

Global transport outlook to 2050

Costs of the transport sector under low carbon scenarios

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Content



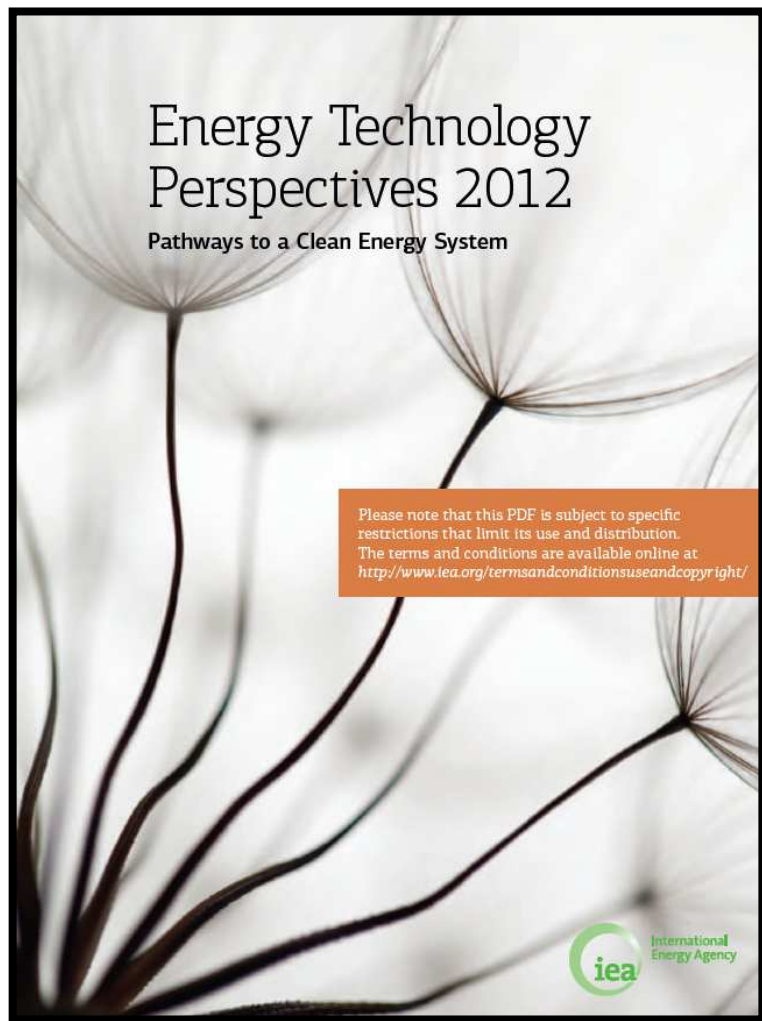
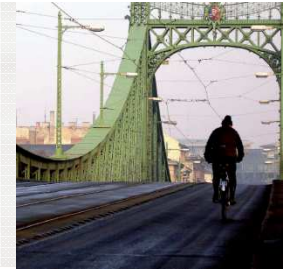
- IEA mobility model (MoMo)
- ETP 2012 analysis
 - CO₂ mitigation potential
 - Costing out the scenarios
- Infrastructure insights
 - Road and rail infrastructure requirements to 2050
 - Investment needs for a low carbon future
- Conclusions

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

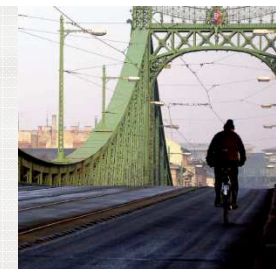
ETP 2012



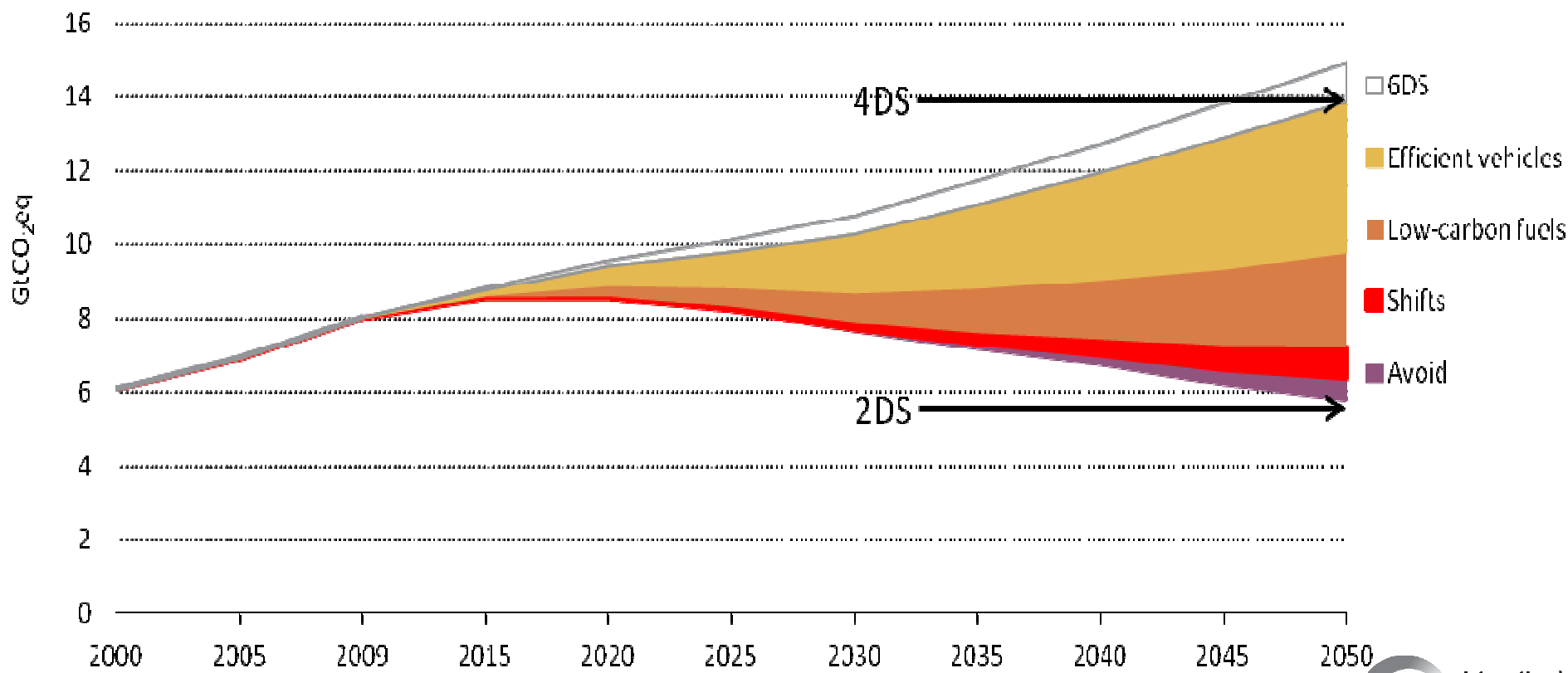
Scenarios to 2050

- 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



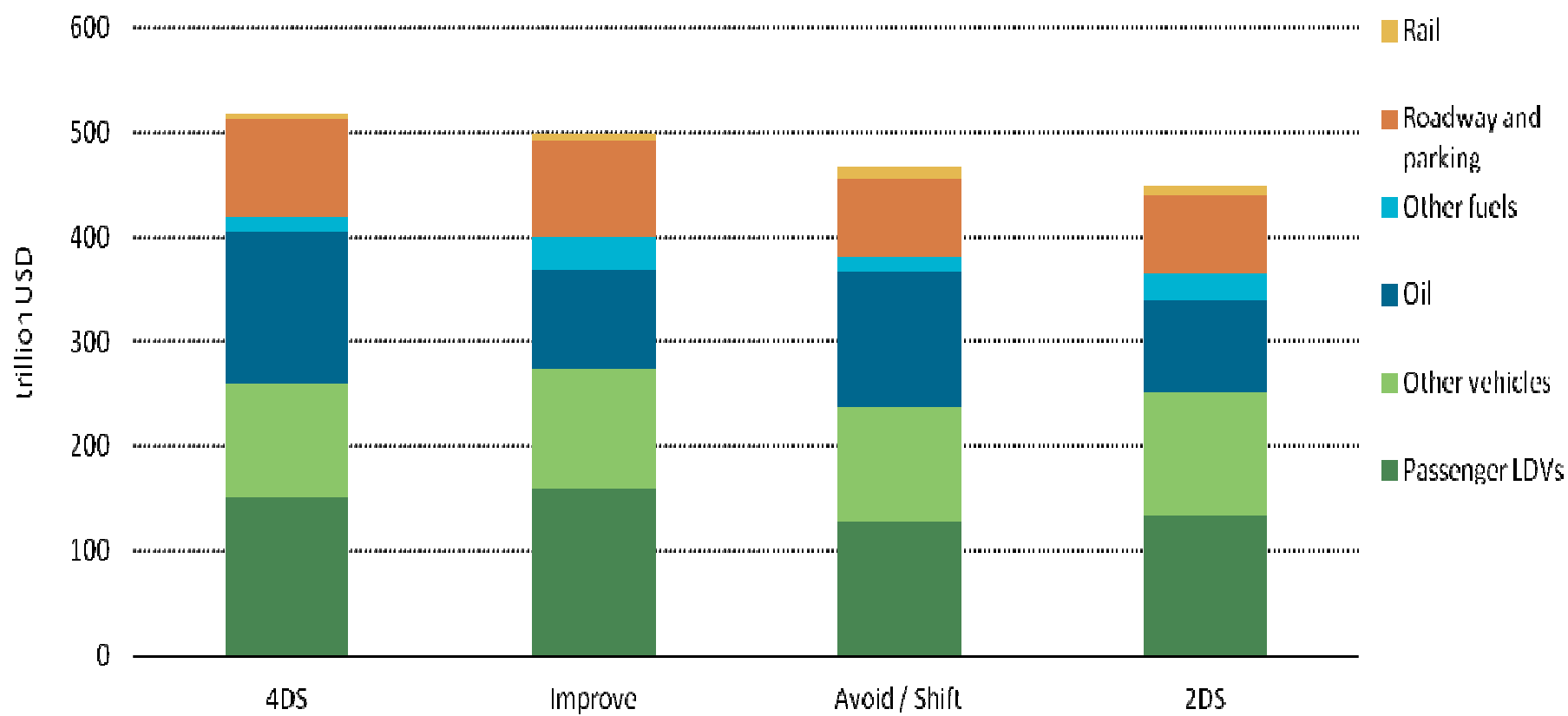
An 'avoid, shift and improve' approach is the most cost effective to reach 2DS objectives



Mitigation strategies cost comparison



Global transport expenditure estimates to 2050



Focus on infrastructure



■ IEA partnerships:

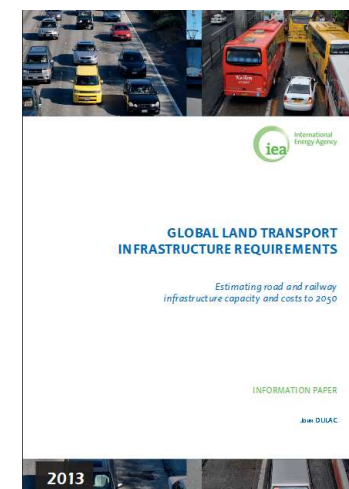
- UIC (rail)
- IRF (roads)
- UITP (public transport)
- WRI EMBARQ (BRT)

■ 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

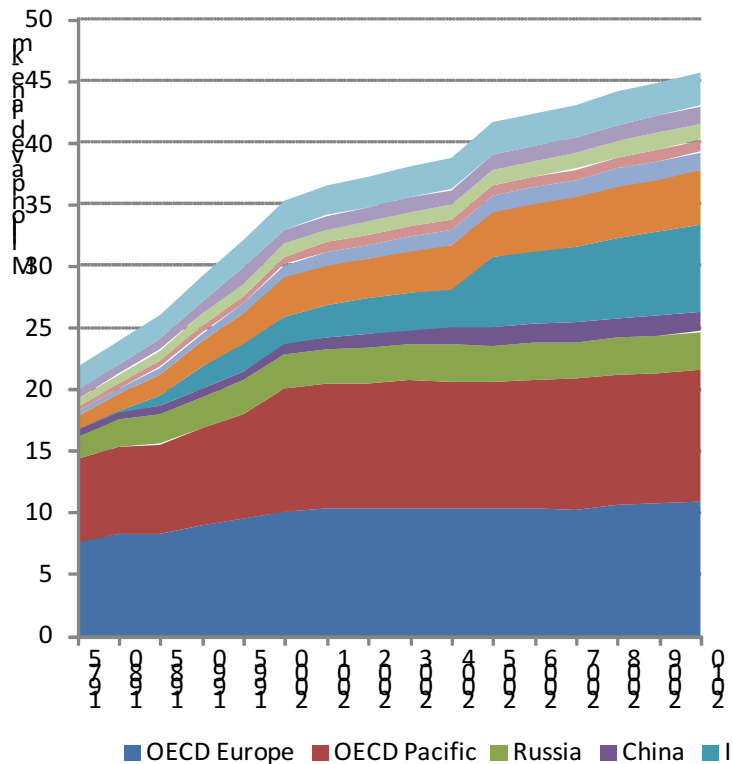


Historic trends

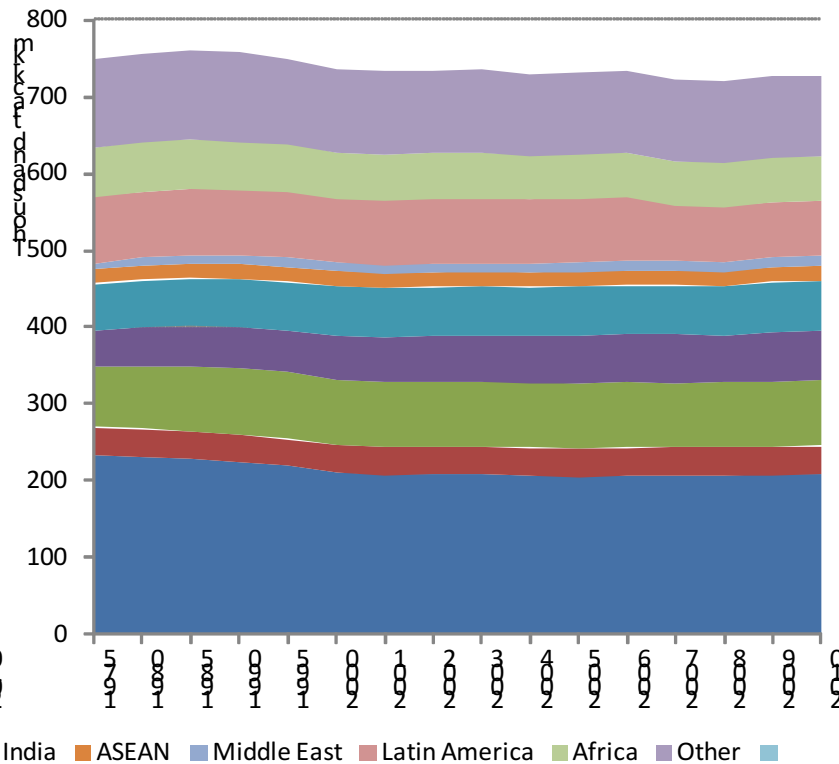


Global road additions continue to grow at a rapid pace, while rail capacity has remained stagnant in most regions.

Road



Rail

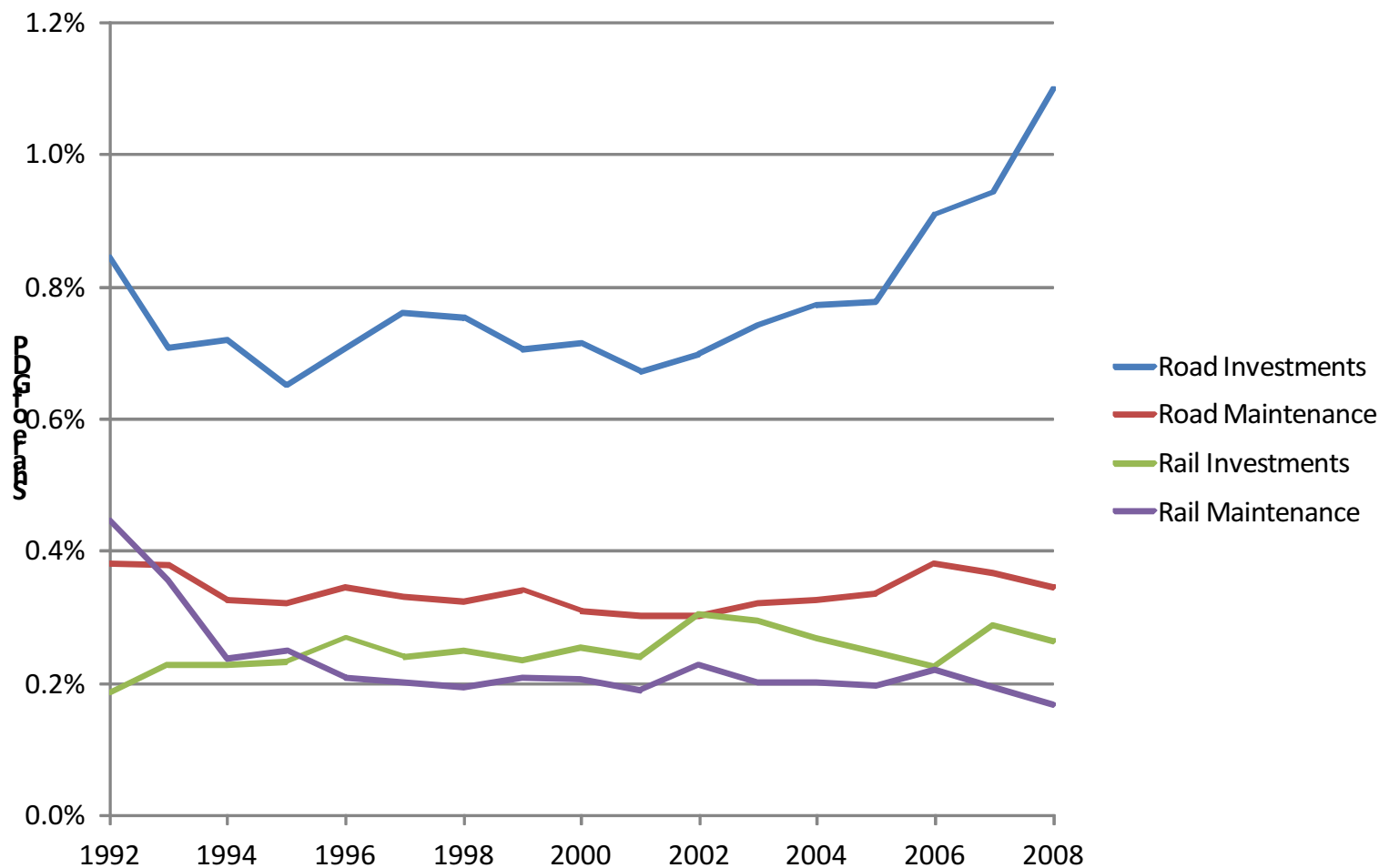


Sources: IEA analysis based on IRF (2012) and UIC (2012)

Historic trends



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



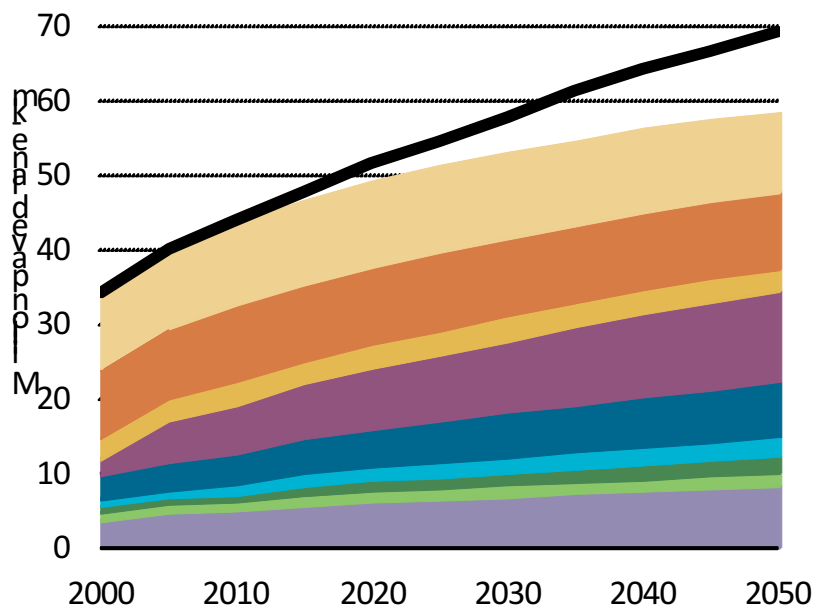
Sources: IEA analysis based on ITF and ADB member country data

Looking forward: insights to 2050

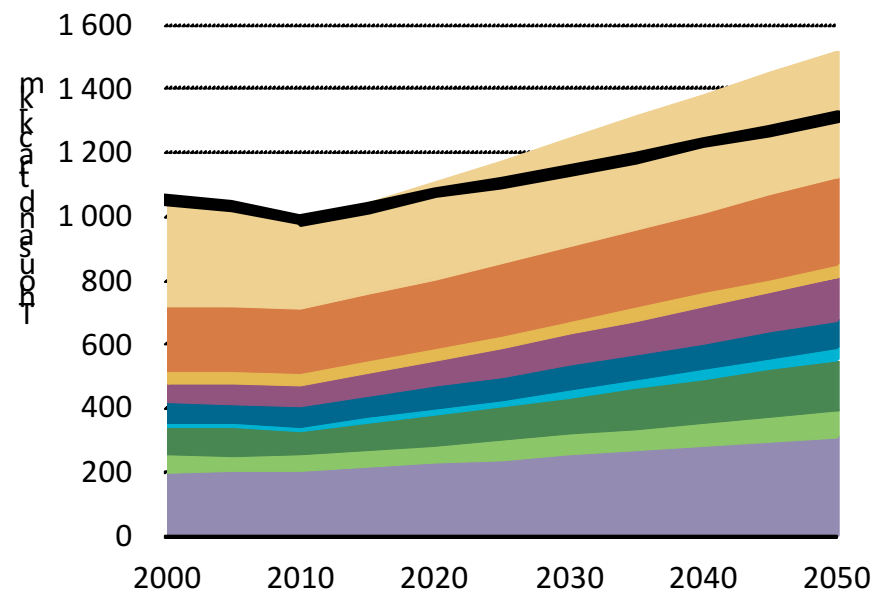


Potential cumulative savings: USD 20 trillion (2010 – 2050)

Road



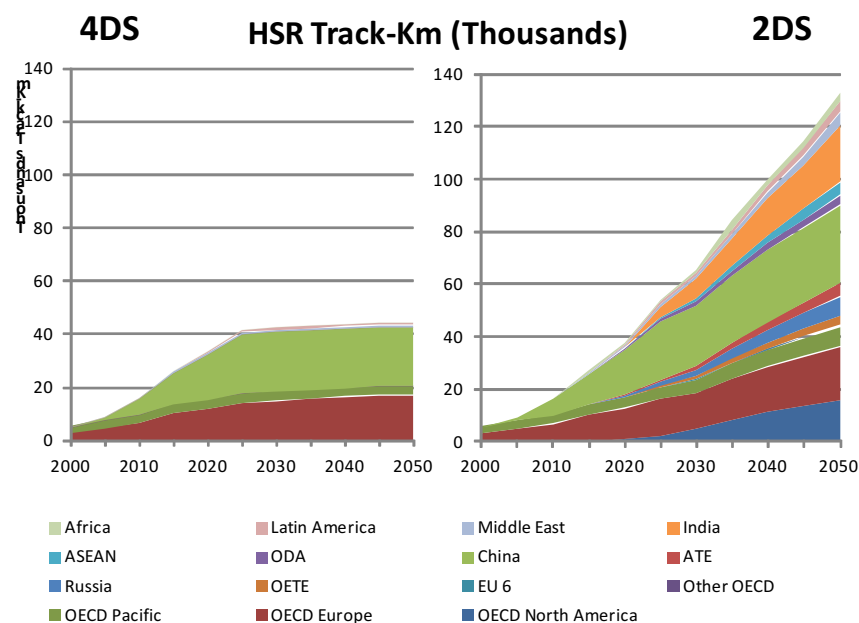
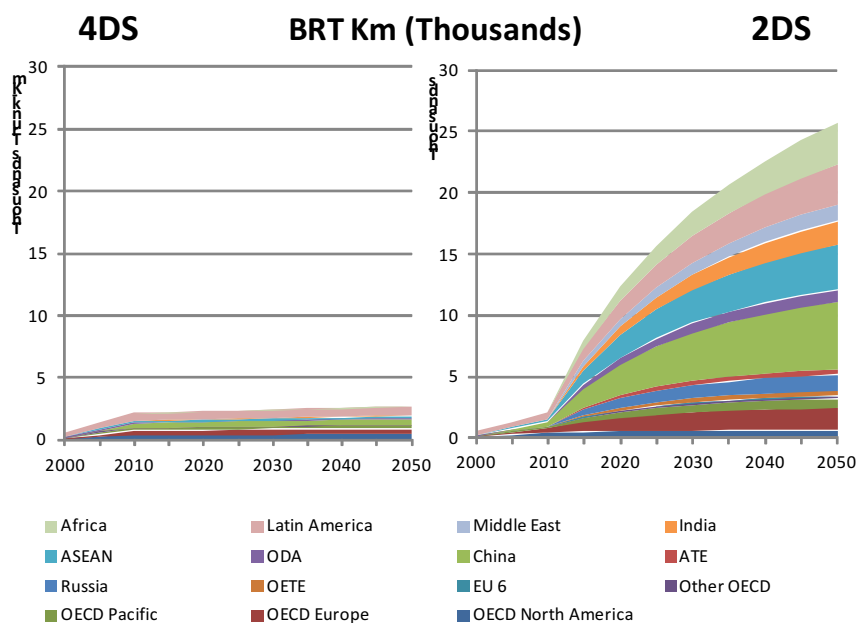
Rail



Other Africa Latin America
 China OECD Pacific OECD Europe

ASEAN India
 OECD North America 4DS

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

A close-up photograph of several dandelion seed heads against a bright, slightly blurred background. The seed heads are in various stages of being blown away, with some showing the delicate, feathery structure of the seeds. The lighting is soft and natural, highlighting the intricate details of the plant.

Thanks!

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