

Method proposed to produce early CO₂ emission estimates

Method using cumulated monthly energy statistics to produce early estimates on CO₂ emissions from combustion of fossil fuels (Eurostat method)

In a first step the method uses the trend changes between the last two years at the Member State level in the consumption of fossil fuels for the fuel groups solid, peat, gaseous, liquid.

In a second step these percentage changes are applied to the official figures given for CO₂ emission for the most recent year available from the combustion of fossil fuels provided by Member States to the UNFCCC as part of their GHG inventories (CRF table 1.A (b))* . CO₂ emissions from non-renewable waste and other fossils fuels are not included in the calculation. The multiplication of this percentage trend change with the CO₂ emissions (from CRF table 1.A(b)) results in the CO₂ emissions from fuel combustion for the previous year.

The sum of Member States CO₂ emissions then represents our EU-28 early CO₂ emission estimate from fossil fuel combustion.

Example: the production of the early CO₂ emission estimate for 2013:

1. The change of the consumption by fossil fuel group and by Member State is established using cumulated monthly data for the years 2012 and 2013 (e.g. percentage change of consumption of liquid fossil fuels in Austria between 2012 and 2013 = x%).

2. In the official UNFCCC inventory submission for 2012 for Austria, the figure representing the CO₂ emission for Austria from the combustion of liquid fossil fuels, expressed in 1000 tons (= Gg) is multiplied with x%. The result of this calculation then represents the early CO₂ emission estimate for liquid fossil fuels for Austria for the year 2013.

3. This calculation is done for the fossil fuel groups liquid, solid, peat and gaseous and the sum then gives the estimate for the total CO₂ emissions for Austria for 2013.

4. Potential variation of the method: The above described method works well if the monthly data quality of the two consecutive years used to calculate the trend does not vary too much.

If there are indications that the quality of the monthly data for the first of the two years is much lower than for the second year, data for the first year might be replaced by annual data, e.g. instead of using cumulated monthly data for the year 2012, annual data for 2012 might be used if they are already available.

5. For some countries calculated trend changes in physical units (kt) and calculated trend changes in energy units (TJ) show large differences. This is due to the fact that countries changed the share of consumption between solid or liquid fuel categories with different net calorific values like hard coal and lignite. For countries with large differences between the two methods, the results of the TJ method were used for the calculation of early CO₂ estimates.

*CRF (Common Reporting Format) table 1.A (b) SECTORAL BACKGROUND DATA FOR ENERGY: CO₂ from Fuel Combustion Activities - Reference Approach (IPCC Worksheet 1-1)

CRF = Common Reporting Format

Gg = Giga gram = 10⁹ gram = 1000 tons

GHG = Greenhouse Gas

UNFCCC = United Nations Framework Convention on Climate Change