

Emissions of air pollutants by road

Dimension - Environment

Associated Key Factor:

Attitudes and implementation of principles relating to sustainable development

Data Source:

Co-operative Program on Long Range Transboundary Air Pollution

<http://webdab.emep.int/>

<http://www.emep.int>

General Availability:

Reporting unit: Gigagrams

Reporting level: national or 50km x 50km grid

Reporting period: annually

Data available from 1980 to 2000

Availability by country:

1980 - 2000: EU-15

1980 - 2000: Member States (EU-15)

The indicator:

Acidification is caused by emissions of sulphur dioxide, nitrogen dioxide and ammonia into the atmosphere, and their subsequent chemical reactions and deposition on ecosystems and materials.

Description

Many different estimates have been published of truck air pollutant emissions, based on miles travelled, ton-kilometres of goods transported, quantity of energy consumed, and other measures. They are expressed in grams per mile, rather than grams per ton-kilometre. Emissions of some pollutants vary with speed of travel, while for others the variation across vehicle types is more important.

How is it measured?

All published statistics of air pollutants are based on complex estimation and modelling procedures and are subject to several sources of error. The calculations are typically based on activity or fuel consumption data multiplied by an emission factor. (for details see Europe's Environment Statistical compendium; Eurostat 1995)

What are the disadvantages of the Indicator?

Even when calibrated in the same units, they vary substantially. Nevertheless, they give a general sense of the importance of the air pollution produced by trucks.

It is useful to bear in mind the many points at which differing assumptions may underlie the available data, which limit the comparability across estimates or across countries. Vehicle emission factors are based on vehicle tests conducted under protocols established by the European Community, the US EPA, and the Japanese government (Cucchi and Bidault 1991). The test cycles vary according to assumptions about truck idle modes, engine speeds, and other driving conditions. The test data are further adjusted to take into account variations in temperature, grade, speed, weight of load, and so on.

What is the policy relevance of the indicator?

Data is officially submitted by the Parties to the CLRTAP Convention on Long Range Transboundary Air Pollutants to the EMEP project via the UNECE secretariat. For some emissions the Global Warming Potential (GWP) is related to climate change policies (e.g. Kyoto Protocol).

The Indicator is relevant for the following pathways of the FORESIGHT FOR TRANSPORT exercise:

	Transport Impact	External Determining Variable	Intermediate Variable	Contextual Information
A reorientation of European transport policy	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increase of trade and infrastructure needs	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Growth of transport demand	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>