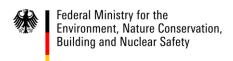# Report of the International Expert Workshop "Towards Roadmaps for MRV of Transport NAMAs"

Side event to COP 19 and Pre-event to Transport Day, Warsaw, 15 November 2013

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"Towards Roadmaps for MRV of Transport NAMAs"

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Background Information on the TRANSfer Project

The TRANSfer project is a project run by GIZ and funded by the International Climate Initiative of the German Ministry for the Environment. It's objective is to support developing countries to develop climate change strategies in the transport sector as „Nationally Appropriate Mitigation Actions" (NAMAs). The project provides technical assistance in the partner countries Indonesia, Columbia, Peru and South Africa. In addition, TRANSfer contributes to the international exchange of national experiences through workshops, publications and trainings.

TRANSfer
Towards climate-friendly transport technologies and measures

For more information see: http://www.transferproject.org

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1 Aim and Background of the Workshop

The TRANSfer project – funded through the International Climate Initiative of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety – organised an expert workshop *„Towards Roadmaps for MRV of Transport NAMAs“* as a side-event to the United Nations climate conference (COP 19) in Warsaw on 15 November 2013. The participants were transport data and climate policy experts from developed and developing countries (see Annex for a list of participants). Aim was to identify key aspects of a robust approach for measurement, reporting and verification (MRV[1]) for „Nationally Appropriate Mitigation Actions“ (NAMAs) in the transport sector. As such approaches need to be adopted under different stages of development and data availability, the workshop functions as a first step in a process of conceptual work on how transport NAMAs can be measured reported and verified. This report summarises the discussions and inputs from experts along the key topics (not chronological order) as a reference for further discussion.

Background on transport NAMAs

The concept of NAMAs was established to motivate developing countries[2] to voluntarily contribute to global climate change mitigation efforts. As part of their commitments under the United Nations Framework Convention on Climate Change (UNFCCC), developing countries are currently developing NAMAs and have started to submit these to the UNFCCC NAMA registry. There are a number of NAMAs under development with a focus on the transport sector, amongst others, measures to upgrade fuel efficiency, enhance urban public transport, or modernize the freight transport fleet.

> **Box 1:** Nationally Appropriate Mitigation Actions – NAMAs
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> The concept of NAMAs was established in 2007 at the Bali climate conference. Parties agreed that efforts to reduce emissions of greenhouse gases must comprise all countries – developed and developing. While developed countries have been pledging emission reduction targets, developing countries were encouraged to commit to mitigation actions, i.e. NAMAs. The NAMA concept currently serves as umbrella for any action which reduces greenhouse gas emissions. The 2009 Copenhagen climate conference (COP 15) endorsed the concept of NAMAs "seeking international support". According to the Copenhagen Accord, these supported NAMAs will be subject to international measurement, reporting and verification (MRV).

According to the Ecofys NAMA database as of December 2013[3], 18% of all NAMAs are transport-related activities. While MRV arrangements for unilateral NAMAs is to the countries discretion, if actions seek financial, technological and/or capacity building support through international climate finance, than appropriate MRV concepts will become more important. There is growing consensus that NAMAs are to be developed and defined via a bottom-up process – and not via strict UNFCCC decisions.

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[1] The term MRV is strongly linked to the UNFCCC climate negotiations. In other areas the terms monitoring and evaluation (M&E) are more commonly used.

[2] The UNFCCC lists developed countries – committed to GHG reduction – in Annex 1 of the convention. Hence, developing countries are often called "non-Annex I" countries.

[3] http://www.nama-database.org

Why is it important to focus on MRV of transport NAMAs?

The parties of the UNFCCC did not define any specific approach for the MRV of NAMAs. Considering the challenges in practice, there will be a strong need to further work on MRV approaches and also make them consistent to national communications and biannual update reports (BUR)[4]. As MRV was identified as a considerable barrier for the development of transport projects under the Clean Development Mechanism (CDM)[5], there is a strong need to consider transport MRV of NAMAs at an early stage. Emission quantification in the transport sector tends be more challenging than in others, as transport includes millions of mobile emission sources, and as transport fuel production is often based on complex value-added chains. Interventions to change the transport system comprise complex bundles of policies and measures. As a consequence, facilitating the development of MRV systems for the transport sector is a prerequisite to avoid barriers to the development of transport NAMAs.

MRV of NAMAs is also related to other elements of "MRV systems", such as GHG inventories, and ex-ante GHG reduction scenarios. In the context of the UNFCCC negotiations, countries are increasingly working on GHG inventories – including the transport sector. Country's emission inventories are usually based on IPCC's tier 1 and 2 type top-down methods by converting (sectoral) energy consumption data into greenhouse gas (GHG) emissions. For policy accounting of transport measures, however, it is necessary to work with more country-specific (tier 3) approaches that follow the bottom-up logic[6] and have other data requirements such as vehicle kilometres, mode split, load factor, fuel consumption etc. Such data varies considerably between countries both in its total numbers but also the data structure and quality.

Against this background, the workshop did not aim to elaborate concrete methods and approaches, but rather to contribute to the definition of a framework or process for supporting the development of nationally appropriate approaches to measurement, reporting and verification of NAMAs applicable in various contexts of developing countries. Central results of the workshop were immediately fed into the NAMA stream of the Transport Day 2013 on 17 November 2013 in Warsaw. In the follow-up, the TRANSfer project intends to further facilitate expert exchange and thus trigger more conceptual work on transport NAMA MRV in general. GIZ will also feed in the results in its international cooperation projects with developing countries governments that want to develop and implement transport NAMAs.

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[4] UNFCCC, UNEP and UNDP recently published a common NAMA guidebook. The title in itself: "Guidance for NAMA design – building on country experiences" highlights the bottom-up nature of the NAMA concept but also points to the necessity of international MRV procedures; http://unfccc.int/files/cooperation_support/nama/application/pdf/guidance_for_nama_design_(2013)_final.pdf

[5] Wittneben, Bettina, Bongardt, Daniel, Dalkmann, Holger, Sterk, Wolfgang and Baatz, Christian(2008) 'Integrating Sustainable Transport Measures into the Clean Development Mechanism', Transport Reviews.

[6] See 2006 IPCC Guidelines for National Greenhouse Gas Inventories; http://unfccc.int/national_reports/annex_i_ghg_inventories/reporting_requirements/items/5333.php

2   Basic aspects of transport NAMAs and MRV

The UNFCCC perceives the MRV-requirement under the NAMA concept as flexible[7], because different policies and measures demand different stringency of measurement, reporting and verification and unilateral and supported NAMAs may be treated differently. At least up to the COP in Warsaw, development of supported NAMAs was also not linked to any specific fund that would describe specific needs for MRV. Hence, developing countries define the requirements for MRV on their own needs and often in partnership with (potential) funders and supporters.

As a basis for the discussion, the workshop participants first developed a joint understanding of transport NAMAs and MRV. This included the following aspects:

- A transport NAMA could cover any transport-related policy or measure that reduces GHG emissions. However, NAMAs may in most cases go beyond project-type activities, such as government programmes, policies, laws, tax reforms etc. However, some countries, e.g. with weak institutions and capacities may find it "appropriate" to start with project type actions.

- The emphasis is on „nationally appropriate", meaning that a NAMA should be in line with national (and local) strategies and plans.

- The experts acknowledged that monitoring and evaluation of transport-related interventions depends on the particular policy or measure under assessment and the respective domestic circumstances. This needs to be considered in the MRV concept.

- While countries and organizations providing international support often emphasise the need to understand the climate effectiveness of NAMAs, MRV needs to cover other sustainable development benefits. Developing countries will perceive such as „main benefits" rather than „co-benefits". Peoples' needs are related to health, access and other aspects of daily life while climate change mitigation is only secondary. The opportunity to measure, report and verify all benefits can help to broaden the focus from low-carbon to sustainable transport.

- Currently, MRV of NAMAs is considered to monitor effects against a baseline, a hypothetical reference development. In contrast to (sectoral) emission reduction targets against an adequate reference year, this includes much higher uncertainties. Assessment of hypothetical baseline scenarios in the transport sector is maybe even more challenging than in other sectors, because of uncertainties related to individual decisions in terms of numbers and types of vehicles purchased as well as travel behaviour and its impact to mileages. Hence, alternative approaches to measurements against baselines should be explored.

- An important issue for MRV of transport NAMAs are long-term benefits. In many strategies, the long-term or indirect impact is much higher than short-term or direct impacts.

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[7] The Warsaw decisions on the "guidelines for domestic measurement, reporting and verification of domestically supported nationally appropriate mitigation actions by developing country Parties" confirm the view that MRV guidelines are "general, voluntary, pragmatic, non-prescriptive, non-intrusive and country driven" (FCCC/SBSTA/2013/L.28).

MRV may be especially relevant for internationally supported NAMAs. As a consequence, workshop participants discussed the following:

- The opportunity to get support for the implementation of such strategies and plans as NAMAs very much relates to accessibility of funds. Thus, from the point of view of developing countries, to measure, report and verify the effectiveness of NAMAs is a means to facilitate access to funds.

- A NAMA and its corresponding MRV-concept may also be more convincing to funders, if it also aims at proving „co-benefits". The minimum requirement is a positive net CO_2-impact, but ambition should go beyond climate change mitigation and MRV can also be used to demonstrate e.g. improvements in accessibility, air quality, noise, savety etc. Countries recognize NAMAs as a tool to contribute to a transformation towards better planning of transport systems and sustainable transport and mobility.

- MRV of transport NAMAs may need to be flexible, as different host countries have different capabilities and resources for MRV and different funders have different risk assessments and therefore demand different approaches to measure, report and verify climate change mitigation actions.

Last but not least, the workshop participants also highlighted the opportunities of the countries that result from measuring, reporting and verifying their mitigation actions: The countries do not only receive funds, but also benefit from further learning from each other's progress and processes. Moreover, by increasing incentives to collect data, the countries implementing NAMAs also increase information and knowledge about the general performance of their transport sector which may support their transport planning and strategies. This, in turn, offers the opportunity to shape and readjust policies and policy implementation processes more successfully.

Figure 1: Clustering barriers and success factors for MRV of transport NAMAs and identifying 3 key topics for further discussion

3 Dimensions of Achieving Robust MRV Systems

To utilise the practical experiences of the experts in emission quantification, the workshop were centred around the idea to break down the discussion into the basic dimensions of MRV. Hence, a brainstorming exercise on barriers and success factors for quantifying greenhouse gas emissions in the transport sector resulted in identifying three central topics (see picture) of importance:

1. Data availability, collection and quality
2. Cause-impact relation of mitigation actions (including baselines)
3. Governance and institutional framework for MRV

The discussion in the morning session already raised various aspects and were continued and focused in the afternoon in three breakout sessions. Here experts added further details and aspects. The group discussion was focused on (a) good and bad practice (DOs and DO'NTs), (b) recommendations on establishing MRV for NAMAs in a specific country and (c) where standardization can be beneficial. In this context, experts also touched the question, how an international expert group could support the development of MRV systems in the transport sector. The following sections summarize the various aspects of both the morning and afternoon discussion along the three topics.

3.1 Data availability, collection and quality

The experts pointed out that countries aiming at measuring, reporting and verifying transport NAMAs should have data at their disposal, which is able to describe the changes related to policies and measures. Hence, energy sales data only – usually used for National Communications (NatComs) or Biannual Update Reports (BURs) of developing countries – does not allow any detailed breakdown of activity specific information. Sound policy assessment, in most cases, needs bottom-up approaches for data collection.

The complexity and the corresponding costs of the required data for MRV are depending on the impact of a NAMA regarding the mitigation of emissions. The following correlations between impact, complexity and costs have been identified as shown in Figure 2. The group agreed that the potential for standardisation is inversely proportional to the complexity to measure the impact. This simplification might not be suitable for every measure but reflects the required effort to assess the mitigation impact of different NAMA types.

The concrete data to be collected for various NAMAs might have different units and due to regional differences varying conversion factors, but as a general guideline, information is needed on four issues (related to ASIF).
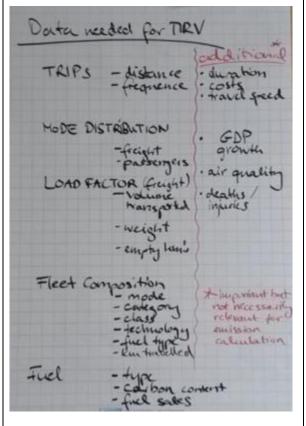
1. Activity data: Trip lengths and frequencies (passengers and freight), and volumes transported (freight) to determine transport activity,

2. Structure data: mode distributions and respective transport activity to determine the modal share,

3. Intensity data: vehicles and corresponding load factors/occupancy rates to determine the energy quantity per unit, and

4. Fuels data: fuels to determine the corresponding (fossil) carbon content.

Such information can principally be made available and should be collected, if existing data collection procedures and corresponding data bases do not provide these. With respect to data availability and data quality, the following general aspects were identified as important by the expert group:

- Many related data is available in the transport sector and could be used for MRV systems. It is mainly collected for sound transport planning or – like in case of vehicle data – for enforcing traffic rules.

- Currently, fuel consumption data of fleets, household/passenger surveys (mileage) and vehicle registration information (fleet data) as well as emission factor databases[8] are key to MRV of transport.

- Sound emission inventories are useful for MRV of NAMAs, especially as a source of information such as emission factors.

- Regarding travel activity data, in the future there is a potential to include "big data", i.e. large and complex data sets such as mobile phone data, floating car data, sensors, imaging and micro transaction data, i.e. passenger ticketing systems, set top boxes in lorries.

- Another important source of information are travel demand models that contain information about travel behaviour and how it is distributed in a transport network. Output data for travel demand models is total vehicle kilometres for various modes. Such models are especially useful for policy type NAMAs that go beyond a specific technology.

Figure 2: Transport Data that is required for MRV as discussed during breakout session

Recommendations to the process of MRV system development in developing countries

- It is important to clearly define the meaning of technical terms and use consistent categorization in various data sets.

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[8] The term emission factor is often used in two ways: In IPCCC and UNFCCC it refers to carbon content of the fuel in gCO_2e/MJ (conversion factor) and CH_4 and N_2O as gCO_2e per km. In transport emission inventories (for air pollution) the term is often used to express gCO_2/km or gCO_2/pkm i.e. related to fuel or energy efficiency.

- Understanding the cause-impact link and setting the boundaries for the impact of measures is an important prerequisite to any data collection (see section 3.2). Hence, it makes sense to adapt to potential complexities of MRV and assess carefully the data needs of MRV concepts of NAMAs before starting data collection. The costs of collecting data should be based on its cost effectiveness.

- Bottom-up emission quantification usually requires real world emission factors (e.g. in g/km) for various vehicle categories. Lack of such databases and high costs to establish them might create a major barrier also for MRV of transport NAMAs.

- The establishment of a national standardised data base on vehicle fleets is beneficial. For instance, a country should decide for certain vehicle segments represented in its registration procedure.

- Reduce the quantity of surveys, increase their quality, e.g. household surveys may require considerable size of the sample and data needs to be checked carefully on inconsistencies.

- A stepwise approach may be beneficial, e.g. countries start with collecting consistent data on a limited set of key indicators for different (types of) policies and measures, e.g. mode share for actions targeting mode shift. More complexity could be added at a later stage. The following indicators for tracking climate benefits appear to be appropriate:

    o actions avoiding transport: Passenger km (pkm) or ton km (tkm) / year
    o actions inducing modal shifts: mode share and CO_2/passenger km or ton km
    o actions improving vehicles and fuels: CO2 / vehicle km (vkt)

- With regard to the sustainability of data collection mechanisms, the experts advised to adopt existing data while trying to improve and simplify these. They advised not to wait for an optimal data set, as usually shortcomings of surveys and random samples are only detected during their analysis. Good data bases rely on continuity and therefore mechanisms should be found to ensure continuous data collection (survey methods), management and maintenance. It was further suggested to build such data collection in context of data that is seen as useful by local planners and policy makers.

International standardisation and potential benefits of an expert group

Data structure, reliability, consistency, level of detail and frequency of collection differ from one country to another. Therefore, there is not a lot of room for international standardization with respect to data. The following issues were identified as beneficial:

- Defining causes and impacts (see section 3.2). Develop "MRV methodologies" for a set of exemplary avoid/shift/improve measures.

- Collaborate in developing survey designs (domestically and globally). Household surveys, micro-census and traffic surveys incorporate potentials for building upon standardized templates, especially if countries start to develop this for the first time.

- Start developing low-cost approaches of data collection (e.g. small-sample household surveys, traffic counting) and create a platform of models and identify the required input data.

- A seamless solution would be that an international organisation establishes a clearing house for data and transport NAMAs, which provides benchmarks for various data sets and real world information on the effectiveness of NAMAs. It further could give access to what data sources and models are used to monitor and evaluate transport NAMAs in various countries. However, this was considered as very difficult and countries should not wait for this.

3.2   Analysing effects of mitigation actions

While some indicators on policy design and policy implementation can be easily scored, e.g. by calculating the number of inhabitants affected, it requires more complex analysis to measure the actual GHG impacts. A general problem in this respect is that the GHG impact of single policies and measures – even ambitious vehicle energy efficiency improvements – disappears over a longer time frame into the sensitivities and uncertainties of a business as usual case. With respect to measuring the impacts of mitigation actions, there are three aspects with high importance:

(a) The identification of cause-impact links, i.e. in what way an intervention has an impact on behaviour (activity or structure) or technologies (intensity and fuels).
(b) The efforts to define boundaries of a certain NAMA, i.e. what direct and indirect effects are included in the analysis of effects
(c) Challenges related to setting up an appropriate baseline, i.e. against what reference development the effects are described.

In this context, the following general aspects were identified as important by the expert group:

- Emission inventories and other transport sector data such as ridership, mode shares etc. are important for baseline development. Reviewing time series enable responsible persons to explore trends and trend changes, which are meaningful starting points for baseline development. However, only large scale, "transformational" or programmatic NAMAs were considered to be able to change trends in inventories.

- The question of boundaries will be especially important and difficult for such transformational measures. Some important indirect or long-term effects of actions will remain unmeasurable.

- However, setting boundaries as the classification of emissions in direct and indirect GHG emissions is important. Due to the variety of emission sources in the transport sector, a consistent approach to boundaries is needed to analyse greenhouse gas impacts.

- While the actual „with NAMA" development can be monitored, a reference scenario (baseline) without the particular NAMA, is a hypothetic case on what would have happened and thus subject to political considerations. The experts highlighted the challenge to agree on a baseline, especially as underlying assumptions may have an impact on the baseline and are may be biased due to specific interests of stakeholders.

- Not only the policy itself, but also the definition of a "business as usual" case includes assumptions on political priorities, which are always debatable. In general, there is a wide range of potential "business as usual" scenarios. It could be represented by a projection without any change from the country's current trends, but also take into account autonomous, reinforcing effects and build upon existing policy.

Recommendations to the process of MRV system development in developing countries

- The experts basically agreed, not to rely on general indicators such as GDP. Often, GDP is determined by many fluctuating exogenous factors such as economic conditions, market prices, etc. Compared to these influences GDP has only indirect effects, whereas cause-effect considerations should define more specific indicators directly linked to the NAMA' impact, e.g. on fuel economy, mode share or trip length.

- The data used for any ex-ante assessments should be consistent with the data used for ex-post monitoring, i.e. apply the same methodology (e.g. emission factors). If the ex-ante estimations are reasonable, then ex-post estimations of the baseline only need to estimate significant changes, i.e. those which had not been assumed but occurred in reality.

- More work on baselines is needed: One aspect of discussion was that dynamic baselines reflecting autonomous progress are much better suited than using static baselines without considering external developments. It was agreed that static baselines might be meaningful for measures that improve energy intensity or achieve fuel switches in a number of OECD states, but often appears irrelevant for fast changing conditions in developing countries.

- One point raised in this context was, that even if measures are agreed on, the implementation of policies is in some cases limited. This makes it more difficult to establish a baseline.

- The "political" dimension of what constitutes a "business-as-usual" development could be dealt with through organizing a stakeholder process in scenario development (see section 3.3 on governance and accountability). Including a wide range of government agencies, NGOs, the private sector and academics in discussion of underlying assumptions of baselines and scenarios can mitigate the risk of biased baselines to a certain extend. In context of NAMAs, international funders may be involved in such a process.

- However, in any case a sound analytical basis (data) for baseline development based on accepted and consistent methodologies is needed to inform stakeholder discussions.

- It was considered as important, to make underlying assumptions transparent to the public.

- As an alternative to baseline development or for first movers in NAMA development, experts considered to evaluate the success of a transport NAMA or group of NAMAs by scoring instead of measuring. The term scoring relates to the ability to track the performance of the implementation process of a NAMA and only indicate "direction" of impacts. For at least some NAMAs, the country could set targets or benchmarks and score its performance against this target (e.g. fuel efficiency of vehicle cohorts, share of trips by public transport, average trip lengths, share of rails for cargo).

International standardisation and potential benefits of an expert group

- Potential for international standardisation is to create some general guidance for baseline establishment; however the input data as well as underlying assumptions are always local and need to be defined in the countries.

- The cause-impact links as well as boundaries of certain types of NAMAs provide the potential to be standardised. This may be based on real world examples that serve to develop "generalized" principles.

- Transport NAMA developers could provide a documentation of the cause-impact relationships and the boundaries that may be subject to an international review on a voluntary basis. Such reviewed "cause-impact blueprints" for various policy proposals could trigger NAMA development in other countries.

- Stakeholder processes in countries may be needed to review the "MRV blueprints" and guide its adoption to local conditions.

3.3   Governance and accountability

Successful measurement, reporting and verification also depend on the effective involvement of relevant actors. An important element for MRV systems is to involve the relevant government agencies and stakeholders and motivate them to collect and give access to good quality data. In this context, the experts considered reasons, why stakeholders would measure, report and verify, how they would MRV and who should MRV? The following general aspects were identified as important by the expert group:

- A main reason for data constraints can be reluctance of stakeholders to involve or contribute. This can make MRV difficult. Stakeholders may support MRV of NAMAs, if

    (a) There are external incentives,
    (b) Benefits can be internalized,
    (c) Stakeholders have self-interest to MRV.

- If the data to be collected serves multiple purposes, than political and societal support becomes more probable. People will be more interested in NAMAs if they see personal benefits such as saving travel time, reducing travel money budgets, improving health and liveability. If such information is reported, then people will be also more open to support corresponding emission inventories as well as monitoring and evaluation activities.

- However, even if data collection is publicly supported, access to private data may remain limited, if this data is sensitive. For instance, mileage by vehicle types may allow assessing costs and could lead to pressure on the price of transportation. A lot of potentially important data from private sources is hence not accessible, e.g. statistics from logistics and goods transport.

- MRV requires collaboration among various stakeholders and different interest groups. Hence, assigning clear responsibilities is important. When building up new MRV systems, it is important to understand the existing institutional arrangement and power balance between stakeholders. This helps to find pragmatic procedures that fit into the existing institutional system or identify needs for reform.

- Further, stakeholders will aim at linking MRV to existing data collection and processing and they would consider their capacity to collect and process data.

Recommendations to the process of MRV system development in developing countries

- The MRV of (transport) NAMAs should stay as simple as possible and increase complexity not too fast. For instance, data collection should aim at using and complementing existing statistics and it should build upon existing systems of data collection.

- With respect to data collection and processing, it is important to involve the finance ministry or treasury from an early point in the process. MRV also requires funding for a stable institutional set-up to measure, report and verify. To be sustainable, it is needed to include MRV in public budgeting processes to ensure required funds. In any case, it should be avoided to create processes and structures with unfunded mandates.

Figure 3: Results of group discussion on governance and accountability

- It was suggested to identify "champions" first, i.e. stakeholders willing to actively contribute to the domestic MRV system and in so doing to create a critical mass of active persons and institutions. These should outreach to other actors and explain benefits. In this process, it is important to understand existing enforcement and compliance processes, so finally it is possible to institutionalise MRV processes. However, a continuous learning loop will help to improve MRV systems over time.

- Key for a successful MRV framework is to involve stakeholders beyond the transport community (e.g. police that holds car registration data). Measuring, reporting and verifying transport NAMAs should not be consider MRV as a mere transport sector issue, but as a framework and as processes that integrate different sectoral ministries, agencies and other institutions. This may be easier if countries frame the discussion around MRV as a discussion not limited to GHG reductions but sustainable development benefits.

International standardisation and potential benefits of an expert group

- There is not much possibility for standardisation and international input with respect to governance and accountability. It was even suggested to avoid strict rules and obligatory procedures as much as possible and keep MRV approaches flexible. However, good practice references and voluntary review of MRV approaches may help to facilitate NAMA development.

- It was recommended to clearly list and explain the benefits of MRV and make this accessible for developing countries. This may help early movers in their context to raise interest and thus develop MRV systems.

- As another potential for standardisation, the group recommended to develop principles and summarise good practice on "clearly assigning responsibilities" in MRV systems.

4   Conclusions and Next Steps

The idea of this workshop was to initiate conceptual work on MRV for transport NAMAs and identify follow-up activities of the group of experts that complement and facilitate the domestic processes of developing countries to set up MRV frameworks and systems. An important output was to structure the thinking around the three dimensions on (a) data, (b) analysis of impacts and (c) governance. In each of the dimension, the recommendations touched two different areas:

1. The domestic process for MRV system development in developing countries.
2. Potential for and benefit of international standardisation.

The experts contributed substantial knowledge and already identified various recommendations to be considered. In the concluding session of the workshop, some main aspects were highlighted:

- MRV needs to be developed stage wise and allow tier type improvement options to accommodate diverse data availability with capacity in different countries. Hence, establishing a domestic – nationally appropriate – process will be required in each country.

- According to the mid-term need of more work on tier 3 emission accounting approaches in MRV of transport NAMAs, it appears beneficial to establish national MRV systems that take the local conditions into account, but refer to and adapt from international good practice.

- Good practice guidance on how to develop "Roadmaps for MRV of transport NAMAs" may help to enable countries to start with relatively simple approaches – using default values and assumptions – and to improve data availability and modelling capacity over time

- The experts pointed to a significant potential to support domestic MRV processes via international references especially on cause-impact links, boundaries and baselines and thus improve MRV in the long run: Here one can build upon the WRI's GHG protocol for mitigation action accounting but go into more detail for transport specific aspects.

- Methodological issues have the highest potential for standardization and may benefit from international review processes on a voluntary basis. Such methodological issues are ideally based on real-world cases that are generalized in blueprints for MRV of transport NAMAs for selected and important actions.

- To generate such experiences and "translate" them into *MRV blueprints*, the expert group could serve as a review panel to such case studies and documents on methodologies. The experts could also contribute to country workshops and MRV system development under "domestic processes" and conclude issues suitable for generalisation.

Based on the results of the workshop, the TRANSfer project team concluded four areas of work for a 2 year process to support the development of MRV systems in the transport sector in developing countries (see details in separate workplan developed as a follow up). The results of the discussion documented in this workshop report will be used in such a process.

a) Further facilitate an expert group or network for MRV Support of organizations providing expertise on transport MRV system development.

b) Organize the process to produce a reference document on How to develop a roadmap for MRV systems in the transport sector? This report would include background information, data requirements (tiered system), potential methods for data collection and institutional framework but focus on process recommendations for domestic MRV system development.

c) Organize the process to produce a set of peer-reviewed MRV Blueprints for Transport NAMAs, which may be documents similar to CDM methodologies but more flexible and created on a voluntary basis.

d) Link practical experiences in real-world NAMA development and use projects of GIZ and others as case studies of selected countries.

Annex

List of participants

	Name	Organisation	E-mail
1	Rafael M Acevedo-Daunas	Inter-American Development Bank (IDB), USA	RAFAELAC@iadb.org
2	Stefan Bakker	GIZ Thailand	stefan.bakker@giz.de
3	Daniel Bongardt	GIZ China	daniel.bongardt@giz.de
4	Kim Coetzee	Energy Research Centre of Capetown University, South Africa	kim.coetzee@uct.ac.za
5	André Eckermann	GIZ TRANSfer Germany	andre.eckermann@giz.de
6	Talya Enriquez Romano	Partnership on Sustainable Low Carbon Transport (SLoCaT), China	talya.enriquezromano@ slocatpartnership.org
7	Jean Francois Gagné	International Energy Agency (IEA), France	Jean-Francois.GAGNE@iea.org
8	Miquel Gangonells	United Nations Economic Commission for Europe (UNECE), Switzerland	Miquel.Gangonells@unece.org
9	Jürg Grütter	Grütter Consult	jgruetter@transport-ghg.com
10	Cristiano Façanha	The International Council on Clean Transportation (ICCT), USA	cristiano@theicct.org
11	Lewis Fulton	University of California in Davis, USA	lmfulton@ucdavis.edu
12	Jürg Füssler	INFRAS, Switzerland	juerg.fuessler@infras.ch
13	Andrea Henkel	GIZ TRANSfer Germany	andrea.henkel@giz.de
14	Cornie Huizenga	Partnership on Sustainable Low Carbon Transport (SLoCaT)	cornie.huizenga@slocatpartnership.org
15	Jiang Kejun	Energy Research Institute of NDRC, China	kjiang@eri.org.cn
16	Hilda Martinez	CTS/Embarq Mexico	hmartinez@ctsmexico.org
17	Carlos Pardo	Despacio Colombia	pardo@despacio.org
18	Danang Parikesit	University Yogyakarta, Indonesia	parikesit.danang@gmail.com
19	Michael Replogle	Institute for Transportation & Development Policy (ITDP) USA	mreplogle@me.com
20	Frederic Rudolph	Wuppertal Institute for Climate, Environment and Energy Germany	frederic.rudolph@wupperinst.org
21	Sudhir Sharma	United Nations Environment Programme Risoe Centre Denmark	sudr@dtu.dk

Workshop Concept and Agenda

Towards Roadmaps for MRV of Transport NAMAs

International Expert Workshop,
side event to *COP 19* and Pre-event to *Transport Day 2013*

Hyatt Hotel Warsaw, 15 November 2013

Objectives: The workshop on Roadmaps for MRV of Transport NAMAs aims to identify key aspects of a robust transport NAMA MRV approach that can be adopted under different stages of development and data availability.

Participants: The group will consist of about 20 persons, including transport data and climate policy experts from developed and developing countries, with an emphasis on innovative thinkers. Participation is by invitation only.

Methodology: A participatory facilitation methodology will be utilised to fully capture the expertise and ideas of the participants. Formal presentations will be limited to a minimum. Instead structured brainstorming methods will be used to review existing and identify future options for MRV of transport NAMAs. Participants will discuss key aspects of monitoring emissions related to policy change. The discussion will focus on how good prac¬tices can be adapted to developing country contexts.

Time	Agenda Item
8:30 – 8:45 am	Formal opening and introduction to the workshop (objective, scope and methodology)
8:45 – 9:30 am	Self-introduction of participants and their expectations
9:30 – 10:00 am	Short introduction to the idea of a *Guide on Roadmaps for MRV of Transport NAMAs*
10:00 – 12:30 am	Facilitated discussion on current good practices on and challenges for transport emission accounting (inventories, monitoring of measures, scenarios) *Aim: Developing a joint understanding of MRV approaches and elements of a consistent approach*
12:30 -1.45 pm	Lunch
1:45 – 2:00 pm	Set up of breakout groups and task assignment
2:00 – 4:00 pm	Breakout group discussion on either MRV system elements, roadmaps for developing data and institutional settings or different NAMA MRV approaches.
4:00 – 4:45 pm	Report back to the plenary and identification of common aspects
4:45 – 5:30 pm	Discussion of next steps and follow-up activities.
5:30 – 6:00 pm	Wrap-up and feedback of participants
7:00 – 9:00 pm	Dinner and drinks