ASEAN - German Technical Cooperation
Sustainable Port Development in the ASEAN region

Incheon, Republic of Korea
27 – 29 November 2013
Regional Expert Group Meeting on Policy Options for Sustainable Transport Development
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GIZ’s purpose is to promote international cooperation for sustainable development and education work.

As a 100% federally owned, public-benefit enterprise, we support the German Government in achieving its objectives in the field of international cooperation for sustainable development.

GIZ operates in more than 130 countries and employs more than 17,000 staff members spread across the globe.

Our annual turnover is about 2 billion Euro.
Impacts of maritime transport
Global shipping is the sixth largest producer of greenhouse gas emissions

- Since 2008, China has overtaken the United States as the largest producer of greenhouse gas emissions.

If global shipping were a country, it would be the 6th largest producer of greenhouse gas missions.

*Source: OCEANA: Shipping Impacts on Climate: A Source with Solutions, July 2008*
Marine Pollution from Solid Wastes

- **8 million** items of marine litter are entering oceans everyday
- **5.5 million** tons of solid wastes including **500,000** tons of oil, oily waste and cargo residues are deliberately dumped into the ocean each year by ships
- Each year, plastic waste in water and coastal areas kill up to **100,000** marine mammals, **millions** of seabirds and fish
- Three times more garbage is thrown into the ocean each year than fish taken out
- It is estimated that **13,000** pieces of plastic litter are floating on every square kilometer of the ocean surface
Ports are dangerous and hazardous places to work
Programme Cities, Environment and Transport in the AEAN region

Components:

1. Clean Air for Smaller Cities – 8 Countries
2. Sustainable Port Development – 7 Countries
3. Energy Efficiency and Climate Change Mitigation in the Land Transport Sector – 5 Countries
Project Organization
Sustainable Port Development in the ASEAN Region

Project partner
ASEAN Secretariat

Executing agency
APA Secretariat

Steering committee
ASEAN, APA, GIZ

Regional project office
Port Authority of Thailand (PAT)

Budget: 5 M Euro

Phase I (2009 – 2012)
Phase II (2012 – 2015)

Financed by the Federal Ministry for Economic Cooperation and Development
Project Objective

“Selected ports have improved the quality and efficiency of their Safety, Health and Environmental (SHE) management”

Overall Project Impact

The quality of life and welfare of port workers and nearby communities have improved
7 countries - 12 ports

1. Bangkok
2. Laem Chabang
3. Phnom Penh
4. Sihanoukville
5. Iloilo
6. Cagayan de Oro
7. Sabah
8. Johor
9. Saigon
10. Saigon Newport
11. Tanjung Priok
12. Yangon Port
A sustainable port aims:

At an integrated approach towards economic, social and environmental sustainability

- To reduce negative impacts of all port development and operations
  - Prevent pollution
  - Responsibility for employees and surrounding community
- To sustain natural and human resources
  - Energy efficiency, reduce waste
  - Reduce habitat loss
- Economic sustainability
- Policy and concept of continual improvement
- Compliances with regulations/legislations
Main Challenges for Sustainable Ports in ASEAN

- **Building up** capacity of port staff and personnel
- **Change management** of existing practices and structures
- **Commitment** of top management as a driving force for sustainable change
- **Engagement** and buy-in from key stakeholders
- **Balancing** environmental challenges with economic demands
- **Gaps regarding** national legislation and enforcement and international standards and conventions
Bangkok Port – Traffic Management Plan

- Worked with the SPD project to develop and implement a Traffic Management Plan (TMP) – Short, medium and long-term measures were developed
  - Relocation of commercial areas to lower congestion
  - Modification and redefining of routes within the port
  - Revision of gatehouse procedures – paved way for the E-Gate System
  - Coordination with external traffic authorities (police)
- Traffic congestion drastically decreased at the gates, thus contributing to lower emissions and faster turnaround times
- Low time and cost; significant results
Examples of Implemented measures

• Relocation of market area

• Clear roads from obstacles (for example: parked equipment)
Emission Inventories in Ports

- Capacity building: 18 representatives from partner ports and regional air experts trained to use the EI tool – EI in 7 ports

Account of all the emissions from all the sources in a specified area

- Determine the main emission sources of pollution within the port
- Critical tools for the development of emissions reductions strategies
- ‘Cargo Handling Equipment Idling Guideline’ as a result of the Emission Inventories in ports

<table>
<thead>
<tr>
<th>Main Sources of Emissions</th>
<th>Main Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ocean going vessels</td>
<td>Nitrogen oxides (NO$_x$)</td>
</tr>
<tr>
<td>Cargo handling equipment</td>
<td>Sulphur dioxide (SO$_2$)</td>
</tr>
<tr>
<td>Harbor crafts</td>
<td>Carbon monoxide (CO)</td>
</tr>
<tr>
<td>Road vehicles (trucks, cars)</td>
<td>Particulate matter (PM)</td>
</tr>
</tbody>
</table>
Port of Cagayan de Oro – COLD IRONING

- PMO Cagayan de Oro installed a shore based power supply (SBPS) system for ferries
- Provides low voltage power to the ships when at berth
- Ships turn off their main engine and auxiliary engines, thus reducing the emissions
- Installation of the SBPS for one connection cost $8,000 USD in 2010
- Return in investment in less than two years through saved fuel costs
Port Safety Health and Environmental Management System (PSHEMS) – 6 ports

- Incorporates the requirements of the 3 international standards (ISO9001/14001/OHSAS18001) into one integrated package specifically designed for usage in ports

Objectives of the PSHEMS

- Preventing human injury or fatality
- Preventing negative impacts on the environment, and any damage to property and cargo
- Improving operational efficiency and reliability of the port infrastructure / facilities / equipment
- Ensuring compliance to applicable legal and other requirements
Capacity Building and Training

• Training Needs Analysis
• 6 material based courses
• 6 Expert courses
• ASEAN Course Instructors trained and redelivered/applied (translated) modular training programs
• Regional workshops and meetings
• Regional experts shared between countries
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National Level Agencies (MOT, MOL, MOE)

- AMTWG meetings
- ASEAN-OSHNET
- Port Waste Management
- Capacity building and trainings
- Greenport policies, CSR
- Regional workshops
- Emission inventories

12 ASEAN Ports

Sustainable Port

Occupational Safety

Safety Health Environmental Management System

Implemented by

International conferences

Expert network

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Sustainable ports …

…are key to facilitate modal shift!

There is a need for:

• SHE Capacity development in ports

• Develop Sustainable (green) policies as well as communication strategy to stakeholders and implement management systems

• Promote and facilitate sustainable practices such as (a regional policy on) ship waste reception facilities

• Reduce emission from ships and port operations through organizational and technical solutions
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Sustainable Port Development

www.SustainablePort.org