

10a CO2 emissions from fuel combustion attributable to the national economy

Indicator type **Core indicator**

Published

Versioning

First publication Latest update

Area and sub-area

Area and sub-area

Presentation

Tier

Indicator definition and description
 Total energy use-related CO2 emissions from fuel combustion by all residents of a country. Residents can be persons, groups of persons in the form of households, and legal or social entities, such as corporations, non-profit institutions, or government units. Residents belong to the national economy where they have their centre of predominant economic interest. Emissions from non-energy use of fuels, fugitive emissions, and industrial process emissions are excluded.

Unit of measure

Coverage

Spatial aggregation

Reference period

Update frequency

Base period

Disaggregation (operational indicators)

Disaggregation (operational indicators)	Comments
Economic sector (ISIC) and households	
Spatial	
Energy product (SIEC)	
Temporal (by month, by season)	

Other related -indicators (e.g.contextual, proxy, other core indicators)

ID	Subindicator	Type
09a	Total greenhouse gas emissions from the national economy	Contextual indicator
10b	CO2 emissions from fuel combustion within the national territory	Core indicator
55	Passenger transport mode (person kilometers per mode/capita)	Contextual indicator
56	Freight transport mode (ton kilometers per mode)	Contextual indicator

Relevance

Policy context and rationale
 Excessive greenhouse gas emissions (GHG) by humans are the reason why our climate is changing. Reducing GHG emissions is the main course of action in our efforts to limit the change. High-quality monitoring of GHG emissions is hence essential. In addition, information is needed to better understand who emits, what they emit, and for which purposes. Extensive analyses of emission are needed to find the most cost-effective methods to reduce them. Air emission accounts and their derived indicators can be used to model and investigate, for example, potential efficiency gains and macro-economic links. These analyses helps us to work towards the goals set in international

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agreements, including the Paris Agreement and the UNFCCC. At European level, emissions targets are set in Europe 2030: the EU policy, strategy and legislation for 2030 environmental, energy and climate targets.

Environmental accounts, such as air emission accounts, are used in economic-environmental modeling, for example for studies on eco-efficiency and resource and waste intensities, for environmental indicators, and for trade negotiations related to environmental impacts.

Compatibility with the traditional national economic accounts greatly facilitates the integration of the environmental data into macroeconomic models and analysis.

The indicator is linked with SDG 7, 9, 12 and 13.

Related SDG indicator (SDG I.)

Not applicable

Relation w SDG-I.

Related Sendai Framework I.

Not applicable

Policy references

Document title	Link
Transforming our world: the 2030 Agenda for Sustainable Development (General Assembly of the United Nations, 2015)	https://sustainabledevelopment.un.org/post2015/transformingourworld
European Union Climate Strategies and Targets (European Commission, 2008)	https://ec.europa.eu/clima/policies/strategies_en
Paris Agreement (United Nations, 2015)	https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement
United Nations Framework Convention on Climate Change (United Nations Climate Change, 1994)	https://unfccc.int/process-and-meetings/the-convention/what-is-the-united-nations-framework-convention-on-climate-change

Methodology

Methodology for indicator calculation

This indicators is calculated as the sum of CO2 emissions from the combustion of fuels. For each fuel, CO2 emissions are calculated as fuel consumption by national residents multiplied by the CO2 emission factor of given fuel. Emission factors used can be country-specific emission factors or emission factors from the 2006 IPCC guidelines.

Methodology references

Document title	Link
Manual for air emission accounts (Eurostat, 2015)	https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-15-009
System of Environmental Economic Accounting 2012 Central Framework (United Nations, European Commission, Food and Agriculture Organization of the United Nations, OECD, World Bank, 2014)	https://seea.un.org/content/seea-central-framework
2006 IPCC Guidelines for National Greenhouse Gas Inventories (Intergovernmental Panel on Climate Change, 2007)	https://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html

Classification syst.

International Standard Industrial Classification of All Economic Activities (ISIC), Statistical

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classification of economic activities in the European Community (NACE), Classification of Individual Consumption by Purpose (COICOP)

Data sources

Main source	Official statistics: SEEA and/or SNA
Explanation	Physical energy flow accounts or energy statistics (which will need to be adapted to the residence principle) and emission coefficients. Note that data from greenhouse gas inventories would need to be adapted to the residence principle. The source is data used for the compilation of SEEA air emission accounts, available to air emission accounts compilers. Whether their internal compilation files include all the information to compile this indicator depends on the compilation method used.

SEEA Accounts that can serve as data sources

SEEA Account	Comments
Air emission accounts	

UN-FDES [3.1.1: Emissions of greenhouse gases](#)

International databases containing this indicator

Comments

Comments	The value reported for indicator "10a - CO2 emissions from fuel combustion by national economy" should be different from the value reported for indicator "10b - CO2 emissions from fuel combustion in the national territory".
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