UNESCAP Regional Conference/Forum of
Freight Forwarders, Multimodal Transport Operators and
Logistics Service Providers

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Green Freight and Logistics -
GIZ’s Involvment in the Region

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GIZ
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

- Owned by the Federal Republic of Germany
- Organized as a private sector entity
- Supports the objectives of the German government
- Operations in 130 countries and employs 17,000 staff
- Commissioned by public and private sector bodies inside and outside Germany
- Main commissioning party: the German Federal Ministry for Economic Cooperation and Development (BMZ)
The Programme
“Cities, Environment and Transport” (€ 13.3 mil.)

Hosted by Thailand

- **Clean Air for Smaller Cities (CASC)**
  - 2009-2015
  - € 5.6 mill.
  - 8 countries – 12 cities

- **Transport and Climate Change (TCC)**
  - 2013-2015
  - € 2.5 mill.
  - 5 countries

- **Sustainable Port Development (SPD)**
  - 2009-2015
  - € 5.2 mill.
  - 7 countries – 11 ports
Transport plays a significant role in climate change and environmental burdens

- The transport sector is responsible for approximately 23% of global energy-related CO₂ emissions.
- Of all direct CO₂ emissions from transport:
  - 72% come from road transport.
  - 11% from shipping, 11% from aviation, and 2% from rail.
- Freight transport produces 30%-40% of on-road emissions.
- In Asia, expected 3x-5x increase in CO2 emissions from transport by 2030 (from 2000) – mostly more cars and trucks.
- Road transport consumes almost 80% of all fuel within the sector in Asia, with high costs to environment and individuals.
The need for Green Freight and Logistics

• Consumers demand cleaner and greener products
• Manufacturers react and require cleaner logistics
• Shortage of “clean and green” operators in Asia
• Competition among transport operators increases, accelerating market concentration → survival needs adaptation
• Increasing imports and use of fuel
• High operating costs for transport operators and logistic firms
• Increasing environmental burdens, climate change and air pollution

→ ”Win-Win-Win effects” for the private sector, national economy and the environment
Logistics Cost in Comparison (as percentage of GDP)

- Indonesia: 26%
- Vietnam: 20%
- China: 17.80%
- Thailand: 14.50%
- India: 14.20%
- Malaysia: 13%
- Korea: 12.50%
- Japan: 9%
- US: 8.30%
- Singapore: 8%
- EU: 7.20%

Source: ITF, GFA, GMS-EOC. World Bank
Regional Green Freight and Logistics Workshop

- 25-27 June 2014 in Singapore, organized jointly by GIZ & ADB
- Over 100 participants, representing 17 countries and 30 organizations
Regional Green Freight and Logistics Workshop
Key findings and conclusions

- Economic activity spurs transportation – as economies grow, transportation must become more efficient through a planned, systematic approach:
  - Optimize freight movements
  - Shift freight towards less emission intensive modes
  - Improve environmental performance of vehicles
- Cooperation and communication among multiple parties are key to drive change across the supply chain
- Cooperation across borders: harmonization of approaches needed to boost efficiency; learning from each other through regional exchange

58 measures Identified
### 58 Measures towards greener freight and logistics

<table>
<thead>
<tr>
<th>Technology</th>
<th>Logistics Optimization</th>
<th>Mode Shift</th>
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</table>
| A) Aerodynamics  
10% reduction in drag  
AFT box taper  
Boat tail  
Box skirts  
Streamlining  
Full skirting  
Roof defls  
Cab-box gap...ngs  
Full gap fairings  
B) Light Weighting  
Material substitution  
C) Tires and Wheels  
Automatic tire inflation on tractor/vehicle  
Automatic tire inflation on trailer  
Low resistance tires  
Low resistance wide base tires  
D) Transmission-Driveline  
Aggressive shift logic and early backup  
Increased transmission gears  
Transmission friction reduction  
E) Engine efficiency  
Improved diesel engine  
F) Hybridization  
Dual-mode hybrid  
Parallel hybrid  
Parallel hydraulic hybrid  
Series hybrid  
G) Management  
Predictive cruise control  
Training and feedback  
Route management | Improved city logistics  
Route planning / optimization  
Traffic management system  
Vehicle size  
Freight consolidation  
Network optimization  
Package reduction  
Drop and hook  
Backloading  
Logistics information platform  
Freight company consortium  
Load optimization | A) Technology  
1) Rolling stock, adjustment of rail cars to market needs  
2) Propulsion, energy recycling  
3) Modern train control system  
4) Longer trains, double deck container trains  
B) Infrastructure  
1) Removal of bottlenecks  
2) Dedicated freight tracks on heavily used relationships  
3) Electrification  
4) Transshipment technology  
C) Logistic Concepts  
1) Networks of multi modal freight centers  
2) Synchronized service, e.g. line-based concepts  
3) Block trains, pallet flow systems  
4) Concentration on railway affine market segments  
D) Public regulation and pricing policy  
1) Taxation systems  
2) Internalization of external costs  
E) Removal of physical and organizational barriers  
F) Information systems /structures  
G) Modernization of ports  
H) Port coepetition  
1) Develop shipping networks  
J) Port ICT  
K) Logistics concepts and shipping lines design |
Key elements of a green freight strategy with focus on road transport

**GREEN FREIGHT (ROAD TRANSPORT)**

**AVOID**
- Reducing freight volume and haul distance
- Avoiding empty trips
- Increasing load factor
- Appropriate vehicle sizes

**SHIFT**
- Shifting road transport to non-motorised traffic
- Shifting road transport to rail
- Shifting road transport to ship

**IMPROVE**
- Technologies for fuel efficient trucks
- Operational measures
- Reduction of air pollutants/noise

**FUEL**
- Using alternative fuels and drive systems
- Improving fuel quality
Green freight labeling creates new opportunities

- **Why?** Large shippers and buyers moving to green supply chain; carriers with verified ‘green’ practices can access that market.

- **Who?** The over 1,000,000 operators in Asia whose trucks (9% of all vehicles) emit over half of all CO\textsubscript{2} from road transport.

- **How?** GIZ is working with Green Freight Asia and other labeling bodies to help SMEs boost their commitment to green logistics.

- Green freight labeling can help improve business efficiency, saving fuel and money while reducing emissions of GHGs and other harmful air pollutants.
Regional Green Freight and Logistics Workshop

Way Forward

- Large capacity building needs in terms of green freight strategies (training needs analysis)

- need to invest in soft and hard infrastructure

- Use regional dialogue opportunities (e.g. UNESCAP Regional Forum of Freight Forwarders, Multimodal Transport Operators and Logistics Service Providers)

- Support national green freight action planning, development and implementation of measures
Regional Green Freight and Logistics Workshop
Planned GIZ Contributions

• Transport market studies in participating countries (structure of truck ownership, transport flows, transport volumes) – cooperation with universities

• National stakeholder workshops (government/regulators, transport operators, shippers, ports, railways, consumers)

• Development of national green freight action plans (support to working groups/committees, transport associations)

• Dissemination of best practices

• Capacity building for regulators, private sector management, drivers (as defined during the Regional Green Freight and Logistics Workshop in Singapore in June 2015)
GIZ support for country level activities

Indonesia

- Green Freight and Logistics White Paper: Aims to provide strategic guidance and key steps towards an action plan on green freight and logistics.

Malaysia

- Establishment of a Logistics Division in the Ministry of Transport, e.g. support for defining responsibilities and action plans
- Public private partnership on road safety and eco driving

India

- Green Freight India Initiative: Collaborative private sector initiative to increase transparency on GHG emissions in supply chains and therefore reduce carbon emissions from logistics operation

China

- Green Logistics Project: Provides support on cooperation among SMEs, city distribution, promotion of low resistance tires, drop-and-hook technology etc

GIZ Green Freight Brochure: [http://tinyurl.com/qccbh6a](http://tinyurl.com/qccbh6a)
Preparation of future technical cooperation projects

- **Transport and Climate Change Phase II** (TH, VN, MY, PH, ID) agreed by BMZ, 2016-2018
- **Sustainable Freight and Logistics in the GMS Region** (TH, MM, VN, LA, KH), 2016-2018
  - Aims at: 1) increasing fuel efficiency in freight transport SMEs, 2) improving the safety of dangerous goods transport, 3) promote green freight labelling and other policy approaches
  - Main target group is private sector. Governments invited to participate as associates and can benefit through training and regional exchange.
  - Status: project outline pre-selected by EU-Switch Asia fund in April 2015. Full application submitted on June 12.
- **Sustainable Mobility in Metropolitan Regions** (countries tbd), 2016-2018, will include activities on city logistics
  - Status: project request to be submitted by PH, BMZ allocated funds, appraisal mission in Q3 2015
Thank you!

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