ITF Transport Outlook 2019

Freight

International Transport Forum

OECD

Strategic tool

- ITF's "flagship" publication – part of OECD Outlook series
- In-house models covering all modes of transport, freight and passenger – globally, nationally, cities
- Long-term development of global transport volumes and related CO_2 emissions, health impacts, SDGs
- Allows us to analyse how world could change if we choose different policies and development paths

Projecting under uncertainty

- How socio-economic changes affect transport demand
  - Population, GDP, trade, transport policies
- Relies on our understanding on how these affected transport in the past
- Uncertainty is an inherent element of future transport scenarios
  - Slowing economic growth, changing demographics, travel behaviour, technology and innovation

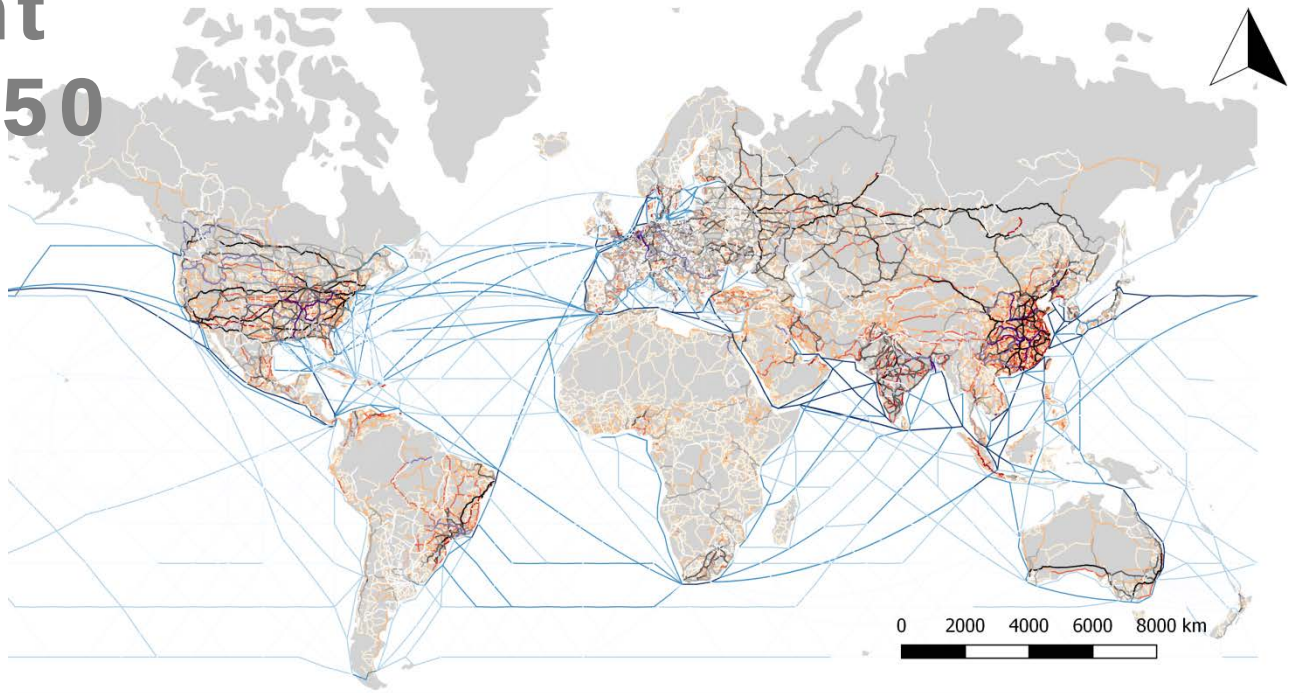
Global freight transport 2050

All national and international freight activity

Maritime, Air, Road, Rail, Inland Waterways

Mode choice, Network assignment

Tonnes, tkm, vkm, CO_2



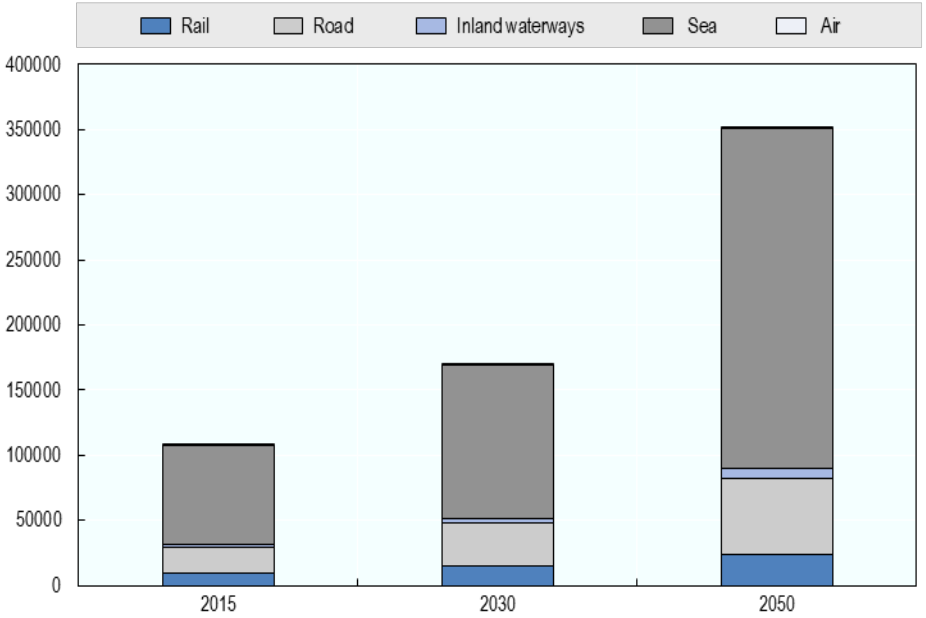
Freight growth subject to significant uncertainties

Tkm to triple by 2050

Maritime continues to dominate freight

Anticipating bottlenecks and planning investment difficult

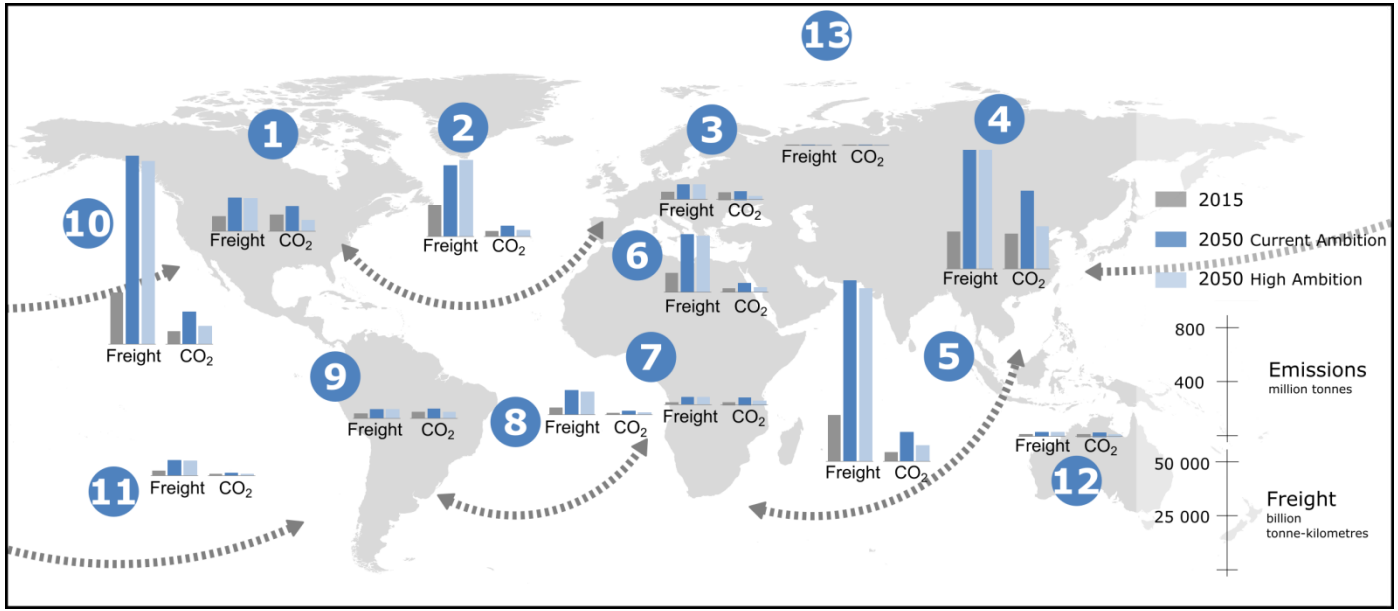
Current demand pathway, billion tonne-kilometres



Freight movements and emissions by 2050

Most growth in Asia and Africa

Indian and Pacific Oceans



Policy scenarios: current and high ambition

Trade of coal and oil	ENV-OECD	Coal demand decreases 50% and Oil 33% by 2035
Logistics efficiency	IEA NPS	IEA EV30@30
Efficiency and EVs	IEA NPS	IEA EV30@30

2019 Edition: Focus on disruptions

- Teleworking
- Shared mobility
- Autonomous driving
- Long-haul LCC
- Energy innovation
- Ultra HSR
- E-commerce
- 3D printing
- New trade routes
- Energy innovation
- High capacity vehicles

Disruptions for freight transport

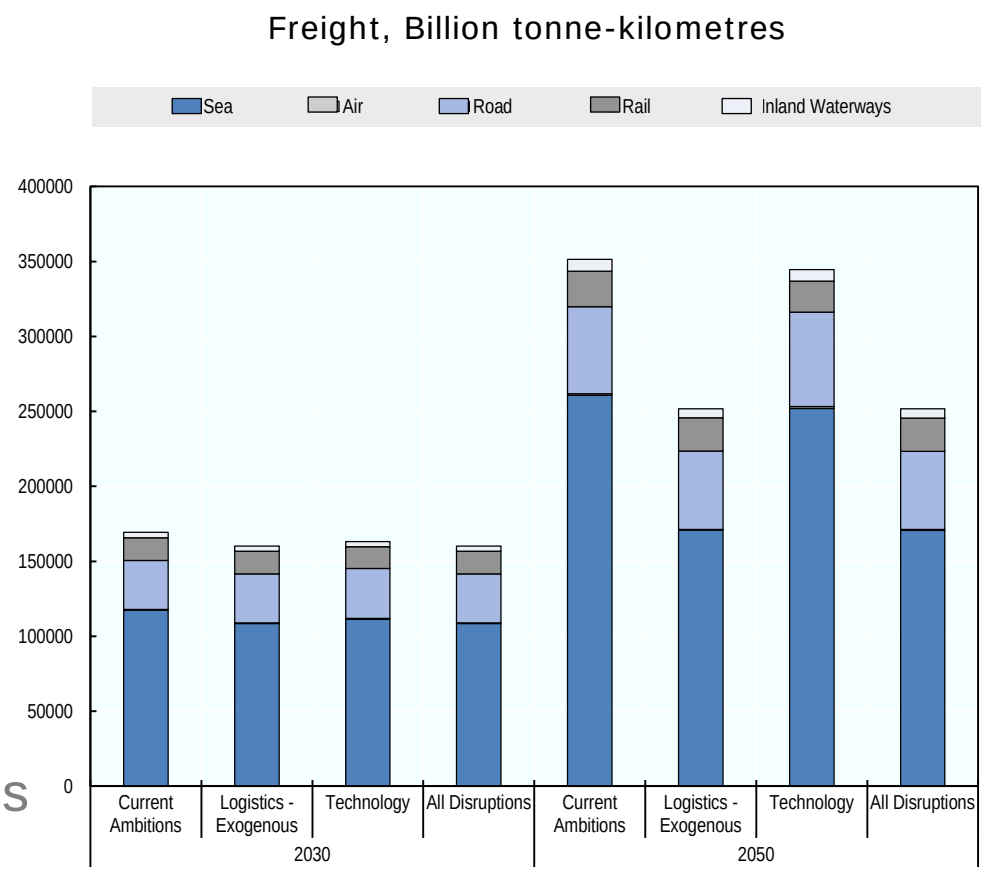
E-commerce	5%-25% increase
3D printing	Up to 38% reduction in trade value
New trade routes	Central Asia, Arctic routes
HDV energy transition	Up to 37% of activity in these systems
Autonomous trucks	Up to 90% uptake for inter-urban
High capacity vehicles	5%-20% uptake

Potential impact of disruptions the largest in Freight

Massive changes in costs, activities and supply chains

Changes trade patters, infrastructure use, logistics chains

Difficulty for investment decisions

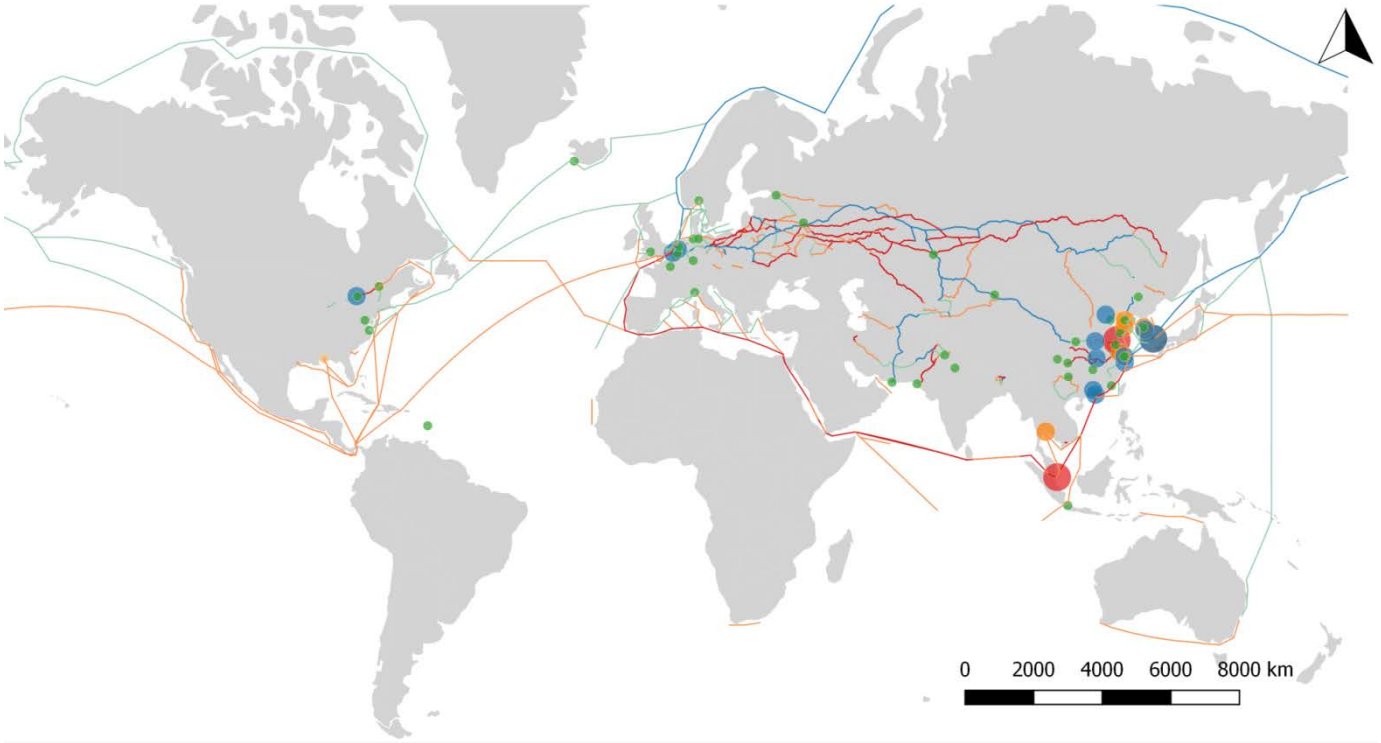


New routes: Impact on trade flows

Move from Indian and Mediterranean to Artic

19% and 21% drop in Indian and Mediterranean compared to current ambitions

Slight rail increase and consolidation in Eurasia

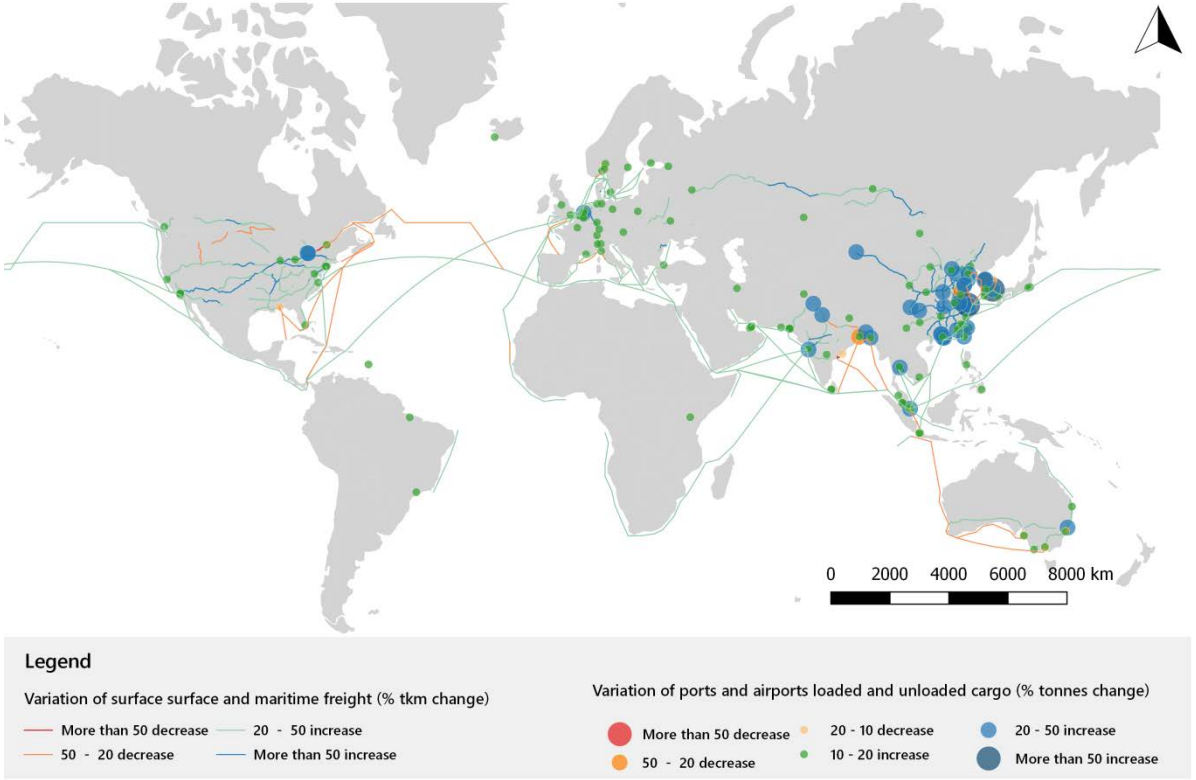


Impact of E-commerce 2050

Additional increase in activity volumes and emissions

Sharper increases for Air and Urban freight (11% and 6% compared to current ambitions)

Bigger increases in East Asia

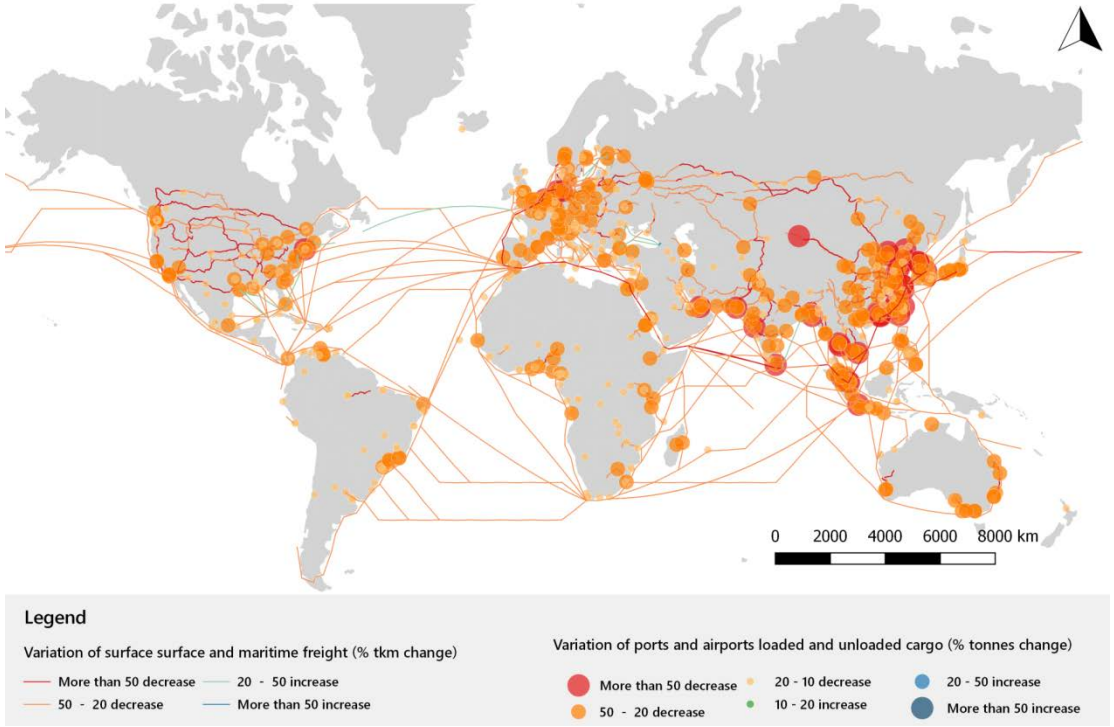


3D printing

Decrease in volumes lead to decrease in emissions compared to current ambitions

28% decrease in tkm compared to current ambitions

Sharper decreases for Air, Sea and in East Asia

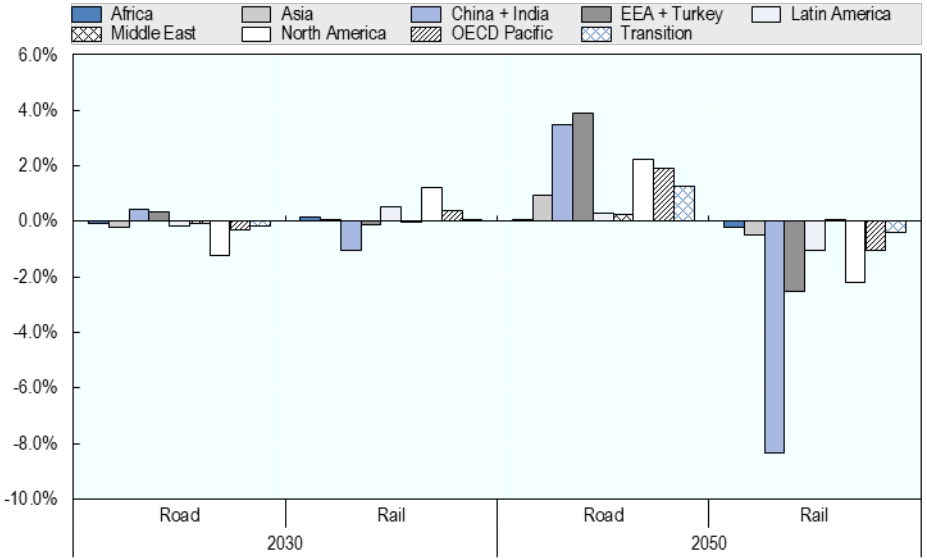


Energy Transition for long-distance Road

Decrease in emissions compared to current ambitions

Modal shift from rail and inland waterways towards road by 2050 (varies by region)

Road and rail freight transport volumes
Difference between energy transition and current ambition scenarios, percent

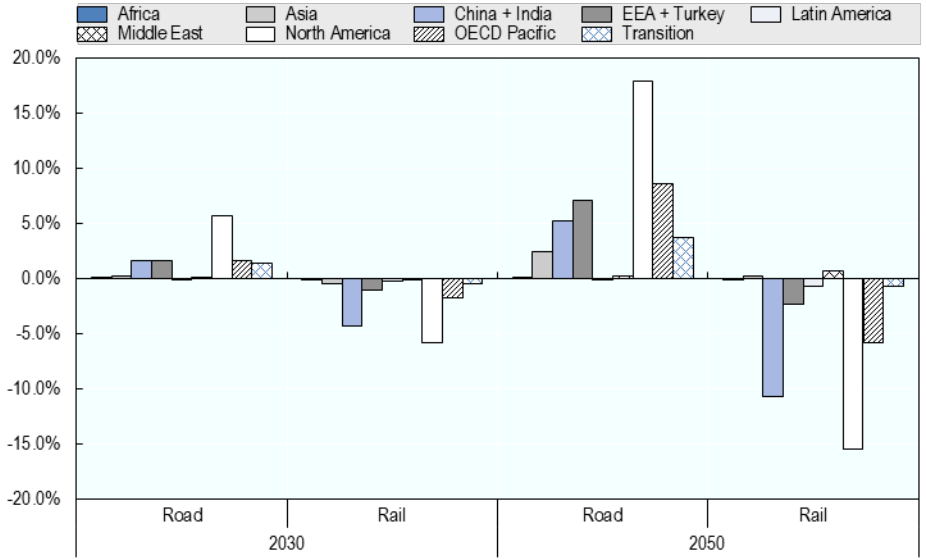


Autonomous Trucks

Minor decrease in emissions compared to current ambitions, strong decline in costs

Increase in emissions for some regions due to Modal shift from rail towards road

Road and rail freight transport volumes
Difference between energy transition and current ambition scenarios, percent

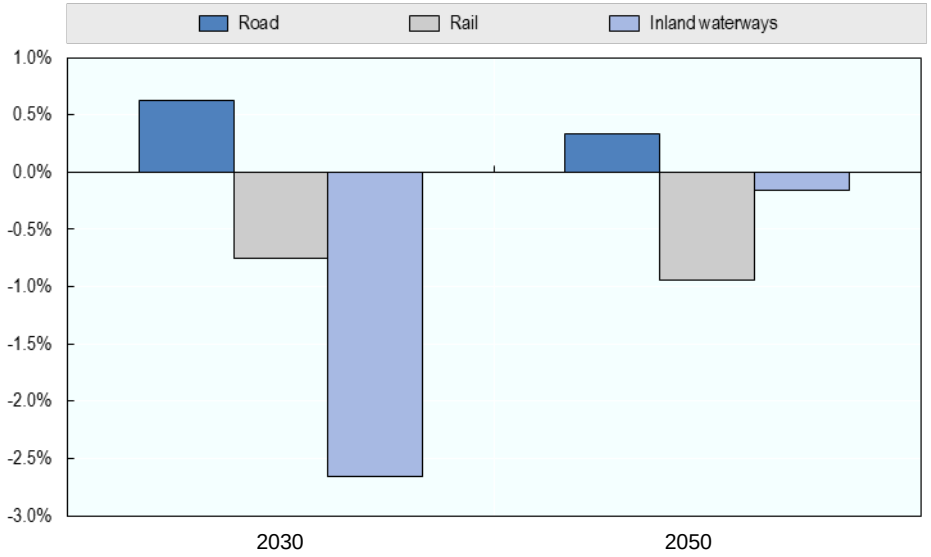


High Capacity Vehicles

Minor decrease in emissions compared to current ambitions (but more than Autonomous), decline in costs (less than Autonomous)

Some modal shift does occur from rail and inland waterways towards road

Surface freight transport volumes
Difference between HCVs and current ambition scenarios, percent



Thank You

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