

RETA 7987: Feasibility study to identify Nationally Appropriate Mitigation Actions (NAMAs) for the freight transport sector in the Greater Mekong Subregion

Concept Note

A. Introduction

1. The freight sector in the Greater Mekong Subregion (GMS) is emerging as a significant source of greenhouse gas emissions, driven in part by regional economic cooperation and the associated development of economic corridors. In order to test interventions that could mitigate increases in emissions from freight transport, pilot projects are being implemented in Lao PDR, Thailand and Viet Nam through the GMS Green Freight Initiative¹.

2. One potential way of scaling up low carbon freight approaches would be through emerging 'new market' and carbon financing mechanisms such as Nationally Appropriate Mitigation Actions (NAMAs), Joint Crediting Mechanisms (JCM) or by applying a programmatic approach through the Clean Development Mechanism (CDM). However, monitoring, reporting and verifications systems (MRVs) need to be developed, and supporting technical capacity and institutional arrangements need to be strengthened, in order to support mitigation actions in the transport sector.

3. This paper outlines a concept for a feasibility study, supported by the GMS Core Environment Program, to identify the potential for national mitigation actions / programs for the freight sector in a selection of GMS countries, building on (but not restricted to) the approaches being piloted under the GMS Green Freight Initiative in Lao PDR, Thailand and Viet Nam.

B. Rationale

4. **Increasing greenhouse gas emissions from freight transport in the GMS.** Transport was responsible for 10% of GHGs in the GMS in 2009², and 20% of GHGs from the use of fossil fuels. Freight vehicles are responsible for a larger share of emissions from road transport – in Lao PDR, Viet Nam and Thailand (respectively) trucks and buses were responsible for 80%, 73% and 51% of emissions in 2010³. A study of one GMS cross border transport corridor (East West Economic Corridor EWEC) showed that freight transport was seen to make up over 60% of annual emissions from the

¹ These projects are testing green freight / low carbon interventions for freight operators, including the use of green technologies, improving driver behavior, and enhancing logistics management. See <http://www.gms-eoc.org/resources/gms-green-freight> for more information.

² Climate Analysis Indicators Tool (CAIT) 2.0. (Washington, DC: World Resources Institute, 2013). Available online at: <http://cait.wri.org>. Lao PDR data is for 2000 and was taken from the second national communication on climate change submitted to the United Nations Framework Convention on Climate Change.

³ Clean Air Asia, 2012. Accessing Asia: Air Pollution and Greenhouse Gas Emissions Indicators from Road Transport and Electricity

corridor, and that overall emissions were expected to double from 1.5 in 2005 to 3 million tonnes CO₂ in 2025, driven in part by increasing freight travel activity⁴. The study also illustrated that gradually increasing the fleet fuel efficiency by 15% has the potential to reduce 23% of cumulative corridor emissions by 2020 against a 2005 baseline or around 280,000 tonnes of CO₂ emissions per year on average. In order to ensure progress towards a greener economy, reducing fossil fuel use in the freight transport sector will be important for GMS countries both, to reduce fuel costs and increase the competitiveness of their logistics sectors, and also, to reduce GHG emissions and air pollutants.

5. **Drivers of increased fuel use and greenhouse gas emissions from freight transport.** Most freight is transported by road in the GMS (over 80% of total freight tonnage), and the road freight transport industry is highly fragmented with the majority of truck operators being classed as small and medium sized enterprises, and operating small fleets of less than 10 trucks⁵. As a result, there are large inefficiencies in the way freight is transported and stored – a survey of companies along the GMS EWEC reported 25 – 50% of trips running empty which illustrates a clear mismatch of fleet and load carrying capacities. Freight companies report high fuel costs, partially due to the prevalence of an ageing truck fleet most of which is well over 10 years on average, and are dependent on imported second hand vehicles due to the absence of any large truck manufacturing or assembly facilities in some countries (i.e. Cambodia, Lao PDR and Viet Nam).

6. **Emerging carbon finance mechanisms to reduce greenhouse gas emissions.** Developing countries are looking to initiate national programs to reduce greenhouse gas emissions through emerging global mechanisms such as Nationally Appropriate Mitigation Actions (NAMAs) and the Joint Crediting Mechanism (JCM). NAMAs are voluntary policies and actions undertaken by developing countries to reduce GHG emissions, and mobilize investment in low carbon development. These could be self-funded (unilateral NAMAs), financed through bilateral or multilateral funding sources (supported NAMAs), or financed through the sale of carbon credits (credited NAMAs). As a new mechanism still under discussion at the UNFCCC, much of the detail about how the latter two modalities will work is still unclear. However, international efforts to fund NAMA-readiness are beginning to emerge (e.g. UK-Germany NAMA financing facility initiated in mid-2013), and it is generally accepted that any performance based financing modality will be dependent on a robust monitoring, reporting and verification (MRV) system. Such a system in turn requires a strong understanding of and technical capacity for monitoring greenhouse gas emissions at both national and local levels.

7. **Enabling conditions for the scale up of mitigation actions for transport in the GMS.** There have been a few efforts to initiate NAMAs in the GMS, largely in the energy and industrial sectors. In Viet Nam, feasibility studies have been initiated to develop NAMAs in the cement and waste sectors, with support from the NOAK-NEFCO Partnership Initiative⁶ and UNESCAP⁷. In Lao PDR, a

⁴ GMS EOC, 2012. Carbon Neutral Transport Corridors: Reducing emissions from freight and forestry in the EWEC. Feasibility Study report.

⁵ Ibid footnote 4

⁶ Nordic Group on Climate Change (NOAK) and Nordic Environment Finance Corporation (NEFCO) Partnership Initiative, 2011. Feasibility Study on Up-Scaling Mitigation Action in Peru and Vietnam. Available at http://www.nefco.org/files/NOAK-NEFCO_FS_Final_Report_2011-08-08_FINAL_approved_to_NEFCO.pdf

Government of Japan supported study analyzed the potential of an urban transport NAMA in Vientiane city. In addition to NAMAs, both countries are investigating the feasibility of setting up Joint Crediting Mechanism projects with the Government of Japan, focusing on urban transport.

8. These ongoing initiatives have resulted in a general awareness of the process and requirements for the development of mitigation actions among government agencies, but significant barriers remain. National greenhouse gas inventories are prepared by external consultant teams, usually in response to UNFCCC requirements, and are not strongly institutionalized. Inventory systems are based on a top-down approach which may not accurately capture changes at the sector level, which will require more detailed monitoring mechanisms to be put in place to track carbon reductions from mitigation programs. NAMA development will require strong cross sector coordination mechanisms between climate change focal points (usually based in ministries of environment) and sector agencies (i.e. transport) in order to mobilize financing and implement effective emission reduction programs. A significant capacity building (NAMA-readiness) effort will be required to pave the way for national mitigation programs in the freight sector.

C. Feasibility study objective and approach

The aim of the study is to raise awareness of, and identify the need and requirements for national mitigation programs for the freight sector in Lao PDR, Thailand and Viet Nam. It is expected that the analytical components of the study will focus on Lao PDR and Viet Nam⁸, and capacity building elements of the study will target all three countries.

The study scope will include all modes of freight transport including road, rail, inland water etc. The study will cover initial technical feasibility (what mitigation actions could be applicable and their reduction potential), financial feasibility (what the major sources of carbon / performance based financing are, what the MRV requirements would be and where the gaps are) and institutional feasibility (which are the main institutions, and what mechanisms need to be strengthened).

In order to raise awareness of NAMAs and other carbon financing mechanisms for the freight sector, the study will be conducted with a strong focus on capacity building. Awareness raising workshops will be held in each country (engaging transport, environment and other relevant ministries, as identified at the start of the project), and initial and final project results will be shared through training / capacity building cum consultation events.

There have been several recent efforts that the study will build on to maximize impact. These include ongoing ADB C-R-CDTA 45105: Promoting efficient logistics and cross-border transport in Asia and the Pacific and recently completed ADB TA 7779 Support for the National Target Program on Climate Change with a Focus on Energy and Transport in Viet Nam. Other programs that are working on areas

⁷ Center for Clean Air Policy, 2013. NAMA Proposal Executive Summaries. Available at http://www.nama-database.org/images/a/ad/NAMA-Proposals-Executive-Summaries_CCAP_May-8-2013.pdf

⁸ Much of the analytical work for the freight sector in Thailand is either underway through parallel programs or has already been conducted.

relevant to this study include GIZ's Energy Efficiency and Climate Change Mitigation for the Land Transport Sector of the ASEAN Region and USAID's Low Emissions Asia Development program.

Main study components are as follows:

Technical feasibility

- Review of existing and ongoing NAMA efforts in each country, building on previous work (if any)
- Development of a list of potential mitigation actions for the freight sector (building on but not restricted to GMS green freight pilot projects) and development of low carbon scenarios
- Development of a reference case for the freight sector in each country including scale of emissions, historical and potential projections
- Scenario analysis of carbon reduction potential of different actions including costs i.e. marginal abatement cost curves (MACC)
- Identification of potential trade-offs and co-benefits from different mitigation actions
- Recommendations for a national mitigation program on freight

Financial feasibility

- Review of current carbon financing mechanisms and sources of financing
- Review of national GHG inventory and MRV systems, and identification of gaps, building on existing studies and projects
- Recommendations for development of national MRV systems

Institutional feasibility

- Mapping of institutional arrangements in each country for GHG inventories and transport mitigation actions / NAMAs
- Recommendations for strengthening institutional arrangements for national mitigation actions for freight

Capacity building and awareness raising

- Design of an awareness raising and capacity building program on NAMAs and MRVs for transport

The major outputs and deliverables for the study include:

Outputs

- At least 60 GMS officials from three countries trained in the formulation of NAMAs / mitigation actions for the freight sector
- Potential mitigation actions for the freight sector in Lao PDR and Viet Nam identified with associated carbon reductions and costs estimated

- Institutional arrangements and financing sources for freight sector mitigation actions in two countries identified
- Gaps in current inventory systems and MRV requirements for freight sector NAMAs identified in Lao PDR and Viet Nam

Deliverables

- Freight sector NAMA / mitigation action feasibility study report
- Draft freight NAMA concept for Lao PDR and Viet Nam
- At least three training / capacity building events in each country: i) initial NAMA awareness training; ii) detailed NAMA MRV training; and iii) final workshop to discuss potential freight NAMAs

D. Implementing arrangements

The study will be initiated in the third quarter of 2014 and will be implemented over one year. Major milestones in the study timeline will include a) Inception workshops b) Initial NAMA awareness training c) NAMA MRV training and consultation on draft results and d) Final consultation and validation of study. Consulting services to implement the study will be procured following ADB's procurement procedures and through the ADB Consultant Management System. The overall budget for the study is USD 400,000.

As a parallel, supporting study under the GMS Green Freight Initiative, the study will adhere to the same implementing and coordination arrangements. At the regional level, the Environment Operations Center (EOC) based in Bangkok will oversee implementation and monitor progress. At the national level, the study will engage the ministries of transport in each country (i.e. Ministry of Public Works and Transport, Lao PDR; Ministry of Transport, Thailand; and, Ministry of Transport, Viet Nam) and the National Support Units under the ministries of environment. Climate change focal points under the ministries of environment will also be engaged (i.e. Department of Disaster Management and Climate Change, Ministry of Natural Resources and Environment, Lao PDR; Office of Natural Resources and Environment Policy and Planning, Ministry of Natural Resources and Environment, Thailand; and, Department of Meteorology, Hydrology and Climate Change, Ministry of Natural Resources and Environment, Viet Nam).