

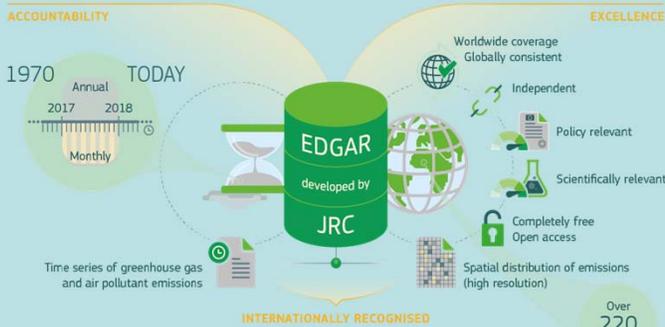


European Commission

EDGAR support at COP25: Fossil CO₂ and GHG emissions of all world countries – 2019 report

Emissions Database for Global Atmospheric Research (EDGAR)

EDGAR builds emissions in a transparent manner with a common bottom-up methodology across all countries and greenhouse gases (GHG), fulfilling the requirements of transparency and accountability of the Paris Agreement.



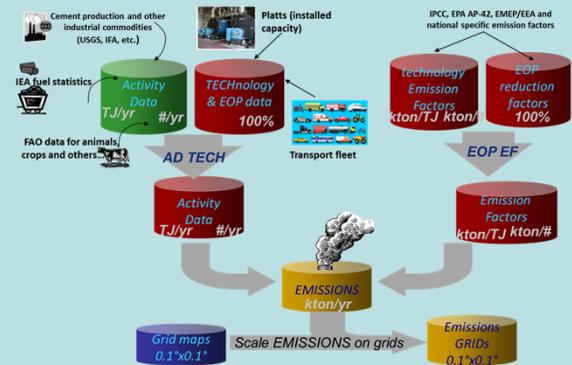
All human activities leading to climate relevant emissions are included, except biomass/biofuel combustion (short-cycle carbon) in the power, industry, buildings, transport and agricultural sectors, large-scale biomass burning and land use, land-use change and forestry (LULUCF).

Even for countries with less robust statistical infrastructure and experience in reporting their emissions, EDGAR provides robust emissions consistently with the global picture.

This combination of reliability, independence and completeness makes EDGAR a valuable quantitative tool to support the complex international scientific and political discussions on climate mitigation. In particular, EDGAR data can contribute to providing a comprehensive picture needed for the United Nations Framework Convention on Climate Change (UNFCCC) Global Stocktake of 2023.

Emissions calculation method

Emissions per country and compound are calculated on annual basis and sector wise by multiplying activity and technology mix data by country-specific emission factors and reduction factors for installed abatements.



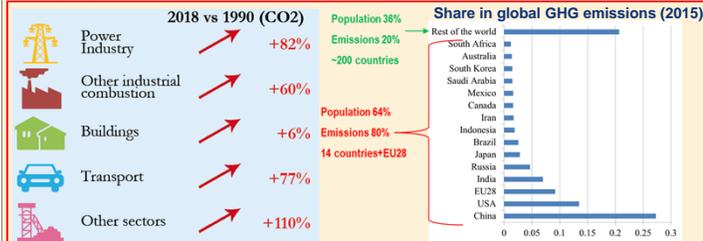
EDGAR emissions are computed using international activity data, mainly IEA energy balances to estimate emissions from fossil fuel consumption, USGS commodity statistics and World Steel Association data, GGFR/NOAA for fugitive emissions and FAOSTAT data for the agricultural sector.

Fossil CO₂ emissions are extended with a Fast Track approach until the year (t-1) using the latest British Petroleum Review of World Energy which provides recent trends in coal, oil and natural gas consumption. The same sectorial breakdown as in the last year of the IEA energy balances is assumed.

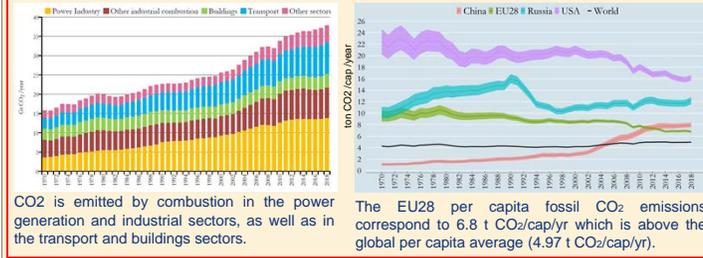
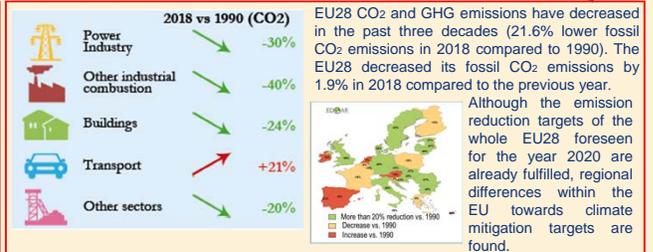
Fossil CO₂ and GHG emissions of all world countries

Despite the global effort in tackling climate change, global GHG emissions are still rising. In 2018, fossil CO₂ emissions, representing 75% of total GHGs, reached 37.9 Gt. Global GHG (including CO₂, CH₄, N₂O and fluorinated gases) emissions reached 49.1 Gt CO₂e/yr in 2015. Five countries (China, USA, India, Russia, Japan) and the EU28 are responsible for about 70% of the world total. The complete report and data are available at: <https://edgar.jrc.ec.europa.eu/overview.php?v=booklet2019>.

Global perspective



European perspective



Conclusions

The yearly EDGAR report "Fossil CO₂ and GHG emissions of all world countries" is developed in support of the European Commission's climate negotiations at the Conference of the Parties every year. The 2019 report shows that:

- Global CO₂ and GHG emissions are still rising despite the climate change international agreements.
- 6 top emitting economies represent ca 70% of global fossil CO₂ emissions: China (30%), USA (14%), EU28 (9%), India (7%), Russia (5%) and Japan (3%).
- In 2018, the EU28 and Japan were the only economies within 'the big 6' reducing their fossil CO₂ emissions compared to 2017 (-1.9% and -1.7%).
- In the EU28, fossil CO₂ emissions have decreased by 21.6% in 2018 compared to 1990, but its per capita values are much higher than the world average.

The European Commission's science and knowledge service
Joint Research Centre

EU Science Hub: ec.europa.eu/jrc @EU_ScienceHub Joint Research Centre
EU Science Hub - Joint Research Centre EU Science Hub

Monica Crippa, Marilena Muntean, Diego Guizzardi, Jos Olivier, Gabriel Oreggioni, Efisio Solazzo, Edwin Schaaf, Fabio Monforti, Marlene Duerr, Elisabetta Vignati.

Joint Research Centre