

## IMPACT SHEET: Sustainable Freight Transport and Logistics in the Mekong Region

# Sustainable Freight Transport and Logistics in the Mekong Region



*The project works to increase sustainable freight transport and logistics in the Mekong Region via energy efficiency and safety measures in Cambodia, Lao PDR, Myanmar, Vietnam and Thailand.*



## CHALLENGE

The freight transport and logistics sector is highly fragmented, with the majority of truck operators being classed as SMEs, and operating small fleet of less than 10 trucks. A number of factors have been identified to affect freight fuel consumption and safe transport in the GMS: a) Development of the sector is hindered by an ageing freight fleet most of which is well over 10 years old on average; b) Freight is managed and moved inefficiently such as 25 – 50% of trips running empty which shows a clear mismatch of fleet and load carrying capacities - worsened by overloading which increases fuel consumption and affects safety and quality of road infrastructure; c) Fuel use is high due to the prevalence of poor driving patterns and disregarding safe and defensive driving practices; d) Dangerous Goods (DG) transport in the region is not up to international standards, although ASEAN and GMS countries have already adopted EU ADR in their DG protocols. Besides, most SMEs are capital deficient and there is lack of policy support and customer awareness to promote sustainable freight and logistics. Overall, the economic competitiveness in CMLV is compromised by the relatively poor performance of the freight and logistics sector, with World Bank logistics performance index significantly below other countries in the region. Increasing number of international shippers and logistics service providers strives to improve the sustainability performance along the whole supply chain but trucking operators in CMLV are not able to meet such customers' requirements.

## PROJECT BACKGROUND

The sector supports economic development in the Mekong Region. The ASEAN Economic Community single market, which started early in 2016, led to a significant increase of cross-border trade in goods and services. The movement of freight increased by 75% between 2002 and 2011, and exports of goods from the GMS almost tripled in the same period. Infrastructure expansion further increases transport and traffic activities. Currently, trucking is the dominant form of freight transport in the GMS, accounting for approximately 80% of all tonnage, but efficiency remains a challenge. For examples, 25% to 50% of all trips run empty, the average fleet is more than 10 years old, and fuel consumption often accounts for 40%-60% of the operating costs. Against this background, the efficiency, environmental performance and safety of the transport of dangerous goods in this sector are important in ensuring that national economies continue to grow, welfare increases, economic competitiveness is maintained and the environmental and social impacts are reduced. The project operated in 5 countries: Cambodia, Laos, Myanmar, Thailand, and Vietnam.

## PROJECT OBJECTIVES

The project aims to increase sustainable freight transport and logistics in the Mekong region mainly through energy efficiency and safety measures. The specific objectives are:

- Fuel efficiency is improved in at least 400 micro and SMEs.
- Transport of dangerous goods is improved via at least 80 SMEs.
- Investment in fuel efficiency and safety measures increased.
- Larger SMEs begin and continue the process of green freight labelling and improved SCP promoting incentives and regulations.

## TARGET GROUPS

Small and medium enterprises, associations, governmental agencies, and specialists or consultants in the freight transport and logistics sector in the Mekong region.

## PROJECT ACTIVITIES

### Fuel efficiency

The project focuses on the economic benefits of efficient fuel consumption. Main sub-activities focus on providing a wide range of training and coaching programmes, e.g. eco- and defensive driving, upgrading truck technology, accounting and financial management, and efficient logistics. The results of fuel monitoring of training can subsequently be used by the associations involved to promote fuel efficiency measures further.

### Safe Dangerous Goods Transport

As all 5 countries have ratified “ASEAN Protocol 9” and “Annex I: Carriage of Dangerous Goods” of the GMS Cross-Border Transport Facilitation Agreement (CBTA), therefore project will enhance capacity of both government and private sector to implement those agreements. Capacity activities are implemented such as improving rule/regulation, and the institutionalising of the measures through training, Dangerous Goods Safety Advisers (DGSA) and curricula integration.

### Access to Finance

The project focuses on giving SMEs more suitable access to finance by working with freight carriers, financial institutions and lessors/vendors seeking to improve SMEs' creditworthiness and to expand the financing products available to them.

### Policy and Consumer Awareness

The project focuses on incentivising the uptake of SCP practices through facilitating SME participation in certification programmes such as GFA and Q Mark labels. It also seeks to support national green freight action plans that provide

a sound basis for further policies and regulations for broad institutionalisation of sustainable freight and logistics, and to ensure that the lessons of the project's activities are regionally disseminated.



## PROJECT CHALLENGES

Recruitment remains the challenge for organising training for SMEs because they view it as a loss of income to have drivers join the training. To address this, the project has worked intensively with company owners through company visits. Fuel saving result is presented to help visualise the benefit of training. Data quality was also a problem at the beginning stage of data collection as raw data received from the drivers was found to be inadequate due to misunderstanding and lack of fuel measurement method. Hence, the project provided on-the-job training to local trainers on data collection and validation to ensure data quality. Data validation was incorporated into company visits to discuss with drivers, fleet managers and company owners to improve raw data quality.

At the policy level, as the topic of Dangerous Goods Transport is related to various government agencies such as Ministry of Transport, Ministry of Industry, Ministry of Environment, Ministry of Public Health, Ministry of Interior in which levels of understanding are different and involvement of all agencies is difficult. Therefore, the project has established working group consisting of those agencies and started to provide basic knowledge of ADR and Dangerous Goods Transport to all five countries. Regional workshop provided platform for the five GMS countries to share experience and enhance the level of understanding among the countries.

## PROJECT ACHIEVEMENTS

- 513 SMEs are trained on Eco driving training. Some SMEs conducted in-house training by self-paid service, reaching more than 1,000 drivers
- Fuel saving ranges from 10-28% and averages 16.38%.
- Eco driving training is integrated into truck driving training in Myanmar and Cambodia

- ADR 2017 translated into 4 languages (Cambodian, Myanmar, Vietnamese and Laotian)
- 22 local trainers from 5 countries are trained on DG transport
- 96 government officers from 5 countries and 114 SMEs were trained on DG transport
- 6 notifications on Dangerous Goods Transport in Myanmar were issued, while Decree related to Dangerous Goods Transport in Cambodia and Vietnam are being revised
- 15 SMEs are in the process of business/investment plan development for truck upgrading
- Green Freight Standard Guideline for Vietnam completely developed and potential measures for CO<sub>2</sub> emission reduction in Freight sector under NCD Action Plan for Thailand are proposed
- 15 SMEs in the process of GFA certification and 75 SMEs in Thailand for Q Mark certification
- Standard guideline on Green Freight for Vietnam developed and approved by DRVN



## LESSONS LEARNED

Fuel saving result from pre-post test and data analysis of logsheet is important as explicit evidence to convince drivers that Eco driving technique is effective measure to reduce fuel consumption and operational cost of business. In addition, while new and innovative trucking technologies such as platooning are promising, they can be difficult to implement during project duration. However, it can draw attention of SMEs to widen their outlook and knowledge on trucking technology. Furthermore, various workshops and trainings conducted by the project are valuable platforms for drivers, SMEs, associations, governmental bodies to learn from one another and strengthen and expand the network in the logistics sector. Lastly, while the project focuses on improving SMEs capacity, policy and incentive measures such as financial support, privileges for standard labelling such as GFA in CLMVT and Q Mark in Thailand are an important driven mechanism to encourage SMEs to obtain green activity certification as well as the role of international supply chain companies to drive supplier's behavior change in the long run.

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Our fuel data analysis of participating SMEs shows that 10 to 28% of fuel was saved by Eco driving. Fuel cost accounts for around 40% of operational cost, meaning that the more fuel is saved, the higher the profit margin. However, incentive and policy mechanism from both government and company itself are required to retain driving behaviour change of the driver such as profit sharing from fuel saving between the company and driver. Furthermore, Eco driving training should be promoted and integrated into national driving training as well as financial support on technology upgrade to ensure long term improvement and sustainability.

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## Long-term project sustainability

The project has implemented its activities through a broad partnership to build joint strategies and synergies and meet expectation of all relevant stakeholders. Capacity of human resources were built in different related fields to ensure continuation of activities in the future. For example, training curriculum and local trainers were developed in all five countries with successful cases of fuel saving that can be used to persuade SMEs and scale up the training. Outstandingly, Myanmar driving school has already integrated Eco driving into their existing training and also applied Eco driving technique to bus driving. Some companies have conducted in-house training for their drivers with self-paid service. In Cambodia, the first driving school has been established with the project's support. In addition, the project supports the process of GFA certification in the region and Q Mark certification in Thailand. This will ensure that all services provided to the SMEs will be taken up by organisations who can later provide those services on a commercial basis. Networking and partnership with international companies will give opportunity for SMEs to broaden their business, and market requirement is a strong driving force to motivate SMEs to maintain their sustainable activities.

Moreover, the project has tackled problems on all levels of “change” for higher sustainability and impact. It has deployed a unique approach for each of the intervention areas, addressing individual and organisational development (SME, authorities) and network cooperation (e.g. supply chain, new services) while engaging at the system and policy levels. This ensures that changes are not limited to targeted SMEs, public and private services and networks, but have a broader impact through improved framework conditions where needed.

## Project contributions to Climate Change Mitigation and SDGs



As transport and logistics sector ranks 2nd in energy consumption and CO<sub>2</sub> emission, the project's main focus is on optimising energy consumption and CO<sub>2</sub> reduction. The project is interlinked with [SDG 13 Climate Action](#) as Eco driving techniques, better maintenance skill and efficient truck technologies can help reduce fuel consumption by 16% on average, which also translated into less CO<sub>2</sub> emission. Less CO<sub>2</sub> emission helps mitigate the green house effect that contributes to climate change. In addition, access to finance to upgrade trucks to more eco-friendly technology and encouragement to apply for green labelling bring attention to the importance of [SDG 12 Sustainable Consumption and Production](#) in the region. Lastly, the project can also be considered related to [SDG 7 Affordable and Clean Energy](#) as the project promotes how to use fuel efficiently and encourage maintenance of trucks for cleaner and more efficient combustion.

# Impacts at a Glance

<b>Economic Impact</b>	<ul style="list-style-type: none"> <li>• 4.66 USD per 100 km saved</li> <li>• Networking and partnership with international companies gave opportunity for SMEs to broaden their business and green market requirement is a strong driving force to motivate SMEs to maintain their sustainable activities.</li> </ul>
<b>Environmental Impact</b>	<ul style="list-style-type: none"> <li>• Fuel (mainly diesel) saving of 4.97 L/100 km. for empty truck and 7.40 L/100 km. for loaded truck, on average. In percentages, fuel saving ranges from 10.16 to 28.18% with 16.38% on average.</li> <li>• An average reduction of 136.50 gCO<sub>2</sub>e/km. for empty truck and 203.12 gCO<sub>2</sub>e/km. for loaded truck</li> </ul>
<b>Social Impact</b>	<ul style="list-style-type: none"> <li>• Beside Eco driving, project also conducted training on defensive driving which aim to improve driving skills e.g., blind spot, safety belt, proper use of steering wheel. In addition, Eco driving training techniques were integrated into truck driving training in Myanmar and Cambodia.</li> </ul>
<b>Climate Benefits</b>	<ul style="list-style-type: none"> <li>• 16% average in fuel saving means less energy consumption and CO<sub>2</sub> emissions</li> </ul>
<b>Green Finance</b>	<ul style="list-style-type: none"> <li>• 15 SMEs are in the process of business/investment plan development for truck upgrading and are expected to be completed by end of January 2019</li> <li>• Trainings and workshops were conducted to provide knowledge to target SMEs as well as to identify the gap/obstacles to access Green finance. Truck technology providers e.g. HINO, Scania, MANN, Isuzu also presented their technologies and their efficiency at workshop.</li> </ul>
<b>Target Group Engagement</b>	<ul style="list-style-type: none"> <li>• 513 SMEs were trained and adopted Eco driving practice as well as improved maintenance skill.</li> <li>• Seven private companies in Thailand, Myanmar, Cambodia, and Vietnam have conducted in-house training at their own cost for over 1,000 drivers.</li> <li>• Five Associations (MI, CAFFA, MIFFA, UMFCCI, MCIA) have further conducted training on Dangerous Goods Transport for their members.</li> <li>• 39 stakeholders such as government agencies, associations e.g., Freight Forwarders Association, Trucking Association, Logistics Association, Truck manufacturer/technology providers, International logistics companies were engaged.</li> </ul>
<b>Policy Development</b>	<ul style="list-style-type: none"> <li>• 18 events were held with policymakers</li> <li>• Ministry of Transport in Myanmar issued 6 notifications regarding Dangerous Goods Transport</li> <li>• Established working group for ADR transport and revision of regulations for Dangerous Goods Transport in 4 countries</li> <li>• Developed Green Freight Standard guideline for Vietnam which was approved by Directorate for Road of Vietnam (DRVN)</li> <li>• Potential measures for GHG emission reduction in Freight sector under Nationally Determined Contributions (NDC) Plan for Thailand</li> <li>• Reduction of Vehicle Import Duty in Cambodia and Myanmar</li> <li>• Decree in Vietnam and Cambodia regarding DG transport are being revised</li> <li>• Action plan for DGSA establishment in Thailand is approved</li> </ul>
<b>Europe-Asia cooperation</b>	<ul style="list-style-type: none"> <li>• Four events were organised with European and Asian participants</li> <li>• Participated in 3 seminars/conferences: Better Air Quality (BAQ), GFA Annual Seminar and jointly organised conference on transport and logistics in GMS countries with ADB</li> <li>• Expand network between EU experts and partners in the region as well as establishing partnerships with international companies e.g., DHL, Heineken</li> </ul>



## FUNDING

EUR 2,400,000  
(EU's contribution 90%)



## DURATION

February 2016 - January 2019



## PARTNERS



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