

**InfraDay 2008**

**Panel: Climate Policies and Transport Sectors**

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Berlin, 10 October 2008

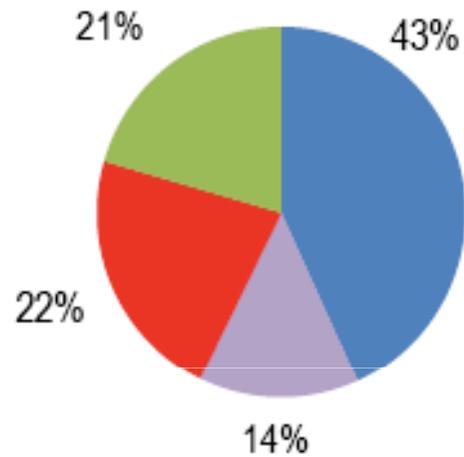
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## Total CO2 emissions (Germany 2005)

2005 Total CO2



- Energy
- Manufct. & Constr.
- Transport
- Other sectors

**As the transport sector is a key contributor to greenhouse gas emissions and thus to climate change**

**and as the passenger and freight transport volume increases more rapidly than economic growth**



**the transport sector has to play significant role when trying to reach emission reduction goals and fighting climate change**

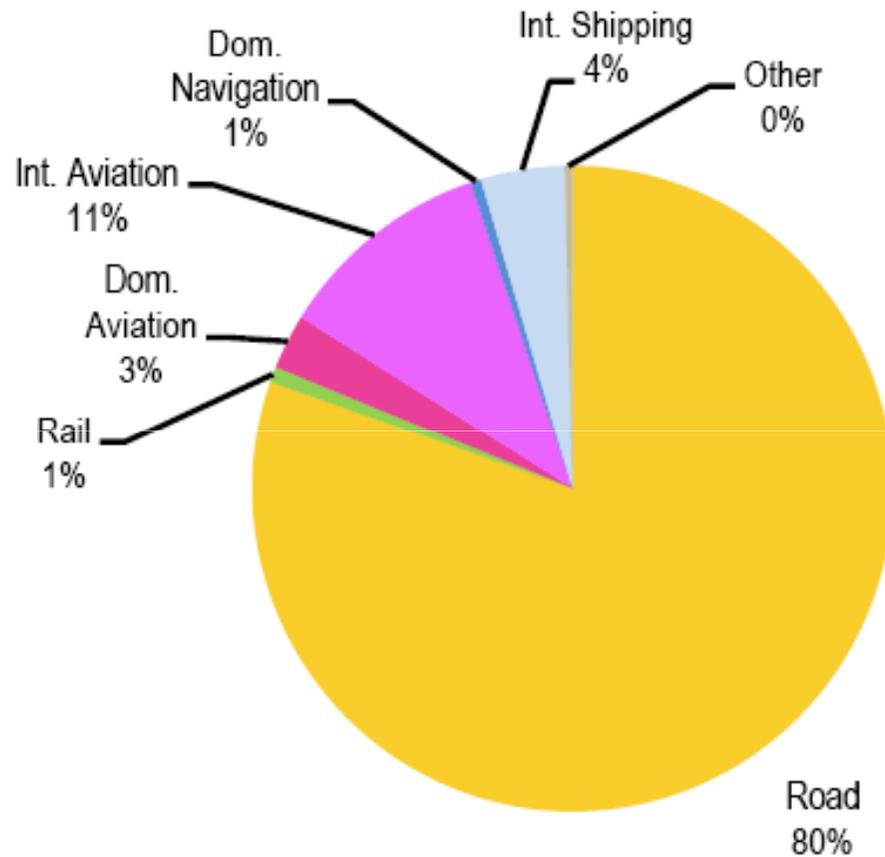
**at the same time, however, mobility is vitally important**

<http://www.internationaltransportforum.org/>



# Transport CO2 emissions (Germany 2005)

2005 Transport CO2



**Among the transport sectors road traffic is by far emitting most greenhouse gases**

**Different share in the contribution to climate change and different way of generating power for transport demand different strategies to be pursued for the individual transport sectors**

<http://www.internationaltransportforum.org/>



## **Is there a regulation need ...**

... or can the market manage this?

- **Need for regulation results from market failure**
- **Typical market failures resulting in a need for regulation are:**
  - Risk of monopoly
  - Collective action, or public good
  - Inadequate information
  - Unseen externalities
- **Market failure is typical for the transport sector:**
  - monopolies in transport networks and infrastructure (highways, railroads, airports and harbours; in the latter only supra-regional competition)
  - externalities, i.e. damage to the environment as public good



# Regulatory instruments

## ■ Direct and Indirect instruments for regulation

- promoting the use of renewable energies and higher energy efficiency, the latter to be achieved for the vehicles and the relevant infrastructure
- Germany: Integrated Energy and Climate Programme, August 2007

## ■ Direct instruments

- planning and approval with environmental impact assessment (in particular, to avoid bottlenecks and congestions)
- prohibitions (e.g. environmental zone)
- imperatives (e.g. End-of-life Vehicle Regulations)

## ■ Indirect instruments

- market instruments (emission trading scheme)
- subsidies (e.g. biofuels, feed-in tariffs, low-emission vessels)
- tax instruments (e.g. eco tax; emissions-based vehicle tax)



## Regulatory instruments

Road sector (being responsible for most of the emission)

### ■ Heavy Goods Vehicle Toll

- German Government has proposed an amendment to the HGV Toll Ordinance to ensure that in future the burden on low-emission trucks will be eased while vehicles with higher emissions will face higher charges

### ■ Vehicle Tax

- the German Government proposed a reform of the vehicle tax to be calculated on the basis of a vehicle's emissions rather than engine capacity

### ■ Increasing share of renewables

- the German Government intended an amendment to the Biofuel Quota Act and the Fuel Quality Ordinance in order to increase the share of biofuels

### ■ Energy efficiency of vehicles

- introduce binding limits for CO2 emissions on a European level (cp. decision of the European Parliament of 25 September 2008)



# Regulatory instruments

## Air and ship transport

### ■ Air traffic

- necessity of regulating has been agreed upon on a European level as air traffic is the second largest emitter within the transport sector
- thus, inclusion of air traffic from 2012 on in the emission trading scheme has been agreed on a EU level
- in the beginning emissions from aviation will be capped at 97% of their average 2004-2006 level; this will decrease to 95% from 2013 onwards; at the beginning 15% of the allowances will be auctioned

### ■ Ship transport

- freight transport via ship is considered to have a very good ecobalance compared to other modes of freight transport
- thus, no legislation on European or national level in regard of climate change issues in connection with freight transport
- however, energy efficiency of vessels (in particular, cruisers) and steam emissions at the sea remain under discussion and may become regulated



# Regulatory instruments

## Railway sector

- **Railway transport is generally considered to be "climate friendly"**
  - resulting from the low quantity of CO2 emissions per passenger or ton
  - besides that railway transport depends largely on (electric) power supply and does not generate its own power (in contrast to all other transport sectors)
  - moreover, the power generated for railway transportation has already given its share because of the inclusion in the emissions trading scheme directive
  - in conclusion, "heavy regulation" does not seem to be indicated
- **Nevertheless, railway transport may contribute to fighting climate change**
  - energy efficient train operation vs. provisions under railway safety laws
  - charging environmental costs by taking costs of environmental effects into account when calculating infrastructure charges
  - finally, vehicle efficiency should be promoted (in particular, in public procurement proceedings)



## Conclusion

- Regulating the climate effects of transportation is necessary in order to effectively tackle climate change and global warming
- Legislative activities on regulating the different transport sectors can be noticed on European and national level and for all transport sectors
- Current legislation projects include the particularities of each sector by applying and adopting the key climate change instruments (ETS; renewables; energy efficiency, in particular, with regard to traffic congestion and vessels)
- In addition, a promotion of a modal shift (and intermodality) can contribute to reducing the environmental impacts of transport
- There is still strong opposition to transport-related regulation of climate change, e.g. the "sudden death" of the German Government's initiatives on reforming the vehicle tax and increasing the share of biofuels
- Thus, international and European solutions are to be preferred



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