



GREATER MEKONG
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PROGRAM



REGIONAL WORKSHOP:

GREEN FREIGHT AND LOGISTICS IN SOUTHEAST ASIA

June 2-3, 2016

Pullman Grand Sukhumvit Hotel, Bangkok, Thailand

The regional workshop on Green Freight and Logistics in Southeast Asia was jointly organised by GIZ, ADB and Clean Air Asia to share best practices and exchange experiences and knowledge of green freight (national) action plans and initiatives among a wide range of public and private stakeholders. 60 participants from 13 countries across Asia (Cambodia, Lao PDR, Myanmar, Vietnam (CLMV), Singapore, Thailand, the Philippines, China, India, Japan) and Europe (Germany, Switzerland, the Netherlands) took part in the workshop, including government representatives from Southeast Asian countries, freight forwarders and truckers associations, logistic firms and international organisations.

The project “Sustainable Freight and Logistics in the Mekong Region“, which is implemented by GIZ and funded by both the European Union and the German government, was officially launched during the workshop, where the Memorandum of Understanding was signed. The project will run until the end of 2018.



Workshop Participants

The workshop specifically aimed to further 1) cross-learning of best practices among countries and private sector players; 2) regional and national agenda setting supporting the development of green freight action plans; and 3) enhanced coordination of different green freight initiatives in the region.



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Workshop Agenda

DAY 1: JUNE 2, 2016

Moderator: **Glynda Bathan**, Clean Air Asia Deputy Executive Director

Time	Agenda item
8:30	Registration
9:00	Welcome Remarks by Organisers & Introduction <ul style="list-style-type: none">- Sutthiya Chantawarangul, EU Delegation Thailand- Pavit Ramachandran, ADB- Roland Haas, GIZ
9:50	Global Perspective on Green Freight Keynote speech by Prof. Alan McKinnon, Kühne Logistics University
10:20	Green freight, a boost for regional integration in Southeast Asia Panel Discussion with: <ul style="list-style-type: none">- Moderator: Paul Apthorp, GMS Freight Transport Association- Pei Yao, Green Freight Asia- Alan McKinnon, Kühne Logistics University- Sumit Pokhrel, ADB GMS Core Environment Programme- Michael Groom, DHL Asia Pacific
11:00	Coffee Break
11:20	From Singapore to Bangkok: an update of Green Freight Initiatives in Asia Country Presentations by” <ul style="list-style-type: none">- Lao PDR (Phanthaphap Phounsavath, Ministry of Public Works and Transport)- Vietnam (Tranh Ti Van, Department of Roads Vietnam)- Thailand (Thibodee Hanprasert, Federation of Thai Industries)- Indonesia (Hananto Prakoso, Ministry of Transport)
12:00	Lunch
13:00	Truck technologies and management – results and lessons learnt from ADB GMS Green Freight Project Jürg Grütter, Grütter Consulting AG
13:45	Issues and Options to improve freight transport efficiency in Southeast Asia Expert inputs and breakout sessions on: <ul style="list-style-type: none">- Eco-Driving: How to achieve lasting impact (Dang Ly, Grütter Consulting AG)- Reducing empty truck trips (Erik Noot, Transglobistics)- Advancing Green Freight Programmes (Pei Yao, GFA)- Green Freight Options in an Urban Context (Sudhir Gota, Consultant)- Multimodal Freight Transport (Alan McKinnon, Kühne Logistics University)
15:00	Coffee Break
15:30	Kick-off Event of EU Switch-Asia Project on Sustainable Freight Transport and Logistics in the Mekong Region and Panel Discussion with: <ul style="list-style-type: none">- Moderator: Ms Punjaporn Weschayanwiwat- Ms Wilasinee Poonuchapai, GIZ- Mr Dutta Madhuriya Kumar, Mekong Institute- Mr Suchat Katima, ADB- Mr Paul Apthorp, GMS Freight Association
18:00	Dinner Reception



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DAY 2: June 3, 2016

Moderator: **Friedel Schlleier**, GIZ Project Deputy Team Leader

Time	Agenda item
9:00	Recap of day 1 and programme of day 2
9:15	Scaling up Financing for Green Freight Projects Panel Discussion with: <ul style="list-style-type: none">- Moderator: Vallobh Tejapaibul, Thai Creditor Guarantee Co. Ltd.- Jürg Grütter, Grütter Consulting AG- Tran Viet Ky, Hai Duong Logistics Holdings Vietnam- Jintana Kumprakhop, SME Bank Thailand
10:00	The Global Green Freight Action Plan Cristiano Façanha, International Council on Clean Transportation
10:30	Coffee Break
11:00	Green Freight Experience in China Jingzhu Li, GIZ China
11:30	Japan's activity to support the promotion of Green and Efficient Freight and Logistics in ASEAN Tatsuro Kumagai, Ministry of Land, Infrastructure, Transport and Tourism
12:00	Lunch Break
13:00	Developing National and Regional Strategies towards Green Freight and Logistics Breakout Groups
14:15	Options for performance measurement in freight transport and its contribution to private and public sector decision-making Sudhir Gota, Consultant
14:45	Coffee Break
15:00	A database for Green Freight and Logistics Breakout Groups
16:15	Closing Panel Discussion <ul style="list-style-type: none">- Tali Trigg, GIZ- Suchat Katima, ADB- Glynda Bathan, Clean Air Asia- Alan McKinnon, Kühne University

Background and rationale

Trade and the movement of goods continue to grow across Southeast Asia along with increasing economic integration. At the same time, cleaner, more energy-efficient freight transport is becoming ever more important as governments and companies around the world have committed to Sustainable Development Goals and to lower greenhouse gas (GHG) emissions. The concept of green freight and logistics promotes technologies, policies and practices for the freight sector to help cut costs and benefit the environment. A number of green freight initiatives have developed in Southeast Asia in recent years. ASEAN's Transport Strategic Plan (2016-2025) also calls for action at the regional and national level.

Accordingly, development partners like GIZ and ADB support countries across Asia in promoting and developing green freight policies. A major milestone in this context has been the joint ADB-GIZ conference on "Green Freight and Logistics in Asia: Delivering the Goods, Protecting the Environment" in Singapore in June 2014, which drew more than 100 participants from 17 countries and 30 organisations. The event was very successful in putting the topic on the agenda of many transport ministries and freight associations across the region. It also concluded that regional sharing of best practices needs to continue and improve. Against this background and in order to sustain the regional momentum on green freight, GIZ and ADB decided to arrange this follow-up event.

Day1

Opening Remarks



Ms Sutthiya Chantawarungul, Programme Officer at the EU Delegation to Thailand, framed the workshop theme into the global environmental policy context by linking the transport sector to the UN Sustainable Development Goals (SDGs) and the Paris Agreement. Accordingly, the transport sector needs to be improved, so that climate change, mounting congestion, and the overdependence on oil can be overcome. The sector needs to stay competitive, drive economic growth, and create jobs. Seeing as how the EU is committed to cutting GHG emissions by 40% until 2030, and bearing in mind that the transport sector is responsible for a quarter of global GHG, the EU has been supporting several measures and projects to lower transport-related emissions, the Sustainable Freight and Logistics project being one of them.

Mr Pavit Ramachandran, Senior Environment Specialist at the ADB, stressed that there are significant efficiency gains to be made from green freight concepts. The efficient performance of freight and logistics in ASEAN is important for economic competitiveness as well as for environment and climate change sustainability. Green freight can help freight companies reduce fuel costs and reduce emissions and help countries in delivering nationally determined contributions (NDCs). Issues to consider in the Asian context include the highly fragmented nature of the freight sector, the widespread use of old trucks, the common phenomenon of empty running, and the poor regard for safety. In order to tackle these issues, green freight financing should be promoted and business models identified. In that regard, the ADB focuses on catalysing know-how, enhancing regional integration and mobilising efforts, specifically mobilising small-and medium enterprises (SMEs) in improving their freight efficiency and decarbonisation.



In his opening remarks, **Mr Roland Haas**, Director of the GIZ Programme “Cities, Environment and Transport” (CET), recalled the outcomes of the 2014 Singapore workshop. He emphasised that there are no silver bullets to make freight more efficient. Instead stakeholders need to pursue a step-wise approach with multiple strategies. Discussions in Singapore found that freight and logistics are too complex for any single stakeholder to solve in isolation. Solutions need to be developed and implemented in a partnership approach. Mr Haas stressed the need for further capacity building in the region in order to develop cost-effective solutions that create true win-win situations in freight and logistics. The new EU-funded regional project on Sustainable Freight in the Mekong Region is therefore most welcome.

Keynote Speech: Global Perspective on Green Freight

Prof. Alan McKinnon, international expert on green freight and logistics teaching and researching at the Kühne Logistics University in Hamburg, showed that the freight sector’s share of global CO₂ emissions could rise from 7% in 2010 to 16% in 2050 under a business-as-usual scenario. Thus, dramatic emission reductions are required for achieving the 2 degrees scenario. For emerging economies, concerns about air pollution and congestion are often the key motivators for action on green freight, whereas fuel efficiency is key for both air quality and climate change. He reminded participants that decarbonising freight transport requires a comprehensive view, going from vehicle technology and fuel use, maintenance, driving, vehicle loading, to vehicle routing and scheduling, the logistics system design, and, finally the supply chain structure. Countries whose logistics systems are at an earlier stage in their evolution have the opportunity to avoid some of the environmental pitfalls that now afflict developed countries. It is important to avoid the long-term logistical ‘lock-in’ to road transport and to try to embed environmental sustainability into logistics planning at an earlier stage.

During the Q&A-session, Prof. McKinnon was asked about the optimal speed required to minimise CO₂ emissions. He clarified that the optimal speed depends on the vehicle structure and distance driven, among other factors. On drivers deviating from driving

standards, the use of telematics was suggested as a means of monitoring driver behaviour, as it gives instant feedback.

Panel Discussion: Green freight – A boost for regional integration in Southeast Asia



(L-R): Prof. Alan McKinnon, Pei Yao, Sumit Pokhrel, Michael Groom

The discussion moderated by **Mr Apthorp** of the GMS Freight Transport Association showed that green freight measures such as offering eco-driving training or optimising truckload and ensuring compliance can yield significant CO₂ savings and increase firm productivity.

In response to customer requirements and social pressure, **Mr Groom** from DHL Asia Pacific, argued that sustainability initiatives need to be balanced with costs and safety. On its part, DHL Asia Pacific has launched Go-Green Programmes to offset freight emissions. Participating companies include Heineken and HP.

Ms Yao highlighted that in the ASEAN region, there are at least 100,000 small freight companies; this makes the sector extremely fragmented. Green Freight Asia (GFA) uses a matrix to rank the sustainability motivation and expertise of these SMEs. Most of the SMEs are not well organised and lack the experience and funding to become more sustainable and use green technologies. This is why GFA builds an industry network to help SMEs collaborate with DHL and other bigger companies to improve the databases of the SMEs and ease their transition towards greening. The revenues and savings resulting from greening efforts are the main motivations for SMEs.

The second-hand trucks imported from Japan, Europe, and the US, results in an ageing fleet in Cambodia, Lao PDR, Myanmar and Vietnam (CLMV), however, the environmental performance of imports gets better over time due to the implementation of tighter EU fuel efficiency standards in the countries where the second-hand imports originate. Yet, it would be better, if retrofitted vehicles were imported or if indigenous trucking companies existed instead, argued **Prof. McKinnon**.

When asked about whether green freight was genuinely being embraced by trucking companies, **Mr Pokhrel** of the ADB explained that the ADB green freight project had begun



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in 2010 and that it has since generated great interest and provided a platform for stakeholders, where experiences can be shared and roles determined. Since implementing green freight policies can save 20-30% of logistic costs, the project has been rather attractive for trucking companies. He noted that, generally, it is important to look beyond technologies and instead establish pilot projects to bring together different stakeholders.

Other discussion points included:

- Data and indicators for green freight concepts are lacking.
- The credibility of green freight initiatives is important.
- The relevance of eco-driving for making the sector more sustainable.
- The lack of infrastructure promoting green freight concepts.
- The matter of organising policies and regulations for SMEs.
- The issue that financing institutions are not aware of viable business models for green freight.

Country Presentations: From Singapore to Bangkok - an update of Green Freight Initiatives in Asia

Representing **Lao PDR** was **Mr Phanthaphap Phounsavath** of the Ministry of Public Works and Transport. Supported by the ADB GMS Core Environment programme, the Ministry promotes fuel efficiency and low carbon interventions for freight operators. This includes increasing access to financing vehicle technologies, improving driver behaviour and vehicle maintenance and improving logistics management and fleet utilisation. Mr Phounsavath also expressed the need to continue support and expand the project through workshops and trainings targeting top-management and drivers of companies. He also emphasised that access to finance for Lao enterprises is important.

Vietnam has more cargo vehicles than cars and their number is growing fast according to **Ms Tran Thi Van**, from the Department of Roads Vietnam (DRVN). Between 2004 and 2014, 72% of total goods transport occurred on the road. 75% of trucks are less than 10 years old. Some of the green freight measures listed in the action plan of DRVN are to improve the existing online freight exchange mechanism, to integrate eco-driving into national curricula, develop a national labelling framework, increase capacity building for policymakers, and to raise awareness about green freight in the community and private sector in order to encourage the latter to actively participate in initiatives.

Mr Thibodee Hanprasert, from the Federation of Thai Industries, talked about the Energy Conservation Promotion Fund (ENCON fund), which is being carried out by the Energy Policy and Planning Office, and supports the Institute of Industrial Energy (IIE) to implement transport-related projects to improve energy efficiency in **Thailand**. Other green freight activities include the Transportation Energy Management System that will be implemented in 100 freight companies; subsidies encouraging 200 freight companies to improve their energy efficiency; offering 400 drivers eco-driving as well as defensive driving training with the aim of reducing fuel consumption; and establishing an ESCO-mechanism to provide additional ways to assist road transport companies in reducing fuel consumption. Mr Hanprasert also identified challenges, which include the lack of awareness on companies' energy efficiency and the fact that data from private companies is usually not utilised.

Dr. Hananto Prakoso, of the Ministry of Transport, explained that **Indonesia**, as a huge archipelagic nation, suffers from high domestic freight transport costs from which especially smaller and outer islands with low connectivity and lower investments suffer. While 90% of

freight transport is seaborne, the expansion of facilities for maritime freight transport is a priority of the government. The aim is to develop an extensive maritime corridor system linking thousands of islands from East to West and cutting freight costs by half. In addition, the government is working on a Green Freight White Paper, which focuses on opportunities to improve fuel efficiency in land transport and is meant to inform future policy initiatives.



Country presentations

Truck technologies and management – results and lessons learnt from ADB GMS Green Freight Project

Dr. Jürg Grütter, of Grütter Consulting, talked about how fuel savings of certain green freight actions tend to be overestimated, as shown by his company’s three-step method comprising of normalised test-runs, before-and-after comparisons, and truck comparisons. Based on tests in Vietnam and Laos, aerodynamic improvements can yield fuel and GHG savings of 5-7%, low-rolling resistance tyres 5%, and tyre inflation 2-3%. Eco-driving can also yield savings of 3-5%, however, the sustainability of eco-driving training is challenging, since experience has shown that drivers often resume their previous driving behaviour a few months after the training. Long-haul road-based freight transport is another issue causing considerable fuel consumption and GHG emissions. According to his estimates, a significant share of truck trips is “empty”: Europe (27%), US (27%), Vietnam (38%), Lao PDR (38%). Increasing the average truck load factor in Europe (currently 43%) and reducing it in Southeast Asian countries will reduce the amount of trips taken by trucks and thereby cut logistics costs and GHG emissions.

Breakout session I: Issues and Options to improve freight transport efficiency in Southeast Asia

Participants were asked to join different “truck-stops” to discuss options to improve freight transport efficiency. There were five truck stops, each with a problem statement participants were asked to solve. During the first round, participants would discuss the problem statement for 30 minutes. After that, they were asked to move to a second and third stop of



(L-R): Dutta Madhuriya Kumar, Paul Apthorp, and Roland Haas with the signed MoU

Key messages from the panel discussion

- **Ms Wilasinee Poonuchapai** (GIZ Project Co-Director) explains that the aim of the project is to scale up effective solutions among SMEs in the region. The project is based on four pillars: 1) fuel efficiency, 2) transport of dangerous goods, 3) access to finance, and 4) raising policy awareness.
- **Mr Suchat Katima** (ADB) argues that the project includes government stakeholders to ensure project sustainability and because an enabling environment is important for a successful project implementation.



(L-R): Suchat Katima, Wilasinee Poonuchapai, Dutta Madhuriya Kumar, Paul Apthorp, Punjaporn Weschayanwiwat

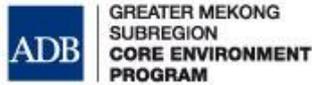


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- **Mr Dutta Madhuriya Kumar** (Mekong Institute) mentions that there are several existing training packages including on eco-driving and transport of dangerous goods. The institute targets SMEs and truck drivers, and conducts a training of trainings, identifies key players, and continuously updates their database (Monitoring & Evaluation).
- **Mr Paul Apthorp**, from the GMS Freight Transport Association, highlights that a successful project strategy needs to underline the economic benefits of green freight. SMEs (10-20 trucks), should be informed about green freight, given training on existing ASEAN regulations, and the trainings need to be localised.



Day 2

On the second day participants of the workshop were greeted with a short interactive quiz conducted by **Mr Friedel Sehleier**, Deputy Team Leader at GIZ. The questions, which can be found in the annex, had been designed to highlight some key takeaways from the previous day.

Panel Discussion: Scaling up Financing for Green Freight Projects (Key messages)

- **Dr. Jürg Grütter** (Grütter Consulting) argued that it is important to establish SME financing that is separate from other climate financing schemes. So far, green freight is not financially attractive enough for SMEs, therefore green public finance schemes are needed to improve the risk-return balance. The Green Bus Fund in the UK for example leads to the purchase of hybrid and electric buses – not because they are “better”, but because the fund finances the differential costs between them and conventional buses. Applying to such a fund would however need to be transparent, uncomplicated and “straightforward” because otherwise transaction costs would be too high for SMEs to consider and the fund would not achieve its intended impact.
- **Mr Tran Viet Ky** (Hai Duong Logistics Holdings Vietnam) confirms that the problem regarding access to finance for SMEs exists in Vietnam. It is suggested that regulations and subsidies can help make SMEs get bigger and thus overcome the financing problem. ADB and the infrastructure development bank can provide funding. An alternative would be to ask SME customers to pay a premium for “green trucks.” As upgrading the rail system is very costly in Vietnam, it is important to introduce incentives for sea shipping, and to promote intermodal freight transport.
- **Ms Jinatana Kumprakhop** (SME Bank Thailand) notes the importance of raising awareness, especially of entrepreneurs and not just the government, to make it clear that “greening” the freight sector saves money. In that regard, the SME Bank has attractive offers, and can provide funds of up to 50 million THB to SMEs. However, it is important to not lose sight of the macro-view: Banks can’t solve everything. CSR-Programmes and government regulations such as tax and toll reductions for green trucks also need to be put in place.
- **Mr Vallobh Tejapaibul** (Thai Creditor Guarantee Co. Ltd) concluded that coordination between stakeholders and increased stakeholder involvement are very important prerequisites for advancing the implementation of green freight policies on a national level. Additionally, a monitoring system should be put in place, so that moral hazard issues can be avoided. He also pointed out that climate funds could be useful for de-risking green freight investments.
- During the Q&A session, it was mentioned that to get access to the GCF one has to be accredited. Instead, blending finance for SME is suggested. Since, dealing with risks is important, creating solutions to de-risk, for example with blended finance, is important.

The Global Green Freight Action Plan

Ms Glynda Bathan (Clean Air Asia) presented the Global Green Freight Action Plan (globalgreenfreight.org) on behalf of **Mr Cristiano Façanha**. The action plan was developed by the Climate & Clean Air Coalition (CCAC), which represents a network of 50 governments and 60 non-state partners. The CCAC's project on green freight (2013-2017) aims to 1) globally harmonise green freight efforts, which includes engaging governments and the private sector in capacity building and information sharing efforts; 2) establish and improve national green freight programmes which includes support or participation to pilot projects, stakeholder engagements and information sharing; and 3) incorporate black carbon into green freight programmes which equates freight operations with benchmarking, tracking, reporting and reducing black carbon emissions. She also shared the vision that in 2030, all countries will be members of the regional programme and that the green freight programme will demonstrate significant emission reductions from freight transport.



Workshop presentations

Green Freight experience in China

Ms Jingzhu Li (GIZ China) shared that a successful logistics alliance in China addressed the issue of long haul line services: the load factor increased and the number of empty trips was reduced, which jointly reduced logistics costs. There are however aspects that could potentially hinder cooperation such as the lack of information-sharing, which is brought about by competitors that do not want to cooperate with each other, unclear business plans, lacking administrative power, and a lack of area protection. Ms Li also presented that there is a need for intermodal transport in China that is connecting sea and inland waterway port and rail. To establish intermodal transport, the government is needed to lead on policies and strategies, collect resources from ministries and invest on infrastructure.



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Japan's activity to support the promotion of Green and Efficient Freight and Logistics in ASEAN

Mr Tatsuro Kumagai of the Japanese Ministry of Land, Infrastructure, Transport and Tourism (MLIT) explained that the ASEAN-Japan Comprehensive Economic Partnership was endorsed in 2002. The objective of that partnership is to deepen relations between ASEAN and Japan, and to improve their competitiveness. Green Logistics had been part of the Brunei Action Plan, and ASEAN Member States requested the cooperation of Japan in cooperating towards its development. At the Transport Facilitation Working Group Meeting as well as during the Expert Meetings on Logistics, Japan has supported the creation of a Green Logistics Vision and Action Plan beyond 2015, and promoted its inclusion in the Kuala Lumpur Transport Strategic Plan (KLTSP), which was adopted at the ASEAN transport minister's meeting in November 2015. The aim is to 1) develop a common Green Logistics framework with feasible measures that would enhance the implementation of Green Logistics policies within ASEAN Member States; 2) sharing and creating a best practices summary report on Green Logistics of ASEAN Member States; and 3) creating a checklist guide on Green Logistics.

In light of its decreasing population and work force, and yet steadily growing freight sector, Japan is currently focusing on improving its productivity. The use of new technologies should be used to deal with this, says Mr Kumagai. In order to improve productivity, Japan aims to promote cooperation between shippers and logistics operators, and setting up pick-up locker systems in order to avoid the 1% of CO₂ that is wastefully emitted when shippers have to redeliver packages. In the context of e-commerce, he noted that passenger emissions are already decreasing, since people are increasingly ordering groceries online. In response to a participant's worry over her growing carbon footprint due to online shopping, Mr Kumagai argued that the overall trend of online shopping is unlikely to be changed unless restrictive regulations are set up, which is unlikely. It is, however, the job of logistics operators to be more efficient and that of the government to promote relevant policies. Further, the use of drones, at least for last-mile deliveries, is currently being investigated in Japan, since it has the potential to increase work force productivity.

BREAKOUT SESSION II.1: Developing National and Regional Strategies towards Green Freight and Logistics

The participants were divided according to their respective countries. They were asked to rate the given green freight actions wherein they would place 4 specific colours depending on the status of the green freight actions: 1) red stickers represent actions that are not important or applicable in the country; 2) green stickers represent actions that the country is already doing; 3) yellow stickers represent actions that the country need and plan to do, and 4) blue stickers represent actions that are needed, but not yet implemented. After rating the actions, participants were asked to identify 6 major green freight action priorities in each country and identify challenges in the implementation of green freight actions. A summary of these priorities and challenges can be seen in the table below.

Main priorities	Main challenges
Cambodia	
1) Eco-driving training	Training cost coverage for trainees
2) ITS improvement	Incentive and application developer and deployment
3) Information campaign	Institutional arrangements (who will take leadership? MPWT, MEE, MEF? Etc.)
4) Sustainable urban freight policy	Cooperation between MPWT/ municipality (Ministry of Interior)
5) Freight operators' certification programme/ improved inspection and maintenance	Transparency
6) Financial incentive to cleaner vehicles	Define clean vehicle clearly and constantly
Lao PDR	
1) Sustainable urban freight policy/ plan on GF	Lead agency/ies? Lack of funds.
2) Information campaign to increase awareness	Lead agency, funding?
3) Improved access to low interest finance	National banking policies? No interest from banking sector.
4) Freight operators' certification programme	Lack of funds, shortage of skilled trainers.
5) Urban consolidation centres	National Policies, national planning
6) Freight exchanges	Intermodal connectivity?
Myanmar	
1) Eco-driving training	Need assistance
2) Information awareness	No proper institution for green freight
3) Financial incentives	Lack of cargo driving (no interest)
4) Access to low interest finance	Lack of driver skills and issues in drivers behaviour
5) Freight operators certification programme	Land and technology
	Financial assistance
	Lack of equipment
	Vehicle standards
	Different agencies are involved in GF&L
	Poor logistics facilities
	Lack of modern equipment; Budget for maintenance
	Absence of environment assessment
	Poor enforcement of rules
	Lack of drivers fitness check in every trip
Vietnam	
1) Developing green freight programme	Lack of capacity / knowledge (training and technical assistance)
2) Information campaign	Lack of resources
3) Waterways improvement-ports	Financial resources/ connectivity/ infrastructure
4) Freight exchanges	Promotion strategies (policies, mechanisms and programmes)
5) Eco-driving training	Lack of expertise and facilities
6) Improving access to low interest finance	
Thailand	
1) New and upgraded railway	Budget government priority
2) Developing Green Freight Programmes "Sustainable Urban Freight Programme"	Technical knowledge government and private collaboration
3) Info campaign to increase awareness	No host party
4) Truck fuel economy standard	Technical knowledge conflict of interest
5) Financial incentive to cleaner vehicles/ ships	Inter-ministerial issue
6) Standardised methodology for emissions	Technical knowledge

The breakout session on regional strategies was conducted in parallel with the breakout session on national green freight actions. Some of the participants were asked to join the group and asked questions on the commonalities and importance of a regional framework for green freight. The detailed results of the breakout session can be seen in the annex.

Options for performance measurement in freight transport and its contribution to private and public sector decision-making

Mr Sudhir Gota (International Consultant) gave a presentation on freight performance indicators, with examples of indicators from Japan, the US, the EU, New Zealand, and the UK. In terms of developing ASEAN-wide indicators, indicators should be chosen carefully as to not waste resources and to generate data with real values. In that, data collection, definition and methodology for data analysis should be harmonised and stakeholder consultations and partnerships are to be organised in order to avoid double counting. Comprehensive freight indicators should be collected for evaluation and monitoring purposes. Gota stressed that data limitations should be acknowledged, and a staircase approach should be applied – using basic indicators based on available data and improving data over time. Additionally, the capacity of local stakeholders should be improved over time. This should reflect the diverse and often competing interests in freight measurement.

BREAKOUT SESSION III: A Green Freight and Logistics Database

The participants were asked to identify priority indicators needed to establish a database for green freight and logistics. They were also asked what kind of data they think is needed, how to collect the data, the desired frequency of reporting and what institutions should be responsible in establishing, maintaining and updating the database. The results of this breakout session can be seen in the table below.



Participants during the breakout session

Developing a Green Freight and Logistics Database

<p>Priority Indicators</p>	<ul style="list-style-type: none"> • Types of trucks • Number of trucks • Age of trucks • Truck weight • Volume and utilisation per trip • Vehicle kilometre • Number of accidents from police reports • Freight modal split • Average inbound container delivery time • Cost of inbound delivery • Average fuel efficiency of trucks • Percentage of euro II, III, IV truck • Amount of driving hours • Full container load (FCL) • Emission standards • Ton kilometre • Speed • Infrastructure
<p>Data</p>	<ul style="list-style-type: none"> • Registration • Government policy • Private sector data collection (individual companies should have data collection) • VKM data • Transaction records • Actual operations manual • Truck surveys • Vehicle registration data
<p>Data collection method</p>	<ul style="list-style-type: none"> • Observation of groups • Origin destination survey • GPS data • Link to accreditation
<p>Frequency of reporting</p>	<ul style="list-style-type: none"> • Yearly • Every 6-24 months • Per trip
<p>Institutions</p>	<ul style="list-style-type: none"> • Ministry of Public Works and Transportation • Ministries of rail, communications • MPA (Myanmar) • Road Transport Authority Department • Private sector • Funding agencies • Freight associations • Government body for ASEAN Data • National traffic safety committee (Vietnam) • DRVN database (Vietnam) • FRETA • MI • DLT • TDSI

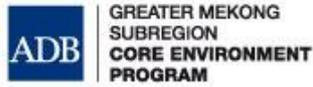
CLOSING PANEL DISCUSSION: Key Takeaways



(L-R): Vallobh Tejapaibul, Alan McKinnon, Glynda Bathan, Friedel Sehleier, Tali Trigg

In the final panel discussion, moderator by **Mr Friedel Sehleier** (GIZ) asked panel participants what their key highlights and takeaways from the workshop were.

- **Ms Glynda Bathan** (Clean Air Asia): It is clear that a lot has been done in the field of green freight since the workshop in Singapore in 2014. For example, the restriction on driving hours in Thailand, the online exchange platform in Vietnam, the White Paper on Green Freight in Indonesia, the action plan for green freight by the Philippines' private sector etc. These are welcome developments. It is especially promising that country representatives and private sector representatives asked more specific questions about solutions in this workshop, which will surely move things forward to implementing solutions on the national and regional levels.
- **Mr Tali Trigg** (GIZ): The topic of green freight and logistics is not known to the wider public. Yet, it is important to know how the goods we consume are transported, how they get into our supermarkets. This workshop was useful in that it raised awareness, especially about data and policies that can be implemented, so called "low-hanging fruits". The workshop report and participants list will be shared, so that the effort can continue from a local and national level to a regional one.
- **Mr Prof. Alan McKinnon** (Kühne University): This workshop was worth the trip from Europe. The workshop clarified that existing freight conditions in Southeast Asia are more severe than in the EU. There is a sense of guilt for the old trucks that are being exported to Southeast Asia as well as for the outsourcing of manufacturing. The workshop has raised awareness about the inequity and unfairness. Technology improvements are needed to offset these trends. There are many benefits and potential savings to be reaped from green freight policies, but with the amount of existing



restrictions, it is important to strike a delicate balance between optimism and credibility in terms of improving the freight sector in Southeast Asia.

- **Mr Suchat Katima** (ADB): It was good that the private sector was represented at this workshop, since the topic of green freight and logistics needs an integrated and holistic approach. This workshop also made clear that making the freight sector green actually yields more revenues and profits.

Annex:

BREAKOUT SESSION I: Issues and Options to Improve Freight Transport Efficiency in Southeast Asia

Topic 1: Driver Training- drivers are trained in eco-driving but their behaviour falls back into old driving problems	
Questions	Answers
What causes the problem?	<ul style="list-style-type: none"> • Lack of control and discipline • Lack of flexibility and cannot understand traffic rules • Lack of knowledge on proper driving • Lack of incentives and benefits to individual driver; benefits are more of the company's (underpaid) • Drivers are not affected by fuel consumption • No model pilot that can be replicated • Lack of enforcement on company's policy • Family businesses practices are not easy to change
What can be done to solve it?	<ul style="list-style-type: none"> • Enforcement of laws and regulations in the company • Open communication between drivers and company managers to discuss problems and solutions • Creating benefits and give incentives for individuals based on performance • Install monitoring system or reporting mechanism • Insurance for family of drivers • Training for all drivers
Who should do it?	<ul style="list-style-type: none"> • Owners and drivers • National policy of the government • Management/ company • Private companies • Government agencies

Topic 2: Load optimisation- a significant portion of freight trips are either empty or low loading factors	
Questions	Answers
What causes the problem?	<ul style="list-style-type: none"> • Inefficiency of the company systems • Lack of information and transparency in the market • Confidentiality regarding shipments among carriers • Lack of distribution centres • Transit problem • Traffic imbalance
What can be done to solve it?	<ul style="list-style-type: none"> • Coordinating online platform • Establishment of front-door check (registration check) • Establishment of rating system by users • Bilateral agreements • Use of more flexible agreements
Who should do it?	<ul style="list-style-type: none"> • Government • Private sector • Carriers and associations

Topic 3: Green freight programmes- there a significant lack of partnerships between stakeholders and green freight programmes across Southeast Asia

Questions	Answers
What causes the problem?	<ul style="list-style-type: none"> • Lack of coordination and communication across sectors that are involved in green freight • Lack of appreciation and knowledge about green freight • Lack of information on the roles and initiatives of the different sectors in the region • Lack of standard alignment
What can be done to solve it?	<ul style="list-style-type: none"> • Cross sectoral/inter-country cooperation • Enhanced green freight labelling • Quantify benefits of green freight • Provision of training programmes, workshops and dialogues • Partnership development • Unify framework/ vision in the region • Integrating multimodal transportation (Air, Rail, Water, Road, Inland and Marine) • Government initiative and commitment should be boost.
Who should do it?	<ul style="list-style-type: none"> • Donors and regional organizations • (ADB, EU, GIZ etc.) • Government • Private Sector • Industry • Associations

Topic 4: Urban Freight- urban freight contributes to a significant share of transport externalities

Questions	Answers
What causes the problem?	<ul style="list-style-type: none"> • High volume of goods to be transported • Different characteristics of cities • Inadequate infrastructure • Transport modes are limited • Traffic congestion • Lack of awareness of people/ People's behaviour • Conflict of interest from the government side • Lack of availability of data • Vehicle increase (growth of population) • Truck restrictions are not effective • Repeated deliveries
What can be done to solve it?	<ul style="list-style-type: none"> • Shift market areas • Provide tax incentives for technology advancement and sustainable freight strategies, etc. • Establishment of consolidation centres • Capacity building • Invest on infrastructure development to promote better connectivity • Private sectors should have database • Establishment of urban freight partnerships and policies • Recognition programmes • Enhanced fiscal strategies • Establishment of congestion charging • Pilot projects for electric 2-3 wheelers for package distribution

	<ul style="list-style-type: none"> • Traffic management and proper land use planning • Institutional development
Who should do it?	<ul style="list-style-type: none"> • Government • Private sector • Donors • SMEs • Public Transport Authorities • Freight forwarders

Topic 5: Intermodal freight-a very dominant share of freight movement goes via road transport, which is the most energy-intensive mode.

Questions	Answers
What causes the problem?	<ul style="list-style-type: none"> • Lack of interconnectivity of different modes of transport • Factories and warehouses are not connected • Poor management and poor service quality of rail system • Double handling problem • Cross border facility • Government policies to promote other modes of transport are lacking
What can be done to solve it?	<ul style="list-style-type: none"> • Establish integrated and coordinated operating bodies on freight • Coordination among different agencies involved in freight • Promotion of intermodal transport • Enhanced government control on freight operations • Improved national cooperation among countries
Who should do it?	<ul style="list-style-type: none"> • Government • Private sector/ truck associations and Freight forwarders

BREAKOUT SESSION II.1: Developing National Strategies towards Green Freight and Logistics

Measure	Cambodia	Lao PDR	Myanmar	Vietnam	Thailand
Aerodynamic, telematics and tires technology	Yellow	Yellow	Blue	Yellow	Yellow
Developing green freight programmes	Yellow	Yellow	Blue	Yellow	Yellow
Eco-driving training	Yellow	Blue	Yellow	Yellow	Blue
Electrification in railways	Yellow	Yellow	Yellow	Red	Yellow
Emission standards and fuel quality improvement	Yellow	Yellow	Blue	Yellow	Yellow
Energy efficient equipment in railways	Yellow	Yellow	Yellow	Red	Yellow
Enhanced building codes	Yellow	Yellow	Blue	Yellow	Yellow
Financial incentive to cleaner vehicles/ ships	Yellow	Yellow	Yellow	Yellow	Yellow
Freight exchanges	Yellow	Yellow	Blue	Yellow	Blue
Freight operators certification programme/improved inspection, maintenance and enforcement	Yellow	Yellow	Blue	Yellow	Blue
Improving access to low interest finance	Yellow	Yellow	Yellow	Yellow	Blue
Information campaign to increase awareness	Yellow	Yellow	Blue	Yellow	Yellow
Initiate tire labelling scheme	Yellow	Yellow	Yellow	Yellow	Yellow
ITS improvement	Blue	Yellow	Blue	Yellow	Blue
Loading and parking restrictions	Blue	Yellow	Blue	Yellow	Blue
Low emission zones	Yellow	Yellow	Yellow	Yellow	Blue
Mandating truck scrappage scheme	Yellow	Yellow	Blue	Yellow	Yellow
New and upgraded railways	Yellow	Yellow	Blue	Yellow	Yellow
NMT freight distribution	Yellow	Yellow	Blue	Red	Yellow
Relocation of large traffic generators	Blue	White	Blue	Yellow	Blue
Removing diesel subsidy	Red	Red	Yellow	Red	Green
Road user charge/ congestion charge	Yellow	Red	Blue	Blue	Yellow
Standardised methodology for emissions	Yellow	Yellow	Blue	Yellow	Yellow
Sustainable urban freight policy/ plan	Yellow	Blue	Blue	Yellow	Yellow
Time access restrictions	Blue	Green	Blue	Yellow	Green
Truck fuel economy standard	Yellow	Yellow	Blue	Yellow	Yellow
Urban consolidation centres	Yellow	Yellow	Blue	Yellow	Blue
Vehicle size and weight restrictions	Green	Green	Blue	Yellow	Blue
Waterways improvement/ ports	Blue	Yellow	Blue	Yellow	Yellow

Colour scheme: The measure is...



Not important or applicable

Needed and planned

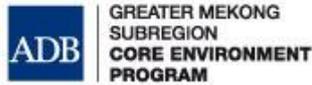


Being implemented

Needed, but not yet implemented

BREAKOUT SESSION II.2: Developing Regional Strategies towards Green Freight and Logistics

Questions	Answers
What are the common challenges for Green Freight across ASEAN countries?	<ul style="list-style-type: none"> • Old truck fleets • Lack of data and awareness • Limited or lack of financing for clean technologies • Fragmented freight sector • Lack of infrastructure/ rail system/ inefficient rail system • Lack of fuel economy policies and enforcement/ implementation • Lack of regulatory compliance
Need for an ASEAN regional framework: what happens if there is none?	<ul style="list-style-type: none"> • Different standards on vehicle exports/ pollution • Different sub-regional standards • Lack of 'interoperability' particularly for cross border transport • Cross border transport issues are not addressed • Private sector will have challenges in meeting different national standards
Where can a regional approach be more useful than an individual country approach?	<ul style="list-style-type: none"> • Knowledge and information exchange/ good practice • Standardizing methodologies for calculating CO2 emissions • Modal shift
How could a regional approach support and facilitate actions taken by individual countries?	<ul style="list-style-type: none"> • Good practices on logistics observation • Green freight labelling recognition scheme • Ensure compliance of countries • Access to climate finance (GCF etc.)
What are the policies, regulations and standards that would benefit from regional harmonization?	<ul style="list-style-type: none"> • Harmonised standards on size, weight, emissions and fuel efficiency • Common websites • Route planning of all modes • Fleet management • Cabotage • Customs regulations • Bigger trucks and less empty trips
What are the possible focus areas of a regional framework?	<ul style="list-style-type: none"> • Awareness and capacity building • Modal shift at the regional level • Cleaner fuel standards • Dissemination of realised emission reduction of solutions • Technology and other green freight solutions • Improve interoperability regional subsidy/ trade/ transport locations



Recap day 1: short quiz

- **SDGs stands for...**
 - A) Super Dangerous Goods
 - B) Safe Drive Green
 - C) Sustainable Development Goals

- **Global Greenhouse Emissions from Transport: How much is caused by the freight sector today?**
 - A. 22%
 - B. 42%
 - C. 62%

- **Countries in Southeast Asia should follow the Western path of Logistics Development.**
 - A) I agree
 - B) Not sure
 - C) I disagree

- **Indonesia's Ministry of Transport is preparing a...**
 - A) White Paper on Green Freight
 - B) Yellow Page Directory on Green Freight
 - C) Blueprint on Green Freight

- **The EU Switch Project on Sustainable Freight and Logistics in the Mekong Region will work with...**
 - A) 1000 SMEs on improving fuel efficiency
 - B) 3 countries in the Mekong Region
 - C) None of the above