Proceedings of the National Kick-off Workshop

"Advancing Sustainable Transport in Thailand"

Energy-Efficiency and Climate Change Mitigation for the Land Transport Sector in ASEAN Region project

05 March 2013

Imperial Queen's Park Hotel, Bangkok, Thailand

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Summary

The Kick-off workshop of Energy-Efficiency and Climate Change Mitigation for the Land Transport Sector in ASEAN Region project (or in short, Transport and Climate Change Project or TCC Project) aimed to bring together key stakeholders in transport sector in Thailand, provide update of sustainable transport policies from the high-level government representative and share international transport and climate change policies from international experts. Accordingly, close to 100 participants from various relevant backgrounds joined the event. During the panel discussion and break-out sessions, speakers and stakeholders were able to share knowledge, past experiences and opinions from various prospects. Interesting issues are being addressed and introduced. For instance, the problem of black carbon and GHG induced transport policy makers and relevant stakeholders to concern a synergy between addressing air quality and climate change. It is also clear that existing strategies, studies and plans related to sustainable transport in Thailand provide a good basis to further develop policies to improve energy efficiency in transport. Discussions during break-out sessions inspired policy makers to take the outcome of those sessions into consideration. NAMAs and MRV in transport sector received a lot of attention and stakeholders were looking for further cooperation with the Transport and Climate Change project and GIZ. These invaluable discussions from the Kick-off Workshop will be the foundation and support of the development of Transport and Climate Change project in the future.

Objectives:

- Introduce and discuss the Transport and Climate Change project
- Bring together key stakeholders in transport sector in Thailand
- Provide update of sustainable transport policies from the high-level government representative
- International experts share international transport and climate change policies

Agenda Overview

08.30-09.00	**Registration**
09.00-09.45	**Opening Ceremony** **Welcome speech and highlight of the workshop** By **Mrs. Raweewan Bhuridej** *Deputy Secretary - General* *Office of Natural Resources and Environmental Policy and Planning(ONEP)* **Opening address** By **Dr. Thomas Multhaup** *Counsellor, Economic and Commercial Affairs* *Embassy of the Federal Republic of Germany*
10.00-10.25	**Introduction of "Cities-Environment-Transport" programme and Project *" Transport & Climate Change"***

	By **Mr. Roland Haas** *Program Director "Cities-Environment-Transport"* *ASEAN-German Technical Cooperation, GIZ* **Mr. Stefan Bakker** *Team Leader of the project Transport and Climate Change* *ASEAN-German Technical Cooperation, GIZ*
10.25-10.45	**Coffee Break**
10.45-11.50	**Panel Discussion: "Transport and Climate Change Policy in Thailand"** - **"Overview of Climate Change Policy related to Transport sector in Thailand** By **Mr. Prasert Sirinapaporn** *Acting for Director of Office of Climate Change Coordination* *Office of Natural Resources and Environmental Policy and Planning (ONEP)* - **Greenhouse Gas Emission Mitigation from Transport Sector** By **Dr. Chaiwat Muncharoen** *Deputy Executive Director* *Thailand Greenhouse Gas Management Organization (TGO)* - **Master Plan for Sustainable Transport and Climate Change Mitigation** By **Mr. Wijit Nimitrwanich** *Director, Bureau Safety and Planning* *Office of Transport and Traffic Policy and Planning (OTP)* - **Possible Financial Support for Energy Efficiency measures in Transport** By **Ms. Chirapaporn Laima** *Director, Energy Policy and Planning Division* *Energy Policy and Planning Office (EPPO)*
11.50-12.30	**Nationally Appropriate Mitigation Actions (: NAMAs) and Measurement, Reporting and Verification (MRV): options for the Transport Sector?** By **Dr. Woranuch Emmanoch** *Director of Technical Support of Inventories and Mitigation Section* *Office of Natural Resources and Environmental Policy and Planning (ONEP)* **Mr. Stefan Bakker** *Team leader of the project Transport and Climate Change* *ASEAN-German Technical Cooperation, GIZ*
12.30-13.30	**Luncheon**
13.30-14.00	**Success Stories of Sustainable Transport Policy Implementation** By **Mr. John P. Ernst** *Urban Transport Ecologist* (on behalf of GIZ)
14.00-15.20	**Break-out sessions: Advancing sustainable transport policy in three land transport sub-sectors** **1. Freight & logistics** Introduction by: **Mr. Suratin Tunyaplin** *The Land Transport Federation of Thailand* and **Ms. Naeeda Crishna**

	GMS Environment Operations Center (ADB) **2. Urban transport policy** Introduction by **Mr. Wijit Nimitrwanich** *Director, Bureau Safety and Planning* *Office of Transport and Traffic Policy and Planning (OTP)* **3. Energy Efficiency Policy in Transport Sector** Introduction by **Mrs.Tasana Piriyaprut** *Vice President of Thailand Automotive Institute (TAI)*
15.20-16.00	**Closing: Output from Group Discussion & what next?** • **Key outcomes of breakout sessions** • **Reactions and next steps by ONEP, OTP, RRC.AP*, GIZ**

*Regional Resource Centre for Asia and the Pacific

Participant expectations

- Share views on policies regarding urban transport, freight and logistics and energy efficiency in transport
- Exchange knowledge and opinions on Thailand's transport sector from various stakeholders from government, private sector, academia, NGOs and donors

Welcome speech and highlights of the workshop

Mrs. Raweewan Bhuridej – Deputy Secretary- General of Office of Natural Resources and Environmental Policy and Planning (ONEP)

Mrs. Raweewan, Deputy Secretary- General of ONEP, highlighted in her welcome speech that the workshop was key in the cooperation between GIZ and governmental organisations of Thailand. This workshop would introduce transport and climate change project to stakeholders with the aim of raising awareness about the issue and developing suitable strategies for Thailand. She also noted that sustainable transport policy played an important role in the solving process of climate change problem. She hoped that the participants of this workshop would learn to adapt and safeguard the infrastructure from climate change. She also hoped that this workshop would be a good opportunity for stakeholders to offer their perspectives and share initiatives, which will support policies in the future. Lastly, she wished that this workshop would strengthen cooperation among all organisations for future work.

Opening address

Dr. Thomas Multhaup – Counsellor, Economic and Commercial Affairs, Embassy of the Federal Republic of Germany

Dr. Multhaup gave important short remarks about transport. He said that transport was about mobility and connectivity. He explained that although Germany's emissions were much higher than emissions in Thailand, Germany could still play an expert role and share knowledge of emissions with Thailand because Germany has good mobility. He gave some examples of the solution for transport in Germany, such as the usage of bicycles and planning. He also noted that the most important point was that the responsible authorities could enable citizens to adopt the policy and think greener. For connectivity, Dr. Multhaup stated that the connection of infrastructure should be considered seriously. He noted that Thailand shows some good signs, however the transport infrastructure should become more sustainable and regulated, as it is the largest contributor to climate change. Finally, Dr. Multhaup saw this project as an arena that could navigate and support Thailand to consider and use mixed tools such as action plans, policies and strategies to allow the transport sector to be an actor that helps reduce the climate change problem.

Introduction of "City-Environment-Transport" programme and Project "Transport &Climate Change"

Introduction of "City-Environment-Transport" programme

Mr. Roland Haas – Program Director "Cities-Environment-Transport" ASEAN-German Technical Cooperation, GIZ

Mr. Roland Haas, Programme Director, gave a brief introduction about the programme "Cities, Environment and Transport in the ASEAN Region". He stated that the programme focused on technical cooperation for the above mentioned issues with the duration from 2009- 2015. The programme comprised of 3 components which were clean air for smaller cities (CASC), sustainable port development (SPD) and energy efficiency and climate change mitigation in the land transport sector (or in short "Transport and Climate Change or TCC"). These three projects combined two important elements: local pollution and the global environment issue. The first element addressed the issue with the main interest of citizens while the second element concerned issues on a bigger scale, such as climate change. Mr. Haas shared that the transport sector needs to be addressed because transport is a pressing issue in the climate change community as it is one of the biggest individual sectors admitting to greenhouse gas emissions. Transport represented 13-15% of GHG emissions in general. He briefly introduced the objectives of CASC and SPD. CASC aims at developing 10 clean air plans and implementing at least 7 of them in the small and medium cities in the ASEAN region. For SPD, it targets to assist the selected port to comply with the safety health and environmental standard and convention in six ASEAN countries. Finally, Mr. Haas shared that Thailand is one of the most advanced countries in the activities because the programme is based in Bangkok. He thanked ONEP for hosting the TCC project and for their kind cooperation, and ultimately wished this workshop to enable fruitful discussion.

Introduction of Project "Transport &Climate Change"

Mr. Stefan Bakker – Team Leader of the project Transport and Climate Change ASEAN-German Technical Cooperation, GIZ

Mr. Stefan Bakker, the team leader of the project transport and climate change, gave a brief introduction about the project. He explained that the project aimed to increase energy efficiency and reduce GHG emissions in the land transport sector in the ASEAN region by using strategies and action plans as tools. The scope of the project engaged regional and national level with the hope to expand to the local level in the future. For the regional level, the project will work with ASEAN working groups such as Land transport, climate change, and environmentally sustainable cities (as tentative option) to adopt strategies for improving energy efficiency and reducing GHG emissions in the land transport sector and also help ASEAN member states to develop land transport strategies. At the national level, the project aims to help develop national action plans for sustainable transport as well as improving the MRV system to monitor those policies. Mr. Bakker

emphasized that the scope of the project are those policies and measures that improve energy efficiency and reduce GHG emissions. Better engines and emission standard, better tires, eco-driving, modal shift towards public transport and policies that promote transport demand management are examples that allow the overall system to be more efficient. As the project is still in an early stage, opinions and inputs from the discussion during this workshop should be considered for the further focus on scope. Mr. Bakker informed that the project's rationale is based on the co-benefits between global and local levels. At the global level, the community as well as ASEAN is concerned about CO_2 emissions. ASEAN saw climate change as a challenge and Mr. Bakker therefore suggested that regional strategies could help mitigate global concerns. As the transport sector contributes significantly to climate change and in particular to 25% of energy related CO_2 emissions. Moreover, Mr. Bakker also highlighted that black carbon should also be addressed because it was one of the most health affecting pollutants, and also an important 'short-lived climate pollutant'. So, there would be a strong synergy between addressing air quality and climate change. Mr. Bakker highlighted that it is important to promote mainstream climate change and environmental considerations into transport policy-making as well as to building up capacity in order to deal with sustainable transport challenges. The project would support policy process, provide capacity building and most importantly provide links to international climate change policy. There would be initial activities such as a regional green freight policy, a new idea that is to be launched in April. Another activity concerns the targeting of fuel and vehicle standards. Mr. Bakker stated that there was a missing area in the regional approach for which a forum for high level policy makers was needed. GIZ wants to base activities on what already exists in the countries and work further from there. Finally, Mr. Bakker said that GIZ was also well connected at the international level and he was looking forward to see the dialogues and interaction between stakeholders and also to see where the project could be of use.

Panel Discussion: "Transport and Climate Change Policy in Thailand"

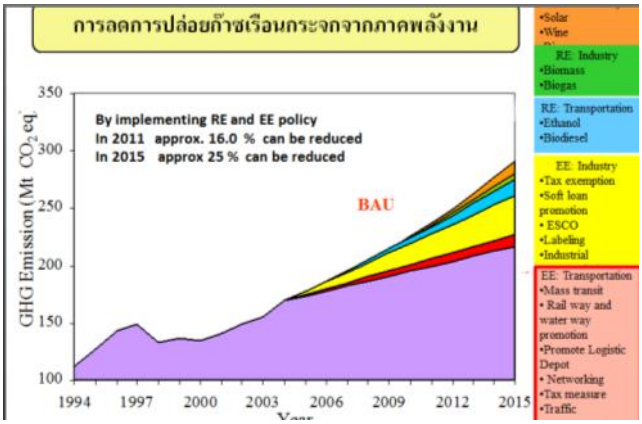
• Overview of Climate Change Policy related to Transport sector in Thailand

Mr. Prasert Sirinapaporn, Acting for Director of Office of Climate Change Coordination, Office of Natural Resources and Environmental Policy and Planning (ONEP)

Mr. Prasert gave an overview of climate change policy in Thailand. He said that Thailand has no obligation to reduce GHG emissions but after 2015, Thailand would be one of the participating countries to react to the climate change problem. ONEP was appointed as the secretariat of National Committee on Climate Change Policy to react and be responsible for making appropriate policy concerning climate change issues. He pinpointed that the work should have some progress before 2015 and the policy should be implemented seriously in the future. At the moment ONEP has been engaging with the national policy and short-term strategies on climate change, and has been developing a master plan as a long-term strategy since 2009. They also plan to have a framework for climate change issues prepared by this April. The draft of the master plan aims to move the country towards sustainable low-carbon society by 2050. He also noted that the real objective of this master plan is to encourage every organisation to have an action plan in climate change issues in the short,

medium and long term, and that Thailand would take part in the world community to reduce GHG. He mentioned three strategies of the master plan: adaptation, mitigation and carbon sink enhancement, and capacity building. He noted that the second strategy, mitigation and carbon sink enhancement, has a shared focus with Transport and Climate Change project as both mitigation measures of the strategy and TCC project approach transport and energy sector. Finally, He made his last emphasis that climate change policy of Thailand also considers the issue of mitigation in the transport sector.

• Greenhouse Gas Emission Mitigation from Transport Sector



Dr. Chaiwat Muncharoen – Deputy Executive Director, Thailand Greenhouse Gas Management Organization (TGO)

Dr. Chaiwat informed that transport shared about 28% of GHG emission in the energy sector. In order to reduce GHG emissions in transport sector, Thailand has to estimate its potential to see how much GHG emissions the country can reduce. He accepted that there are some difficulties with complex information and focus on the transport sector remains limited. For example, these problems have happened in CDM project responsible by TGO. He pinpointed that the potential of GHG emission reduction from energy efficiency (EE) measures in transport sector is still low comparing to EE measures in industry and renewable energy (RE) in transport sector as shown in below chart. So, the effective measures are needed to enhance the reduction.

Some policies and planning were prepared and provided to deal with GHG emission such as 11th National Economic and Social Development Plan, Climate Change Master Plan and other plans from different ministries such as Ministry of Energy, Ministry of Transport and Ministry of Industry. TGO is currently working together with the Ministry of Energy on shaping NAMAs for energy sector. He stated that in order to make NAMAs and MRV possible data input and main policies of line ministries should be looked at. Once we realize what is possible and what is not, then NAMAs can be shaped upon that foundation. Finally, he mentioned that the abatement costs in transport sector for NGV and Biodiesel 2nd Generation still have some problems to be studied more in detailed. If those costs are larger than 10$/ton CO_2 reduction, it may require the internationally supported NAMAs to finance the project.

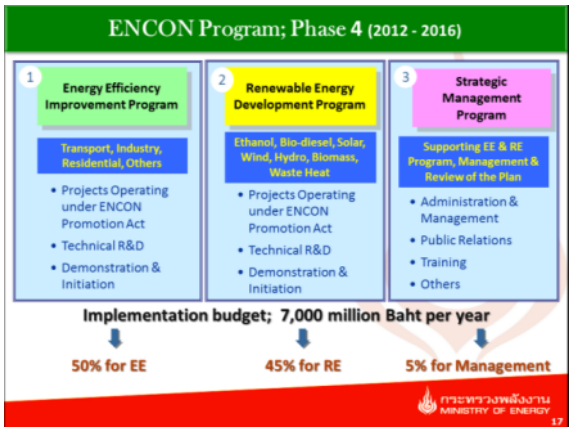
- **Master Plan for Sustainable Transport and Climate Change Mitigation**

Mr. Wijit Nimitrwanich –Director, Bureau Safety and Planning Office of Transport and Traffic Policy and Planning (OTP)

Mr. Wijit Nimitrwanich pinpointed that in the energy sector, transport is the second biggest GHG emitting actor after energy production. He mentioned that transport is mobility, and the less energy used for the mobility, the less pollution would be produced as well. He stated that pollution caused economic and social loss; therefore, a master plan is needed to tackle the problem effectively. Management of the problem requires cooperation from every stakeholder. Planning and SWOT analysis would lead to the formation of climate change policy such as NAMAs. Mr. Wijit has informed that the important issues of the master plan are to enable integration of information among stakeholders, build up capacity and develop infrastructure. Some projects of the master plan such as SCN1 (scenario1: funded projects government planned to carry out) and SCN2 (scenario2: supplementary suggested projects without governmental funding) must be implemented. As projects under SCN2 are not yet funded, the budget planning is very important as it is a factor that enables the planning to be feasible. He also suggested that additional 55 projects in SCN2 should be in the form of internationally supported NAMAs. Finally, he pointed out the financial obstacles of the implementation process. Even though some good pilot projects already exist, he hopes to make an overall big impact rather than affecting only specific areas.

- **Possible Financial Support for Energy Efficiency measures in Transport**

Ms. Chirapaporn Laima – Director, Energy Policy and Planning Division, Energy Policy Planning Office (EPPO)



Ms. Chirapaporn informed about a new country strategy that was concerned with transport and climate change, called “green growth” strategy. This strategy concerns the GHG emission issue and financial planning for environment. Then she mentioned sources of funding for energy conservation which also include energy efficiency in transport sector. Sources of funding came from the Energy Conservation Promotion (ECON) fund, government budget

and investment of private sector. ECON fund functions as grants/subsidies for operation of energy conservation programs for both governmental and private organisations. The fund would support 3 programmes: energy efficiency improvement programme, renewable energy development programme and strategic management programme. The fund is also available for research, study and capacity building. She pointed out that the Ministry of Energy targets to reduce energy intensity by 25% within 2030 comparing to the 2010 level by implementing the 20-year Energy Efficiency Development Plan (EEDP). She also stated that about 2,289 million US Dollars will be put into the transport sector to achieve the 15,323 ktoe energy saving under EEDP. The ECON fund it is now in the 4th phase (2012-2016). For transport sector, this program will only be applicable for projects that focus on the pilot demonstration and research study. There will be a budget of 7,000 million baht/year from government during 2012-2016 for supporting the ENCON fund. If any projects want to apply for the fund, these should comply with the above mentioned 3 programmes of the ENCON fund or green growth plan.

Q &A

1. How do government organisations coordinate this climate change issue?

   Answer: Government organisations coordinate together both on formal and informal levels. Formally, there is a climate change coordinator at each line ministry to coordinate with ONEP acting as the secretariat of the National Committee on Climate Change Policy (NCCC). The second way is the unofficial communication between each relevant organisation.

2. How can organisations coordinate with one another on gathering data and numbers of GHG emission reduction from transport master plan, 20-Year EEDP, TGO plan and other relevant plans?

   Answer: There is the 11th national economic and social development plan that regulates how the framework of the nation will be. Each relevant organisation such as OTP, TGO, and ONEP etc. will follow that scope. Then the work will be separated into smaller sections.

3. How are internationally supported NAMA and domestic NAMA different according to the presentation from TGO and OTP?

   Answer: Dr. Chaiwat clarified that the emission reduction target from the TGO presentation was assessed from the available data, which may be different from the OTP evaluation. The limitation is that TGO cannot access all plans of every ministry. The linkage of data between these two organisations is not complete. Therefore, cooperation is needed in order to make the assessment of plans from TGO and OTP goes towards the same direction.

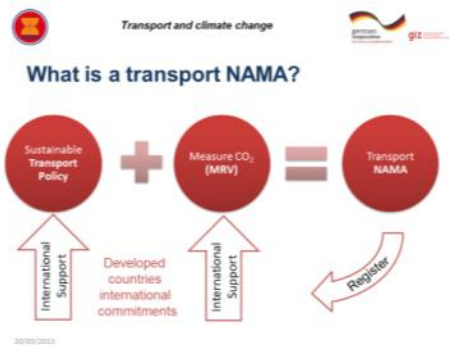
Nationally Appropriate Mitigation Actions (NAMAs) and Measurement Reporting and Verification (MRV): options for the Transport Sector?

Dr. Woranuch Emmanoch – Director of Technical Support of Inventories and Mitigation Section Office of Natural Resources and Environmental Policy and Planning (ONEP)

Dr. Woranuch mentioned that even though Thailand has no obligation to GHG reduction, the country does control GHG emissions on voluntary basis. Thailand prepares national reports to UNFCCC, which includes national communication. According to the outcomes of the COP 19 meeting, Thailand will submit a pledge for NAMAs and Biennial Update Report (BUR) to UNFCCC. She mentioned that this engagement has led to other dialogues and to the formation of a concrete resolution on NAMAs. She also stated that ONEP was designated as a national focal point for climate change and thus, responsible for preparation and submission of NAMAs. NAMAs is a form of mitigation action originated since COP 13 in Bali (2007) that proposes to reduce GHG emission below the business as usual level. NAMAs are flexible and could be anything from action plans, policies to strategies. She gave further information that in order to know whether NAMAs could be effective or not, criteria for funding should be provided. One of the criteria is MRV (Measurement, Reporting and Verification). If NAMAs and MRV of a country are feasible, then the country would be able to get access to the financial support from international donors. So, NAMAs must be developed along with MRV. Moreover, she pinpointed that reliable data is important for the MRV process. However, the current situation is that NAMAs and MRV are still in the developing process and the financial support and registry system are being established. So, the relevant authorities need to follow the process closely.

NAMAs and MRV in the transport sector

Mr. Stefan Bakker– Team leader of Transport and Climate Change Project, GIZ



Mr. Bakker opened his presentation with an outline of what exactly transport NAMAs cover: they can come in the form of any sustainable transport project and/or international commitment that include MRV (Measurement, Reporting and Verification). Mr. Bakker highlighted the future importance of NAMAs, as they are a new climate change policy instrument and can help overcome barriers to sustainable transport.

Why are NAMAs desirable? According to Mr. Bakker, NAMAs can tackle financial, institutional, behavioural and political barriers; they provide financial support and capacity building; they encourage technology transfers from other countries; and they can be important political drivers to help create policy dynamics within national borders and get stakeholders together.

Currently, a prototype registry exists in the UNFCCC where countries can officially submit their NAMAs. Two countries have already submitted NAMAs in the transport sector, 8 are in the planning process and 10 are in the concept stage. The transport sector was one of the early movers of NAMAs.

However, it is important to recognise that NAMAs alone are not sufficient in solving the problems of transport and climate change. Rather, a mixture of local, national, international, public and private funding is necessary to develop sustainable transportation programmes.

Mr. Bakker then turned to the idea of MRV, which facilitates the implementation and the management of NAMAs. MRV allows the identification of best practices and fosters international learning. It also provides accountability to domestic stakeholders and mutual accountability in the case of international cooperation. It is therefore a useful tool for policy makers to understand the impact of NAMAs and learn further. He emphasized that MRV will be less complicated than methodologies from CDM.

What exactly can be MRVed? First, the action of NAMAs, including the plan, implementation and GHG reduction compared to the baseline values can be MRVed. Then, the support provided by NAMAs can also be MRVed, such as the amount of finance, technology and capacity building.

There are two main channels in which to approach MRV: top down and bottom up approach. The top down approach involves a simple method, such as fuel sales multiplied by emission factor. The bottom up approach, however, is more detailed and can be used to assess the policy impact of NAMAs.

Q & A

1. Participant remark: MRV is less stringent for NAMAs than CDM, but it is not clear whether it would be simpler. This is because it is very difficult to reconcile top down and bottom up approaches. For example, how does one go about measuring the emission reductions that result from training; you cannot assume that this happens automatically. It is thus particularly difficult to MRV the support actions for NAMAs.

Question: How does GIZ aim to MRV the whole range of actions that are covered by NAMAs?

Answer: Rather than measuring the exact reduction in emissions resulting from support, for example training, it is sufficient to measure the amount of support provided and what has been done with it. Thus, recording the actions that have been taken should satisfy the MRV of support actions.

2. *Question:* Does a NAMAs have to be a new project or can the idea be applied to projects that are already in operation?

Answer: It is purely up to the country to decide what a NAMAs includes. The only requirement of a NAMA is that it should help reduce emissions. A NAMAs can therefore come in the form of both new and existing projects.

Success Stories of Sustainable Transport Policy Implementation

Mr. John Ernst – Transport Specialist

Mr. Ernst started his presentation with highlighting that *to change the use of urban transport, we have to change our way of thinking.* This can either be done by making the most efficient modes of transport the most attractive modes of transport, or by making the least efficient modes the least attractive.

First, to highlight how to make efficient modes of transport more attractive, Mr. Ernst gave a number of examples of successful sustainable transport policies in various countries. For example, the removal of the elevated highway in Seoul, South Korea, which was subsequently re-stored as a river and complemented by luxurious pedestrian walkways. Another example of Seoul's success is T-money, a smart card that is used pay for public transport. This card can be used and uploaded through mobile phones. The method is efficient and effective, and also allows the government to collect useful information regarding public transportation. The success of Bangkok's BTS and MRT was also highlighted, as well as Copenhagen's cycling and pedestrian systems.

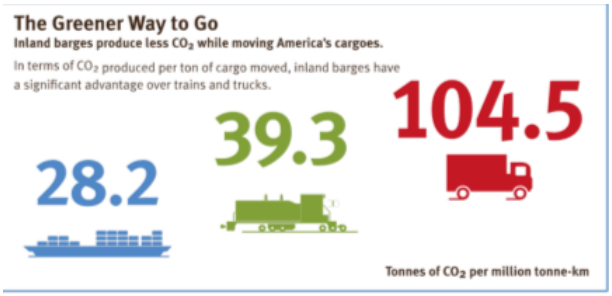
On the other hand, to make inefficient modes of transport less attractive policies such as Singapore's road pricing can be induced. This makes driving personal vehicles more expensive and therefore reduces the incentives to use this mode of transport. However, such policies are likely to incur political acceptance problems.

As Mr. Ernst explained, what we must consider when we address urban transport is the cost, time, comfort and aesthetics of public transport. We must also consider whether policies can themselves help people to understand why they are implemented. In terms of pedestrian policies, step-by-step changes can make big differences. However, in terms of public transport, cycling and road pricing, a whole system approach must be adopted. Thus, depending on the policies, we must consider different factors.

Following urban transport, Mr. Ernst turned to the issue of vehicle efficiency. He explained that greater efficiency could be either used to reduce fuel consumption or to increase the power and size of vehicles. Here he stressed that rather than increasing power and size, we should focus on reducing fuel consumption. He gave China's CAFÉ as a successful example of vehicle efficiency standards and suggested that Thailand could greatly benefit from adopting such standards. The benefits would also apply to Thai automobile manufacturers as standardised standards across Asia would exempt them from producing different cars with different engines for different Asian countries.

The principles that must be considered when addressing vehicle efficiency are as follows: the government should choose the goal and let industry determine the technology; other policies should be reviewed and be compatible; and price signals should be considered. Indeed, more efficient cars make driving cheaper, and therefore could lead to a rebound effect.

Finally, Mr. Ernst addressed freight transport. As demonstrated by a diagram, Mr. Ernst explained that river transport is the most efficient mode of transport, followed by rail and then motor. However, trucks continue to be the most popular form of freight transportation in Thailand.



Source: Commission for Environmental Cooperation, 2011. Adapted from The Journal of Commerce.

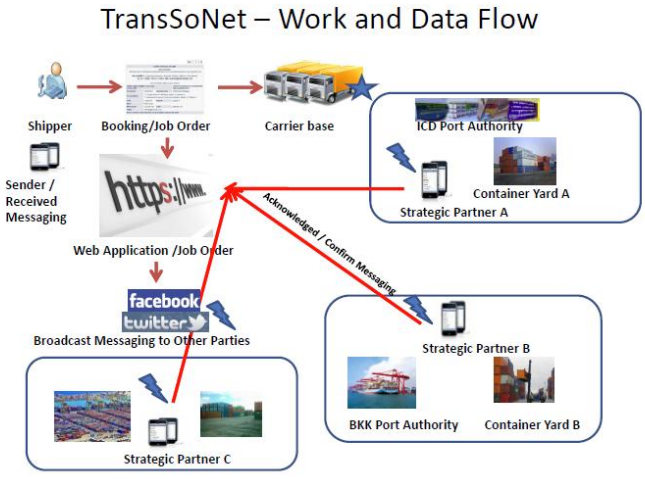
What can be done to make this more efficient? First of all, the efficiency of vehicles could be changed. For example, in Guangdong a policy was implemented that changed the aerodynamics of trucks to reduce fuel use and emissions. Scrapping programmes can also be introduced, such as the old truck scrapping policy in Mexico.

What needs to be considered in the implementation of policies is that public investments target efficient modes. Also, business can benefit from reduced costs, and thus strong partnerships between government and industry can and should be formed in the process of reducing GHG emissions and promoting energy efficiency of freight.

Output from Break-out sessions: Advancing sustainable transport policy in three land transports sub-sectors

1. Freight and Logistic

This break-out session was divided into three parts. First, Mr. Suratin gave a presentation, which was followed by a presentation by Ms. Crishna, and finally a group discussion about the policies that could address GHG emissions from freight took place.



Freight and logistics

Mr. SuratinTunyaplin

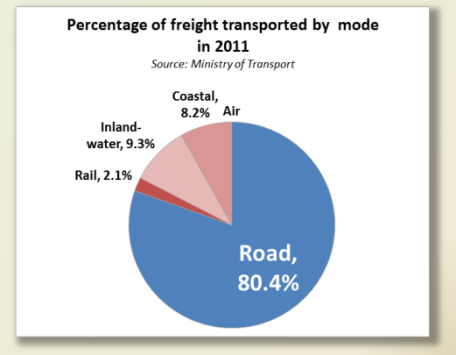
Mr. Suratin opened his presentation by explaining the importance of logistics management. In this, he explained that if we control the supply chain, we can also influence the amount of GHG emissions. The idea behind this is that by reducing the amount and distance of "empty-trips" taken, the amount of GHG emissions will automatically be reduced. This can be done by promoting communication and sharing trucks between transportation companies.

Mr. Surathin named this idea as "TransSoNet", which promotes the use of carrier base stations near container yards and the sharing of trucks such that the amount of empty trips is reduced. The benefits of this programme would be:

- Travelling distance saved: about 6,350 km/month ; about 76,000 km/year
- Km/L saved: about 2,500/month ; about 31,000/year
- Carbon footprint ($kgCO_2$): about 133,500/month ; about 1,600,000/ year

Opportunities and Barriers for Low Carbon Freight Transport in Thailand

Ms. Naeeda Crishna – GMS- EOC



Ms. Crishna introduced her presentation by stressing the importance of road freight in Thailand and highlighting its importance in reducing emissions and improving energy efficiency. The main problems regarding freight include the increasing of empty running, the ageing vehicle fleet, and the rise of carbon footprint.

Ms. Crishna explained a number of barriers to GHG reductions and energy efficiency. More precisely, the fragmentation of the industry, empty running (25-50% of trips), loading and overloading as well as driver behaviour in Thailand dramatically increase the amount of GHG emitted.

However, as Thailand has a comprehensive policy framework, strong institutions with focus on freight and on-going initiatives, Ms. Crishna believes that there are prospects for GHG reduction and energy efficiency in freight.

What can we do? Ms. Crishna suggested a number of methods that could be implemented in the form of NAMAs or low carbon freight interventions. These include modal shift, alternative fuel policies and programmes, vehicle technologies to increase efficiency improvement for freight, the management of logistics and load optimisation, scrap page scheme to reduce old vehicles, improve driver behaviour, and promote the potential for offset projects.

Group Work: Policies to address GHG emissions from freight

After the presentations, the group engaged in discussion concerning the most important policies to reduce GHG emissions from freight. The following were the proposed policy areas

1. Modal Shift
2. Alternative fuel policies and programs
3. Fuel standards for new vehicles
4. Vehicle technologies to increase efficiency of in-use fleet
5. Scrap page scheme to remove old vehicles
6. Driver behaviour
7. Logistics management roll-out to reduce empty backhaul

8. Potential for projects (Transport and Forestry)

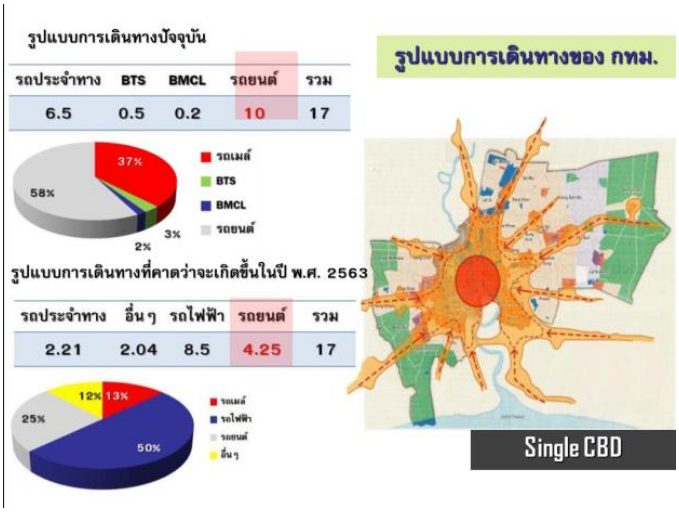
Top 4 possible options

From the suggested options above, participants chose the four best options to help tackle the problem of GHG emissions by proposing what needs to be supported by the government.

Options	Idea from participants
1.Modal shift	• More incentives to shift to cleaner modes (increase subsidies or let the shift be market driven?) • Improve data on transport demand to optimize infrastructures for modal shift • Multimodal facilities: studies and incentives
2.Vehicle technologies to increase efficiency of in-use fleet	• Network of local revolving funds with transport associations to encourage update of green technology for trucks • Local revolving funds with transport associations • Incentives for private sector, logistics companies to increase energy efficiency • Retrofit / buyback programme - supported by national Bank (e.g. SME Bank), Climate Finance, incentive policy from government - Focusing on most polluting LDV's - Monitor, report and verification - Whether or not to focus on small fleet holders - Combined with push policy
3. Driver behaviour	• Eco-drive training • Unification and building of licensing system
4. Logistics management roll-out to reduce empty backhaul	• Public funding for "low-carbon" infrastructure - terminals (loading containers on trains) - electronic marketplaces • Incentives (Road use pricing, CAFÉ) • Thailand Transportation & Logistics Association • IT infrastructure

2. Urban transport policy

Mr. Wijit Nimitrwanich – Director, Bureau Safety and Planning Office of Transport and Traffic Policy and Planning (OTP)



This session started with the presentation of Mr. Wijit Nimitrwanich. He detailed the problems of urban transport, especially in Bangkok and suburban areas. One important issue is the mode of transport in Bangkok, it mainly relies on passenger car (58%), the remaining are public bus (37%), Skytrain or BTS[1] (3%), and Subway or MRT BMCL[2] (2%). Consequently, the ambitious target is to increase public transportation (BTS&MRT) to 50% and reduce passenger car use to 25%. This will lead to a significant decrease in fuel consumption per person caused from each trip per day in urban areas.

According to the Sustainable Transport Master plan from OTP, there are 36 projects out of 120 relevant to the urban transport system. However, he pointed out that more suggestions such as measures or policies are still required for the master plan.

From 36 projects of urban transport, there are many types of projects such as

- Integration of traffic management systems between Bangkok and suburban areas
- Public transport : MRT, Co-ticket, NMT, Park and go, rental bicycle
- Free bus, TDM, Road pricing, congestion pricing
- Raising awareness for people in the country

He also addressed two important problems of the transport system in Thailand: 1) Lack of important data such as CO_2 emission from each type of vehicle, 2) Passenger car-oriented policies, which support the buying of new cars but give less important to the public transport system.

Next, the facilitator presented the options for urban transport polices from the presentation. Also, there are additional options proposed from the floors. All options in the group are listed as follows:

[1] Bangkok mass transit system public company limited
[2] Bangkok metro public company limited (BMCL)

Options from the group discussion

Public Transport	Park & Go
Improvement of pedestrian network and infrastructure	Ticket system
Bicycle rental	Congestion charge
Air pollution control measures	Tax system
Charge for park	**Improvement of bus route system**
Improvement of connection between mode of transport	**Promotion of NMT (bicycle, footpath)**

From all those options, three of them were selected by the voting system as highlighted above.

In each selected option, the group was asked to propose what needs to be supported by the government to make them achievable.

Options	Idea from participants
1. Improvement of connection between modes of transport	• Politicians should set examples for people in using modes of transport such as cycling or public transport • Car Free days on regular basis • Establishment of a Bangkok Land Transport Authority with full responsibility for all public transport, road development and traffic management • Organize parking areas for taxi and motorcycle taxi • Fare card used on rail and bus with fare based on total distance • Pedestrian bridge and escalator between airport link and MRT • Bicycle parking stands at BTS and MRT station
2. Promotion of Non-Motorized Transport (NMT)	• Politicians and people on management levels should be role models for people by using public transport and Non-Motorized Transport • Plan and build cycling and foot paths connecting neighbourhoods • Issue the standard for footpath and bicycle lane in new road construction • Beautiful walk ways • Integrated urban non-motorized development program such as cycling promotion program, pedestrian (with walkability index), cycling and pedestrian network • Strict enforcement of rules protecting bikes and pedestrians • Fining : rebates and free biking • car free day on regular basis, promoting of using bicycle on those days
3. Improvement of bus	• Bus lane for faster and safety trip

route system	• Public school bus for students
Mixed suggestions	• Develop/incur congestion charge (need political will) • Policy to enhance quality of life for the pedestrian, cyclist, and mass public transport users • More concrete policies for sustainable transport and same direction among different organizations • Government should specify time and responsible agencies for each issue • Give priority to no. of passengers per vehicle • Set up long term plan with action plan or further step from sustainable transport master plan as well as yearly budget • National budget for mass transport • Clear policy from government without changes due to political situation • Serious concerns and willingness from government to implement these measures. • Public health policy for merchandizer on foot paths by controlling the air pollution from vehicles

3. Energy Efficiency Policy in Transport Sector

Tasana Piriyaprut – Vice President, Thailand Automotive Institute informed about energy efficiency policy in transport sector.

She stated that limited supply, fuel security and environmental issues are some challenges we currently face in the transport sector. Then she talked about the situation of the transport sector in Thailand. Transport sector consumes about 35% of energy used in Thailand. She stated that the transport sector is always seen to have a bad influence on climate change, but in the reality other sectors should be taken into consideration more seriously as well. A new energy conservation target has been set up as a response to the question on how to reduce the amount of energy consumption. She informed about the number of vehicles in Thailand and stated that nowadays more and more passenger cars appear to be in use. Thailand vehicle registration by fuel consumption accounted by diesel 60%, gasoline 28%, LPG 8%, and CNG 3%. The usage of diesel is high because of the high demand from industrial usage.

For the topic of technology development, she informed that the Thailand Automotive Institute and Ministry of Science developed an automotive technology roadmap. Its main focus is energy efficiency and the use of alternative energy. Many factors are to be considered in order to improve the energy efficiency, including engines, tires and emission standards. Currently, Thailand is using the EURO4 standard, which is the most forward among ASEAN countries. Alternative energy is one way to consume energy more efficiently, but the improvement of engines is also a factor that should not be forgotten. She has mentioned that Electric Vehicle (EV) and fuel cell is the highest goal to be reached. She mentioned on the global trend topic that in 2050, the number of cars will increase three times more than in the present and half of the cars will be in Asia. The pollution will then double. The challenge is big but there is a blue map by the International Energy Agency scenario that suggests some strategies to deal with the future situation such as modal shift, connectivity between different types of transport, alternative energy etc. Improvement of engine efficiency is also to be considered. Finally, she gave information about the direction of Thailand. Thailand Automotive

Institute and Ministry of Industry have made a master plan that has a strong focus on research and technology development. However, there are threats such as high cost of technology, dilemma between food and energy and energy supplies. She also remarked that there will also be a new excise tax structure that promotes alternative energy in 2016. The tax will collect fares according to the amount of CO_2 emission of cars. Lastly, she noted that successful work can only be done when all stakeholders such as manufacturer, users etc. cooperate with one another and that good infrastructure would be much of use.

Outputs: All options from the group discussion

The options suggested by participants in order to allow more energy efficiency in transport sector are:

1. Car body improvement
2. Alternative energy
3. Improvement of engine
4. Driving skills
5. Road and parking space improvement
6. Modal shift
7. Standardization of car engine emission
8. Taxation
9. Providing information about energy consumption and emission
10. Changing mind set of possessing vehicles.

Top 3 possible options

From all suggested options above, the three most important possible options to help combating the problem of GHG emission were selected. They are modal shift, improvement of engine and taxation.

Suggestions for policy makers on how to deal with the problem

Options	Idea from Participants
1.Modal shift	• Campaign supporting modal shift should be initiated. • Connectivity between public and private mode of transport should be more efficient • Free public transit transport between main stations • Support bicycle lanes, pedestrian lane and bicycle parking to encourage people to use eco-friendly vehicles
2.Improvement of engine	• Enforce the standard of car manufacturing as stated in the law • Rewarding company that manufacture energy saving cars
3.Taxation	• Changing of tax structure to invite people to buy energy saving cars. • Adjusting the fuel tax structure • Stop supporting some type of fuels • Legislate tax collecting law depending on amount of CO_2 emission as soon

	as possible • Increase car's tax
Mixed suggestions	<u>Tax and improvement of engine</u> • Forbidden the use of old cars that emit pollution • Support in investment of manufacturing car that have high level of energy efficiency <u>Tax and modal shift</u> • Government should support people who use public transport to be able to use the ticket to reduce their income tax. <u>Modal shift, improvement of energy and taxation</u> • Investing in research and development in these 3 topics seriously • Government should set the transport as a national agenda

<u>Interesting suggestion</u>

- Reducing tax for people who do not possess any car.

Reactions and next steps by ONEP, OTP, RRC.AP, GIZ

- ***Dr. Woranuch Emmanoch, from ONEP***
  The representative from ONEP said that this workshop allowed participants to share their opinions, which will be very useful for the MRV development process. She thought that the design of the development process of this workshop was well managed and the discussion from the workshop would be beneficial for the further development of policy and monitoring process. She suggested that the process should be discussed in more detail with the working group and is also looking forward to cooperate with implementing agencies.

- ***Mr. Wijit Nimitrwanich, from OTP***
  Mr. Wijit noted that the discussions provided some additional opinions that could be considered for further study. OTP is having a project concerning non-motorized transport issue that is currently in its fund raising process and thinks that the project will be approved. Therefore, the "non-motorized transport" issues discussed during the "urban transport policy" break-out session will be taken into consideration. Moreover, OTP wanted to discuss further with GIZ in the next steps of work and whether GIZ would consider using issues and strategies discussed from this workshop as a measurement of selection criteria for MRV or not. He stated that OTP was satisfied with the workshop and would be supportive for the further study.

- ***Dr.Supat Pangwongwattana from RRC.AP*(Regional Resource Centre for Asia Pacific)***
  He saw this project as a very beneficial project. The faster Thailand would cooperate, the more positive effects there would be. However, he stated that funding was the restriction of the implementing process. However, he had a positive attitude towards internationally supported NAMAs and thought that it would be useful for the global and national environment. Moreover, he suggested that not only CO_2 but also black carbon short-life climate pollutants (or $PM_{2.5}$) should be taken into consideration as well. Considering these two elements, CO2 and black carbon, would allow us to control average global temperature effectively and then there would be co-benefits between resolving climate change problem and conventional air pollution. Lastly he noted that mainstreaming environmental issues in the development plan should be done seriously and not only considered as a by-product.

- ***Mr. Roland Haas, GIZ***
  Mr. Haas stated that the next steps of work should be country analysis. Some consideration should focus on what Thailand has already got and to consider what is missing to see what would be useable for national action plan and policy. Mr. Haas suggested that lessons learnt from today could be used meaningfully, and responsibilities and cooperation between stakeholders would be important. He also noted that Co-benefits between the quality of lives of local people and climate were most important. He gave final remarks about financial constraints, for which international support is one of the options. However, how Thailand spends its infrastructure budget should also be done in a sustainable and efficient manner. Finally, he had a positive attitude that Thailand could reach its achievements of the next three years with the hope that the project would be extended beyond 2015.

Annex

List of Participants

No.	Name-Surname	Organisation
1	Ms. Ampawa Moonmueang	GIZ
2	Mr. Annop Hangwongngam	The Federation of Thai Industries (FTI)
3	Mr. Anont Chanthawee	The Transport Co., Ltd
4	Mr. Arkarlat Kunitaya	Asian Institute of Technology (AIT)
5	Mr. Asawin Asawutmangkul	Department of Alternative Energy Department and Efficiency/ Ministry of Energy
6	Dr. Atit Tippichai	The Joint Graduate School of Energy and Environment (JGSEE)
7	Ms. Auchariya Malakul Na Ayuthaya	Faculty of Engineering , Ramkhamhaeng University
8	Ms. Benjawan Peumsuwan	Bangkok Mass Transit Authority(BMTA)
9	Assoc. Prof. Dr. Bundit Limmeechokchai	Sirindhorn International Institute of Technology (SIIT)
10	Mr. Chairit Khongsakphaiboon	Department of Energy Business/Ministry of Energy
11	Mr. Chardsiam Mukto	Department of Energy Business/Ministry of Energy
12	Mrs. Charinee Suwannatas	Office of Natural Resources and Environmental Policy and Planning (ONEP)/MONRE
13	Mr. Chayatat Wadhanakul	Department of Rural Roads/Ministry of Transport
14	Ms. Chirapaporn Laima	Energy Policy and Planning Office/ Ministry of Energy
15	Mrs. Chutinthorn Praditphet	Office of Transport and Traffic Policy and Planning/ Ministry of Transport
16	Mr. Ingo Puhl	South Pole Carbon Asset Management Ltd.
17	Mr. Jakapong Pongthanaisawan	National Science Technology and Innovation Policy Office (STI)/Ministry of Science
18	Ms. Jamaree Yamklinfung	JICA Thailand Office
19	Ms. Jirapa Kamsamrong	The Joint Graduate School of Energy and Environment (JGSEE)
20	Ms. Jureerat Naksuk	Bangkok Mass Transit System
21	Ms. Jutamas Kitjnurak	Energy Policy and Planning Office/Ministry of Energy
22	Ms. Kanyasorn Tansubhapol	British Embassy
23	Ms. Karnnalin Theerarattananoon	Department of Alternative Energy Development and Efficiency/Ministry of Energy
24	Ms. Katesaraporn Aeboun	Mon Transport Co., Ltd
25	Ms. Kawewan Puttsaraksa	Department of Highways/Ministry of Transport
26	Ms. Ketsada Nateethorn	Toyota Motor Thailand Co., Ltd.
27	Mr. Khan Ram-Indra	USAID
28	Mr. Kiatnarong Kruba	Department of Land Transport/Ministry of Transport
29	Mr. Krissanapol Mayakrissana	Mon Transport Co., Ltd
30	Dr. Kunchit Phiu-Nual	Asian Transportation Research Society(ATRANS)
31	Ms. Maythiwan Kiatgrajai	Energy policy and Planning Office/Ministry of Energy
32	Mr. Manuel Cocco	South Pole Carbon Asset Management Ltd.

33	Assist. Prof. Dr.Mongkut Piantanakulchai	Sirindhorn International Institute of Technology (SIIT)
34	Mr. Monthon Kumpaengseth	GIZ
35	Ms. Naeeda Crishna-Morgado	GMS Environment Operations Center
36	Ms. Nantawan Pithakpanich	Expressway Authority of Thailand/Ministry of transport
37	Ms. Natnares Macharocn	Department of Environment/BMA
38	Ms. Nattawan Paojinda	GIZ
39	Mr. Nikorn Mahswan	Office of Natural Resources and Environmental Policy and Planning (ONEP)/MONRE
40	Mr. Nimit Intra	The Transport Co., Ltd
41	Mr. Nipat Koekunnika	Thai Transportation and Logistics Association (TTLA)
42	Mrs. Nongluck Rojveera	Thai Industrial Standards Institute (TISI)/Ministry of Industry
43	Mr. Noppasan Mueangsang	Department of Energy Business/Ministry of Energy
44	Dr. Nuwong Chollacoop	National Metal and Materials Technology Center (MTEC)
45	Ms. Orapim Pimcharoen	Department of City Planning/BMA
46	Mr. Oravit Hemachudha	Traffic and Transportation Department/BMA
47	Mr. Pakorn Aniwatkulchai	GMS Environment Operations Center
48	Mr. Parinyar Rattanacom	State Railway of Thailand/ Ministry of Transport
49	Mr. Suporn Muannou	NCCTEC
50	Mr. Paul Williams	Consultant
51	Ms. Pawanrat Aksornsingchai	Faculty of Engineering, Ramkhamhaeng University
52	Dr. Pentida Tipyotha	National Research Council of Thailand (NRCT)
53	Mr. Pichit Rukchonlatee	Bangkok Metro Public Company Limited
54	Mr. Poolsak Puwanichrenchai	Department of Alternative Energy Development and Efficiency/Ministry of Energy
55	Ms. Rattanaporn Anaprayot	Good Governance for Social Development and the Environment Institute (GESI)
56	Ms. Ruethai Trungkavashirakun	National Metal and Materials Technology Center (MTEC)
57	Dr. Sakda Panwai	Expressway Authority of Thailand/ Ministry of Transport
58	Mr. Saroj Jiaraksuwan	Office of Natural Resources and Environmental Policy and Planning (ONEP)/MONRE
59	Ms. Sasithorn Pinyakong	Department of Highways/Ministry of Transport
60	Mrs. Siriporn Tantivanich	Department of Environment/BMA
61	Mr. Sittipon Kusumarunya	Department of City Planning/BMA
62	Ms. Siwaporn Rungsiyanon	Pollution Control Department/MONRE
63	Ms. Somjai On-thong	Energy Policy and Planning Office/Ministry of Energy
64	Ms. Srirat Yaprom	Department of Land Transport/Ministry of Transport
65	Ms. Supavinee Ninkhate	Office of Natural Resources and Environmental Policy and Planning (ONEP)/MONRE
66	Mrs. Supitporn Bunnag	Office of Natural Resources and Environmental Policy and Planning (ONEP)/MONRE
67	Ms. Sureeporn Kerdkankaew	Office of Natural Resources and Environmental

		Policy and Planning (ONEP)/MONRE
68	Mrs. Sutthiya Chantawarangul	Delegation of the European Union to Thailand
69	Ms. Suvimon Rungrotwattana	Bangkok Mass Transit Authority (BMTA)
70	Mr. Sven Callebaut	Consultant
71	Mrs. Tasana Piriyaprut	Thailand Automotive Institute (TAI)
72	Mr. Tawatchai Patchana	Energy Policy and Planning Office/Ministry of Energy
73	Mr. Theera Trakoonngern	Bangkok Mass transit System Public Company Limited
74	Mr. Thibodee Harnprasert	The Institute of Industrial Energy
75	Mr. Thosapol Suparee	Traffic and Transportation Department/BMA
76	Ms. Urai Chuyen	National Research Council of Thailand (NRCT)
77	Ms. Vasu Dabbaransi	Good Governance for Social Development and the Environment Institute (GESI)
78	Assoc. Prof. Dr. Vilas Nitivattananon	Asian Institute of Technology (AIT)
79	Ms. Voradee Thianmanee	Land Transportation Federation
80	Mr. Wattana Kongmun	State Railway of Thailand/Ministry of Transport
81	Mr. Weera Metha	Traffic and Transportation Department /BMA
82	Mr. Wijit Nimitrwanich	Office of Transport and Traffic Policy and Planning/Ministry of Transport
83	Mr. Win Trivitayanurak	Department of Highways/Ministry of Transport
84	Ms. Wipada Unlumlert	Office of Transport and Traffic policy and Planning/Ministry of Transport
85	Mr. Woraphong Billy	Department of Environment/BMA
86	Ms. Chutima Jongpakdee	GIZ
87	Mr. Chalermchai Banjongraksa	MCOT
88	Mr. Chatchai Intata	ONEP
89	Ms. Suwimon Wattanawiron	RRC.AP/AIT
90	Ms. Petcharat Chepayan	ONEP
91	Ms. Angkana Chalermpong	ONEP