

## Map 25

**Short Title:** CO<sub>2</sub> emissions from road transport, kt/grid

**Full Title:** Map: Carbon dioxide (CO<sub>2</sub>) emissions from road transport (in kilotonnes per grid cell)

### Diffuse Sources / General information:

The map shows the diffuse emissions of carbon dioxide (CO<sub>2</sub>) to air from road transport of the EU27 and EFTA4 countries per 5x5 km<sup>2</sup> grid cell for the reference year 2008, available in 2010. Diffuse emissions of carbon dioxide (CO<sub>2</sub>) are expressed in kilotonnes per grid cell.

### Diffuse Sources / Methodology:

#### Geographic Information System (GIS) overlay:

Carbon dioxide (CO<sub>2</sub>) emissions to air from road transport are distributed according to the reporting of the countries to the United Nations Framework Convention on Climate Change ([UNFCCC](#)), using the road network density and traffic density (derived from TREMOVE and TRANS-TOOLS transport models) and the GISCO data set. The emission allocation into highway, rural and urban activities has been derived from the TREMOVE model. The emissions are allocated using GIS overlay techniques for distribution into grid cells with a spatial resolution of 5x5km<sup>2</sup>. The dataset is then transformed into vector polygons and projected into the E-PRTR WGS84 standard projection.

#### Comparability

Considerable spatial variation is apparent. The main reasons for the differences are:

- The emissions from road transport are dependent on the density of the road network
- The emissions from road transport are allocated by road class-specific mileages of different vehicle categories
- The emissions from road transport not covered by traffic volume are dependent from the population density

## **Diffuse Sources / Source Data:**

Map: carbon dioxide (CO<sub>2</sub>) emissions from road transport (in kilotonnes per grid cell)

### **Emissions data**

Emission data used are national totals from road transport (CRF 1A3b) emissions to air for the year 2008. These are based on data sets officially reported as national emission totals by countries to the United Nations Framework Convention on Climate Change ([UNFCCC](#)) and to the EU Greenhouse Gas Monitoring Mechanism. All emissions from transport sector are considered as diffuse emission sources in the E-PRTR Register.

### **Activity data derived using transport models**

[TREMOVE](#): road type and pollutant specific split factors

[TRANS-TOOLS](#): road network and traffic density data

### **Road network**

[Eurostat, GISCO](#): Road network from EuroRegional Map v31: Transport (TRANS)

### **Population data**

[JRC Population density disaggregated with Corine land cover 2000 and 2006](#): European Population Density Map 2000 and 2006

[EUROSTAT GISCO](#) - Statistical information on population data per administrative unit (NUTS3 level) for Switzerland (publicly not available).

[EUROSTAT GISCO](#) - Degree of Urbanization