



## Future Challenges of Transport and Environment: The Role of Railways to reduce Climate Gas Emission

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Systemverbund Bahn

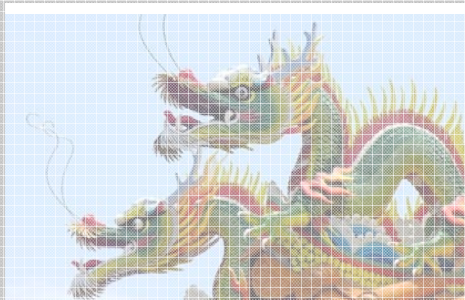
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Berlin, 25 June 2008

# Macro trends change the market and competitive environment

## Macro trends in the transport market

### Globalization



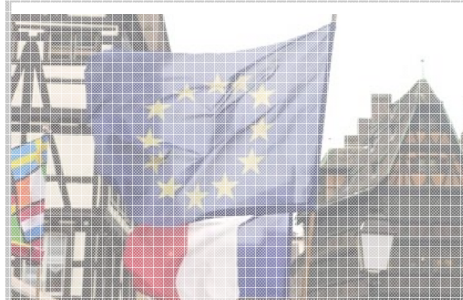
- **Growth markets** are emerging in Asia and Eastern Europe
- **Outsourcing** is on the increase
- **Global flow of goods** is increasing

### Climate change and resource shortage



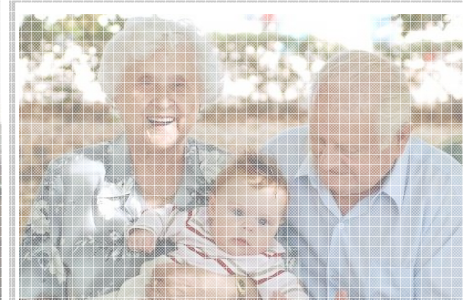
- **Transport sector** as a **key driver of CO<sub>2</sub> emissions** – rail produces lowest emission levels
- Increasing prices for **fossil fuels**
- **Shortage of transport infrastructure**

### Deregulation



- Further liberalization of **rail transport**
- Pressure on **public purse**
- **Outsourcing** of public responsibilities

### Demographic development



- Changing **age structure**
- Varied regional development, and trend towards **urbanization**

## In terms of energy efficiency, railways enjoy systematic advantages compared to other modes of transport



### Basic advantages:

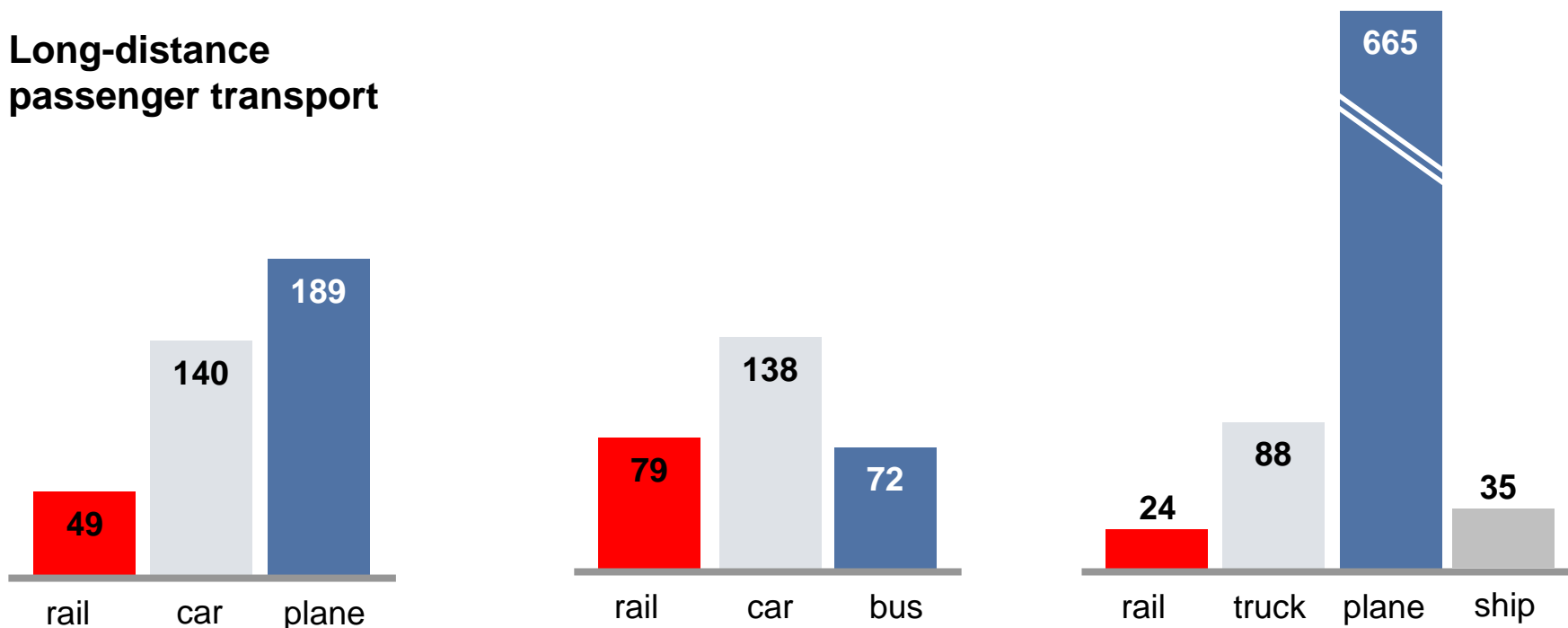
- Low rolling friction: wheel/track-system – steel/steel
- Automatic guidance: prerequisite for long trains benefiting the slip stream effect
- Electric traction: recuperation of energy, using renewable energy sources

# Comparison of CO<sub>2</sub>-emissions

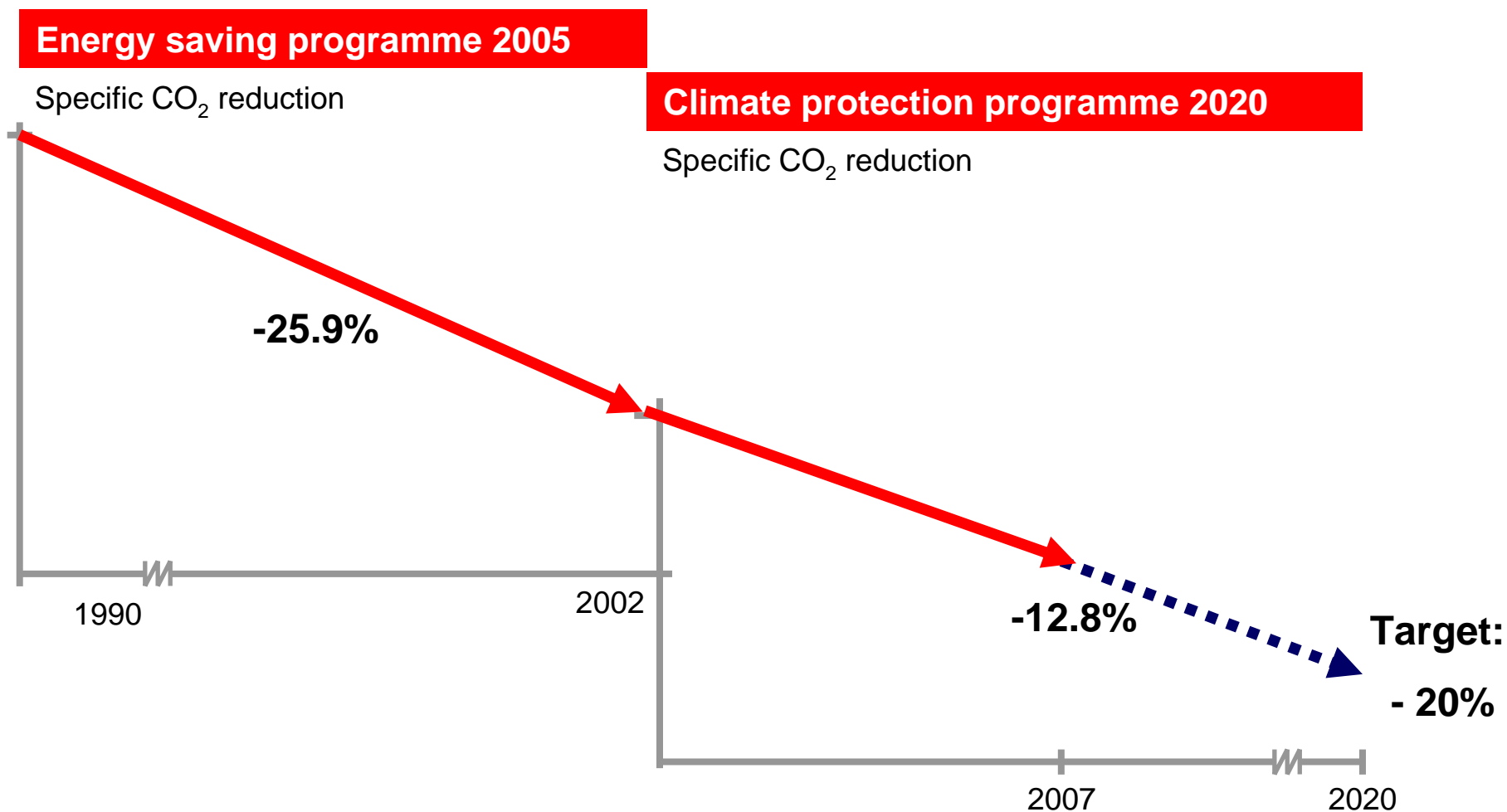
## Freight transport

## Local passenger transport

## Long-distance passenger transport



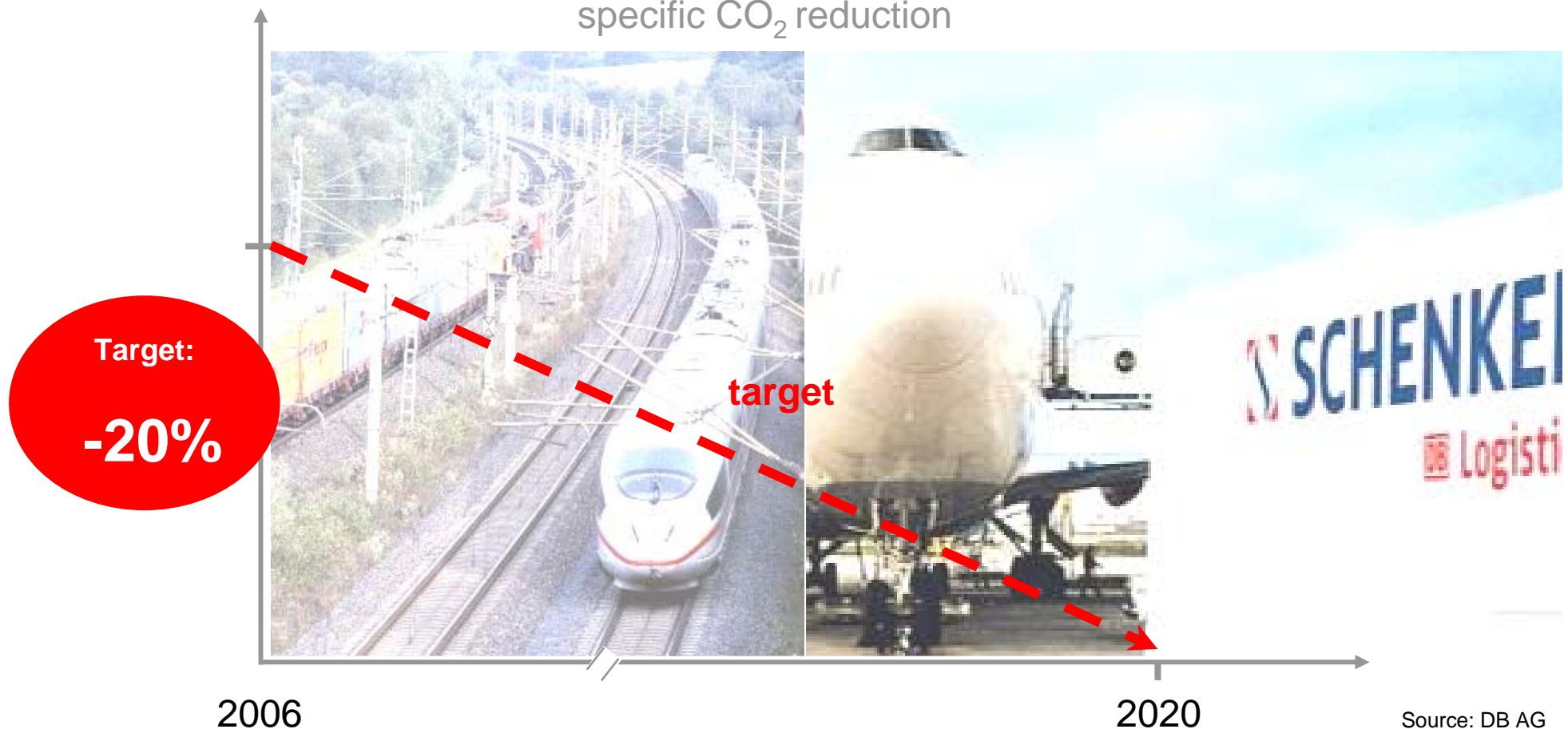
## Deutsche Bahn takes on pioneering role in climate protection



# The new climate protection programme covers the whole DB group

## Climate protection programme – DB group

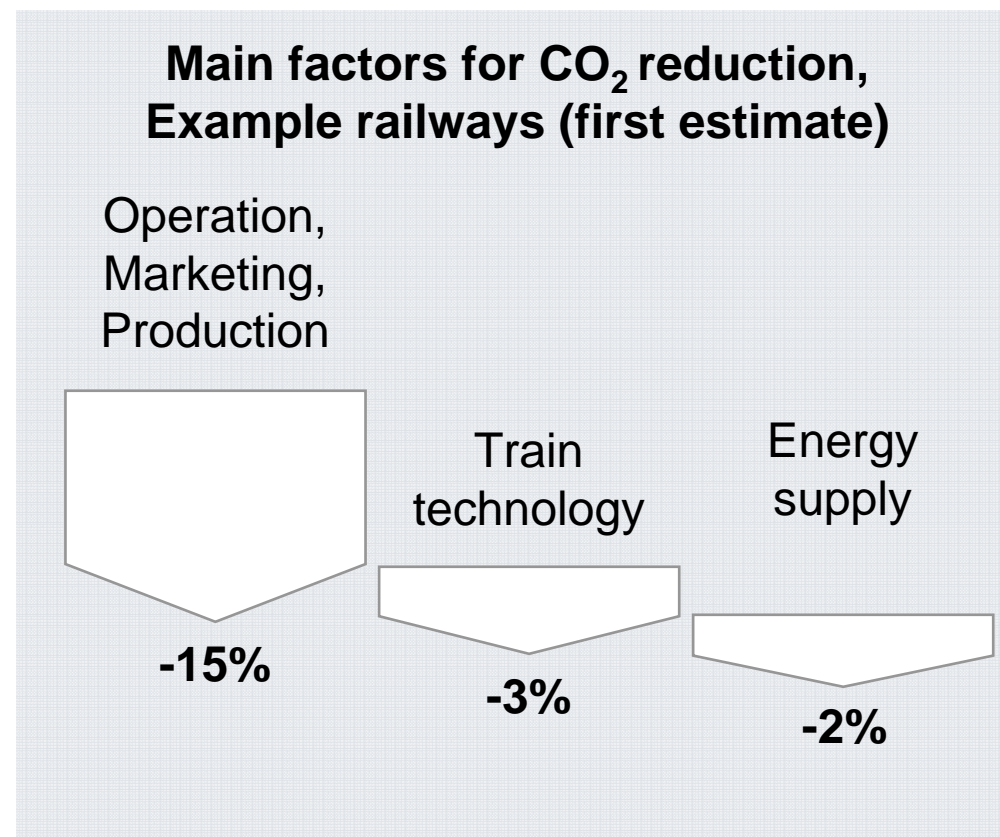
specific CO<sub>2</sub> reduction



# The reduction target can only be achieved with an integrated approach, covering all branches of DB group

## Measures taken / planned:

- Increase utilisation
- Combining modes of transport in terms of economy and ecology
- Motivation of employees and costumers
- Integration of intelligent operation systems („free float“)
- Introduction of innovative and new technologies
- Energy mix: Increase share of renewable energies

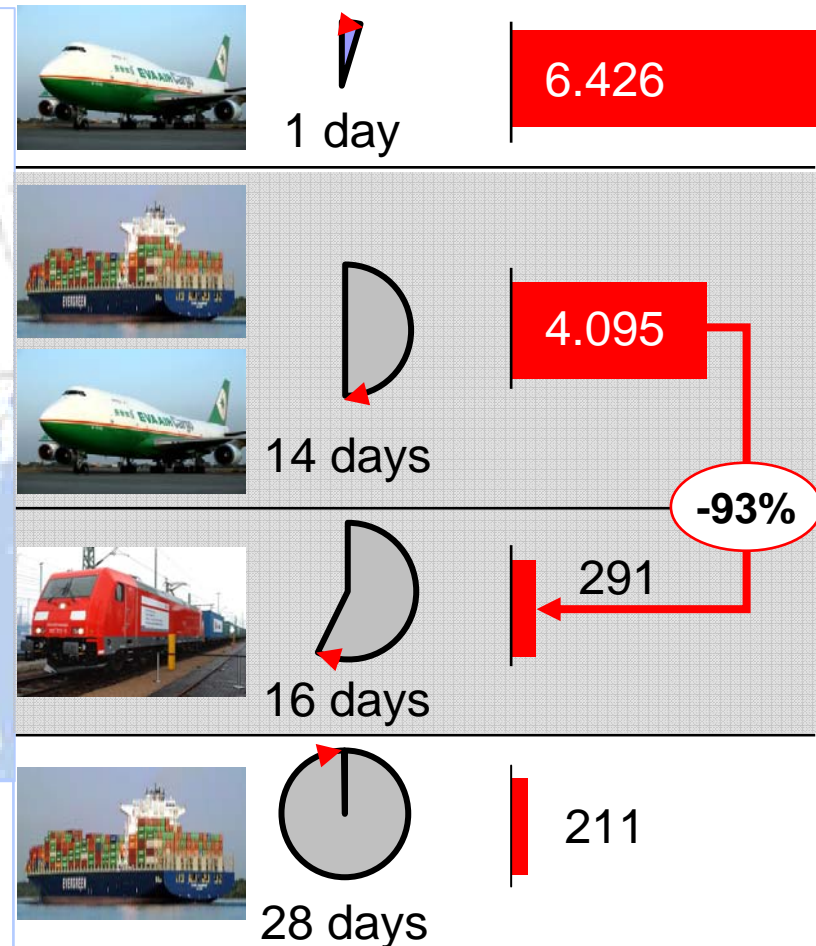


# Best practice (1): Asia Land Bridge – Optimising transport chains in terms of economy and ecology

Beijing-Berlin: planned volume 400.000 t/a (from 2010 onwards)



time (in days)	CO <sub>2</sub> emissions (in kg CO <sub>2</sub> /t)
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After full implementation CO<sub>2</sub>-reduction of approx. Up to 1.5 Mil. t/a

## Best practise (2): DB provides online tools for passenger and freight transport to calculate the environmental performance

- Customers both of freight and passenger are more and more sensible to the environmental impacts of their mobility choices
- DB has been a frontrunner in the developed of free online tools to provide information on the environmental impact of individual transport choice

### [www.ecopassenger.org](http://www.ecopassenger.org)

- Passenger transport
- Provides an comparison between train, car and plane of journeys within Europe

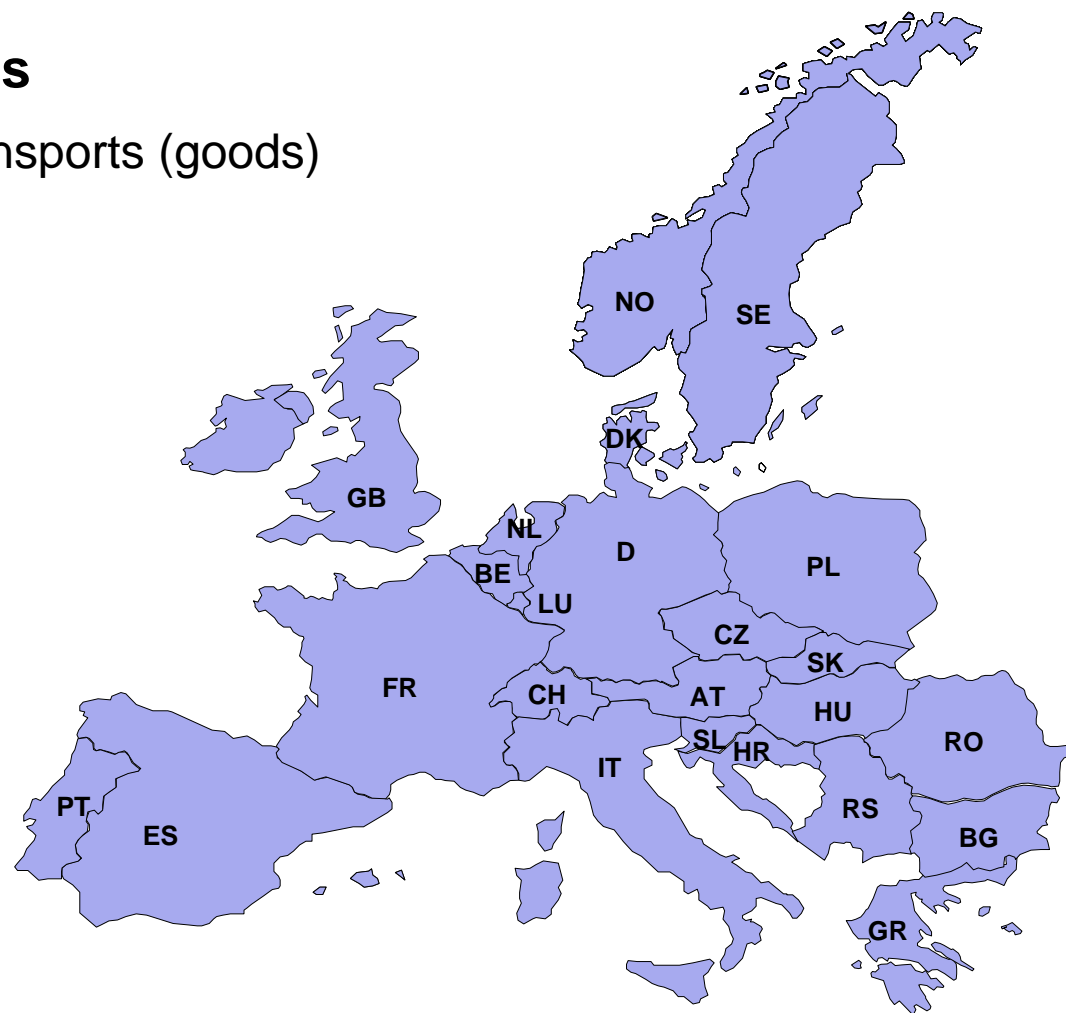
### [www.ecotransit.org](http://www.ecotransit.org)

- Freight transport
- Provides an individual comparison between inland ship, train, lorry, plane and sea ship

## EcoPassenger and EcoTransIT are designed to...

### ...create individual eco-comparisons

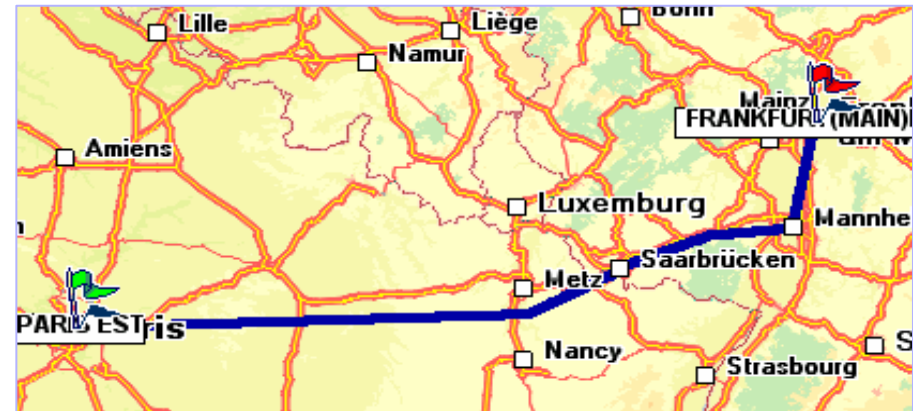
- for individual trips (passenger) and transports (goods) throughout Europe
- for all transport modes  
Passenger: car, train, airplane  
Freight: Lorry, train, inland water ship, sea ship, airplane
- for all types of fuels: Gasoline, diesel, kerosene, liquefied petroleum gas, electricity
- for all types of emission standards (Euro 0-5)
- for most common sizes of vehicles



# EcoPassenger and EcoTransIT is designed to... (example from EcoPassenger, Frankfurt-Paris)

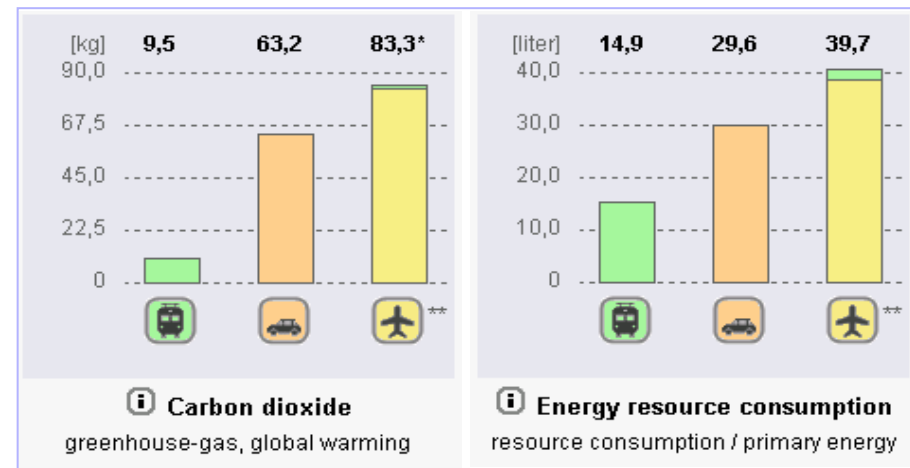
## ...be used easily

- by naming start and destination and
- automatic routing function

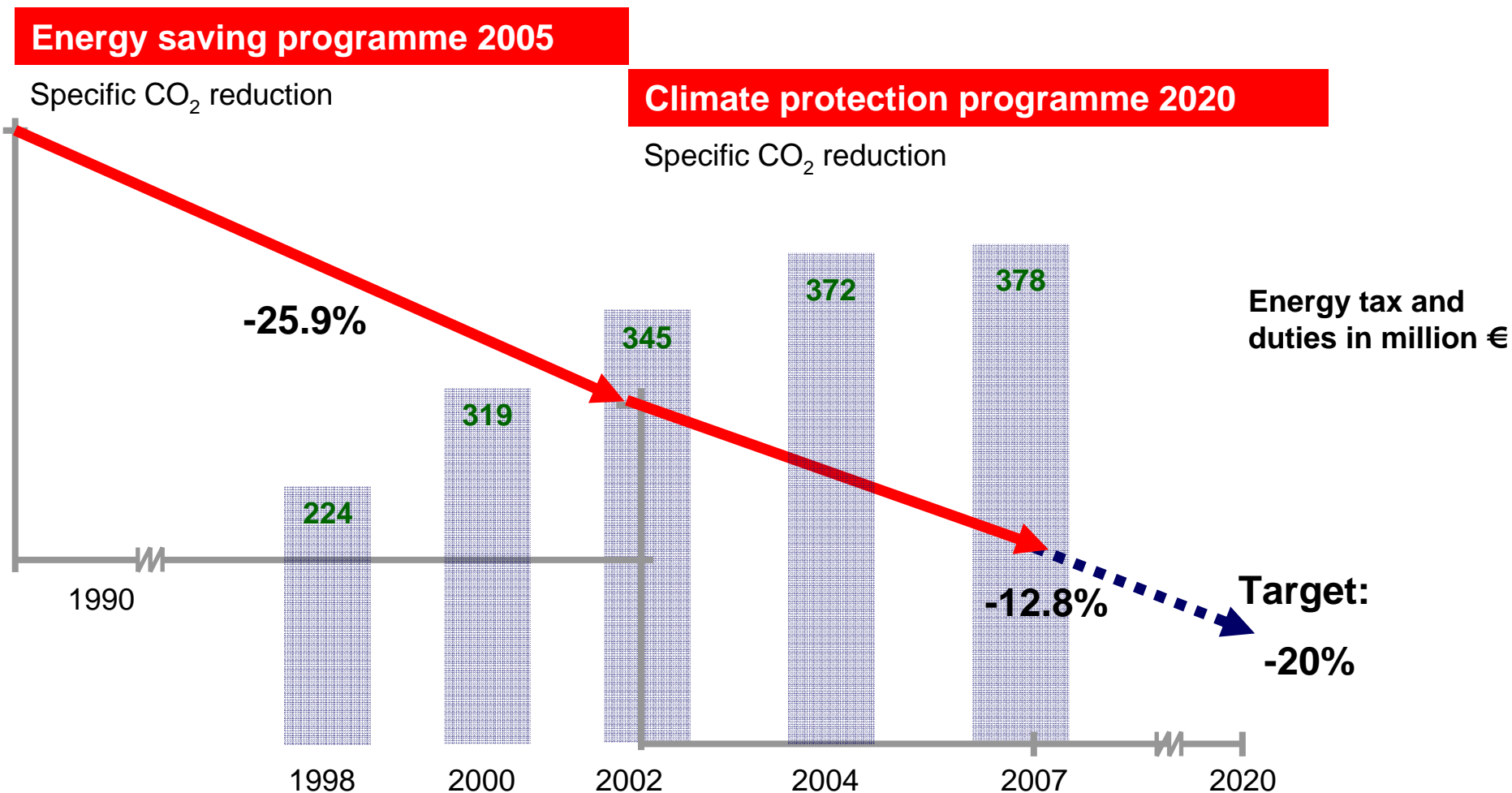


## ...use a reliable and scientifically proofed method

- Scientific consultant: Institute for Energy and Environmental Research (ifeu), Heidelberg
- IT-development: RMCon/IVE, Hanover
- Check of methodology and data: European Environmental Agency (EEA)



# Unfortunately, good environmental performance does not necessarily pay off in economic benefits



## A level playing field has to be established for all modes of transport



- As rail is mostly dependent on electric energy, it is the only mode of transport affected by the European emission trading scheme
- In 2008, the total burden will increase significantly – triggered by new allocation regulations in the second phase of the emission trading scheme (auctioning)
- The one-sided inclusion of rail into the emission trading scheme causes negative effects in terms of CO<sub>2</sub>-emissions – as competitors are excluded of emission trading



## Summary

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- Rail is one of the most efficient modes of transport. Strengthening rail will contribute to sustainable organisation of the transport sector
- Public awareness is rising. The consequences of individual choices have to be transparent
- A level playing field for all modes of transport needs to be established. Eventually, environmental benefits should translate into economic benefits as well
- As a consequence, rail infrastructure has to be developed accordingly – in particular on the main corridors for freight transport

**Thank you very much for your attention!**



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