Multi-year Expert Meeting on Transport, Trade Logistics and Trade Facilitation

Sustainable Freight Transport Systems: Opportunities for Developing Countries

14-16 October 2015

INTERNATIONAL TRADE AND FREIGHT BY 2050

by

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International Transport Forum (ITF)

14 October 2015

International Transport Forum

International trade and freight by 2050

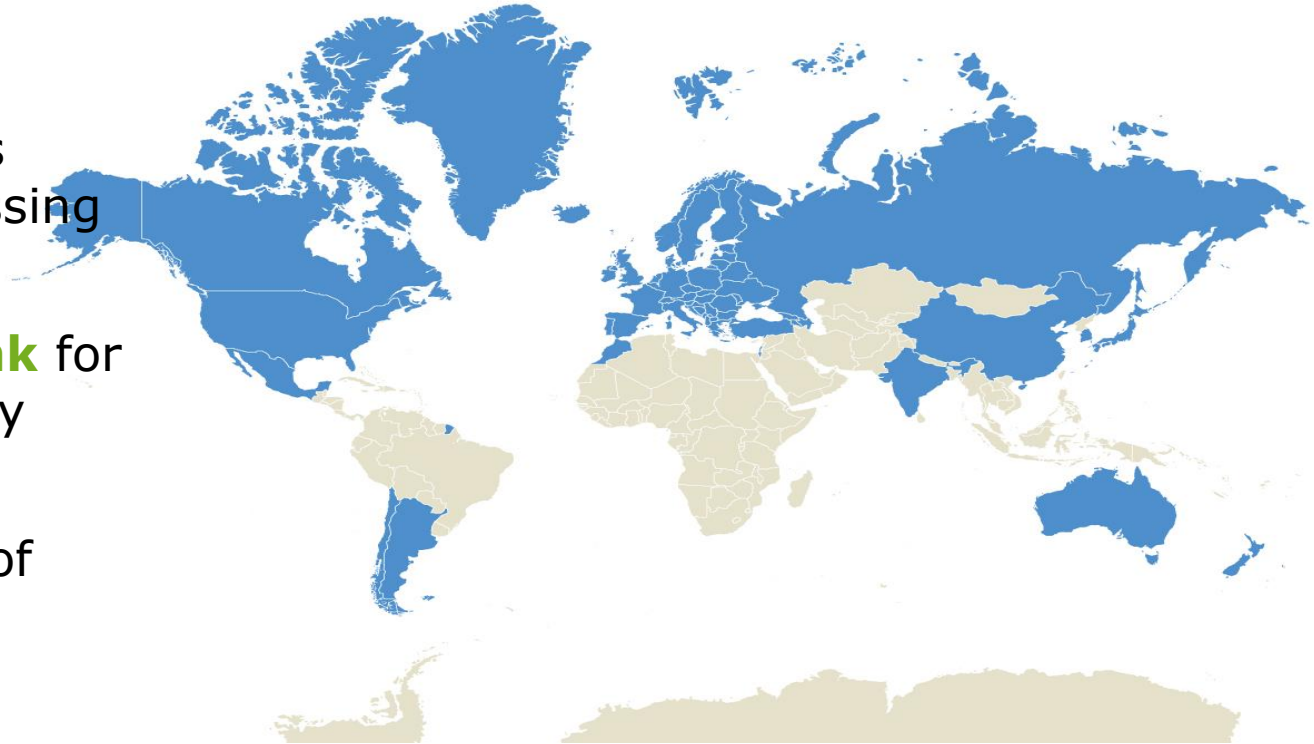
Jari Kauppila, Senior Economist

UNCTAD, 14-15 Oct 2015

OECD

Intergovernmental Organisation

- 57 member countries (23 non-OECD) focussing on transport
- A strategic **think tank** for global transport policy issues
- An **annual summit** of Ministers



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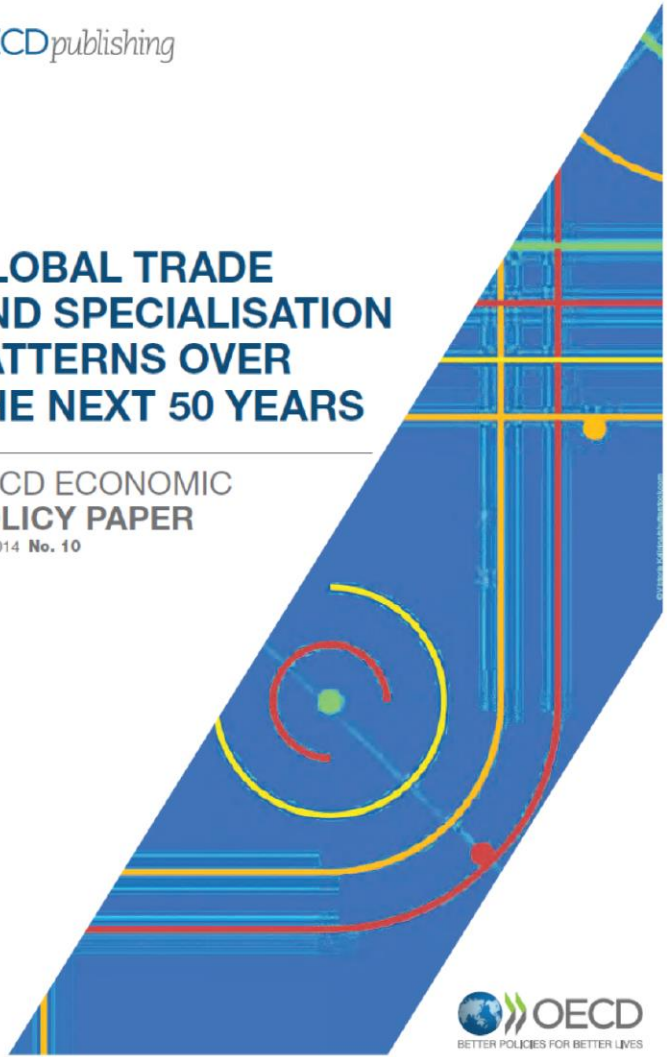
GLOBAL TRADE AND SPECIALISATION PATTERNS OVER THE NEXT 50 YEARS

OECD ECONOMIC **POLICY PAPER**

July 2014 **No. 10**



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BETTER POLICIES FOR BETTER LIVES

International Transport Forum

International Freight and Related CO_2 Emissions by 2050: A New Modelling Tool

21

Discussion Paper 2014 • 21

Martinez Luis, Kauppila Jari and Castaing Marie
International Transport Forum, Paris, France

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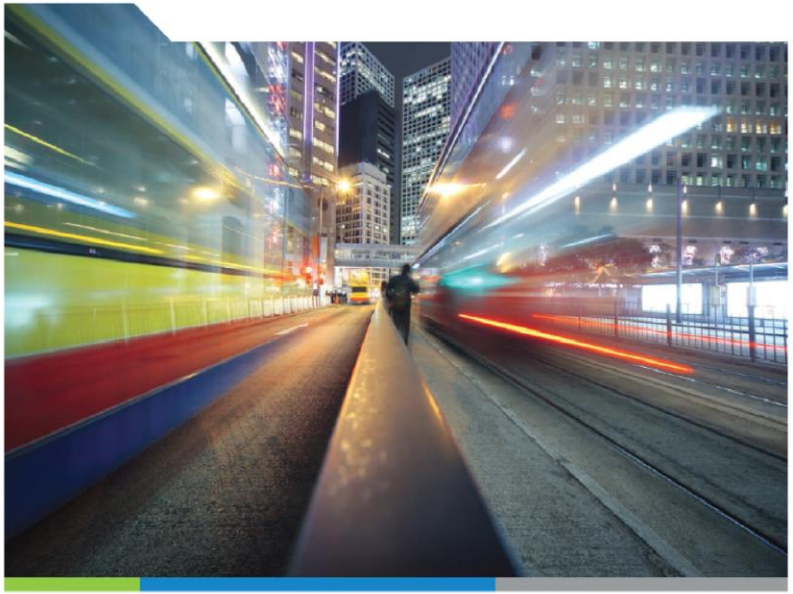
ITF Transport Outlook 2015



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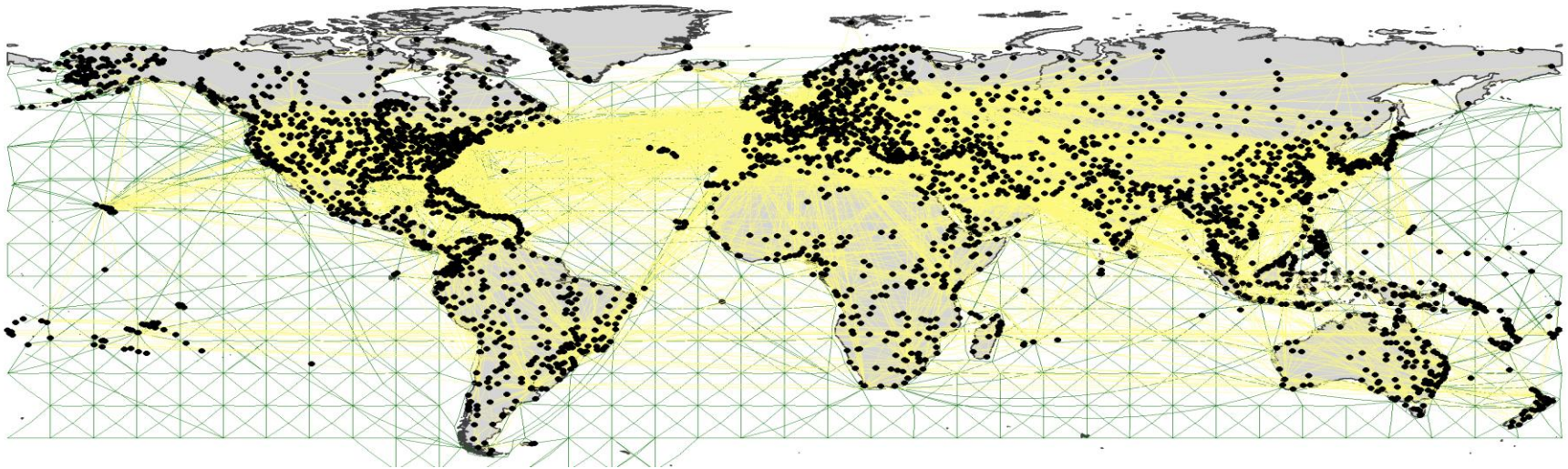
Underlying network model

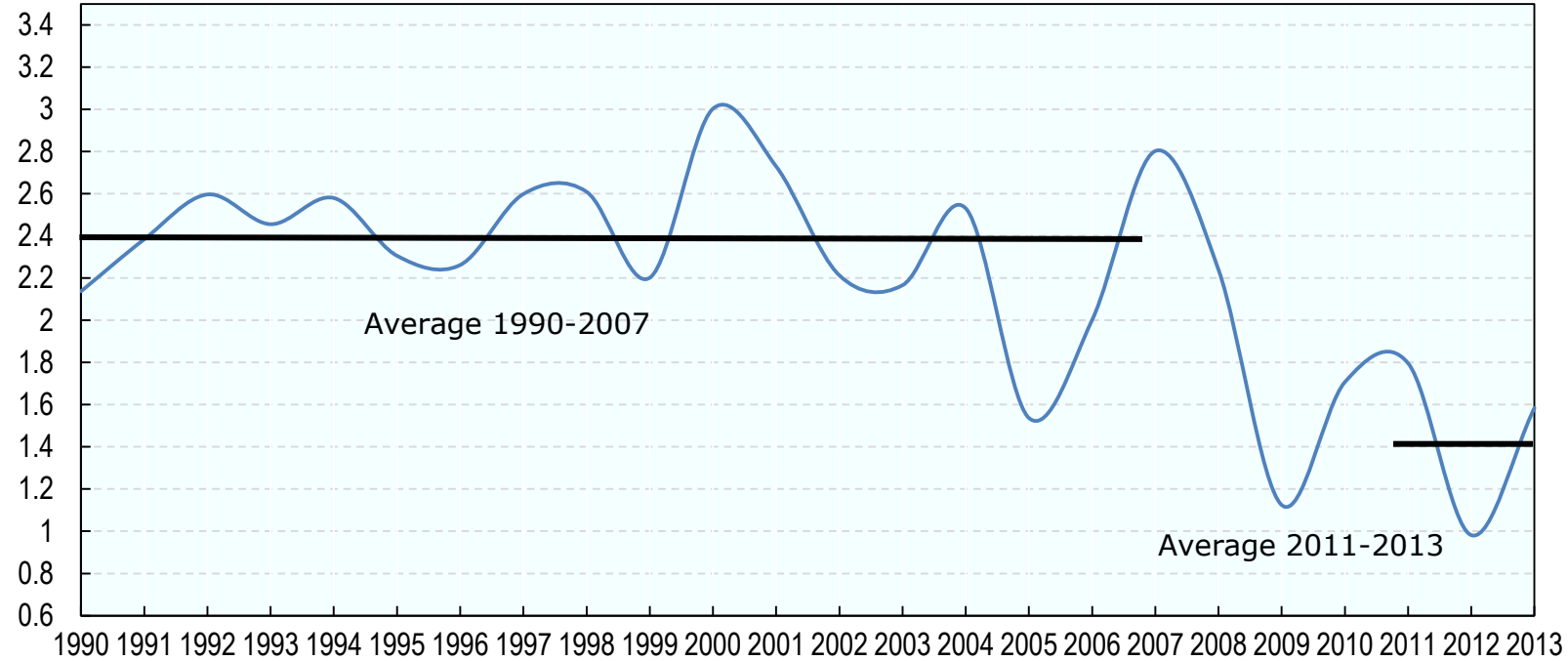


Source: ITF International Freight model
OpenStreetMap, OpenFlights, Sea Project, UCL

What drives future trade?

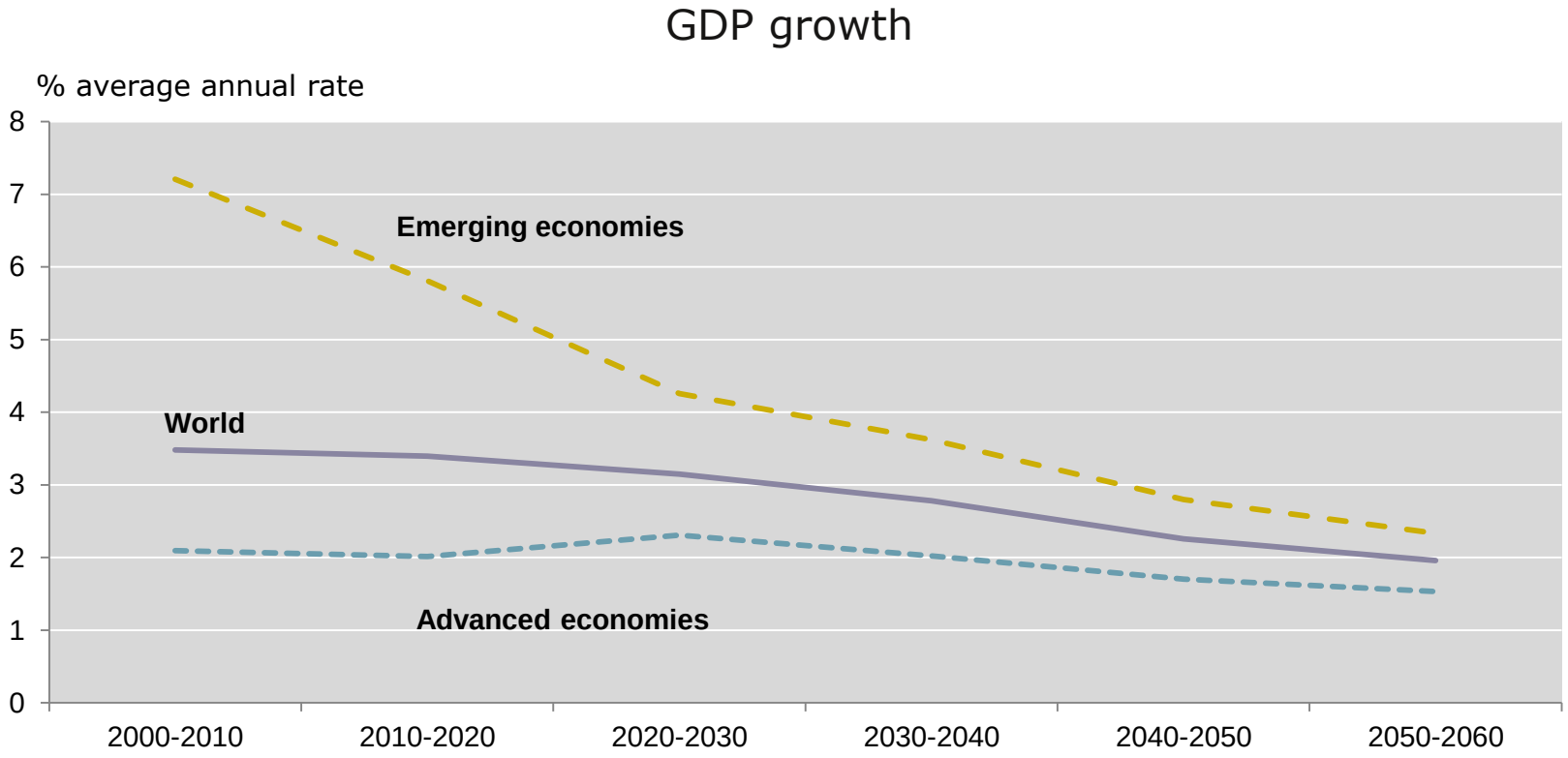
- **Scale and distance**
  - Size of the economies
  - Distance (restrictions to trade, transportation technology, etc.)
- **Production factors**
  - Physical and human capital (natural resources, arable land, skills)
  - Changes in productivity
- **Transport policies**
- **Changes in global value chains**
- **Geopolitical forces**

Global trade elasticities have changed



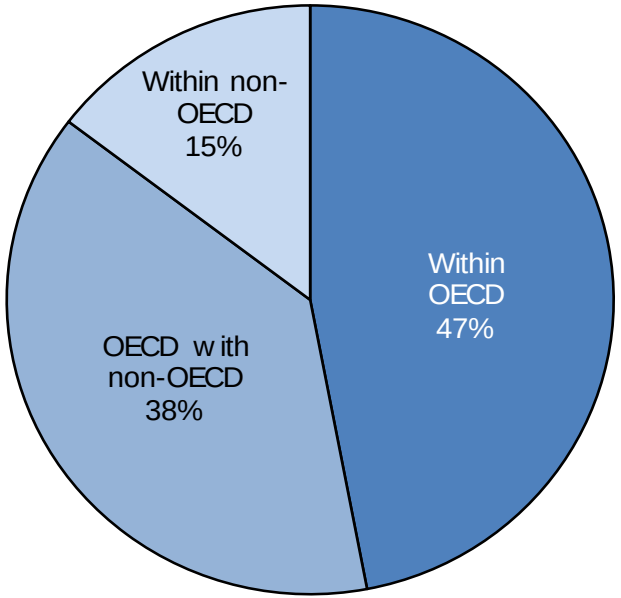
Own calculations based on World Bank and OECD

Emerging economies still drive growth

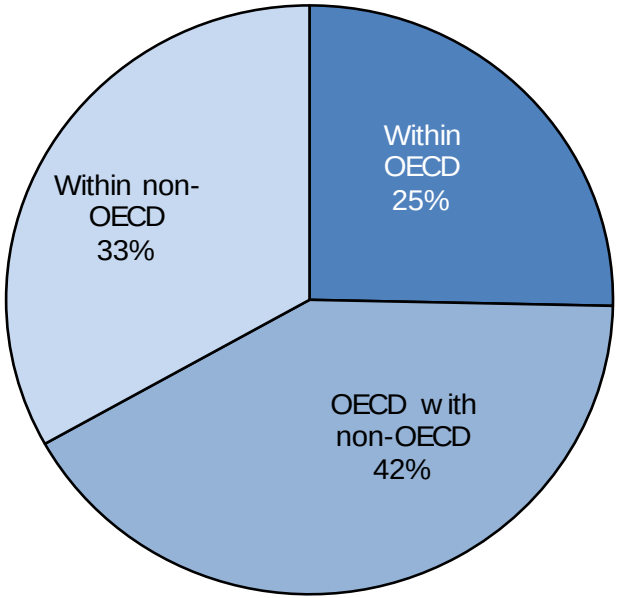


A growing share of trade between emerging economies

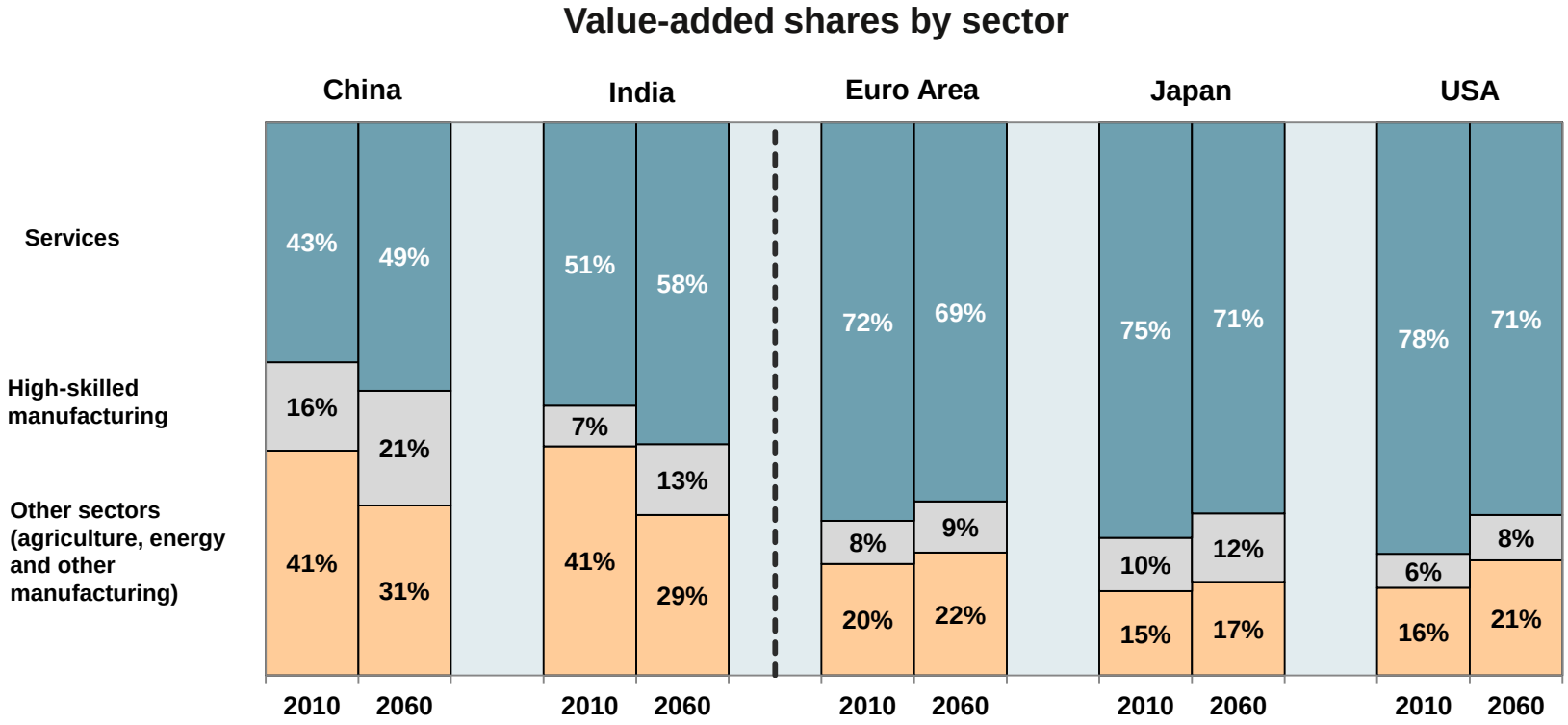
2012



2050



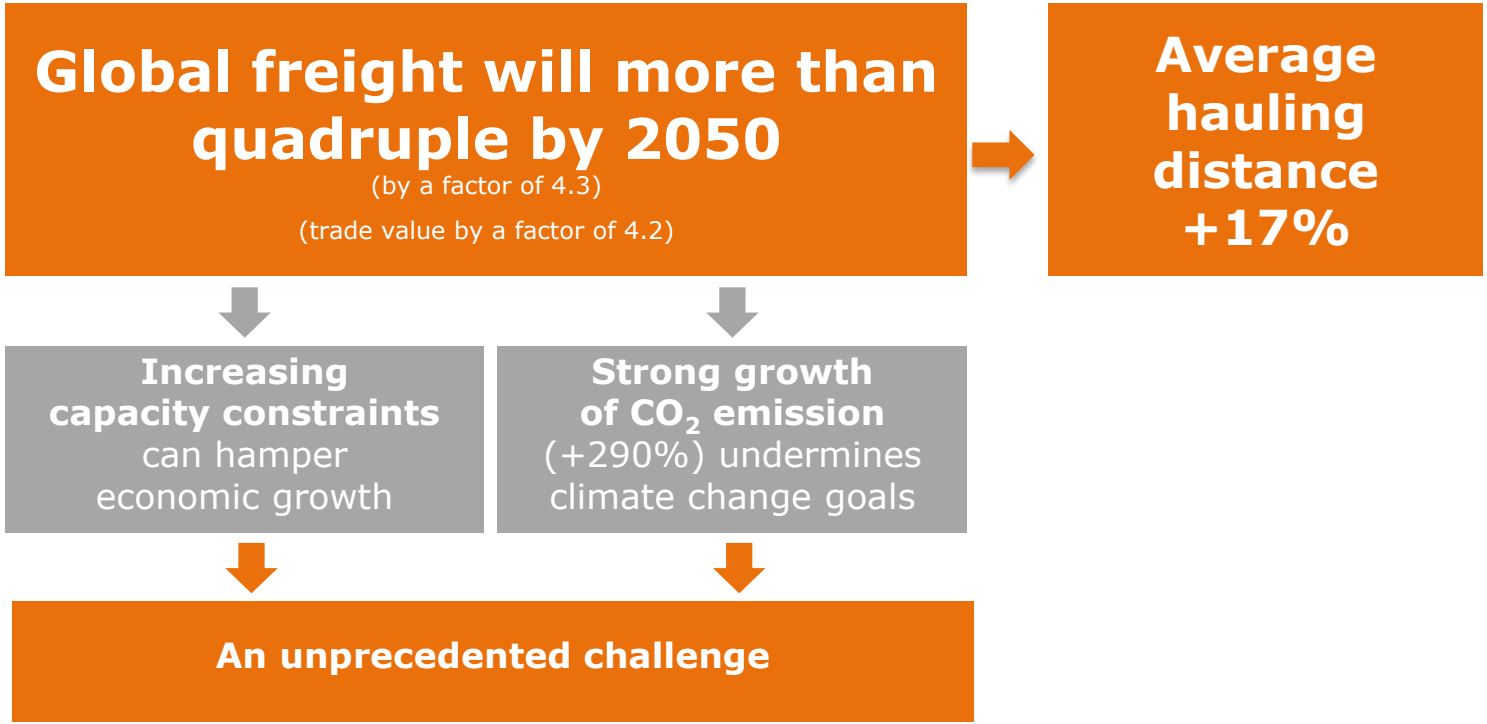
Emerging economies move to higher value-added activities – changing trade composition



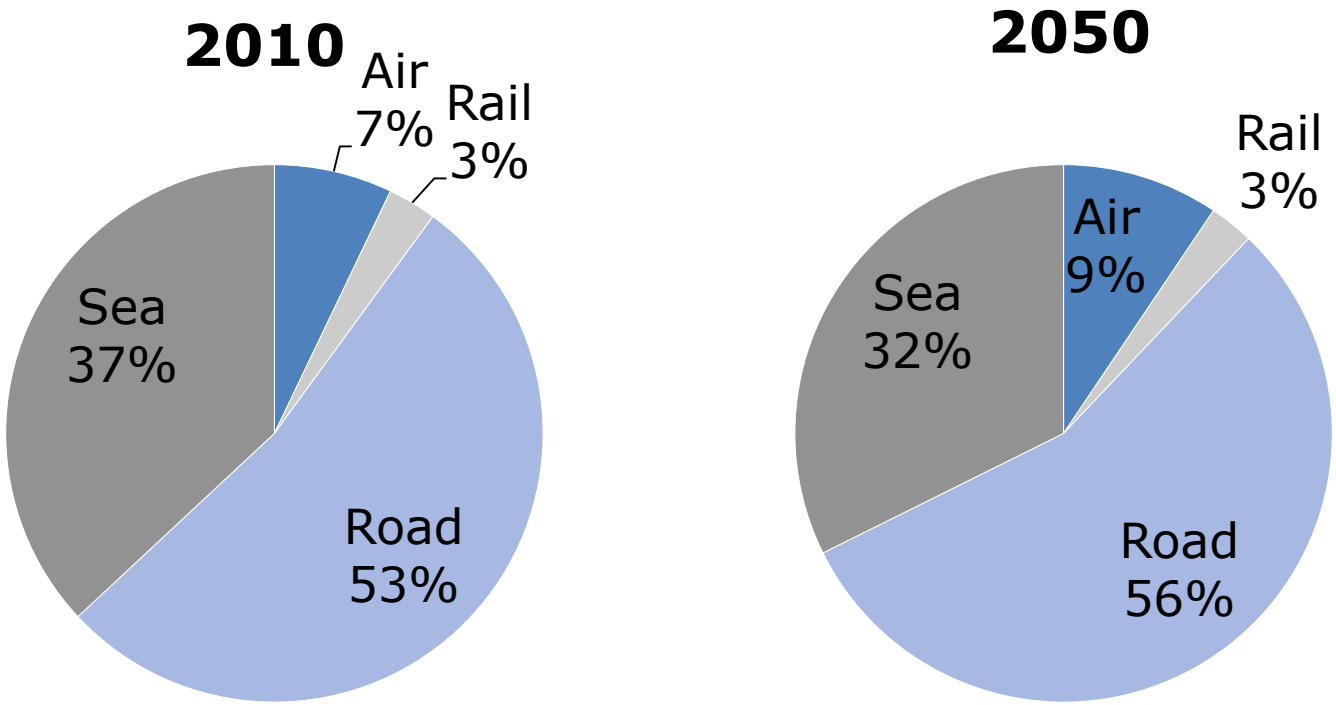
CO_2 Emissions from Fuel Combustion

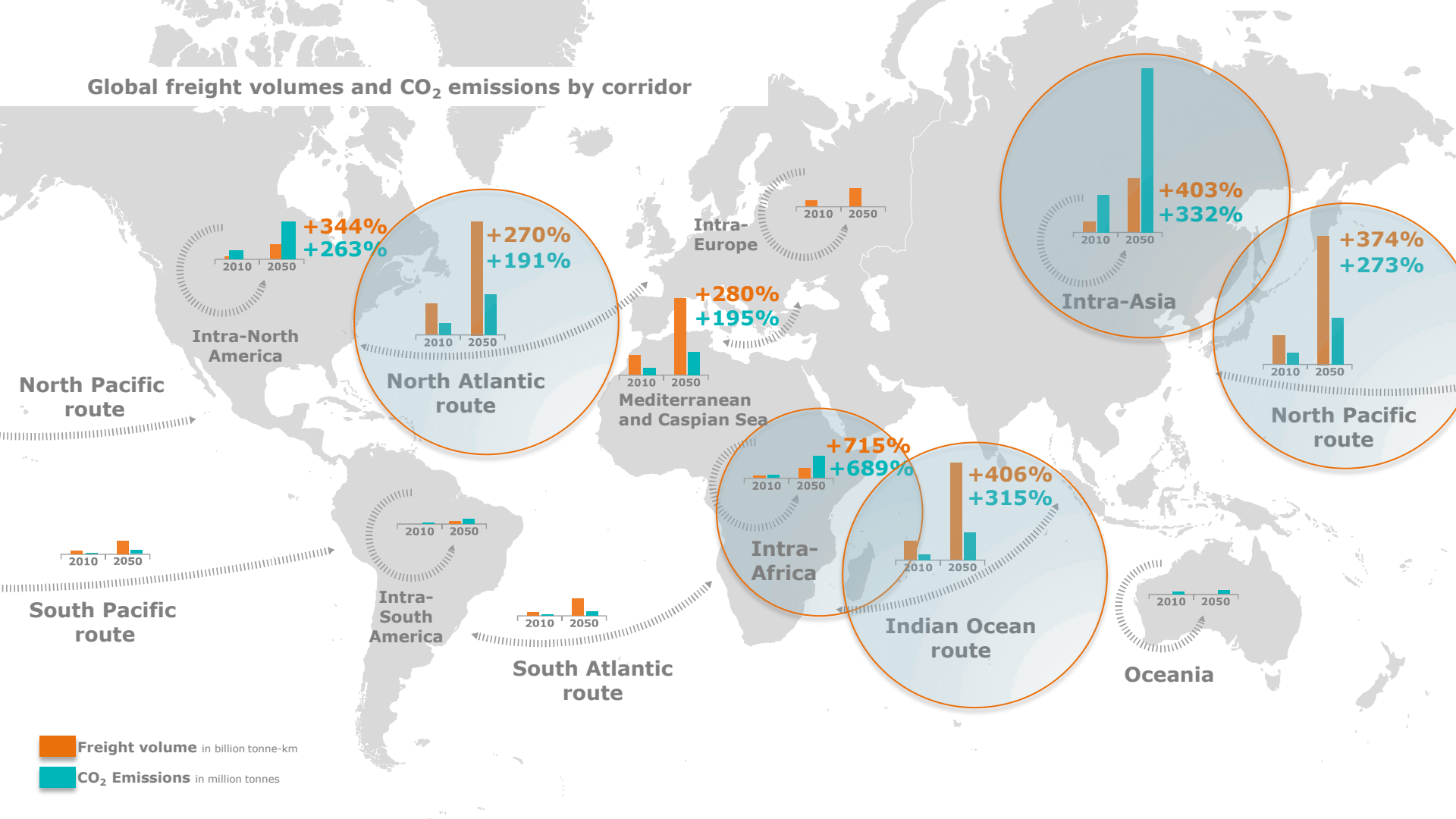
Source: IEA

Implications for future global freight



International trade related CO_2 emissions




Global freight volumes and CO_2 emissions by corridor
+344%
+263%
2010 2050
Intra-North America
+270%
+191%
2010 2050
North Atlantic route
North Pacific route
Intra-Europe
2010 2050
+280%
+195%
2010 2050
Mediterranean and Caspian Sea
+403%
+332%
2010 2050
Intra-Asia
+374%
+273%
2010 2050
North Pacific route
+715%
+689%
2010 2050
Intra-Africa
+406%
+315%
2010 2050
Indian Ocean route
2010 2050
Oceania
2010 2050
South Pacific route
2010 2050
Intra-South America
2010 2050
South Atlantic route
Freight volume in billion tonne-km
CO_2 Emissions in million tonnes


民共建文明样板路

Domestic share of global freight

10% of international trade takes place within domestic borders

Domestic share of trade-related CO_2 emissions

10% of international trade takes place within domestic borders

30% of total trade-related CO_2 is emitted here

Increased trade will put infrastructure under pressure

Investment	Management	Efficiency
Adapt infrastructure to more and bigger vessels Also at port-hinterland links Alternative and multi-modal connections to increase efficiency	Focus on managing supply chains – not only nodes	Many freight facilities are underutilised or managed at low efficiency level Improve load factors and reduce idle times across supply chains

Aligning policies for sustainable freight

International	National	Industry	Non-profit organisations
Multilateral agreements	Economic measures	Vehicle design and utilisation	Global methodologies & tools
International Maritime Organization (IMO)	Regulation	Alternative fuels	Data reporting platforms
International Civil Aviation Organization (ICAO)	Infrastructure and land-use planning	Optimising supply chains	Knowledge platforms
Etc.	Etc.	Shared loading	Etc.
		Etc.	