

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

Sustainable Freight Transport Systems: Opportunities for Developing Countries

14-16 October 2015

SUSTAINABLE FREIGHT TRANSPORT: OPPORTUNITIES FOR DEVELOPING COUNTRIES

by

Mr. Nick Craven

Manager of Unit, Sustainable Development
Union International des Chemins de Fer (UIC)

15 October 2015

This expert paper is reproduced by the UNCTAD secretariat in the form and language in which it has been received.
The views expressed are those of the author and do not necessarily reflect the view of the United Nations.



INTERNATIONAL UNION
OF RAILWAYS

unity, solidarity, universality

SUSTAINABLE FREIGHT TRANSPORT: OPPORTUNITIES FOR DEVELOPING COUNTRIES

Nick Craven

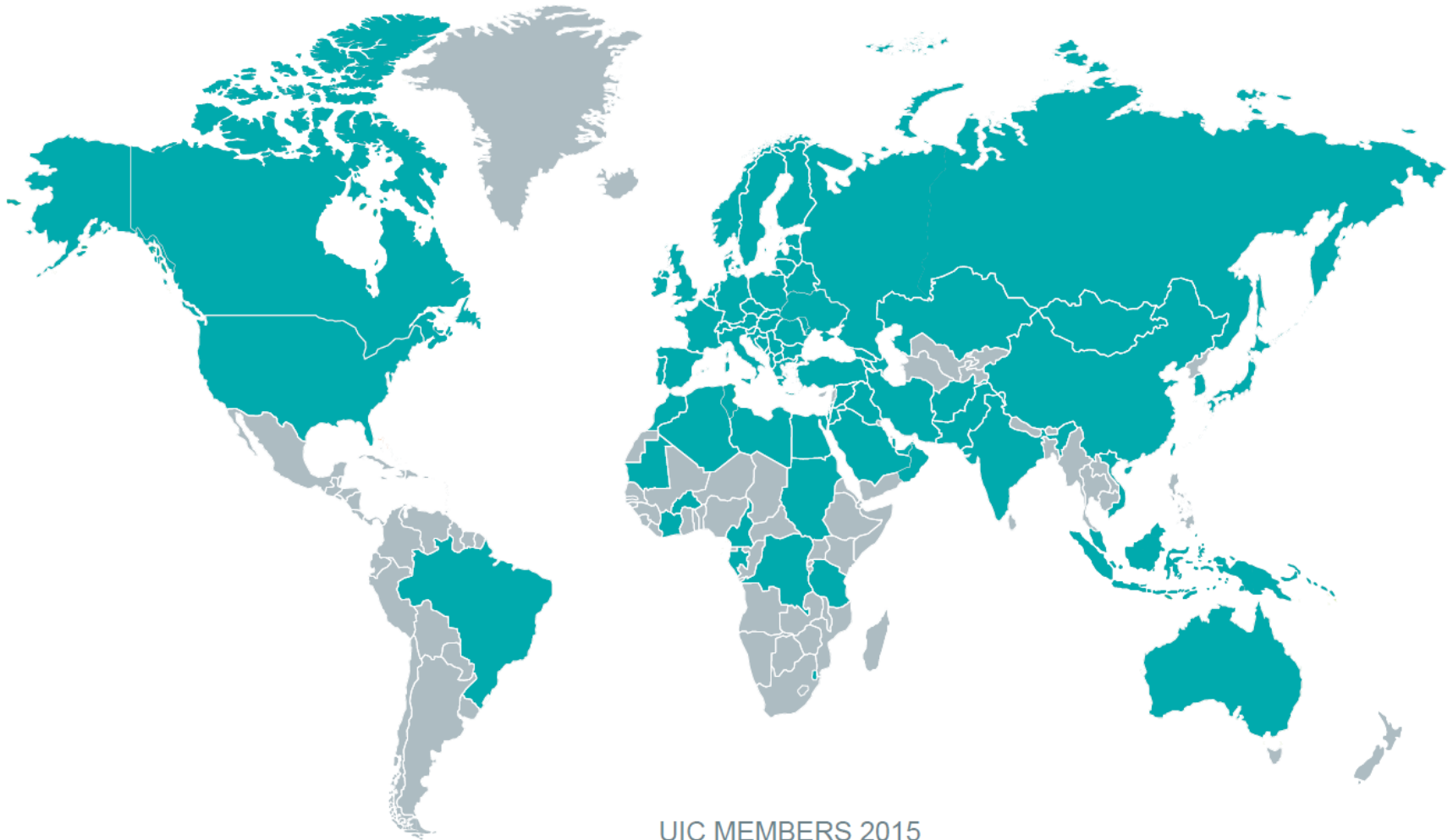
International Union of Railways (UIC)

UNCTAD

Geneva, 14 October 2015



UIC in 2015



UIC MEMBERS 2015

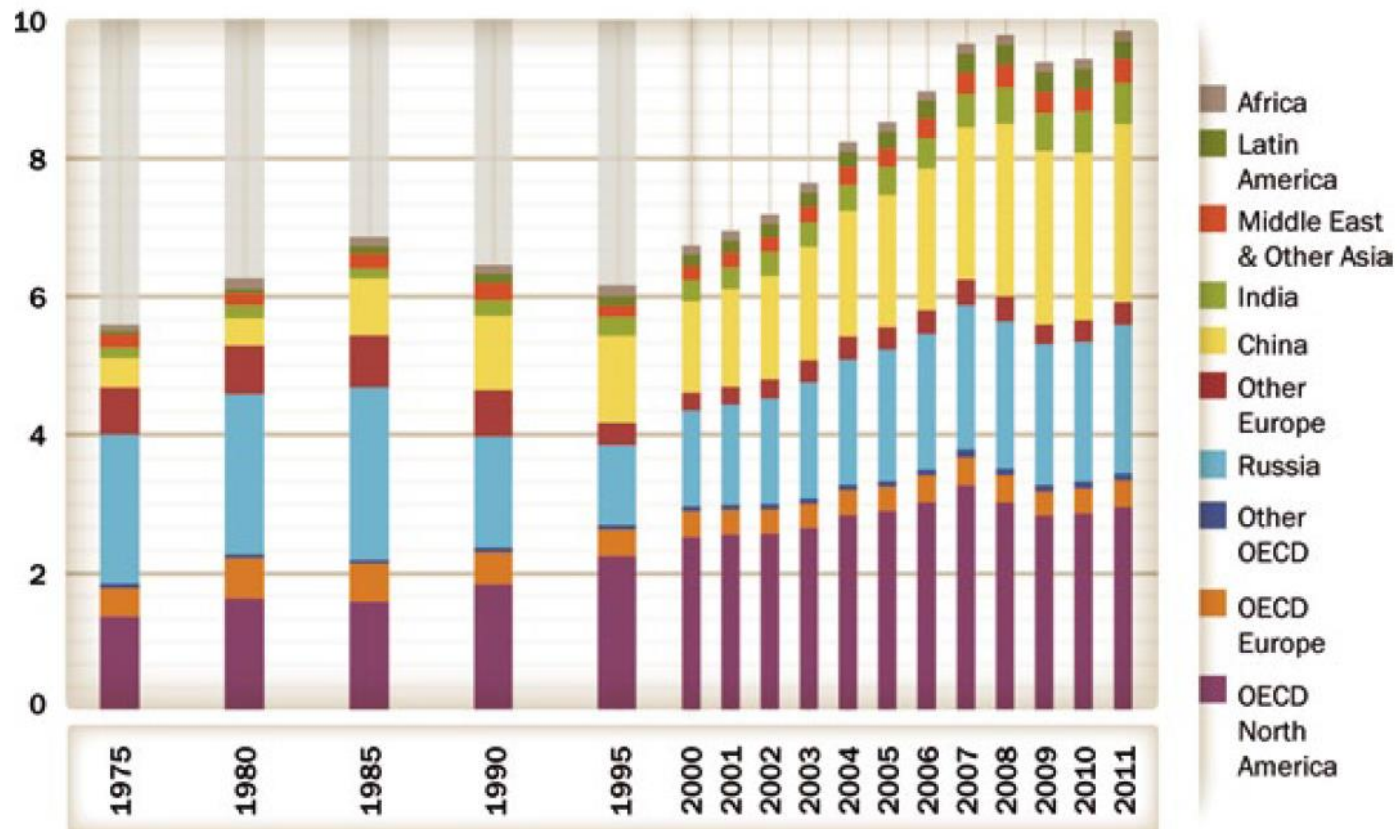
UIC today

- **240** Members in 95 countries
- **3,000** billion passenger kilometres
- **10,000** billion tonnes kilometres
- **1** million kilometres of lines
- **7** million rail personnel
- Cooperation with over **100** institutions
- **700** UIC Leaflets (international railway standards)
- **85** congresses, conferences, workshops



Rail freight activity

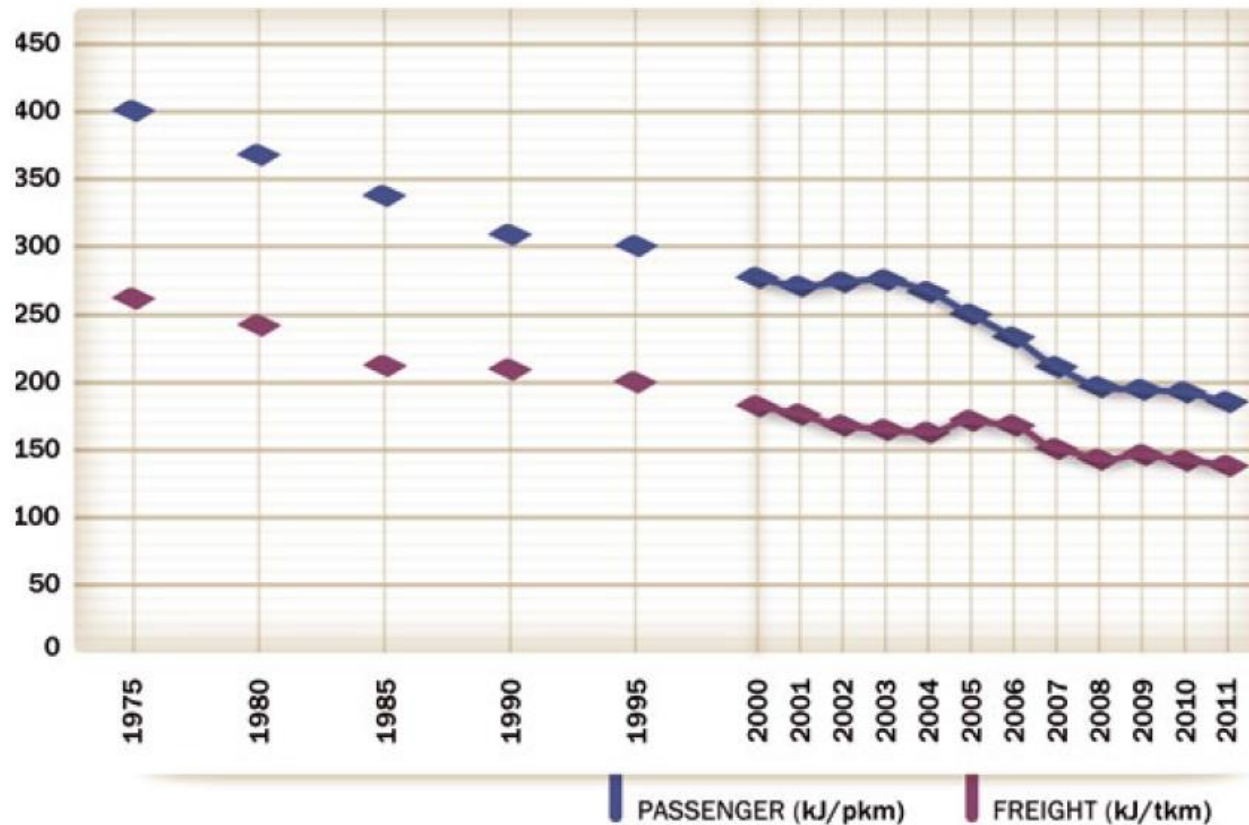
Fig. 7: Railway freight transport activity by geographic area, 1975-2011 (trillion tkm)



Source: Elaboration by IEA based on UIC (2013a)

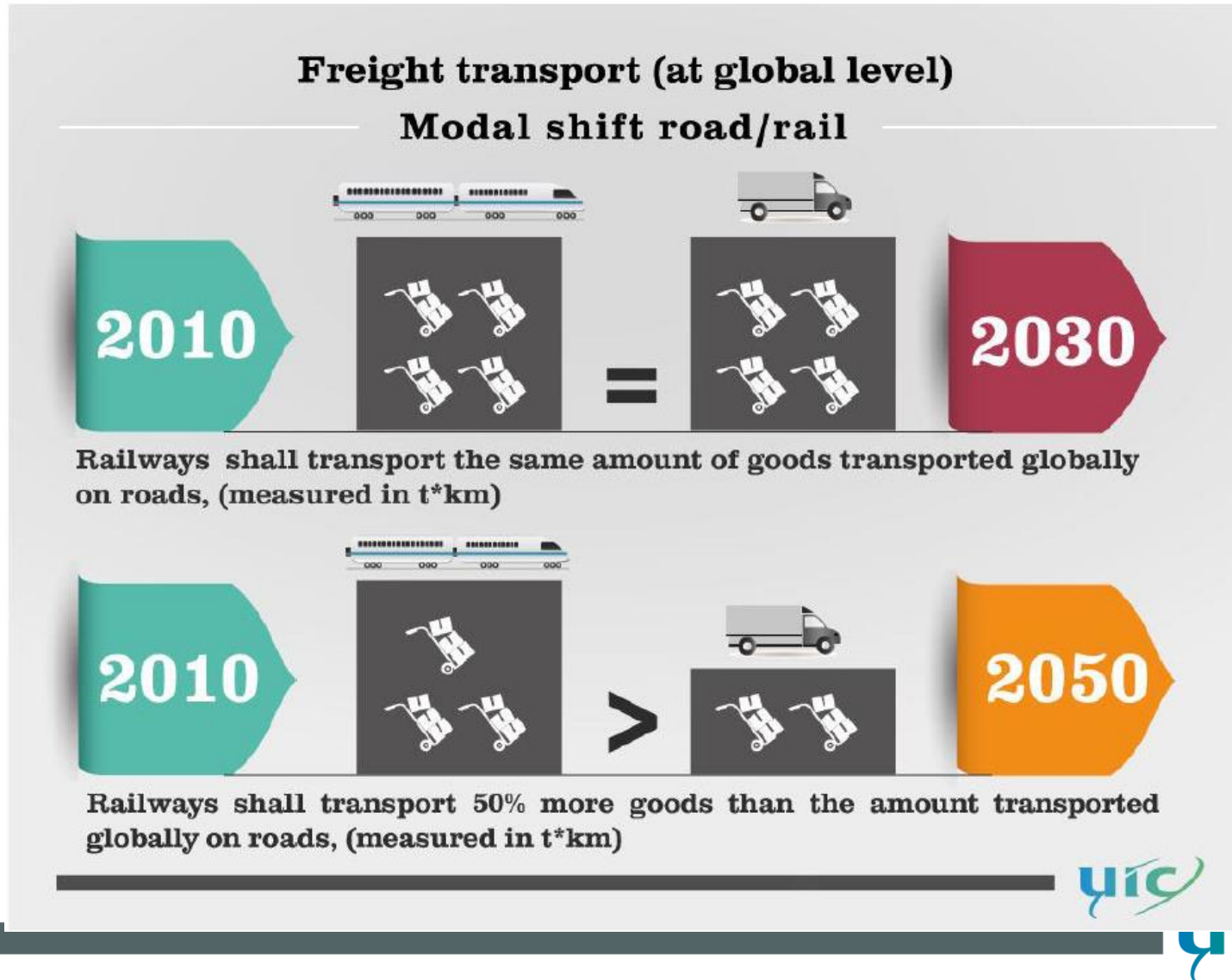
Railway energy efficiency

Fig. 10: Railway specific energy consumption, 1975-2011

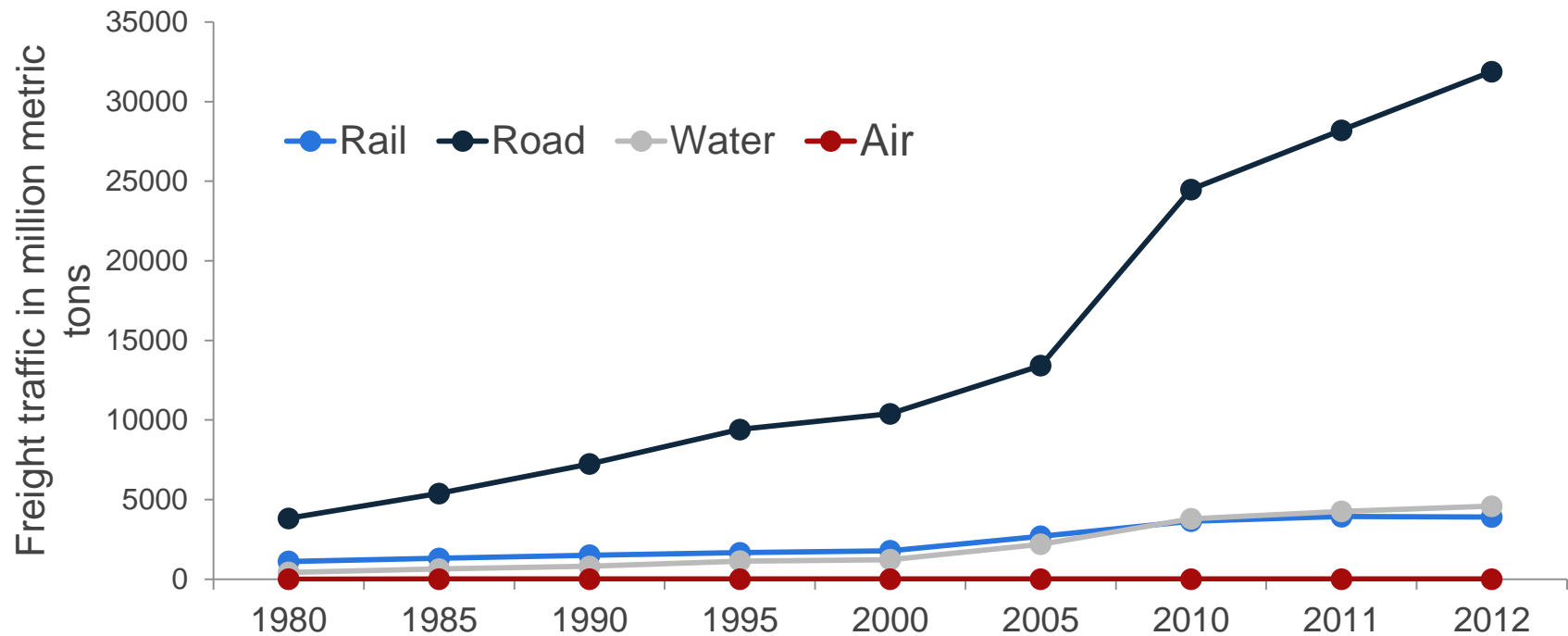


Source: Elaboration by IEA and Susdef based on IEA Mobility Model and UIC (2013a)

2014 Voluntary UIC targets in line with the 2 degrees scenario

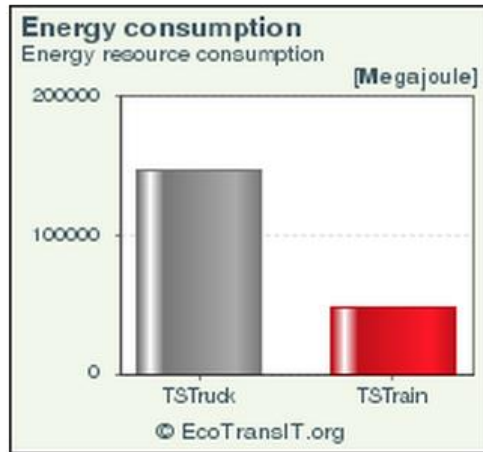


Freight traffic in China by transport carrier 1980-2012 (million metric tons)



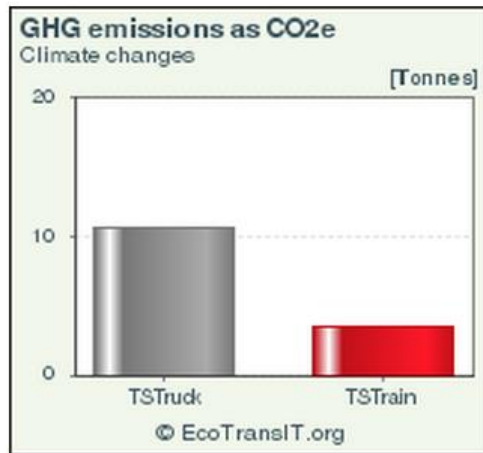
Source: Ministry of Transport of China, China Statistical Yearbook 2013, page 571

Rail vs Road environmental impact



■ Train
■ Truck

100 ton, 1, 390 km from the dry port in Kigoma to Dares Salaam, Tanzania

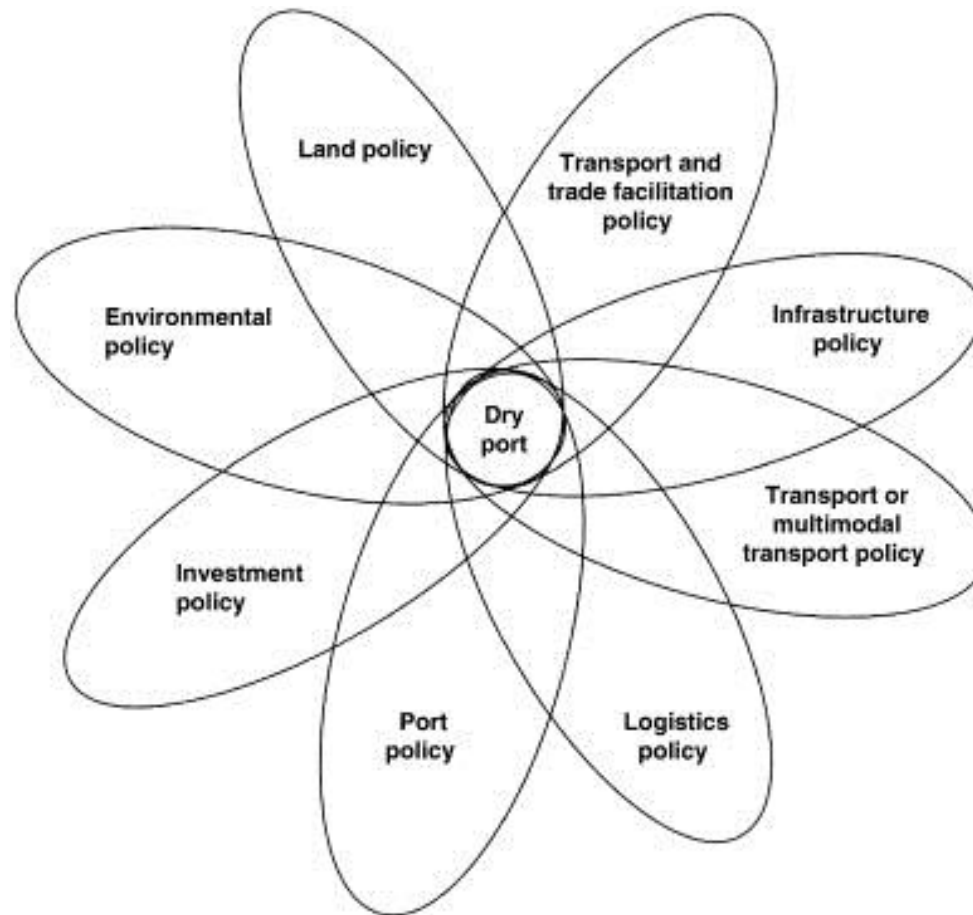


Source: www.ecotransit.org

Rail freight offers competitive journey times



Policy requirements for dry ports



Source : ESCAP Institutional and Regulatory Issues for the Development and Operation of Dry Ports (2010)

China case study

Effective regulation of rail projects

- 1979 Environmental protection law
- 1986 State Environmental Protection Agency issues environmental protection measures for construction projects:
 - All projects have an Environmental Impact Assessment (EIA) with mitigation hierarchy (avoid, mitigate, offset)
 - Integration of pollution prevention in design, construction & operation
- 1995 the Ministry of Railways develop a broader set of environmental protection, regulations, guidance & standards & improve enforcement
- Capacity building through visits to Germany, USA and France

China case study

Effective regulation of rail projects



Guiyang-Guangzhou Railway Project:

Realignment during the feasibility study to avoid forty environmentally sensitive sites

Tunnel – bridge- tunnel schemes used for 81% of the route to minimize land take and ecological foot print

Borrow pits returned to local community for use as fish ponds

Excavated material (spoils) used for embankments and converted to arable land



Case study

Indian dedicated rail freight corridor

Major contracts currently being tendered / awarded for the Western and Eastern corridors, total 3360 km of new freight route

Specific fuel consumption for electric traction in DFC scenario would be 30% lower than No-DFC scenario

Over the 30 year period, this will save 485 million ton CO2
75% reduction relative to the baseline

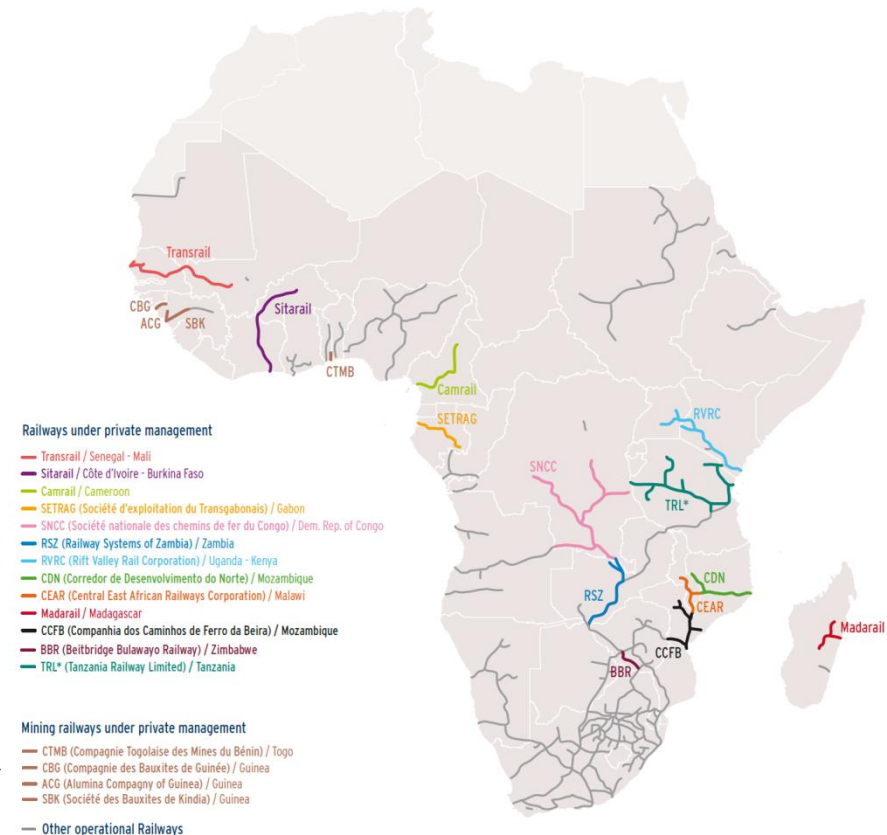


Africa case study

Rail concessions in Africa

- Huge potential unlock development, particularly for landlocked countries and remote areas
- Private sector involvement (PPP):
 - increase in productivity and service
 - requires strong regulatory capacity
 - infra renewal required public financing
 - overall mixed results
- Fair competition with road freight is needed (regulation & pricing)
- Internalization of external costs
- Common standards (gauge, axle weights & line speed) to support future network development and internal trade

Private participation in African railways in 2010



Source: Proparco/Private Sector & Development, 2011
 *The Tanzanian government has terminated at the end of February 2011 the 25-year management contract signed in 2007 with Rail India Technical Economic Services (RITES)

Conclusions

- Development of dry ports (Land locked developing countries, etc) & promotion of combined transport have huge potential
- Simplification of boarder crossings in needed (Eurasian Customs Union & European Union)
- Fair competition based with the road sector is essential
- Internalisation of external costs (road tolls, etc)
- Infrastructure development & renewal requires public support
- Private sector involvement can improve productivity & service, but requires strong and informed regulation & terms



INTERNATIONAL UNION
OF RAILWAYS

unity, solidarity, universality

Please visit our new website:

www.uic.org