the energy sector, more granular data on subsectors is required. However, particularly data submissions for (sub)-subsectors can have gaps. These might be due to the lack of data availability in the Member States, for example.
	Some further data points are missing. This can be due to several reasons, e.g., the data not being available or lack of capacity in national administrations to collect the data.
Timeliness *Length of time between data availability and the event or phenomenon they describe*	T+1 year.
	Data is reported on the 15 March every year. Quality checking procedures are undertaken until summer and final datasets are prepared and made available in early autumn. The dataset includes forecast data from the reporting baseline year up to a sequence of six future years ending with 0 or 5, immediately following the reporting year. This dataset is based on Member States' and other countries' reported or updated submissions in the publication year. For example, if this dataset is published in 2024, it refers to data reported by the 15th March 2023 (mandatory data reporting) and/or data updated by the 15th March 2024 (voluntary data reporting).
Accuracy and reliability	**Source data:** The emission projections are officially reported by Member States' national administrations. The projections are the result of various different modelling exercises of the member states. More information on the types of models and parameters etc. can be found on the Eionet Portal. Some data points have been corrected or gap-filled where necessary by the EEA or the European Topic Center (ETC) for climate change mitigation.
	Data collection and methods used: Where data is missing in the Member States' reporting, gaps are filled by the EEA where possible. The methods used for this 'gapfilling' vary. Gaps between reported years are filled by linear interpolation and missing years until 2040 by linear extrapolation. An incomplete time series requires extrapolation. If a time series is missing completely (or in the case of sum errors), manual intervention is required. For values related to the European Emissions Trading System or the Effort Sharing Regulation, historical averages are used. For missing WAM figures, WEM figures are used. Further details on the used data collection methods can be found on the Eionet Portal.
Accessibility and clarity	**Publications:** The data is used in the report 'Analysis of Member States' GHG projections by the European Topic Center Climate Mitigation. It can be found here on the Eionet Portal.
	Quality documentation: The reported data are quality checked by the EEA and its European Topic Centre for Climate Change Mitigation (ETC CM). The detailed methodology used for the quality assurance and quality control procedure for national and Union GHG projections is outlined in a report which can be downloaded on the Eionet Portal.
	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. In Reportnet, navigate to the relevant year of the dataflow 'National projections of anthropogenic greenhouse gas emissions' and click on the button 'Download schema/s info'.
Coherence and comparability	**Geographical:** Geographical comparability is ensured by using data that have been compiled according to the same international accounting standards, in particular ESA 2010/SNA2008 and BPM6, or by applying the same compilation methods as well as variable checks across all countries involved.
	Over time: The dataset begins with the baseline year and countries' inventory data on GHG emissions for that year. For a baseline year of 2021, for example, the data points from 2022 until 2050 are projected GHG emissions resulting from countries' modelling exercises in 2023. The model choices and assumptions vary across countries but are consistent within a

country. This dataset replaces the previous dataset providing the most updated modelled projections for all years from Member States.

C	Contact and update	
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