

Emissions of air pollutants by rail

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

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

In Europe most trains are electric only; it is therefore the structure of power generation which determines air pollution characteristics. The table below provides emission factors for rail, in grams per tonne-kilometre. Although, there exists a substantial variation among studies, the large difference between rail and trucking in air pollutant emissions is consistent.

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 trains.

What is the policy relevance of the indicator?

Currently there does not exist an emission directive for diesel engines.

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 type="checkbox"/>	<input checked="" 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"/>