Global transport outlook to 2050
Costs of the transport sector under low carbon scenarios

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Consultation on Sustainable Transport in the post-2015 Development Agenda
New-York, 26th of September
Content

- IEA mobility model (MoMo)
- ETP 2012 analysis
  - CO$_2$ mitigation potential
  - Costing out the scenarios
- Infrastructure insights
  - Road and rail infrastructure requirements to 2050
  - Investment needs for a low carbon future
- Conclusions
IEA Mobility Model (MoMo)

- Global transport energy use, emissions and materials
- 29 regions
- Significant data on technologies and fuel pathways
- Robust historic data, including
  - Historic stock, sales and fuel economies for 33 individual countries (expansion to 68 countries in progress) for road transport modes
- Cost of the transport system by adding up vehicles, fuels and infrastructure
ETP 2012

Scenarios to 2050

- 6°C (6DS): business-as-usual
- 4°C (4DS): expected ‘normal’ policies
- 2°C (2DS): pathways to a clean energy system
ETP 2012 2DS scenario for transport

An ‘avoid, shift and improve’ approach is the most cost effective to reach 2DS objectives
Mitigation strategies cost comparison

Global transport expenditure estimates to 2050

- Rail
- Roadway and parking
- Other fuels
- Oil
- Other vehicles
- Passenger LDVs
Focus on infrastructure

- IEA partnerships:
  - UIC (rail)
  - IRF (roads)
  - UITP (public transport)
  - WRI EMBARQ (BRT)

- Structured analysis
  - Historic relationship: travel to infrastructure ratio
  - Investments as a portion of GDP
  - Global analysis and regional limitations (e.g. congestion)

- Infrastructure insights (2013)

  www.iea.org/publications/freepublications/publication/name,34742,en.html
**Historic trends**

Global road additions continue to grow at a rapid pace, while rail capacity has remained stagnant in most regions.

**Road**

**Rail**

Sources: IEA analysis based on IRF (2012) and UIC (2012)
Historic trends

~2% of global GDP spent on road and rail infrastructure

Sources: IEA analysis based on ITF and ADB member country data
Looking forward: insights to 2050

Potential cumulative savings: USD 20 trillion (2010 – 2050)

Road

Rail

[Graph showing projected million paved lane-km and thousand track-km for various regions and years from 2000 to 2050.]
Role of investments to achieve 2DS
Conclusions

- Building a sustainable transport system is cheaper than a conventional one
- Financial flows shift from operating costs (fuels) to investment costs (infrastructure for mass transit, efficient vehicles)
- The role of governments and MDB are key to support this long term vision through targetted transport system investments
- Developing countries are primary targets, as the transport system is still to be built
Thanks!

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