

CO2 emissions of transport sector

Dimension - Environment

Associated Key Factor:

Attitudes and implementation of principles relating to sustainable development

Data Source:

United Nations Framework Convention on Climate Change

ghg.unfccc.int

<http://unfccc.int>

General Availability:

Reporting unit: gigagrams

Reporting level: country

Reporting period: annually

Data available from 1990 to 2000

Availability by country:

1990 - 2000: Accession Countries (w/o Malta, Cyprus, Turkey)

1990 - 2000: EU-15

1990 - 2000: Member States (EU-15)

The indicator:

Transport accounts for around a quarter of total CO2 emissions (see TERM 2002 02 EU – Transport emissions of greenhouse gases). Energy efficiency improvements in transport can therefore result in enormous reduction in energy consumption and CO2 emission.

The average energy efficiency of passenger and freight transport is determined by the fleet composition (number and type of vehicles), vehicle utilisation (occupancy rates and load factors) and driving characteristics (speeds, distances).

Note: For goods transport energy use per tonne kilometre also depends on the characteristics of the goods transported by the modes (heavier or less heavier goods). Part of the difference in energy use per tonne kilometre can therefore also be explained by differences in goods transported.

Description

The average energy efficiency of passenger and freight transport is determined by the fleet composition (number and type of vehicles), vehicle utilisation (occupancy rates and load factors) and driving characteristics (speeds, distances).

Note: For goods transport energy use per tonne kilometre also depends on the characteristics of the goods transported by the modes (heavier or less heavier goods). Part of the difference in energy use per tonne kilometre can therefore also be explained by differences in goods transported.

How is it measured?

Emission estimates are presented in accordance with the source categories of the Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories (1996). The transport sector share of CO2 emissions is measured in per cent in relation to all other economic sectors.

What are the disadvantages of the Indicator?

This indicator is directly linked with energy efficiency in the transport sector and should therefore always be seen in jointly with this indicator.

What is the policy relevance of the indicator?

In connection with the importance of the transport sector as percentage of GDP the indicator can show, if the produced emissions stand in congruence with the overall importance of the sector for a country's economy. Furthermore, the Global Warming Potential (GWP) based of emissions is directly 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
Environmental concerns	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A reorientation of European transport policy	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technological innovation and diffusion	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Trends regarding renewable energy source (RES) and rational use of energy (RUE)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Technological improvements and alternative fuels	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Conflicts on land-use	<input type="checkbox"/>	<input checked="" 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"/>