Overview of Global Transport Sector

- Transportation consumes:
  - 25% of world energy
  - 67% of world petroleum use

- Transportation’s fuel consumption has **doubled** since 1970
  - Economic growth - increase in mobility demand (km traveled)
  - Population growth - increase volume of travels

- Road transport is responsible for **74%** of this consumption – rapid motorization
Transport energy-use by modes

Source: IEA, 2009
Climate Change: Road transport contributes 17% global CO2 emissions, a third of future emissions.

- CO₂ from transport to grow by **120% by 2050** (with respect to 2000 levels)
What will the future energy system look like?

- Future demand and growth – developing countries
- Strong policy, technology, infrastructure investment needed to reduce impacts from future growth
- More cost-effective to act now instead of corrective actions

The transition is uncertain

1920-1930’s

Development of oil, gas and large-scale hydro, introduction of nuclear

Coal economy

2000

New renewables such as wind, solar, biomass

2050

Low

High

Primary, Energy, EJ

OECD countries
Non-OECD countries

Source: WBCSD
Global Growth of Light Duty Vehicles

- Global vehicle fleet to triple, with an increase in greenhouse gas contribution
- Almost all growth in developing and transition countries

Source: WBCSD, 2003
Performance by sectors

How much does it consume?
MegaJoule per passenger for 1 km of traveling

- Bicycle
- High Speed Train
- Walk
- Bus
- Compact car (solo driver)
- Hybrid car (solo driver)
- Plane
- Cruise ship
- SUV (solo driver)

Sources: Oak Ridge National Laboratory, 2006; www.brinmac.co.uk; Volkswagen, Toyota, Chrysler car technical specifications; Airbus plane technical tables; Cunard technical table for Queen Mary 2 cruise ship; Institut National de Recherche sur les Transports et leur Sécurité; National Renewable Energy Laboratory, 2000.

GHG Emissions by means of transport
(Grams of CO₂ equivalents per passenger and per kilometre)

- SUV (solo driver)
- Sedan
- Airplane
- Hybrid car
- Compact car
- Transit bus (3/4 full)
- Rail (50 occupants per car)
- Walking - Bike

Note: Walking and bike emission due to respiration and physiological processes. Source: Sightline Institute, 2009.
Transport in the UN System

UNDP – MDGs
UNEP – environmental impacts
UNHABITAT – human settlement
UN Regional Economic Commissions
Development Banks – ADB, Worldbank

**Intergovernmental processes**: WSSD, Agenda 21, CSD, MDGs

**Focus**: remove barriers for a wider uptake of sustainable transport approaches

**Range of interventions**: setting standards, institutional capacity building, advice on technical policy, technology transfer, infrastructure investments

**Challenge**: develop a comprehensive, global approach in a low carbon scenario that combines different programmes and initiatives, while addressing issues such as:

- access to transport
- congestion
- climate change and energy
- air pollution, noise and resources
A combination of interventions:

‘AVOID’ – reduce the need for transport while still serving to facilitate overall mobility of people, goods and information through better transport planning, design and innovative schemes.

‘SHIFT’ – reduce specific energy consumption (per passenger / unit goods transported) by promoting a shift from high polluting modes to less polluting modes (e.g. private vehicles to public and non-motorized transport).

‘CLEAN’ – improving energy efficiency, promoting clean and alternative fuels.
Potential role of the rail sector

- **Avoid** : inter-modality: air / rail connectivity for passenger transport

- **Shift** : road to rail substitution for freight transport

- **Clean** : improving energy efficiency, reducing emissions from non-renewable fuel sources, and use of alternative fuels

- **Others** : service efficiency, operating capacity, comfort, etc
Mode shifting – potentials in the rail sector
Climate change mitigation, resource efficiency and sustainable consumption and production:

- **focus**: technology, policy and redirect investment towards sustainable transport infrastructure

- **areas of work**: clean fuels and vehicles, public transport and non-motorized transport

- **Approaches**:
  - capacity building, awareness raising, campaigns, demonstration projects
  - extend strategic partnerships with like-minded organizations to promote the environment – transport agenda *e.g. 'Train to Copenhagen', support the establishment of a dedicated transport funding mechanism, sustainability reporting.....*
• the role of sustainable transport in low carbon economies:

*communicate a global plan for a green industrial revolution to be supported by strong and convincing evidence of income generated, decent jobs created, and poverty reduced through investing in a new generation of assets including clean technology, green cities & sustainable transport infrastructure*
UNEP Transport Unit

- Clean fuels and vehicles
- Energy efficiency through fuel economy improvement
- Promote investment in non-motorized transport
- Promote efficient public transport systems in developing countries

http://www.unep.org/transport/