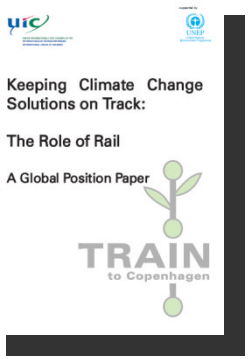
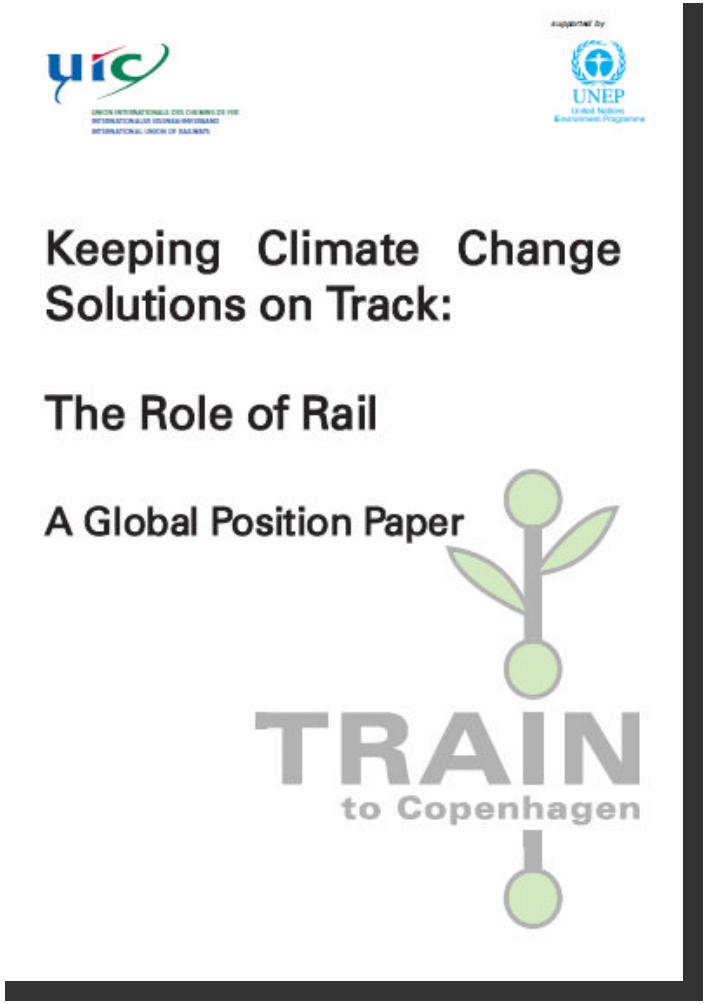
Keeping climate change solutions on track

Holger Dalkmann
Transport Research Laboratory, UK
16th June 2010



Copenhagen: The way to Copenhagen



www.traintocopenhagen.com

Copenhagen: The window of opportunity will not get bigger

Picture copyright Ko Sakamoto

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Saturday 19th
2009
Plenary 4 am


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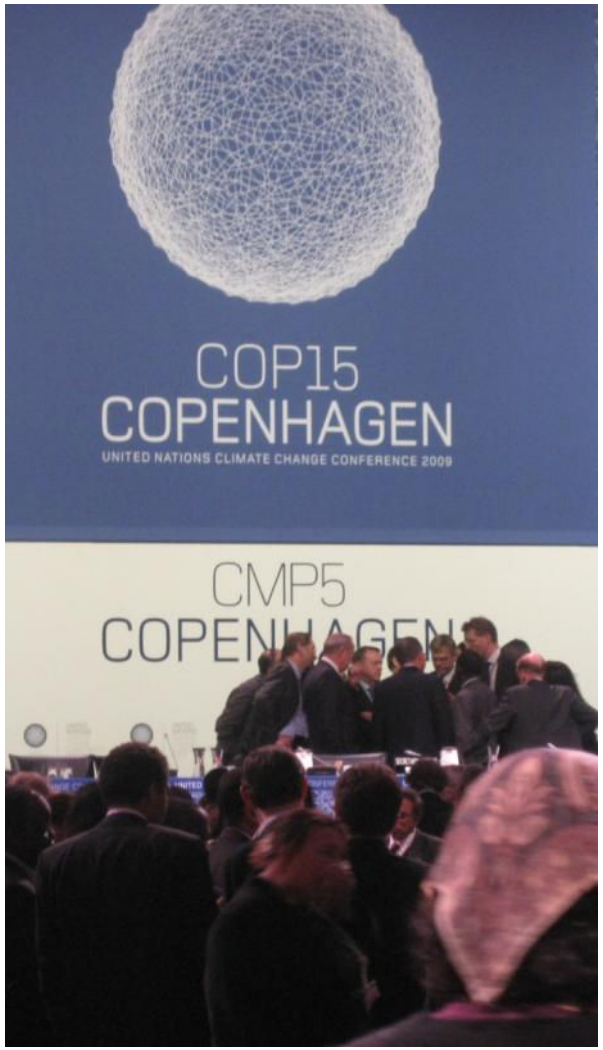
The Copenhagen Results

- No legally binding agreement
- No mention of targets (for anyone)
- "Taking note of" the Copenhagen Accord
- Extension of AWG LCA and AWG KP

- Next steps COP 16 (Cancun) and COP 17 (Johannesburg)
- Climate change will remain a key driver



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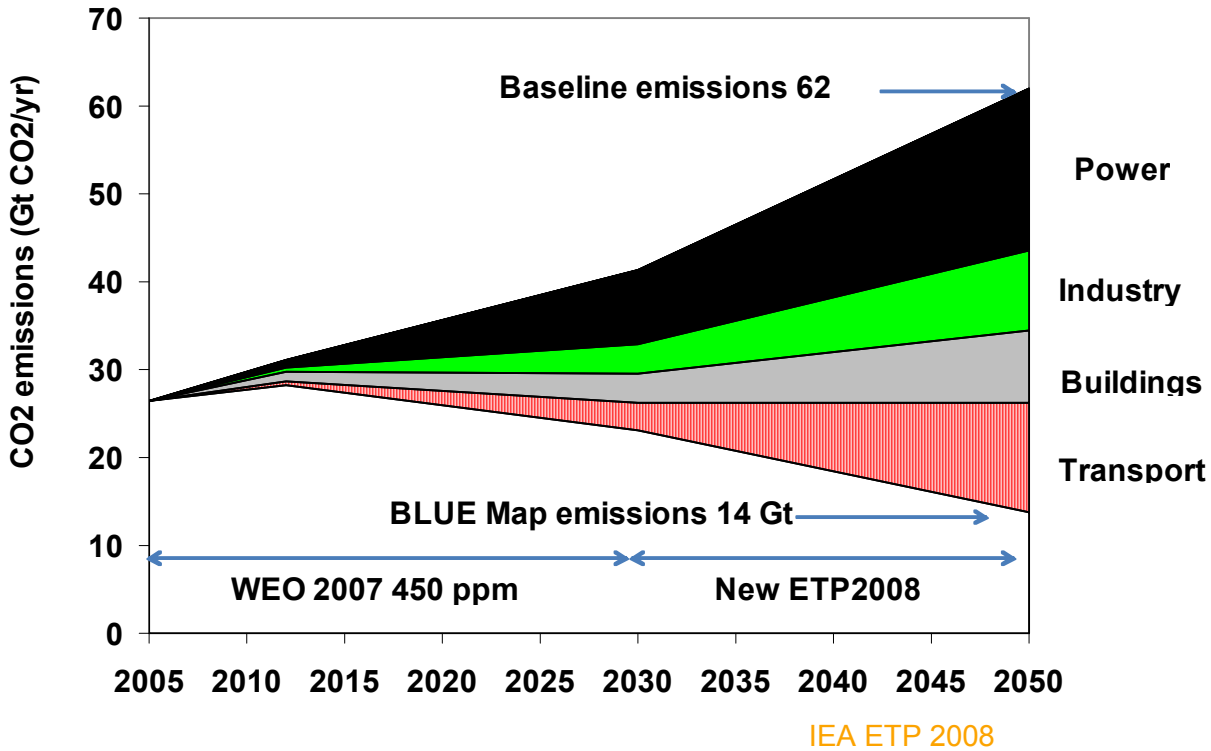
Scale and Impact: We need a global 50% CO_2 cut by 2050

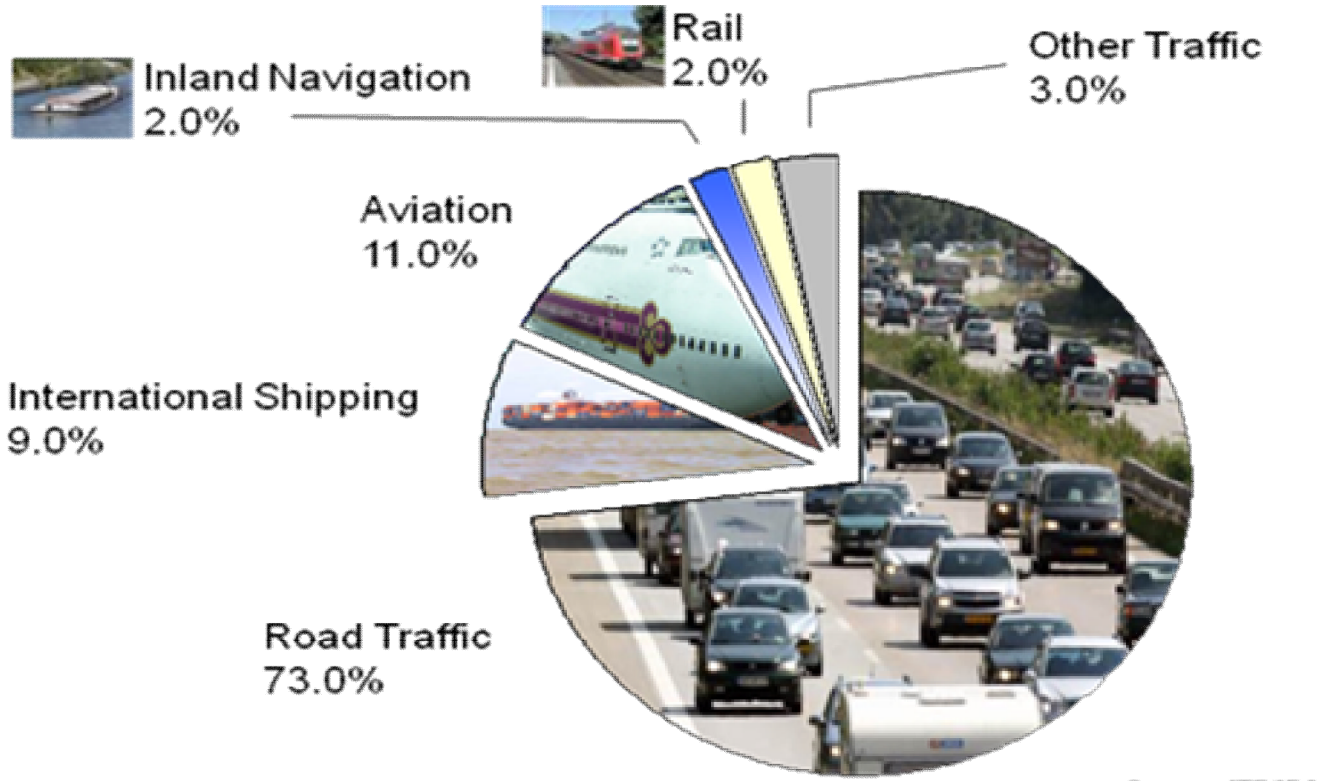


IEA ETP 2008

"Given the role that transport plays in causing greenhouse gas emissions, any serious action on climate change will zoom in on the transport sector"
Yvo de Boer, Executive Secretary UNFCCC, January 2009

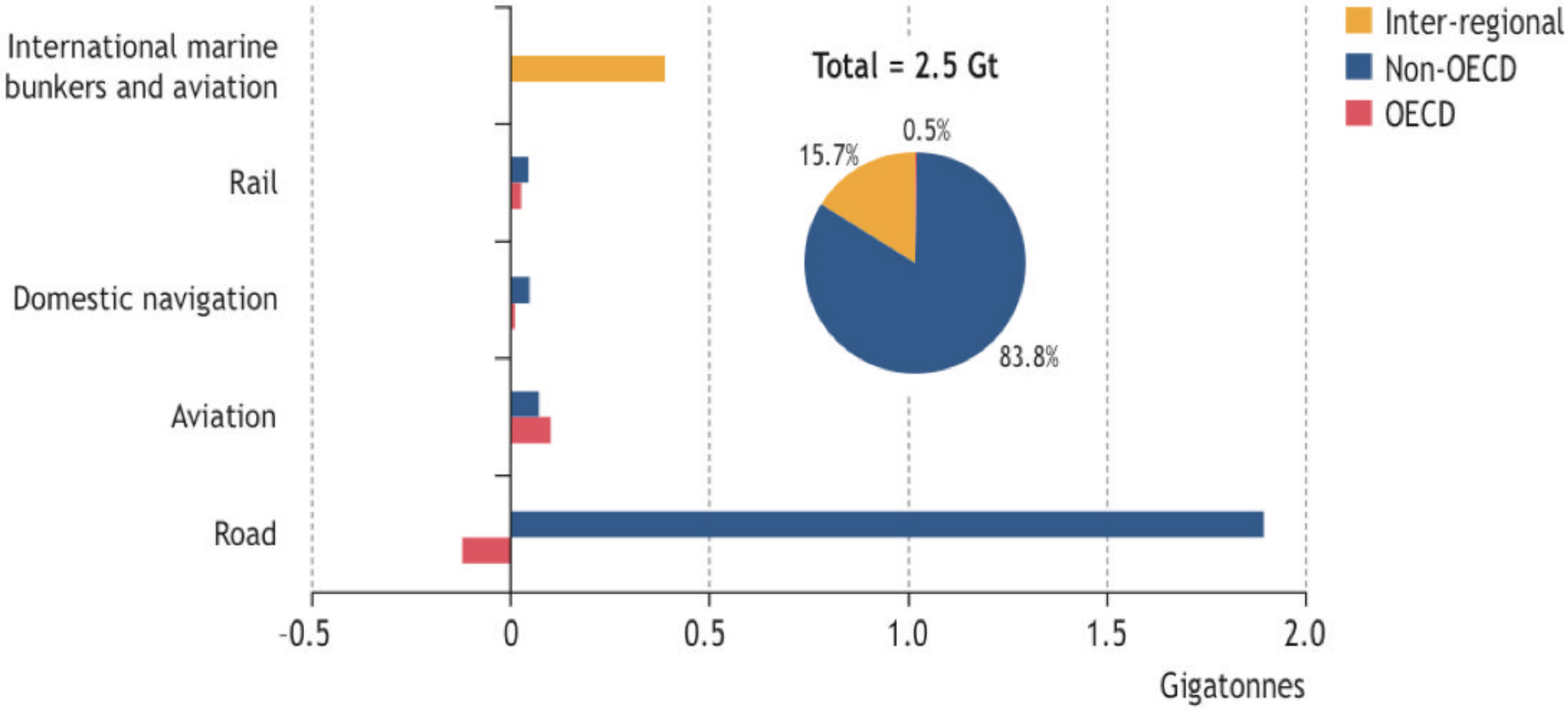
Transport CO_2 emissions

- Transport responsible for **20% of global energy demand**, of which 80% derived from fossil fuels
- Consequently, the sector is responsible for **23% of global CO_2 emissions** from fuel consumption
- **Rail is responsible for 2%** global transport CO_2 emissions



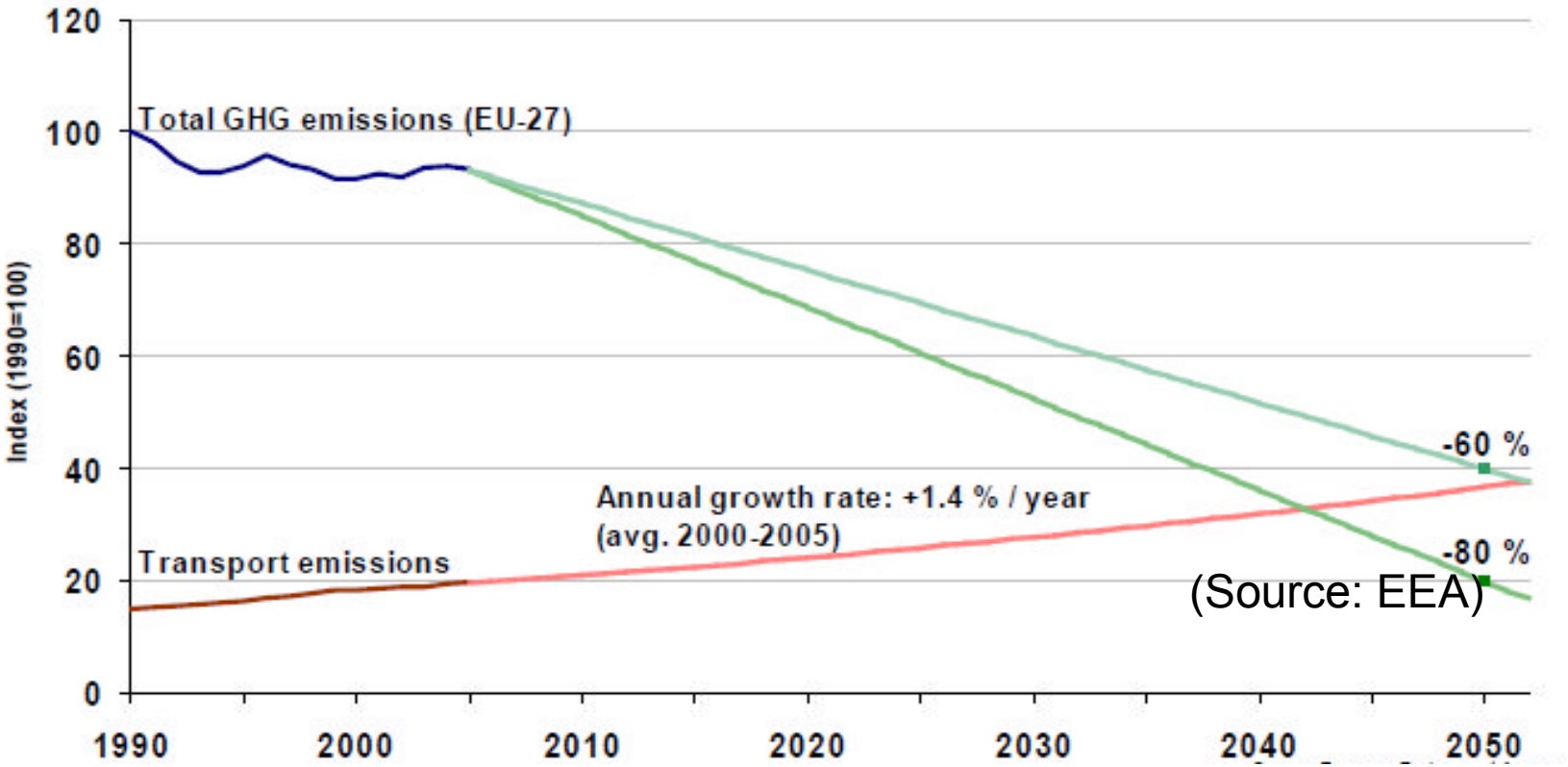
Source: ITF/IEA

Transport Sector CO_2 Emission by Mode and Region WEO Reference Scenario, Changes 2006-2030



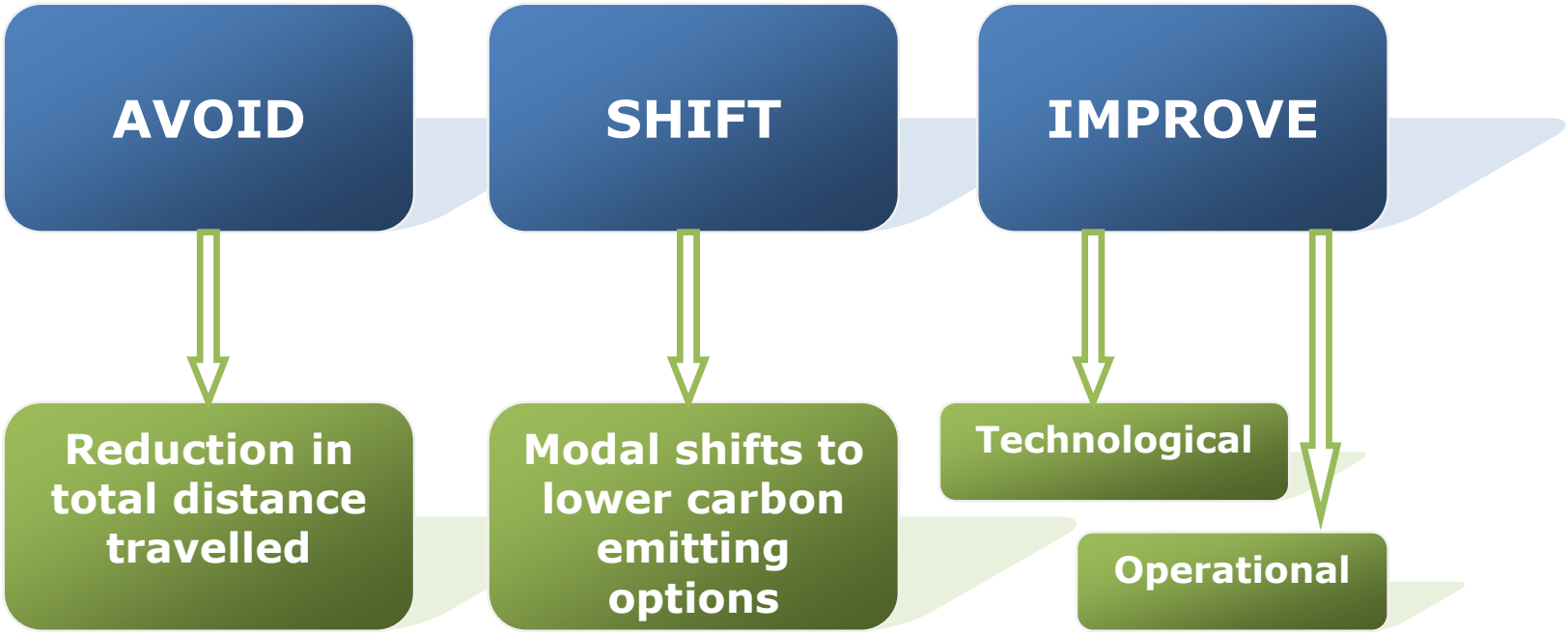
Source: IEA 2008

The emissions challenge in Europe



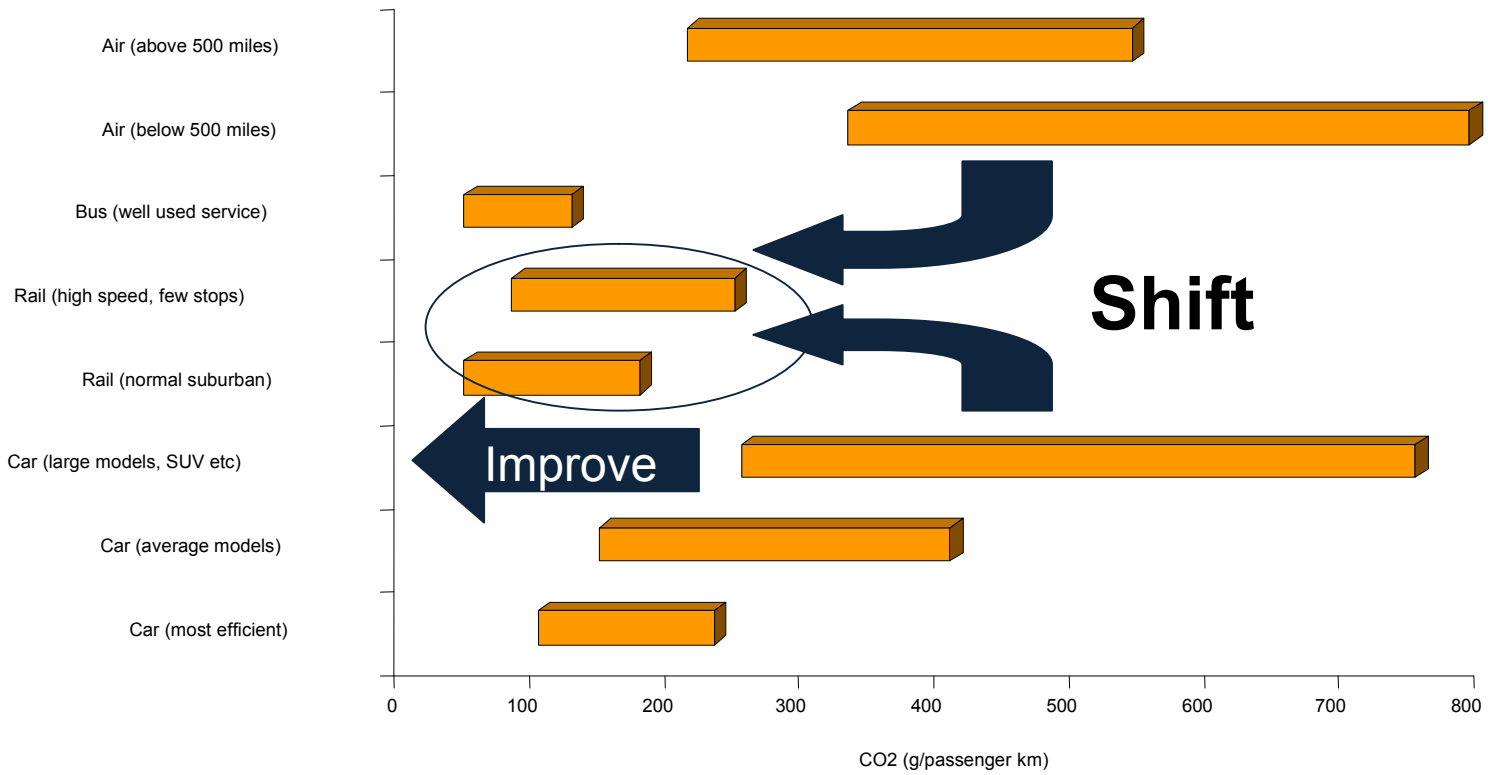
Transport energy-related CO_2 emissions are predicted to increase by 1.7% a year from 2004 to 2030 (IEA)

Strategies towards sustainable low carbon transport



Sustainable low carbon transport systems

- Fundamental role for rail as a low carbon mode of transport
- Shift transport demand from air and road to rail
- Improve energy efficiency of rail



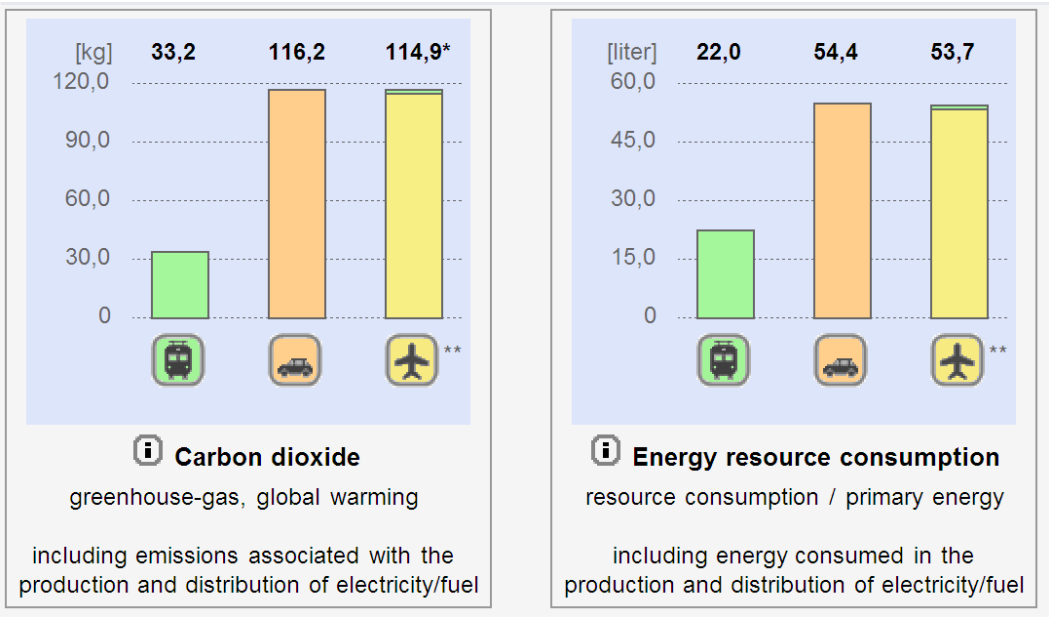
Increase modal share of rail

- Investments in technology and infrastructure
- Strong policy measures
- Behaviour change

Influencing modal choice

Clearly communicate the role of rail as a low carbon transport option

- Internet tools such as EcoPassenger and EcoTransIT



(EcoPassenger calculation for the Brussels to Copenhagen route)

Influencing modal choice

Urban transport demand – London case study

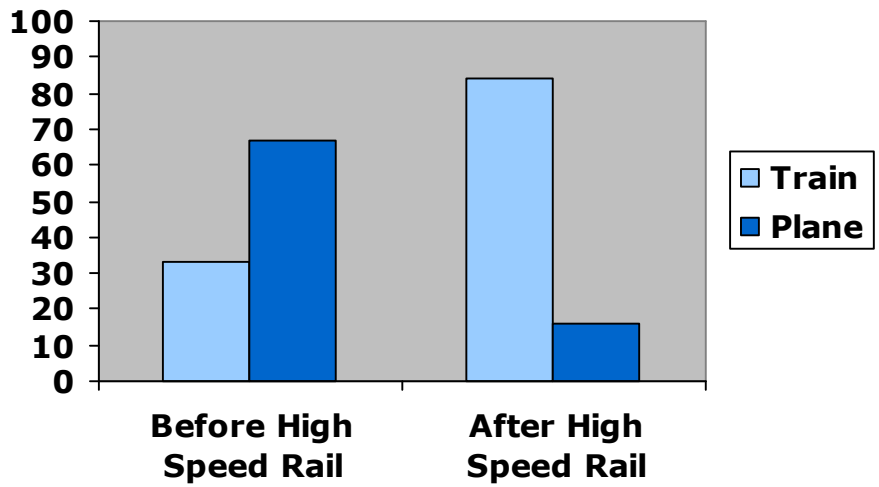
- upgrading and extension to Underground
- congestion charge and low emission zones on city road network

Impact on modal share
Cars 5% decrease
Underground & Docklands rail 7% increase

Influencing modal choice

High speed passenger services – Madrid to Seville case study

The new high speed line saw a move from air travel to rail market share of rail **increased from 33% to 84%**



Source: UNIFE

Influencing modal choice

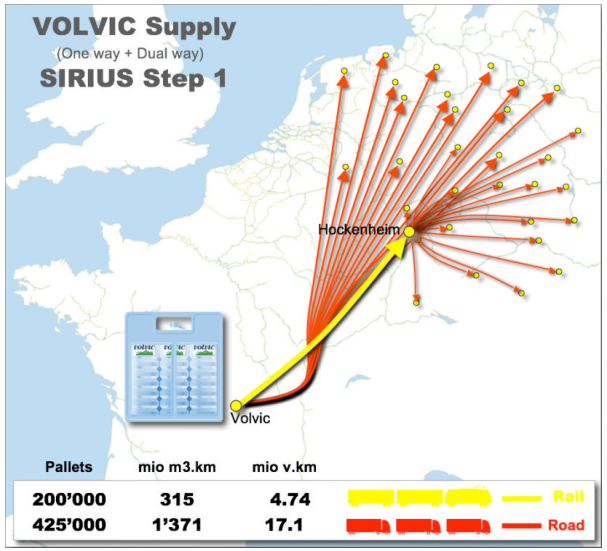
Freight movements – Danone case study

The project studied the removal of 10,000 trucks by replacing the road transport of 200,000 pallets for supply and 100,000 pallets for return, with rail between Volvic and Hockenheim

Using the Estia-VIA®1 method, estimated modal shift saved;

11,818 tons of CO_2 eq. per year

55,636,000 kWh of non renewable energy per year

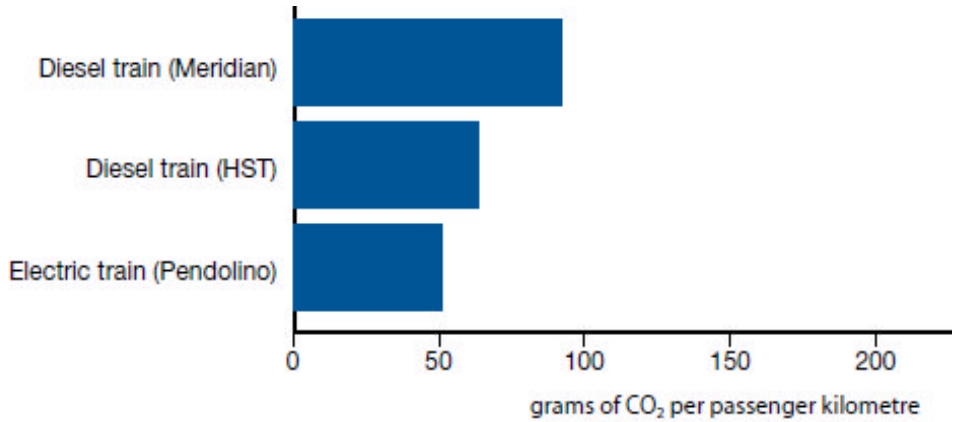


Increase energy efficiency

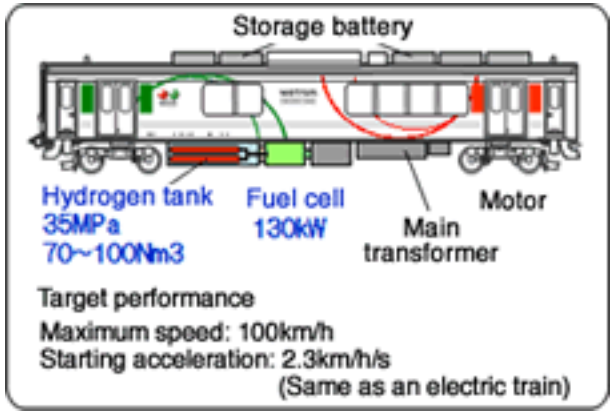
Technology – hybrid, hydrogen, regenerative braking, electrification

Operations – efficient driving, signalling, network management

Technology & Operations - High Speed Rail



Source: DfT (UK)



Source: JR East

Setting the right policy framework

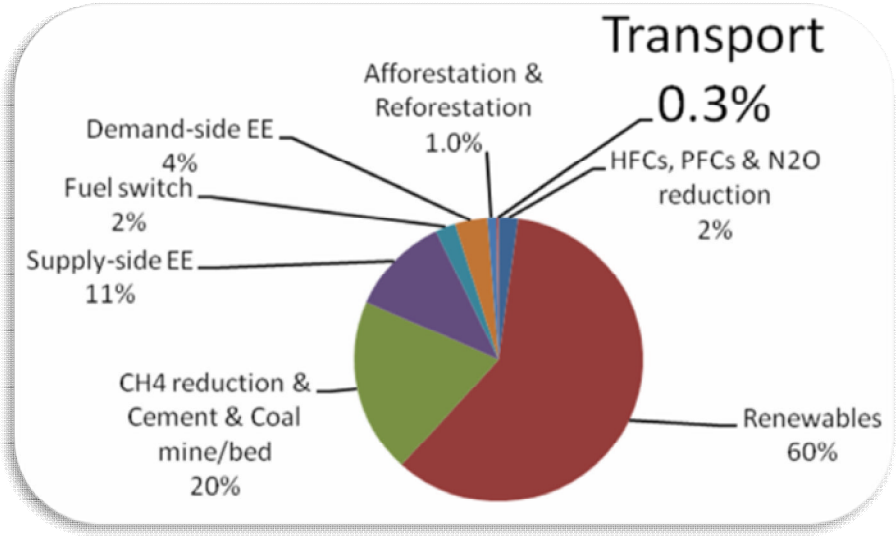
Integrate these elements into policy regulation (e.g. Transport White Paper for the EC 2010)

- internalisation of external costs
- increase energy efficiency (R&D)
- influence modal shift to rail (Taxes, price

International agreements – Climate negotiations did not work for rail so far…

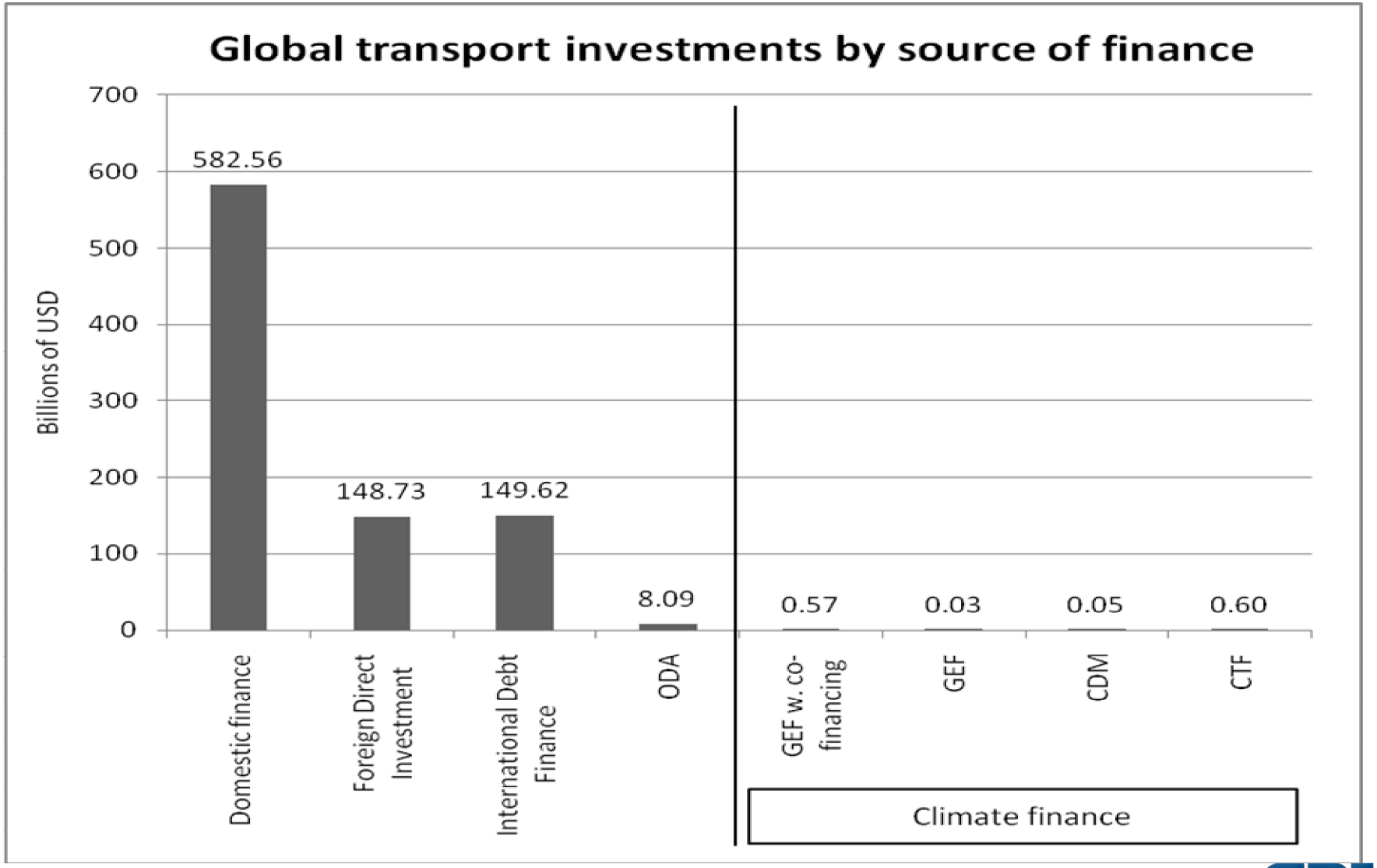
UNFCCC Kyoto protocol mechanisms have not supported transport development

- Only 2 transport projects out of 1834 registered CDM projects
- However, one of the projects is in rail – Delhi Metro



Source: DMRC

The millions, the billions and the trillions



The appetite for low carbon transport and rail is there

Developing country Party	Strategy approach	Infrastructure development/ enhancement						Land use planning	Awareness campaigns (TDM)	Vehicle or fuel technology;	Regulatory policy; measures	Energy; Efficiency;	Other unspecified
		Rail/ light rail	Non-motorised	Road	Other (or unspecified) public transport	Waterborne	Unspecified						
Republic of Armenia	Improve												✓
Benin	Shift				✓								
Botswana	Shift and improve			✓									✓
Central African Republic	Avoid, shift and improve							✓					✓
Cote d' Ivoire	Avoid and shift								✓	✓			
Costa Rica	Not specified												✓
Republic of Congo	Avoid and shift					✓		✓			✓		
Eritrea	Avoid, shift and improve												✓
Ethiopia	Shift	✓											
Gabon	Shift and improve				✓						✓		
Ghana	Shift and improve	✓	✓	✓	✓	✓				✓	✓		✓
Indonesia	Shift												✓
Jordan	Shift and improve	✓			✓		✓				✓		✓
Macedonia	Shift and improve	✓	✓	✓			✓			✓	✓		✓
Madagascar	Shift and improve	✓											✓
Marshall Islands	Shift and improve						✓				✓		✓
Mauritania	Shift				✓								
Mexico	Shift and improve	✓	✓	✓							✓		
Mongolia	Improve												✓
Morocco	Avoid, shift and improve	✓		✓				✓			✓		
Papua New Guinea	Not specified												✓
San Marino	Unclear								✓				✓
Sierra Leone	Shift and improve			✓	✓						✓		✓
Singapore	Shift and improve			✓			✓		✓		✓		✓
Togo	Shift and improve				✓					✓			

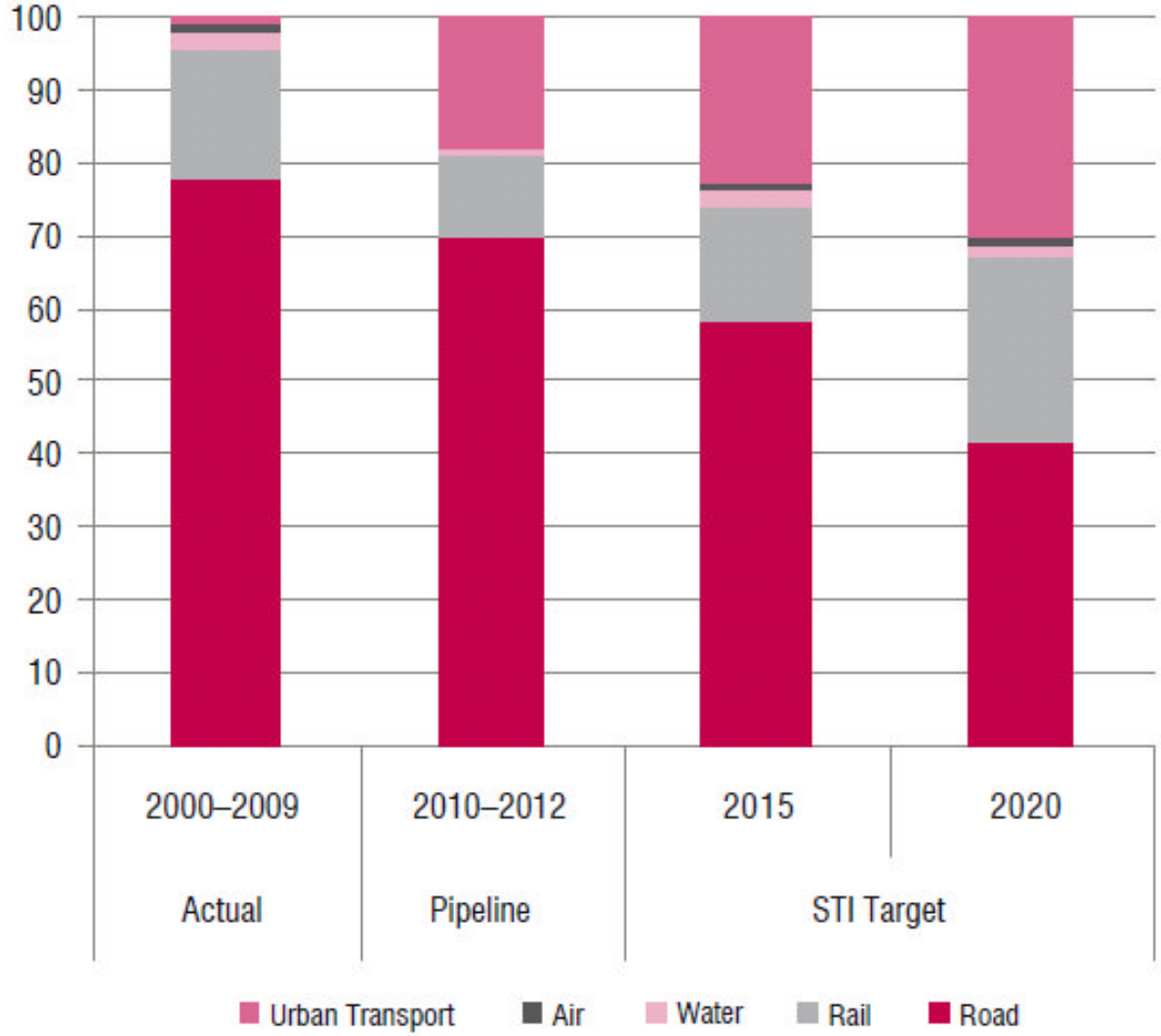
- Based on analysis of NAMA submissions to Copenhagen Accord by May 2010

>25 out of 36 submissions mention transport

- **7 specific inclusion of rail;**
  - Ethiopia, Jordan, Macedonia, Madagascar, Mexico, Morocco and Ghana

See: http://www.transport2012.org/bridging/ressources/files/1/586,NAMA-submissions_080210_final.pdf
http://www.transport2012.org/bridging/ressources/files/1/720,NAMA-submissions_additional-submissi.pdf

ADB – good examples for a paradigm shift



Subsector Shares of ADB Transport Lending – Actual, Pipeline and Target (%). Source: ADB, 2010

2010 and beyond

International mechanisms

- Promote railways in Climate Negotiations and dialogue with multilaterals and governments as a low carbon sustainable options and enable large potential in developing countries

- Make use out of existing new carbon funding: CIF, CTF

- Make climate negotiations work for rail: e.g. Nationally Appropriate Mitigation Actions (NAMAs) as an option for rail under a new agreement

- EU Make kick-start finance work for rail

- EU Revenue out of Aviation ETS

- Shift of investment from multilaterals (e.g. Sustainable Transport Initiative from ADB)

'Bridging the Gap' Initiative and **Partnership on Sustainable Low Carbon Transport (SLoCaT)** are engaged in communicating the role of land transport in climate change solutions

www.transport2012.org

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