EDGAR
The Emissions Database for Global Atmospheric Research

Mapping human emissions on Earth

WHAT IS IT?
EDGAR is a multipurpose, independent, global database of human emissions of greenhouse gases and air pollution on Earth.

WHAT DOES IT TELL US?
Examples of key findings:
Global fossil CO₂ emissions are still rising (+ 19 % with respect to 2005), although not in Europe (- 29 % with respect to 2005). Efforts to reduce emissions are now put forward in a transparent way under the Paris agreement, but verification of their effectiveness will need consistent atmospheric measurements and global tool linking emissions to measurements.

HOW DOES IT WORK?
Emissions are calculated using:
- activity data from international statistics (e.g. fuels sold, industrial production, crop production, animals, etc.)
- emission factors (e.g. how much of a certain pollutant is emitted for a certain amount of fuel burnt)
- technologies penetration and abatement measures (e.g. filters on vehicles or on a stack of a power plant, etc.)

WHAT DOES IT TELL US?
Examples of key findings:

<table>
<thead>
<tr>
<th>Sector</th>
<th>Globe 2020 vs 1990 (fossil CO₂)</th>
<th>EU27 2020 vs 1990 (fossil CO₂)</th>
<th>EU27 2018 vs 1990 (GHG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>+ 72 %</td>
<td>- 43 %</td>
<td>- 24 %</td>
</tr>
<tr>
<td>Power industry</td>
<td>+ 58 %</td>
<td>- 46 %</td>
<td>- 39 %</td>
</tr>
<tr>
<td>Buildings</td>
<td>+ 1 %</td>
<td>- 32 %</td>
<td>- 26 %</td>
</tr>
<tr>
<td>Other sectors</td>
<td>+ 97 %</td>
<td>+ 8 %</td>
<td>+ 23 %</td>
</tr>
<tr>
<td>Other industrial combustion</td>
<td>+ 72 %</td>
<td>- 43 %</td>
<td>- 24 %</td>
</tr>
</tbody>
</table>

ARE YOU CURIOUS TO KNOW MORE?
The Emissions Database for Global Atmospheric Research (EDGAR):
https://edgar.jrc.ec.europa.eu

GHG emissions of all world countries, 2021 report:

COLLABORATIONS

EDGAR
Developed by
JRC

Worldwide coverage
Globally consistent
Independent
Policy relevant
Scientifically relevant
Completely free
Open access
Spatial distribution of emissions (high resolution)

INTERNATIONALLY RECOGNISED

Over 220 countries

1970 - TODAY

Annual
Monthly

Time series of greenhouse gas and air pollutant emissions

Over 1 million downloads of EDGAR's products

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Joint Research Centre
WHAT CAN IT BE USED FOR?

EDGAR is used as independent verification system in support of:

- control strategies for emission mitigation
- emission trend analysis and projections
- international treaty reporting requirements (e.g. Paris agreement)
- global and regional modelling of atmospheric pollution and climate change
- evaluate current and historical policy impacts at the European and global scales
- track emissions changes in emissions sources, fuels, technologies and abatement measures

Greenhouse gas emissions
Mapping emission hot-spots and trends
Air pollutant source characterisation