Net greenhouse gas emissions (sdg_13_10)

ESMS Indicator Profile (ESMS-IP)

Compiling agency: Eurostat, the statistical office of the European Union

Eurostat metadata

Reference metadata

Eurostat Quality Profile

4.5. Source data	EEA (UNFCCC reporting)
5.1. Frequency of dissemination	Every year
5.2. Timeliness	T+2 years
6.1. Reference area	All EU MS
6.2. Comparability - geographical	All EU MS
6.3. Coverage - Time	> 10 years
6.4. Comparability - over time	> 4 data points

Description of Eurostat quality grading system under the following link.

For any question on data and metadata, please contact: Eurostat user support

Download

1. Contact

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1.1. Contact organisation	Eurostat, the statistical office of the European Union

1.2. Contact organisation unit	E2: Environmental statistics and accounts; sustainable development
1.5. Contact mail address	e-mail contact : ESTAT-SDG-MONITORING@ec.europa.eu

2. Metadata update

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2.1. Metadata last certified	21/03/2023
2.2. Metadata last posted	24/04/2023
2.3. Metadata last update	13/05/2024

3. Relevance

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The indicator is part of the EU Sustainable Development Goals (SDG) indicator set. It is used to monitor progress towards Goal 13 on climate action; which is embedded in the European Commission's Priorities under the European Green Deal. SDG 13 seeks 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.

The European Climate Law sets out a framework for climate action and increases the EU's ambition for 2030, with a new goal to reduce net greenhouse gas (GHG) emissions by at least 55 % by that year (compared to 1990) and to achieve climate-neutrality by 2050. The European Commission has also put in place a package of new and revised EU climate and energy legislation — the so called Fit for 55 package — to increase its ambition on climate mitigation. The package comprises an interconnected set of measures in the area of energy, transport, taxation and climate policies, and includes strengthened and expanded carbon pricing, targets, standards and support measures. It also sets a target for natural carbon sinks of 310 million tonnes of CO2 equivalents.

Furthermore, the NextGenerationEU recovery plan is the Union's economic response to the COVID-19 crisis. It includes the Recovery and Resilience Facility worth EUR 672.5 billion, of which at least 37 % must go to climate action. Each national recovery and resilience plan will have to meet this target of a minimum of 37% of expenditure related to climate, and all reforms and investments by Member States as a part of the recovery fund must comply with the 'do-no-significant-harm'principle and therefore avoid significant negative impact on the EU's climate and environmental objectives.

The new EU cohesion policy (2021 to 2027) includes a 'greener, carbon-free Europe' as one of its five main objectives receiving 65 % to 85 % of available funding together with an objective for a 'smarter Europe'.

4. Statistical Indicator

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4.1. Data description

The indicator measures total national emissions (from both ESD and ETS sectors) including international aviation of the so called 'Kyoto basket' of greenhouse gases, including carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and the so-called F-gases (hydrofluorocarbons, perfluorocarbons, nitrogen triflouride (NF3) and sulphur hexafluoride (SF6)) from all sectors of the GHG emission inventories (including international aviation and indirect CO2). The indicator is presented in two forms: as net emissions including land use, land use change and forestry (LULUCF) as well as excluding LULUCF. Using each gas' individual global warming potential (GWP), they are being integrated into a single indicator

expressed in units of CO2 equivalents. The GHG emission inventories are submitted annually by the EU Member States to the United Nations Framework Convention on Climate Change (UNFCCC).
Member States follow guidelines from the Intergovernmental Panel on Climate Change (IPCC) for National Greenhouse Gas Inventories when estimating emissions and removals of greenhouse gases to ensure transparency, accuracy, comparability, completeness, and consistency in reported data.

4.2. Unit of measure

Index 1990 = 100 and tonnes of CO_2 equivalent per capita

4.3. Reference Period

Calendar year.

4.4. Accuracy - overall

Indicator from non-ESS source. For assessment of accuracy please refer to the original source (see link to external data source and metadata in section “Annexes”).

4.5. Source data

EEA (UNFCCC reporting)
Data source: EEA, Reporting under United Nations Framework Convention on Climate Change (UNFCCC reporting)
Data provider: European Environment Agency (EEA), based on data from covered countries.

5. Frequency and Timeliness of dissemination

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5.1. Frequency of dissemination

Every year
Indicator is updated annually.

5.2. Timeliness

T+2 years
New data points are disseminated within two years after the reference year.

6. Coverage and comparability

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6.1. Reference area

All EU MS
Data are presented for all EU Member States plus Iceland, Norway and Switzerland.

6.2. Comparability - geographical

All EU MS
Data are comparable between all EU Member States respectively other presented countries. Comparability between Member States is one of the core reporting principles that the greenhouse gas inventory must adhere to.

6.3. Coverage - Time

> 10 years
Presented time series (including EU aggregates) starts in year 1990.

6.4. Comparability - over time

> 4 data points

Length of comparable time series without methodological break is longer than 4 data points. When Member States gain new scientific knowledge that cause a change of an estimate, then the Member State needs to recalculate the full time series back to 1990 using this knowledge, if applicable.

7. Accessibility and clarity

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7.1. Dissemination format - Publications

Analysis of the indicator is presented in Eurostat's annual monitoring report on Sustainable development in the EU (progress towards SDGs in the EU context).

7.2. Dissemination format - online database

See table sdg_13_10

7.3. Dissemination format - other

Eurostat dedicated section on SDGs: http://ec.europa.eu/eurostat/web/sdi/overview

8. Comment

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env_air_gge_esms - Greenhouse gas emissions by source sector

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National emissions reported to the UNFCCC and to the EU Greenhouse Gas Monitoring Mechanism
EEA greenhouse gas - data viewer

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