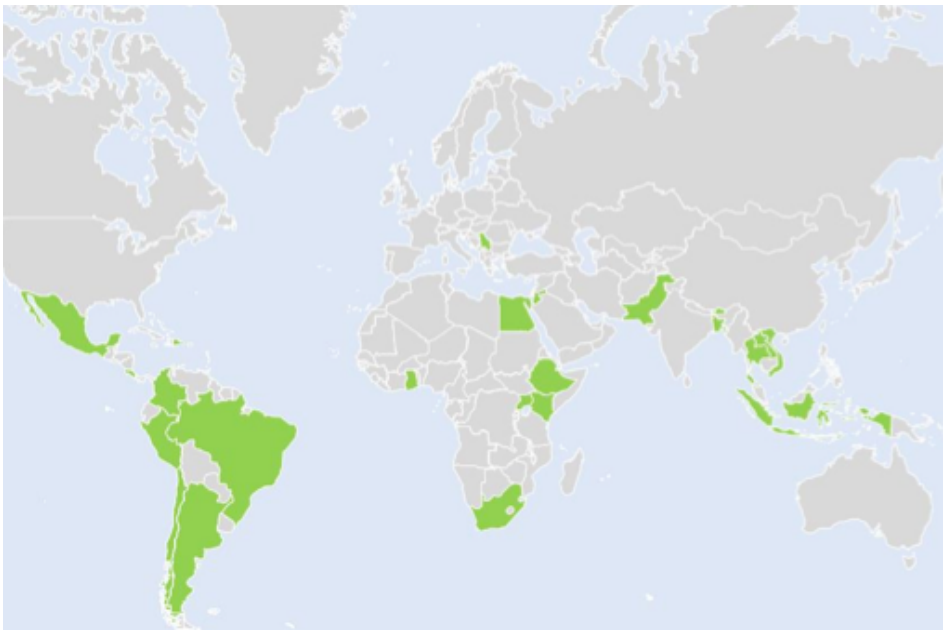
Transport NAMA Report 2014



Insights from experiences and ingredients for upscaling

5th edition
24th Nov 2014

This report has been jointly developed by the Bridging the Gap Initiative (BtG) and the Partnership on Sustainable, Low Carbon Transport (SLoCaT)

Authors: Anne Binsted, Benoit Lefevre (WRI Ross Center for Sustainable Cities), André Eckermann, Insa Eekhoff (GIZ) and Michel Arnd (GIZ consultant)

This paper is a produced by the Bridging the Gap (BtG) initiative and the Partnership on Sustainable, Low Carbon Transport (SLoCaT):
Bridging the Gap is a multi-stakeholder initiative to link climate change and land transport more closely and gain better recognition of its potential in mitigating GHG emissions. The SLoCaT Partnership promotes the integration of sustainable transport in global policies on sustainable development and climate change.

Table of Contents

Acknowledgements
We would like to thank all interviewees and reviewers for their valuable contributions and feedback, including: Adriaan Korthuis (Climate Focus), Akshima Ghate (The Energy and Resources Institute, TERI), Claudia Diaz (Low Carbon Resilient Development (LCRD) Program, USAID), Cornie Huizenga (SLoCaT), Cynthia Menendez (EMBARQ Mexico), Frauke Röser (Ecofys), Heather Allen (TRL), Jiro Ogahara (Japanese Overseas Environmental Cooperation Center, OECC), Karl Peet (SLoCaT), Ko Sakamoto (Asian Development Bank, ADB), Martina Jägerhorn (Nordic Development Fund, NDF), Oliver Lah (Wuppertal Institut), Rebecca Carman (United Nations Development Programme, UNDP), Stefan Bakker (GIZ ASEAN), Steve Winkelman (Center for Clean Air Policy, CCAP), and Sudhir Sharma (Technical University of Denmark, DTU).

Bridging the Gap and SLoCaT
Bridging the Gap, a multi-stakeholder initiative (www.transport2020.org), together with the Partnership on Sustainable Low Carbon Transport (SLoCaT) (www.slocat.net), work to increase the visibility of land transport within the UNFCCC process and other international forums.

Executive summary

Today, the transport sector accounts for almost a quarter of energy-based, polluting CO_2 emissions, a share that is expected to grow. If no countermeasures are taken, CO_2 emissions from the transport sector are projected to rise by about 70% between 2010 and 2050. NAMAs offer a unique opportunity for developing countries to mitigate greenhouse gas emissions from their transport sectors. They are being considered as an attractive way to overcome barriers to sustainable transport and catalyse the implementation of desired sustainable transport actions. As this report shows, developing countries are increasingly aware of the benefits of engaging with NAMAs, especially with regards to the transport sector.

The number and quality of transport NAMAs and NAMA feasibility studies has increased since the UNFCCC's first call for developing countries to submit NAMA intentions in 2010. Transport NAMAs and NAMA feasibility studies account for 16% (in total 24) of the activities in the Ecofys NAMA Database. Insights from experts who have been directly involved with transport NAMAs reveal that these only account for a small proportion of the NAMAs being considered and developed.

Unfortunately, obligations to government officials, resource constraints, and institutional or individual preferences lead to incomplete and infrequent knowledge sharing about transport NAMAs. **But there are clear benefits to learning lessons from experiences and, throughout the research, diverse stakeholders stressed the importance of sharing best practices in NAMA development.** Therefore, there is a need to consider how international knowledge sharing can become more commonplace.

Measures as well as modes targeted by Transport NAMAs vary considerably. But all transport NAMA developers are seeking to realise the transformational potential of transport NAMAs during selection and preparation. It is still too early to anticipate the likely impact of NAMAs.

A sole dominant driver for developing country engagement with transport NAMAs does not exist. Drivers include co-benefits, funding opportunities, potential to catalyse transformation of all or part of the transport sector, technical assistance, achieving mitigation impacts and the relatively high reputation of transport sector policies. Most NAMA actions would eventually be progressed in the context of wider domestic strategies and policies anyway. **However, the type and availability of support earmarked for NAMA preparation and implementation is a considerable driver for government officials to consider NAMAs.** In doing so, climate change considerations are likely to be integrated into domestic transport policies.

Inadequate data availability is the main challenge facing transport NAMA development, financing and MRV. Human capacity and financing are further challenges facing nearly transport NAMA development. All of the 31 possible challenges listed in the survey (see Section 3 and Annex 1) have been experienced by respondents. These challenges and barriers vary due to the local and institutional background of the respondents. Due to these different experiences and capacities, best practices, participatory and collaborative approaches during transport NAMA development are particularly important. It also makes it important to have clear guidance from the UNFCCC and from potential funders of NAMAs.

Stakeholders are learning by doing and many different effective practices are being applied and adapted. They are already leading to tangible benefits beyond the scope of NAMAs. Good practices will continue to emerge and evolve as

experience with transport NAMAs increases. But the hurdles to upscaling transport NAMA engagement, preparation and implementation cannot be cleared without international support.

There is domestic commitment to advancing transport NAMAs and this is vital to the development and impact of NAMAs. International support is needed in order to complement domestic resources. International support needs are extensive, broad and include financial and technical assistance that is complemented by strategic capacity building. This research indicates that no dominant international support need exists. To meet these diverse support needs will be a tremendous challenge for the development of transport NAMAs. NAMAs will rely, as traditional transport measures do, on the allocation of significant amounts of public domestic resources that are intelligently mixed with climate finance on the one hand and used to leverage private sector finance for sustainable transport measures on the other. **The future of transport NAMAs therefore depends on the provision of appropriate international support.**

This report briefly explores each of these issues and provides recommendations for key stakeholder groups on how actors can contribute to increasing the scale of engagement with transport NAMAs, the impact of these NAMAs, and the time taken to progress from NAMA identification to implementation.

Gautrain in Johannesburg/South Africa, Photo: Jonas Bleckmann 2012

1. Introduction

Nationally Appropriate Mitigation Actions (NAMAs) (see Box 1) can reduce GHG emissions from the transport sector of developing countries while contributing towards sustainable development and sectoral transformation. They are seen as a valuable opportunity for developing countries to access international support and recognition for sustainable transport activities in the context of climate change mitigation. The Bridging the Gap (BtG) initiative, and the Partnership on Sustainable Low Carbon Transport (SLoCaT), have explored and communicated the opportunities that NAMAs present for the transport sector since the concept emerged. This 2014 status report, which is the fifth annual transport NAMA report published by BtG[1], answers related timely questions, such as 'What is the current status of transport NAMAs?' 'Why develop transport NAMAs?' 'What challenges are affecting the development, financing and MRV of transport NAMAs?' and 'What type of international support can help to address these challenges?' The report makes a contribution to the international discussion about how transport NAMA activities can proliferate more rapidly, and; how concepts and proposals can transition to implementation more quickly.

A survey of international transport and climate change experts and transport NAMA developers was conducted to inform this report[2]. A series of interviews with leading transport NAMA practitioners and researchers was also organised (see Box 2).

Box 1: An introduction to NAMAs

Nationally Appropriate Mitigation Actions (NAMAs) are voluntary Greenhouse Gas emission (GHG) reduction activities conducted in developing countries either with or without external support. They were introduced in the Bali Action Plan (UNFCCC, 2007) as a means to 'enhance national/ international action on mitigation of climate change.' The concept was presented as follows: 'Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity building, in a measurable, reportable and verifiable [MRV] manner.' In order to avoid compromising the 'nationally appropriate' nature of related activities a more restrictive definition of NAMAs is unlikely to emerge.
Section 2 gives an indication of the diversity of NAMA activities, which can be new, planned or even partially implemented projects, policies or strategies that either directly or indirectly reduce GHG emissions from a BAU scenario in either the short-, medium- or long-term.
For more information see GIZ (2014a).

1 Bridging the Gap's NAMA publications can all be accessed from: http://www.transport2020.org/publications/transport-namas

2 In the context of this report the term 'transport NAMA developer' is used to refer to all actors who are directly involved with transport NAMA development, including government officials, policy advisors, and consultants.

Box 2: The approach used

This report is informed by the findings of an online survey, which was active for three weeks from the end of September 2014, and a series of interviews that were conducted over the same period.

The survey was targeted at transport NAMA experts and sent directly to over 400 contacts working in the fields of transport and climate change in developing countries. Interviewees were strategically selected to complement survey responses, probe findings, and gain an insight into comparative experience in NAMA development in other sectors.

The survey questions are listed in Annex 1. They were completed by 54 experts and 17 interviews were conducted. Responses were received from experts working on transport and/or climate change based in Latin America (22), Europe (20), Asia (15), North America (4) and Africa (3) and were informed by first-hand experience of transport NAMA development in at least 17 countries in Asia (11 transport NAMAs), Latin America (11) and Africa (8). Of the respondents whose institutional affiliation is known 70% are from think tanks or consultancies, 17% are from developing country governments, 3% from developed country governments, and 10% from financial institutions.

In addition, the report draws on information in the Transport NAMA Database[3] and the authors' wider knowledge and active participation in transport NAMA development and related discussion.

The first section of this report gives an overview of the scale and nature of transport NAMA activities. The second section outlines some of the factors that are driving the selection, prioritisation and development of transport NAMAs. Some of the challenges for transport NAMA development, financing and MRV; good practices that are being piloted and refined to help overcome these challenges, and; the international support needed to address them are introduced in the third section. The conclusions, which contain implications for key stakeholder groups, are then drawn

3 The Transport NAMA Database is an interactive web-based portal that was developed by GIZ and EMBARQ/WRI in partnership with Bridging the Gap and SLoCaT. It was launched at COP19 in Warsaw to facilitate access to details about transport NAMAs. It is linked to the Ecofys NAMA Database as a sector specific component and is in the process of being updated. For more information, see: http://www.transport-namadatabase.org.

2. A brief overview of transport NAMAs

Summary findings

- **The total number of transport NAMAs is increasing.** They are not all represented in the Transport NAMA Database for several reasons, such as the occasional request of host government officials to keep activities confidential and a lack of time, resource and inclination on the behalf of transport NAMA developers to share this information.
- **NAMAs and transport NAMAs are concentrated in Latin America** but stakeholders are developing NAMAs in all geographic regions and many governments in Asia and Africa are engaged in transport NAMA preparation and appraisal.
- **Transport NAMA measures** (which include sustainable transport and activities that facilitate them, such as centres that provide advisory support) **and modes targeted continue to vary considerably**. So does the scope and level of development of transport NAMA feasibility studies, concepts and proposals.

The Transport NAMA Database contains details of **24 NAMAs and NAMA feasibility studies** (see Table 1). This is two less than last year, even though the total number of transport NAMAs is increasing (as explained below). The total number of NAMAs and NAMA feasibility studies in the Ecofys NAMA Database[1] has increased over the period, which has led to a slight reduction in the proportion of transport NAMAs. In November 2013 22% (26) of the 120 NAMAs and NAMA feasibility studies were exclusively in the transport sector and now 16% (of a total 149) are[2]. This makes transport the second most represented sector after energy supply, which is the same position that it held last year (for more details of the status of NAMAs last year see Binsted et al., 2014)[3].

The numbers in the Transport NAMA Database are not reflective of the full scale of international engagement with transport NAMAs. This is evidenced by the 20 additional transport NAMAs that were referred to in the transport NAMA survey and interviews (including 1 that remains confidential). The number of transport NAMAs is also not reflective of the large number of sustainable low carbon transport actions that are being conducted in developing countries, and which could be eligible as NAMAs with relatively minor extra efforts.

Information about many transport NAMA activities and their status is not routinely shared. The reasons for this are varied (and include, for example, strategic considerations and a lack of time and resource). The associated c**hallenges to obtaining an up-to-date and comprehensive overview of NAMA development** mean that

1 The Ecofys Database was launched in 2011 to record supported NAMA feasibility studies, concepts and proposals from all sectors of the economy for which information has been published. It is normally synchronised with the contents of the Transport NAMA Database, but because of a technical difficulty the two are not identical at the time of publication. For more information, see: http://www.nama-database.org.

2 This figures exclude 1 NAMA feasibility study and 3 NAMAs 'under development' that are multi-sector and include transport components.

3 Last year's report and others can all be accessed from: http://www.transport2020.org/publications/transport-namas

Table 1: An overview of transport NAMA activities

NAMAs	Source	Feasibility studies	Under development	Implementation	Total
Transport NAMAs	Transport NAMA Database	12	10	2	**24**
	Survey and interviews (additional to those in the Database)*	5	15	0	**20**
All NAMAs	Ecofys NAMA Database	30	112	7	**149**

* These are in the process of being added to the Transport NAMA Database, with the exception of the three that are confidential but that have been incorporated in these figures.

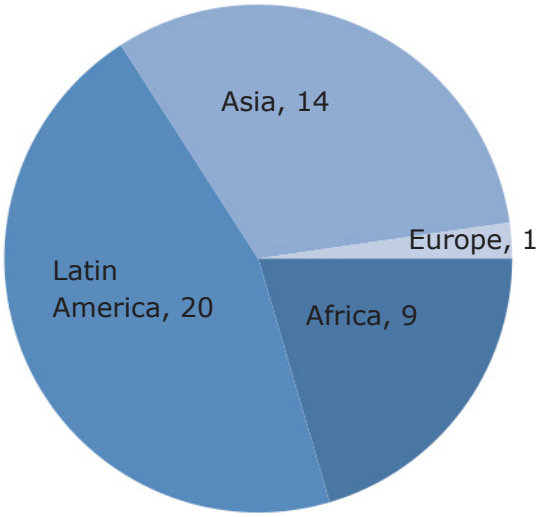


Figure 1: Geographic representation of transport NAMAs and feasibility studies included in Annex 2 plus 1 from the survey that is confidential.

the transport NAMAs referred to here (and listed in Annex 2) are not comprehensive. Even so, one of the benefits of this research is the increased awareness that it has created of active transport NAMA activities.

Figure 1 shows the **regional distribution** of the 43 transport NAMAs in Annex 2 plus the 1 that is confidential. It is very similar to the regional distribution of all of the NAMAs in the Ecofys NAMA Database. NAMAs continue to be concentrated in Latin America, but the dominance of Latin America in NAMA development could be decreasing. In addition to current transport NAMA initiatives in Asia and Africa and wider NAMA capacity building and scoping is planned in these regions.

An analysis of all transport NAMAs and NAMA feasibility studies in Annex 2 reveals that there is no **mode of transport** that appears more or less likely to be incorporated in a transport NAMA than any other. Waterborne freight is the only mode not represented in these 43 NAMAs. It has, however, been the subject of wider transport NAMA feasibility studies

The transport NAMAs collectively targeting all modes for both passenger and freight transport, and all approaches to enhancing mobility. Transport NAMAs incorporate **many different approaches** that: avoid or reduce the need to travel; shift to or maintain modal share of relatively environmentally friendly modes, and; improve the energy efficiency of transport modes and vehicle technology (see GIZ, 2014a). They do this by proposing projects, but they are increasingly containing bundles of projects and policy reforms, which are likely to lead to greater economic, social and environmental impacts than individual projects.

Of the transport NAMAs in the Transport NAMA Database, **two NAMAs are at implementation**. These are the South African 'Passenger Modal Shift from Road to Rail

– the Gautrain Case,' led by the Department of Transport[4], and 'Enhancing Vehicle Renovation and Operating Efficiency in Mexico's Federal Freight Sector,' led by the Ministries of Transport (SCT) and Environment (SEMARNAT)[5]. Development stages mask very different levels of progress, and milestone reached, by individual NAMAs. Survey and interview responses show that even when transport NAMAs are developed using a systematic process (as advocated by the TRANSfer guidance introduced in Box 3) they are likely to reach milestones (such as a description of institutional set-up, financing structure, estimation of mitigation potential and co-benefits) in a different sequence.

Box 3: The main building blocks of transport NAMA preparation.

In its Transport NAMA Handbook GIZ (2014a) refers to five interconnected building blocks of transport NAMA preparation. These are:

1. **Designing mitigation measures**
2. **Measuring, Reporting and Verification (MRV)**
3. **Financing**
4. **Registration**

5. Co-Benefits (cross-cutting)

Transport NAMA design is not a linear process and it is influenced by many different characteristics that are specific to the context and to the mitigation and facilitative measures of the NAMA being designed. International experience shows that developing transport NAMAs is a complex and time-consuming process but there is a range of practical guidance available. The Transport NAMA Handbook (GIZ, 2014a) is the most comprehensive resource for transport NAMA developers. It complements the UNFCCC's NAMA Guidebook (Lütken et al., 2013) by providing transport sector specific advice for the scoping, design and appraisal of each of the five building blocks of NAMA preparation. It also touches on issues relating to implementation and monitoring and evaluation. The handbook is accessible from: http://www.transport-namas.org/resources/handbook

The Handbook contains links to a number of practical tools, which comprise a 'Transport NAMA Toolbox.' The tools (and Handbook) have been developed under the TRANSfer project to facilitate the application of concepts introduced in the Handbook. The Toolbox is accessible from: http://www.transport-namas.org/resources/toolbox

4 The South African NAMA is for an existing rapid rail network, which was initiated in 2006 and began operating in 2011. It was selected for development as a NAMA for recognition, and an MRV approach was developed for the already implemented measures. For more information about the NAMA, and for lessons learned about developing NAMAs based on existing measures, see GIZ (2014b).

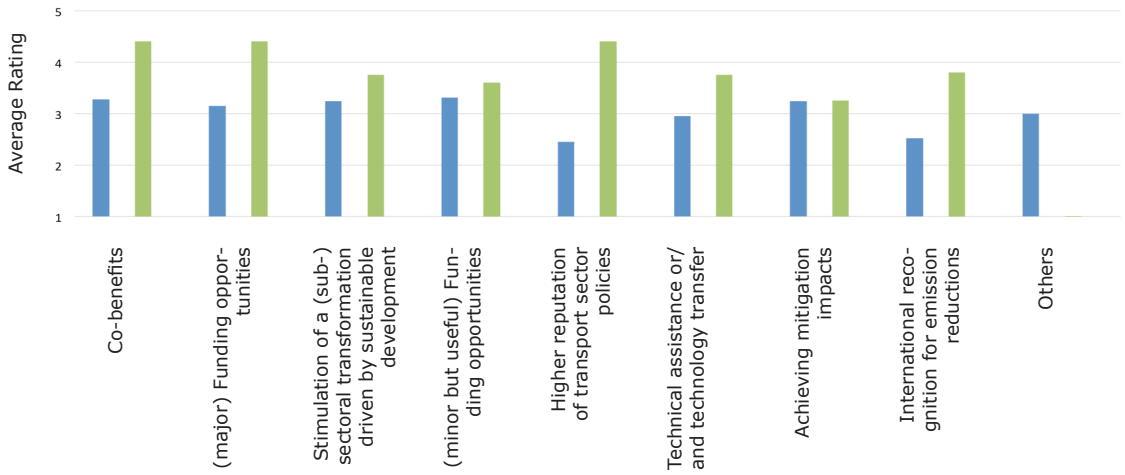
5 This NAMA is for a new activity. It will support two federal programmes that the Mexican Government has introduced to increase the efficiency of federal freight by increasing the participation of relatively small freight operators (specifically, owners operating up to five, and up to 30, vehicles). It aims to achieve this through the introduction and alignment of fiscal and regulatory measures. For more information see the entry in the Transport NAMA Database.

3. Drivers that stimulate the development of transport NAMAs

Summary findings

- **There is not one dominant driver for developing country engagement with transport NAMAs.** Contribution to domestic priorities, such as sustainable development, is key for encouraging developing country government officials to consider NAMAs. The reputation of sustainable transport activities also makes them keen to use NAMAs (which can be high profile and some international support is earmarked for) as an opportunity for developing and implementing related 'nationally appropriate' tailored solutions.
- **NAMA support can be used to develop and implement planned transport activities.** Most activities would eventually be progressed anyway in the context of wider domestic strategies and priorities, but the type and availability of support earmarked for NAMA preparation and implementation (regardless of its volume) is a considerable driver for government officials.
- **Climate change considerations can be integrated in domestic transport policies** using the NAMA Instrument.
- **It is too early to meaningfully estimate the exact impact** of existing transport NAMAs, or transport NAMAs overall, on climate change mitigation, but according to survey responses transport NAMA developers are actively working to be ambitious re mitigation potential.

Figure 5: The main drivers that stimulate the development of transport NAMAs rated from 1 (not important) to 5 (very important).



Motivations for developing country officials to consider transport NAMAs are numerous and some respondents even said that all of the potential drivers referred to in the survey (see Figure 5) are very important. **Co-benefits** (see Box 5) have contributed towards the decision of all respondents to engage with transport NAMAs, but motivations vary with context and stakeholders. Government officials, for example, see **'major' funding opportunities, co-benefits** and the **relatively high reputation of transport policies** (for example in terms of possible impact) as being **particularly important** (and consistent) drivers.

This highlights recognition of the feasibility and positive domestic impacts of sustainable transport activities. It could also imply less awareness about the volumes of in-

ternational support available for NAMAs, with minor but useful funding opportunities rated less strongly.

The mitigation measures being developed as NAMAs would most likely have been progressed even if they weren't developed as a NAMA. Interviewees emphasised that they are mainly actions to expand or improve transport systems that developing country governments need to carry out, for example to address sustainable development aspirations and other domestic priorities. This is why **finance, technical assistance and/or technology transfer** can be particular drivers for framing sustainable transport actions as NAMAs. Also, several interviewees suggest that it is not just the availability of support earmarked for NAMA development that drives them to explore NAMAs, but also the relatively low input needed from them to advance these activities when framed as NAMAs. Interviewees shared many examples of where the availability of this technical assistance is a key driver for pursuing NAMAs.

The strategic and targeted approach that NAMA developers are often using to identify and development NAMA proposals was, for example, referred to as a process that developing country officials are very keen to have introduced to address urban transport challenges and to reach domestic sustainability goals. In another case, a key driver was the support to develop concepts and proposals for improving public transport, which the government can use as a template for public transport in other cities.

Mitigation potential (see Box 6) is not the strongest driver, which is not a surprising finding. The climate change mitigation potential of transport NAMAs is, however, clear and acknowledged. The survey respondents almost all use **mitigation potential** as a transport NAMA selection criteria and 85% of survey respondents are contributing towards NAMAs that focus on transport sector actions that are thought to have the largest GHG reduction potential.

Box 5: Transport NAMA co-benefits.

Non-climate impacts of actions that are conducted in the context of 'climate change mitigation' are routinely referred to as 'co-benefits.' In practice these co-benefits can be of greater or equal significance to government officials as climate impacts, which the results of this survey indicate, and so they are increasingly being referred to as 'sustainable development benefits.' There is a close alignment between GHG emission reduction and sustainable development in the transport sector and specific co-benefits include: enhanced economic development; energy security; quality of life, and; decreased environmental damages. In addition, the NAMA instrument can lead to benefits in terms of: improved institutional framework; international recognition of domestic mitigation activities; access to additional support, and; business/ innovation opportunities (see GIZ, 2014a, for a more extensive list). There are benefits to considering these impacts at each stage of NAMA development and appropriate stakeholders consulted to increase the likelihood of these benefits being realised.

Sustainable transport activities can both reduce GHG emissions and have sustainable development benefits, so it is possible that these findings are correct and that NAMAs that are driven by other drivers, such as co-benefits, also focus on transport sector actions with high GHG emission reduction potential. Alternatively, transport NAMA developers might be claiming to be focusing on actions with the highest emission reduction potential but actually progressing NAMAs based on other criteria.

Box 6: Transport NAMA climate change mitigation potential

The transport sector is responsible for approximately 23% of global energy related CO_2 emissions (IEA, 2013). GHG emissions from the sector are increasing more rapidly than from any other but demand for transport is declining in several countries and the sector has high climate change mitigation potential (UNEP, 2012).

NAMAs can contribute towards realising this potential but it is too early to provide a meaningful insight into the likely magnitude of their contribution (or to wider environmental, social or economic goals). This is linked to the relatively early stage of engagement with transport NAMAs (only two are being implemented) and the challenges associated with estimating potential impact (as discussed in Section 4).

Nearly all transport NAMAs that survey respondents are contributing towards are claimed to target sub-sectors with the highest mitigation potential and are considering mitigation potential at the NAMA selection stage.

The **selection criteria** being used to identify potential transport NAMAs reflect both **practical and aspirational considerations**. Strategic trade-offs are being made between short-term climate change mitigation potential and longer-term impacts (such as sustainable development), practical considerations (such as financial cost and ability to MRV impact) and wider domestic priorities (such as economic growth). This can result in the selection of NAMAs that have the potential to realise broader and larger domestic impacts. This is conducive to the development of effective and bankable transport NAMAs. There is consensus that transport NAMAs help to integrate the climate agenda into domestic transport policies. 82% of survey respondents have involved both the Ministries of Transport and Environment in transport NAMA development[1], which is conducive to realising this potential and associated opportunities.

Developing country government officials play an active and crucial role in initiating, and requesting international support for, transport NAMAs. The international expert community is also central to this process and, at this relatively early stage of NAMAs, often initiates transport NAMA activities (such as the identification and short-listing of possible transport NAMAs) and leads their preparation. They play a key role in increasing awareness and understanding about NAMAs and provide crucial technical assistance and capacity building support. The level of ownership by the implementing entity varies, and it can be challenging to get support from all of the relevant actors, but early experience indicates that by the transport NAMA proposal stage it is often strong. Domestic commitment and support are key enabling factors in progressing transport NAMAs, and once this is secured then government officials play meaningful roles in preparation. For example, an interviewee described how after a concept was developed for an Energy Efficiency Program for Freight Vehicles NAMA in Mexico, the implementing entity (Mexico's Ministry of the Environment and Natural Resources, SEMARNAT) then led the proactive pursuit of finance for its elaboration and implementation.

1 Other Ministries that had been involved in t-NAMAs developed by respondents include Ministries of: Finance, Planning, Foreign Policy, Housing, Energy, and Industry and Trade.

4. Transport NAMA development, financing and MRV

The following section provides an overview of challenges to transport NAMA development, financing and MRV and practices that are being adopted to manage them. It also outlines the international support needed to overcome these barriers to transitioning to more sustainable transport systems in developing countries.

4.1 Challenges

Summary findings

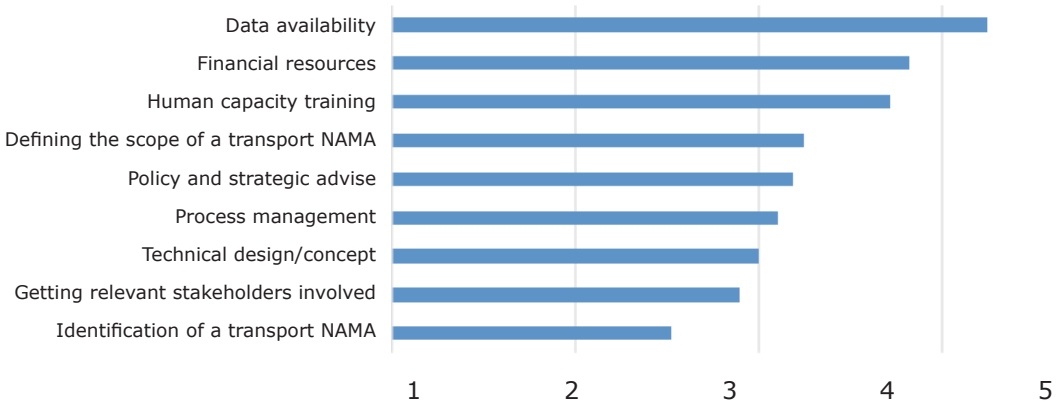
- **Data availability is the main challenge** facing transport NAMA development, financing and MRV.
- **Human capacity and financing are also frequently experienced challenges** to transport NAMA developing, financing and MRV.
- **All possible challenges listed in the survey for transport NAMA development, financing and MRV** (which are listed in Figures 7, 8 and 9) **were considered to be 'strong'** by at least 21% of the transport NAMA developers who responded.
- **Responses reinforce the value of guidance**, lesson learning and knowledge sharing and of the mobilisation of targeted domestic and international technical, financial and capacity building support outlined in Section 4.3. They also indicate the possible benefits of more clarity about NAMAs being provided by the UNFCCC.
- **Potential funders of NAMAs should also be mindful of these challenges in relation to funding application and their appraisal processes.** These processes should encourage these challenges to be addressed without unduly allowing them to act as a barrier to the progression of sound transport NAMA concepts. For example, the challenges for MRV of transport NAMAs should be reflected in the eligibility criteria of potential funders.

Challenges for developing transport NAMAs

Transport NAMA developers perceive **data availability to be the main challenge** facing transport NAMA development. Data quality and management also pose problems at the preparation stage. Figure 6 shows that many challenges listed were considered to be important by most respondents. Even the least frequently experienced challenge, which was identifying transport NAMAs, was experienced by 89% of respondents, 24% of whom said that the challenge that it created was 'strong' (scoring it a 4 or 5 of a maximum 5). This gives an indication of the breadth of challenges that are having an adverse impact on transport NAMA development and the diverse and extensive support needs that exist to progress transport NAMAs. There is some overlap between the categories because although all of the challenges are unique many are linked and some are cross-cutting issues. For example, a lack of human capacity can compromise ability to define the scope of a transport NAMA.

Challenges created by inadequate stakeholder engagement, co-ordination and communication were frequently highlighted. The related challenges of inadequate or ab-

Figure 6: The main challenges for transport NAMA development rated from 1 (not important) to 5 (very important).



sent ownership of the transport NAMA development process; long-term commitment (to both NAMAs and to the time-consuming process of transport NAMA development), and; an enabling framework (policy and institutional) were also emphasised. Like many of these challenges they overlap with, and contribute towards, other challenges. Lastly, unclear requirements and appraisal processes of international funders is posing a challenge. Linked to this, interviewees highlight that good practices from wider sustainable transport initiatives apply, but that even NAMA experts know relatively little about NAMAs. Interviewees referred to uncertainty and confusion about exactly what a NAMA is and how they can be useful. Transport NAMA developers are learning by doing, and institutions who are or will provide support are also learning from these initial experiences. But experts referred to uncertainty regarding many different aspects, including financing and optimal institutional arrangements.

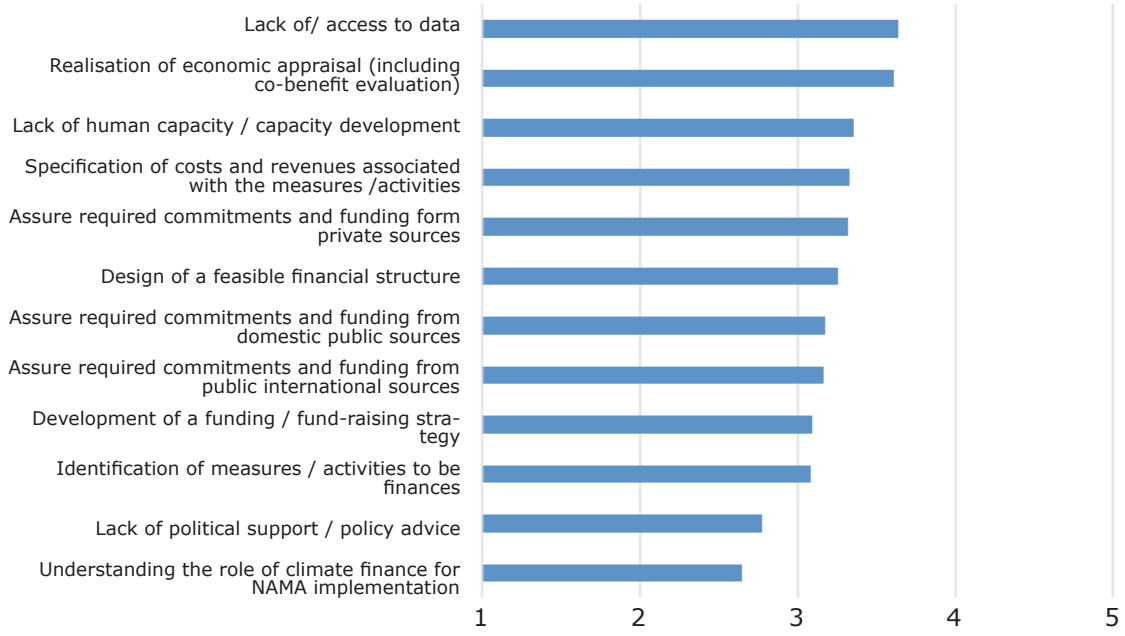
Challenges for financing transport NAMAs

Challenges to financing transport NAMAs are similar in nature to challenges for transport NAMA development and MRV. 68% of respondents said that all financing challenges listed in the survey applied to the transport NAMA that they were contributing/ contributed towards. Experience varies, but **data availability** was again considered to be the strongest challenge. Figure 7 shows the average rating of the other challenges faced but it doesn't show how significant some of the challenges are to individual respondents. All challenges were considered to be strong by at least 26% of respondents.

Many sustainable transport actions can be developed as NAMAs, and transport NAMAs **face the same financing challenges as any other type of sustainable transport intervention**. There is finance earmarked for NAMAs, but finance is also earmarked for wider sustainable transport actions. This means that in many cases existing guidance can be followed, established experts consulted, and wider resources and initiatives aligned to enhance the effectiveness of approaches to overcoming them. The more NAMA specific financing challenges include the current **lack of clarity** regarding available finance, eligibility requirements for accessing this finance, and financing needs. 'Learning by doing' and **meaningful dialogue** between transport NAMA funders, developers and other developing country decision-makers could therefore be particularly beneficial to better understanding, and

managing, some of the financing challenges. It is interesting to note that, on average, respondents thought that understanding the role of climate finance was the weakest challenge. But this does not necessarily mean that there is relatively high understanding of its role, just that it is not thought to be a considerable barrier for transport NAMA financing.

Figure 7: The main challenges for financing transport NAMAs rated from 1 (not important) to 5 (very important).



Challenges for the MRV of transport NAMAs

All of the possible challenges for the MRV of transport NAMAs have been experienced by 95% of the transport NAMA developers consulted. Experience and perception of MRV challenges is particularly wide-ranging but, as shown in Figure 8, data availability was again the largest challenge for all respondent types. Lack of human capacity, institutional arrangements for MRV, and estimation of mitigation impact are also strong challenges (rated 4 or 5 out of a maximum 5) for many. Government officials perceived these challenges to be particularly strong. The lack of basic architecture for MRV; related stakeholder engagement and co-ordination, and; clarity from potential donors were frequently raised and are additional, but also likely to contribute towards, the other challenges faced for MRV. Overall, MRV challenges are mainly technical. The weakest perceived challenges relate to understanding MRV related concepts and requirements, while the strongest challenges lie in applying these concepts. Challenges for moving from transport NAMA development to implementation (see Figure 9) are very similar to those faced for transport NAMA development, financing and MRV. Overall, the responses reinforce the breadth of challenges that need to be addressed before the potential positive impact of transport NAMAs can be realised. Government officials considered all of the hurdles, with the exception of the availability of high quality transport NAMA proposals to be larger than other respondents did, which has implications for good practices that need to be followed and for international support needs.

Figure 8: The main challenges for the MRV of transport NAMAs rated from 1 (not important) to 5 (very important).

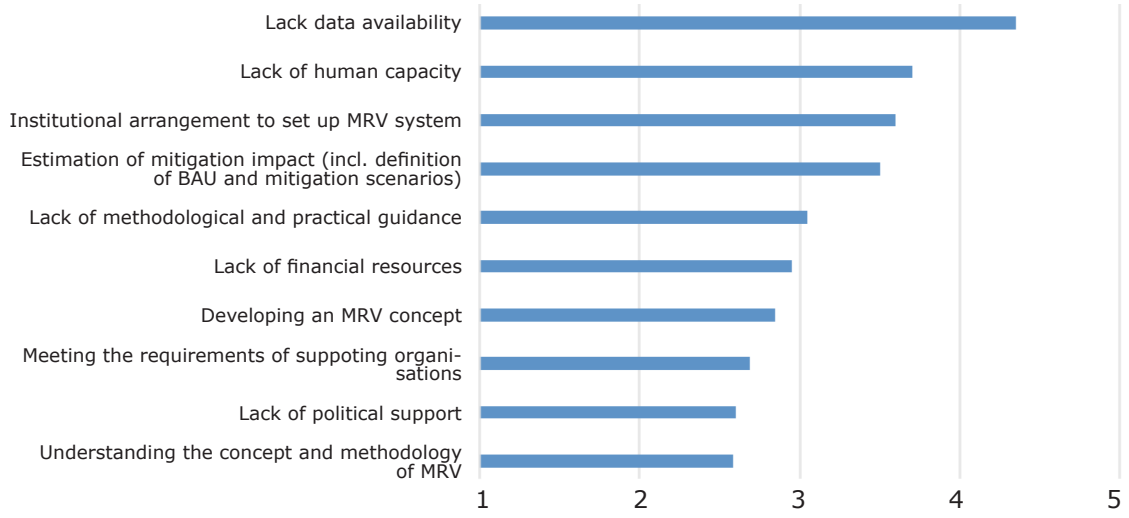
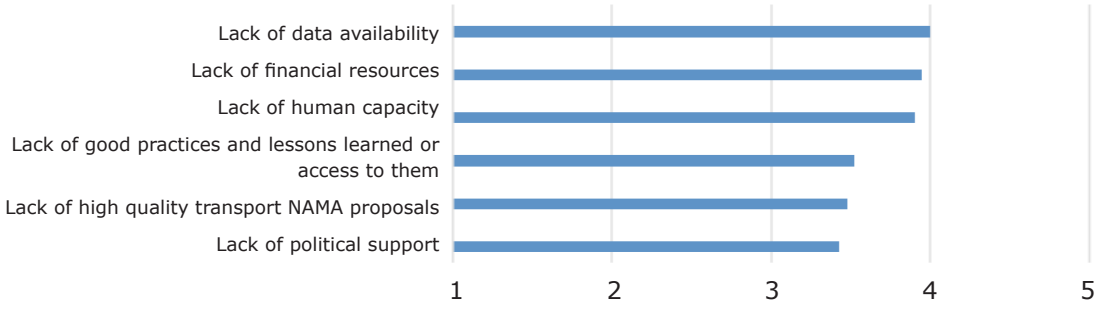


Figure 9: The main hurdles to moving from transport NAMA concept to implementation stage, rated from 1 (not important) to 5 (very important).



Medellin/Colombia, Photo: Carlos F. Pardo, 2009

4.2 Good practices

Summary findings

- **Stakeholders are learning by doing.** Good practices will emerge and evolve as experience with transport NAMAs increases.
- **Experience reinforces the appropriateness of NAMA guidance** with many good practices consistent with approaches advocated in guidance (and consistent with wider good practices for sustainable transport actions).

The good practices summarised in this section were received from interviewees and survey respondents. They were shared specifically as examples of practices that can minimise the challenges introduced in the previous section. The good practices are presented in relation to transport NAMA development, financing and MRV, but each good practice can benefit each of these three aspects.

Good practices for developing transport NAMAs

Firstly, transport NAMA experts have found that the following c**onsiderations can support the identification and definition of NAMAs** that could have the largest impacts and be relatively likely to attract international support:

- Think in terms of **policies and programmes**, not just projects. Transport NAMAs can comprise many different types of policy instrument. Two interviewees (from two different financial institutions) emphasised that NAMAs can be most valuable when international support is used to develop (and integrate) policies that are designed to catalyse local investments in projects.
- Consider the **potential for replication**.
- Explore opportunities to **support existing policies**. It can lead to synergies, result in a stronger focus on climate protection, and increase the likelihood that the NAMAs are progressed (for example, one interviewee has found that many developing countries have strong policy agendas that finance is available to advance).

Transport NAMAs must also be identified and developed to **integrate and align with wider government strategies** (for example relating to sustainable development, transport, climate change, energy, the environment, finance and planning). The development, institutionalisation and integration of NAMA finance and MRV architecture into the wider domestic framework is also an aspiration of transport NAMA developers because of the synergies that can be created.

Transport NAMAs that are developed in the context of long-term visions are finding it easier to access political and financial support. It can also make it easier to co-ordinate the relevant stakeholders to support transport NAMA development, financing and MRV.

Stakeholder involvement was extensively referred to as a catalyst for effective transport NAMA development, financing and MRV. It is very time-consuming and resource intensive to do well but it is recognised as a worthwhile investment. Related good practices referred to by respondents include the development of institutional frameworks that encourage cross Ministry collaboration in the host country. These can improve joint ownership of NAMAs and are conducive to effective NAMA preparation and implementation. Most related good practices were, however, focused at the

level of individual NAMAs where activities such as: stakeholder mapping and analysis; development of multiple points of contact in each identified stakeholder group; cultivation of dialogue, and; maintaining contact and momentum, were all referred to as having had positive impacts on transport NAMA development, financing and MRV.

Committed **steering committees are an effective tool** for optimising stakeholder engagement and transport NAMA development more widely. They are being established and staffed to:

- **Oversee the process;**
- **Ensure vertical and horizontal integration, co-ordination and commitment across ministries and stakeholders;**
- **Allocate responsibilities to stakeholders;**
- **Communicate progress;**
- **Maintain momentum, and;**
- **Increase awareness of activities being conducted and their purpose.**

Several interviewees and survey respondents talked about good practices for stakeholder consultation in the context of the Colombian Transit-Oriented Development (TOD) NAMA. For example, it proposes to create an independent national level facility (Centro para Intervenciones Urbanas de Desarrollo Avanzado hacia el Transporte, CIUDAT), which will sit under a programme of Findeter, Colombia's national development bank. It will provide financial and technical assistance and also institutionalise dialogue between key stakeholders. It will be hosted by Findeter, supported by the Universidad de los Andes, the Centre for Clean Air Policy (CCAP), and will be overseen by an independent board comprising representatives of key national ministries. One interviewee stated that the inclusive process used to develop the NAMA proposal has already had a tangible impact on the co-ordination between the Colombian Ministries of Transport, Housing and Environment. It is also said to have improved co-ordination between cities in relation to TOD, even though it has not reached implementation. Independent experts interviewed referred to the TOD NAMA as an international good practice (although others are concerned that it is too complex, and that if it is not successful then it could have a negative impact on finance available for transport NAMAs).

A government official said that site visits to places where proposed NAMA measures were already implemented had been the 'most helpful' part of the NAMA development process, in their opinion. Knowledge sharing has benefitted many respondents. Experiences shared by countries who are relatively advanced in transport NAMA development has been considered beneficial for all participants, and is thought to have increased understanding about NAMAs and wider sustainable transport actions. So has **knowledge sharing** re approaches to MRV, for example in peer-to-peer learning workshops organised by the GIZ TRANSfer project and the Transport Working Group of the Low Emission Development Strategy Global Partnership (LEDS-GP). These are two of many initiatives that are helping participants to identify nationally tailored solutions for overcoming specific challenges.

Good practices for financing transport NAMAs

Securing international support (financial, technical and capacity building) to develop NAMAs was seen as imperative to success by many respondents. Several transport NAMA developers emphasised that deployment of a single MRV expert or targeted consulting study, even when not part of a broad or large-scale programme of support,

can have many tangible benefits. A number of good practices examples for financing transport NAMAs, provided by interviewees and survey respondents, are listed below to give an indication of the type of technical and capacity building support that can be relatively limited in terms of financial cost of provision but considerable in terms of 'added value' and impact:

- Packaging finance from multiple sources
- Incorporating the 'polluter pays' approach in NAMA financing strategies
- Combining sources of finance and mechanisms with measures to create an enabling environment
- Writing funding applications to fulfil the requirements of multiple sources and investors
- Combining different policies within a NAMA to increase return on investment (e.g. combining the development of a mass rapid transit system, like metro or BRT, with investment in infrastructure supporting inter-modality and parking policies).

Good practices for MRV of transport NAMAs

Respondents suggested that experience with MRV indicates that adoption of a **phased process**, where required actions are broken down into clear steps that prioritise short-term needs (where challenges prevent a more comprehensive approach) and propose medium- and long-term actions to fill gaps in data availability and increase accuracy, can put countries on the path to developing MRVable NAMAs. For example, the challenge of poor data availability should not prevent NAMAs being progressed. Data needs should be understood and short-falls (in data availability and data quality) should be noted. A short-term approach to manage the lack of data should be devised (for example by using assumptions), its limitations acknowledged, and relevant data collection and management processes initiated to show how NAMA impact can be more accurately measured and estimated in the future. In this context one interviewee (themselves a consultant) suggested that some international NAMA consultants, in the absence of the finance needed for implementation, are making MRV processes and concepts appear unnecessarily complex. They suggest that by accepting limitations (e.g. regarding data availability), using expert judgement to devise a way to work around them in the short-term, and proposing medium- and long-term solutions to overcome them, considerable progress can be made. A proactive and solutions oriented perspective is crucial when there is so much uncertainty regarding transport NAMAs, NAMA finance, and MRV.

Interview responses reveal that good practices are not universally applicable. Contrasting approaches are being regarded as good practice for different transport NAMA developers. One example is regarding MRV. An interviewee said that 'good practice' for overcoming challenges relating to MRV is to first define financial needs, then pursue funding opportunities, and lastly think about MRV. At this stage the MRV approach can be **developed based on specific donor requirements** (although the interviewee is not at this stage yet). Another interviewee said that the opposite approach is 'good practice.' They are developing a broad MRV approach at an early stage in the hope that it will meet requirements of possible donors.

Some experts believe strongly that it is too early to talk about good practices. There are certainly many gaps in knowledge, experience and NAMA requirements. Initial experience suggests that there are, however, benefits to being familiar with practices that have minimised and addressed some of the challenges listed in Section 4.1.

4.3 International support needs

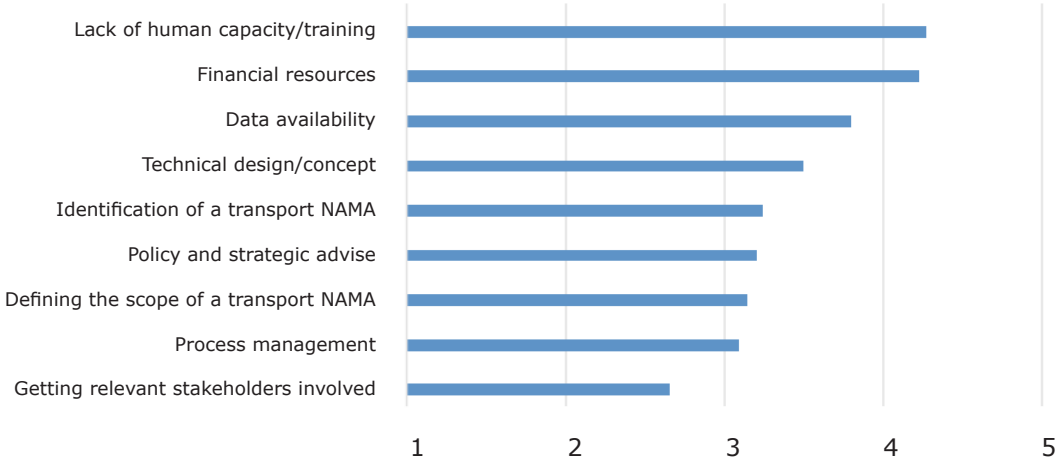
Summary findings

- There is **domestic commitment** to advancing transport NAMA development, financing and MRV.
- **Domestic commitment and support** for transport NAMAs is vital to their development and impact.
- **International support is needed** to complement domestic resources for many different aspects of transport NAMA development, financing and MRV.
- There is **no dominant support need,** instead wide-ranging financial and technical assistance is required, and should be complemented by strategic capacity building.
- **Financial resources, human capacity, data availability and technical design** of NAMA concepts, MRV concepts, funding strategies and financial structures are the main international support needs.
- There are **assumptions that more international support will be available** to complement domestic resources for transport NAMA development, implementation and MRV.

International support needs for developing transport NAMAs

There is evidence of **strong domestic commitment** and support for transport NAMAs. This is vital to the development and impact of transport NAMAs. International support is, however, needed to complement domestic resources. The survey and interviews found that **financial resources, human capacity and data availability** are the most common international support needs expressed for transport NAMA development (see Figure 10). This is consistent with the challenges faced. All possible international support needs were considered to be strong (rated as 4 or 5 out of a maximum 5) by at least 29% of respondents. International support needs are broad and show that **support provided must be comprehensive** if ambitious and bankable transport NAMAs are to be prepared. For example, the nature of the challenges and needs suggests that financial support, technical assistance and **capacity**

Figure 10: The main international support needs for transport NAMA development rated from 1 (not important) to 5 (very important).



building should be complementary and planned by donors and recipients to realise synergies if feasible transport NAMAs are to be prepared at scale.

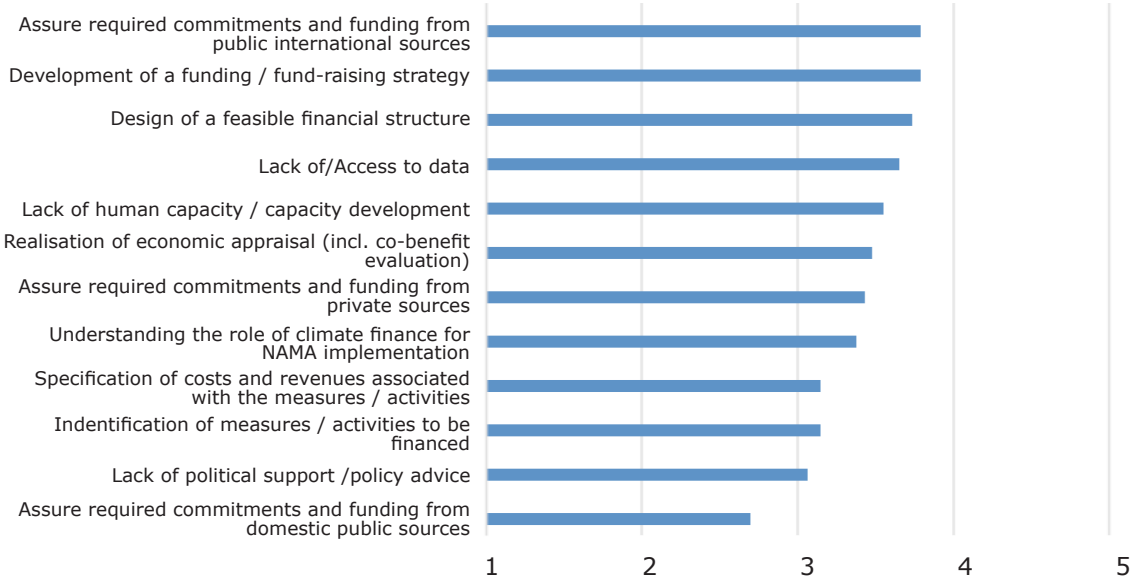
The **capacity building support must be meaningful**, **targeted, and have a clear purpose**. For example, the need for international support for capacity building that increases awareness about NAMAs and associated issues, such as MRV and financing strategies, was raised. But some interviewees were critical about the focus and purpose of some of these efforts. It was, for example, suggested that resources are sometimes invested in capacity building activities that do not aim to build domestic capacities to a level where the focus of the training, such as preparing funding applications for transport NAMAs, can be applied by participants. Instead capacity building is conducted and then international actors are hired to conduct the task (such as funding applications). 'Awareness raising' on its own is a legitimate aim of capacity building, but long-term aims should be clear and assessed before resources are committed. Lastly, international support must be grounded in a thorough understanding of the context

International support needs for financing transport NAMAs

There are also very broad international support needs for financing transport NAMAs (see Figure 11). 78% of transport NAMA developer survey respondents said that all of the international support options listed in the survey for financing transport NAMAs were applicable. Commitment of finance from i**nternational public sources** is considered the highest support need, closely followed by **support for developing a funding strategy** and **feasible financial structure.**

Government officials considered international support needs to be stronger than other stakeholder groups did, and so there could be value in assessing, and increasing awareness about, which challenges can effectively be addressed domestically (and how), and which cannot be managed without sustained international support. In this context, it is important to underline that international climate finance can cover only a minor portion of the funding and finance required for sustainable transport. For

Figure 11: The main international support needs for transport NAMA financing rated from 1 (not important) to 5 (very important).



this reason, it is crucial to spend limited climate finance in a particularly smart way.[1]

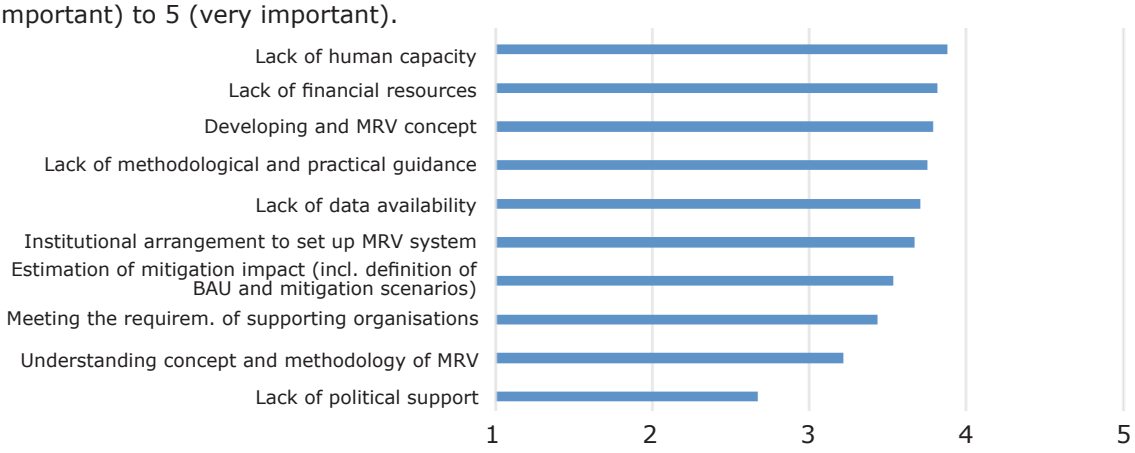
The need for technical assistance to combine ('blend') sources of finance, and to use available finance strategically, was referred to as 'critical' in interviews. The need for top-down and bottom-up capacity building to increase awareness and understanding about NAMA finance and financing schemes was highlighted by interview and survey respondents, along with the need for financial and technical support to be complementary to maximise its impact. This reveals a clear demand for technical inputs from financial experts, and an opportunity for potential NAMA funders to contribute towards overcoming hurdles to advancing and upscaling transport NAMAs.

1 The survey and interviews highlighted many international support needs. Several of them are on the 'soft side' (such as the design of measures, capacity building, MRV, and strengthening data management). Those on the 'hard side' (such as resources for infrastructure investments) will rely on the allocation of significant amounts of public domestic resources even though they are NAMAs – just like traditional transport measures. For NAMAs, these domestic resources will need to be intelligently mixed with climate finance on the one hand and used to leverage private sector finance for sustainable transport measures on the other.

International support needs for the MRV of transport NAMAs

85% of respondents who reported challenges in relation to MRV also expressed related international support needs, and most said that all of the international support needs listed for MRV were applicable. International support needs for MRV of transport NAMAs largely correspond with the challenges faced (see Figure 12). The lack of financial resources and methodological and practical guidance however, feature more prominently as support needs than they did as challenges. It is not known if this is the result of the design of this study, or if there is an underlying reason, such as relatively limited domestic capacity in these areas or an assumption about the availability of international support to address these issues. Conversely, some factors, such as 'human capacity,' are more prominent as challenges than as international support needs, indicating an assumption that certain challenges can be overcome unilaterally with time.

Figure 12: The main international support needs for transport NAMA MRV rated from 1 (not important) to 5 (very important).



The need for focused technical assistance and capacity building for MRV of GHG emissions, co-benefits and to support the realisation of wider possible sustainable transport benefits (for example by using data collected for MRV to inform other domestic decision-making processes) was emphasised. So was the value of focusing short-term international support on building the cornerstones of MRV, such as data collection, quality, methodology, and management.

5. Summary and ingredients for upscaling

The number and quality of active transport NAMA activities has continued to increase this year. 22% (26) of the activities in the Ecofys NAMA Database are transport NAMAs and NAMA feasibility studies and this research reveals that these are only a small proportion of the activities that are being conducted. They remain concentrated in Latin America, but NAMAs are being prepared in all geographic regions and government officials and sustainable transport experts are also embracing the concept across Africa and Asia.

Challenges are faced at all stages for transport NAMA development, financing and MRV. Nearly all transport NAMA developers have to contend with **inadequate data availability, human capacity and financing.** Transport NAMA guidance, technical assistance and knowledge sharing are valuable resources but there are still many knowledge gaps and lessons to be learnt. Most challenges are not, however, unique to transport NAMAs. They are faced by almost all sustainable transport activities in developing countries. There is also the possibility of strategically integrating different sources of **domestic and international support from public and private sectors to address the large challenges** faced.

Transport NAMAs are increasingly containing bundles of projects and policy reforms. We are seeing NAMAs being proposed and prepared that are adopting long-term perspectives and have the potential to transform transport sectors in developing countries. In spite of related challenges and knowledge gaps, co-financing approaches are being developed that combine and leverage wider funds from domestic and international, as well as public and private sources. This is a very promising progression from the often project based and vague initial 'intentions' to more programmatic transport NAMAs. This change can be noticed by comparing the NAMAs and NAMA feasibility studies in Annex 2 with those in early Bridging the Gap annual transport NAMA reports.

To increase likelihood of receiving financial support for implementation, transport NAMAs should propose strategic approaches. For example by integrating proposed NAMA actions with wider government strategy, and by pursuing multiple, complementary, sources of finance to support implementation. This will require **knowledge sharing within and, where appropriate, between sectors.** Representatives of all stakeholder groups should be encouraged to contribute towards related knowledge sharing. Joining, and actively contributing towards, relevant alliances and international communities of experts working on NAMAs in all sectors can enhance the capacity of participating individuals and institutions and support enhanced progress for transport NAMA development and implementation. Its value was repeatedly highlighted in relation to good practices and international support needs.

There is incomplete knowledge sharing about transport NAMA activities, experiences and lessons learned. This is linked to a combination of resource constraints, obligations to government officials (such as the need to keep details confidential), and institutional and individual preferences and priorities. The **UNFCCC NAMA Registry** (UNFCCC, 2014) is the **only 'official' platform for recording NAMAs** seeking international recognition or support for preparation or implementation. But it is not routinely used and there is no requirement to record NAMAs there. The Registry has successfully matched one NAMA with international support but this is currently an isolated experience and the benefits of completing the related template

is not clear to transport NAMA developers. The role of the Registry needs to be clarified and communicated to help justify the efforts needed to complete the necessary NAMA template. The Ecofys NAMA Database and Transport NAMA Database contain more NAMAs than the Registry, but this is because the inputs are provided (and researched) by their hosts.

Financial resources, human capacity, data availability and technical design assistance (for example relating to NAMA, MRV and financing concepts) **are the most pressing requirements to advance transport NAMA development, financing and MRV.** There is some support being earmarked for NAMAs (by the NAMA Facility, for example) but not in the quantities needed. **International support should therefore be targeted strategically** to support and complement activities that are most conducive to mobilising wider support (see Lefevre and Leipziger, 2013 and Dalkmann et al., 2014, for an analysis of available financial resources). This could result in an upscaling of transport NAMA activities and sustained benefits beyond the scope of the NAMA.

This research has identified numerous other opportunities for increasing the scale of engagement with transport NAMAs and the impact of these NAMAs.

Ingredients for upscaling: Key opportunities are summarised below as implications for key stakeholder groups.

Transport NAMA developers (including government officials and consultants)

- Identify, incorporate and communicate **co-benefits** from the outset. Their value (as a driver and financially) outweigh climate benefits, and when integrated into transport NAMA identification and preparation can increase the likelihood of attracting political and financial support.
- Use **practical and aspirational criteria** to select transport NAMAs and to guide NAMA development but try not to let practical hurdles, such as MRV, prevent otherwise ambitious and promising NAMAs from being developed. Draw on existing support, such as transport NAMA guidance. The Transport NAMA Handbook (GIZ, 2014a), for example, is periodically updated to reflect first-hand experiences of NAMA developers.
- **Work within constraints.** Many challenges cannot be overcome before transport NAMAs are progressed, but need to be worked around. In the context of estimating impact, for example, work systematically with available data and use initiative and technical assistance to manage the impact of limitations and lay foundations for more ambitious approaches in the medium- and long-term.
- **Engage domestic and international experts** to provide specialised and targeted support and associated capacity building, for example in relation to financing strategies and MRV architecture. An in-depth understanding of domestic context is essential and participatory and collaborative wor-

king can help to draw on diverse and complementary expertise.

- **Involve the private sector.** Challenges and support needs are large. Climate finance is relatively limited in volume and needs to be blended and used strategically to leverage other sources, but public sector support will not be sufficient to meet the scale or nature of challenges faced. The private sector can provide technical and financial support. The Colombian TOD NAMA is an example of how Transport NAMAs can use public sector finance to leverage private investment.
- **Adopt an integrated approach**. All stages from transport NAMA identification to implementation can have direct benefits beyond the scope of the NAMA. An integrated approach to NAMA development, financing and MRV can support strategic investment and mobilisation of resources to increase impact and return on investment.
- **Try to integrate all stages** from transport NAMA identification to evaluation and monitoring with the wider domestic framework. This can increase the impact of the NAMA and have indirect benefits beyond the scope of the NAMA (for example by designing MRV to contribute towards wider decision-making processes).

NAMA Funders

- **Increase clarity** of finance that could be available to support transport NAMAs, eligibility for NAMA funding opportunities, and related application and appraisal processes.
- **Do not limit evaluation of transport NAMAs to climate change mitigation impacts and costs.** Appraisal processes must, for example, reflect the need for trade-offs to be made between short-term and direct and longer-term and indirect impacts (such as co-benefits and potential for transformational change).
- **Package or integrate support** with other activities to support the provision of complementary forms of support (such as financial and technical assistance, and capacity building).
- **Understand the positive benefits of sustainable transport activities as well as good practice** for transport NAMA development. Encourage the incorporation of related activities (such as stakeholder engagement and integration with and contribution to wider policy, MRV and finance architecture) in transport NAMAs supported.
- **Be aware of challenges** relating to data availability and quality, reflect their implications in funding application and appraisal processes, and support activities and NAMA components that are conducive to enhancing related capacity and ambition. MRV requirements, for example, should allow for related capacity to be developed in stages, including as part of the NAMA.
- **Share financial expertise** to increase understanding about financing strategies that can support the implementation of transport NAMAs.

Developing country governments

- **Develop** domestic networks of communication and co-operation (formal and informal) that are **vertically and horizontally integrated** and conducive to the mobilisation of support for transport NAMAs; increasing awareness about available support for transport NAMAs; and related discussions (for example between officials who go to the UNFCCC climate talks, decision-makers in Ministries of Environment and Transport, for example, and those at the implementing level).
- **Promote the integration of transport and climate change policies** by routinely considering the potential of NAMAs to complement and add value to wider policies and measures.
- **Widely communicate co-benefits** and other drivers of engagement with transport NAMAs as well as information about how countries can develop transport NAMAs.
- **Create and enhance domestic enabling environments** for transport NAMA development, financing and MRV.
- **Communicate domestic commitment** to transport NAMAs to an international audience.
- Be proactive in **reaching out to international transport NAMA experts** and financial institutions to discuss opportunities for accessing resources for transport NAMAs.

Technical experts

- **Develop, pilot, refine, apply and disseminate approaches** that might be identified to enhance data availability and quality (in the short-, medium- and long-term) and estimation of NAMA impact (for GHG emissions and co-benefits).
- Increase understanding about, and ability to apply, **financing strategies** that can optimise the impact of the limited finance earmarked for NAMA implementation.
- Recognise the wide number of challenges faced in developing transport NAMAs and in moving them towards implementation, and **develop processes, approaches and knowledge products** to contribute towards overcoming them.
- Develop and deliver **context specific capacity building initiatives** that target very specific transport NAMA development, financing and MRV needs (such as creating enabling environments, blending sources of finance, and architecture for MRV).

References

Binsted, A., Lefevre, B., Cauchois, C. and Eckermann, A. (2014) Transport NAMAs: An Overview, Bridging the Gap. *Available at URL: http://www.transport2020.org/file/giz-embarq-transport-nama-overview-final-14-01-2014-sr.pdf*

Dalkmann, H., Brannigan, C., Lefevre, B. and Enriquez, A. (2014) Urban Transport and Climate Change: A Sourcebook for Policy-makers in Developing Cities, Deutsche Gesellschaft für Internationale Zusammenarbeit, Germany. *Available at URL: www.sutp.org/*

GIZ (2014a) Navigating Transport NAMAs. Navigating Transport NAMA: A practical handbook on Nationally Appropriate Mitigation Actions (NAMAs) in the transport Sector, Deutsche Gesellschaft für Internationale Zusammenarbeit, Germany. *Available at URL: www.transport-namas.org/resources/handbook*

GIZ (2014b) South Africa. South Africa – The Gautrain Case, Deutsche Gesellschaft für Internationale Zusammenarbeit, Germany. Available at URL: http://transport-namas.org/projects/transfer-partner-countries/south-africa/

IEA (2013) CO_2 Emissions from Fuel Combustion Highlights, International Energy Agency, France. *Available at URL: http://www.iea.org/publications/freepublications/publication/CO2EmissionsFromFuelCombustionHighlights2013.pdf*

Lefevre, B. and Leipziger, D. (2013) Transport Readiness for Climate Finance: A framework to access climate finance in the transport sector, Bridging the Gap. *Available at URL: http://www.embarq.org/sites/default/files/Transport-Readiness-for-Climate-Finance-EMBARQ-BtG.pdf*

Lütken, S. E., Dransfeld, B., Wehner, S., Agyemang-Bonsu, W., Avendaño, F., Babu, D., Bonduki, Y., Carman, R., Forner, C., Hinostroza, M., Kelly, R., Krey, M. and Sharma, S. (2013) Guidance for NAMA Design. Building On Country Experiences, UNFCCC, UNEP, UNDP, Germany. *Available at URL: http://unfccc.int/files/cooperation_support/nama/application/pdf/guidance_for_nama_design_(2013)_final.pdf*

UNEP (2012) The Emissions Gap Report 2012, United Nations Environment Programme (UNEP), Nairobi. *Available at URL: http://www.unep.org/pdf/2012/gapreport.pdf.*

UNFCCC (2014) Public NAMA – Home [NAMA Registry], United Nations Framework Convention on Climate Change (UNFCCC), Germany. *Available at URL: http://www4.unfccc.int/sites/nama/SitePages/Home.aspx .*

Annex 1: Transport NAMA survey questions

This Annex contains a list of the transport NAMA survey questions.

Information on the interviewee

Your name: _____
Institution you belong to: _____
Country/City: _____

Are you familiar with the concept of t-NAMAs?

- I have never heard of it
- I have a vague understanding
- I am aware of what NAMAs stand for
- I am directly involved in the discussion on NAMAs
- I am working with or already developing NAMAs for my country or my client

What is your involvement with transport and/or climate change in developing countries?

- I am not involved at all with transport or climate change in developing countries
- I do work on climate change in developing countries but not in transport
- I do work on transport in developing countries but not in climate change
- I do work on transport and climate change in developing countries

If you are contributing to the development of a t-NAMA then please provide details:

o Name of NAMA: _____
o Host country: _____
o Lead Institution: _____

t-NAMA Development

Generally speaking any project, programme, policy or strategy that reduces greenhouse gas emissions from transport below business-as-usual could become a NAMA. The selection of a mitigation action or package of actions that are to be developed into a t-NAMA can follow different approaches.

Please add your information on the t-NAMA development you are involved with.

The following questions refer to your overall experiences on t-NAMAs. In case you are working on more than one NAMA, please feel free to lump sum your experiences in one questionnaire.

Are the t-NAMA(s) you are involved with focusing on the areas with the largest GHG mitigation potential in the respective transport sector(s)?

- Yes
- I don't know
- No. Why not? _____

Which criteria have been considered during the selection process of the t-NAMA(s)?

- mitigation potential
- co-benefits
- economic and financial feasibility
- likelihood of successful implementation
- feasibility of MRV in terms of GHG emission reductions
- Further criteria: _____

Would you like to elaborate your experiences and possible observations during the selection process of the t-NAMA(s)?
[Textbox]

Which stakeholders were involved?

- Ministry of Transport
- Ministry for the Environment
- Ministry of Finance
- Ministry of Planning
- Other Ministries (please specify below)
- Private sector (please specify below)
- Academia/Consultancies (please specify below)
- Others (please specify): _____

Please specify further the institutions marked as „Other Ministries, Private sector, Academia/Consultancies"
[Textbox]

Could you please rate the main challenges you were facing and the support needs you have recognised in t-NAMA development (1 weak/5 strong). If something is not applicable, just leave a blank.

		Challenges	International support needs
1	Identification of a t-NAMA		
2	Defining the scope of a t-NAMA		
3	Getting relevant stakeholders involved		
4	Technical design/concept		
5	Policy and strategic advise		
6	Process management		
8	Financial resources		
9	Human capacity/training		
10	Data availability		

Would you like to share any observations regarding the challenges and support needs you were facing?
[Textbox]

t-NAMA Financing

Policy makers have a wide spectrum of potential options to mitigate GHG challenges. Some, such as vehicle taxation reform, can be implemented relatively quickly and with limited capital need by the public sector. Others, such as a new metro system, will require many years of development and construction, and massive amount of money. For many developing countries, implementing sustainable climate-friendly transport, particularly capital-intensive ones, can be very challenging. Please add your experiences on financing t-NAMAs.

Could you please rate the main challenges you were facing and the support needs you have recognised in the overall process of t-NAMA financing (1 weak/5 strong). If something is not applicable, just leave a blank.

		Chal-lenges	Intern. support needs
1	Identification of measures / activities to be financed		
2	Specification of costs and revenues associated with the measures / activities		
3	Realization of economic appraisal (incl. co-benefit evaluation)		
4	Design of a feasible financial structure (incl. financial flows and in case of investment projects incl. a financial appraisal)		
5	Understanding the role of climate finance for NAMA implementation		
6	Development of a funding/ fund-raising strategy		
7	Lack of / Access to data		
8	Assure required commitments and funding from domestic public sources		
9	Assure required commitments and funding from public international sources		
10	Assure required commitments and funding from private sources		
11	Lack of human capacity		
12	Lack of political support		
13	Others: _____		

Would you like to share any observations regarding the challenges and support needs you were facing?

[Textbox]

As a lesson to others: which solutions helped you overcome those challenges? (Such as, for instance, cost estimation of policies/measures, financing architecture of a t-NAMA, cost benefit analysis, definition of support needs with regard to financial supporters, e.g.)

[Textbox]

Measuring, Reporting and Verification (MRV) of t-NAMAs

Measuring, Reporting and Verification (MRV) of impacts of transport NAMAs is more than a formal requirement. MRV is a key to successful policy making and helps to generate a complete picture of the global progress towards reducing greenhouse gas emissions. Please add your experiences on MRV in the context of t-NAMAs.

Could you please rate the main challenges you were facing and the support needs you have recognised in MRV of t-NAMAs (1 weak/5 strong). If something is not applicable, just leave a blank.

		Challenges	International support needs
1	Lack of financial resources		
2	Lack of human capacity		
3	Lack of data availability		
4	Lack of political support		
5	Lack of methodological and practical guidance		
6	Understanding the concept and methodology of MRV		
7	Estimation of mitigation impact (incl definition of BAU and mitigation scenarios)		
8	Developing an MRV concept		
9	Institutional arrangement to set up MRV system		
10	Meeting the requirements of supporting organisations		
	There were no challenges/ support needs		
11	Others: _____		

Would you like to share any observations regarding the challenges and support needs you were facing?
[Textbox]

As a lesson to others: which solutions helped you to overcome those challenges? (Such as, for instance, stock taking of transport data, MRV concept, BAU calculation, methodology/tool for emission, impact estimation, guidance for data collection, e.g.)
[Textbox]

t-NAMAs: A promising instrument for the transport sector?

Specifically in transport: What are the main drivers that stimulate the development of t-NAMAs? Please rate the following options in accordance to importance.

- Achieving mitigation impacts [rating scale 1-5]
- Co-benefits [rating scale 1-5]
- (minor but useful) Funding opportunities [rating scale 1-5]
- (major) Funding opportunities [rating scale 1-5]
- International recognition for emission reductions [rating scale 1-5]
- Higher reputation of transport sector policies [rating scale 1-5]
- Stimulation of a (sub-)sectoral transformation driven by sustainable development [rating scale 1-5]
- Technical assistance or/and technology transfer [rating scale 1-5]
- Others [rating scale 1-5]

Many t-NAMAs are under development. Moving from concept to implementation seems challenging. What are the main hurdles?

- Lack of Financial resources [rating scale 1-5]
- Lack of Human capacity [rating scale 1-5]
- Lack of Data availability [rating scale 1-5]
- Lack of Political support [rating scale 1-5]
- Lack of High quality t-NAMA proposals [rating scale 1-5]
- Lack of good practices and lessons learned or access to them [rating scale 1-5]
- There are no hurdles [rating scale 1-5]

Do t-NAMAs help to integrate the climate change agenda into domestic transport policies?

- Yes
- No. Why not? _____

Would you like to make any further comments about t-NAMAs or related to any of your answers?

[Textbox]

Add your NAMA to the Transport NAMA Database!

The Transport NAMA Database is an interactive wiki-based portal that provides access to transport NAMAs that are at all stages from initial concept to implementation. The database is the first resource to present information about transport NAMAs in one place and directly linked to the cross-sectoral ECOFYS NAMA Database.

Please find below a list of t-NAMAs that are already in database. Select your t-NAMA if available.

[dropdown list of NAMAs listed in transport NAMA database]

Would you like to add a t-NAMA(s) you are working on? If you have more than one t-NAMA to add, we would greatly appreciate if you add it direktly in the t-NAMA-Database

- Name/ focus of the NAMA: _____
- Country: [DROPDOWN COUNTRY LIST]
- Contact person:
  - Name: _____

- Institution: _____
- E-Mail: _____

Development stage of the t-NAMA
[drop down: under development, feasibility study, implementation stage]

Please tick the following milestones, you have already achieved with your t-NAMA

- mitigation measures clearly defined
- supportive measures exactly defined
- Steering structure / institutional set-up is described
- MRV approach defined
- Estimation of mitigation potential available
- Estimation of co-benefits available
- Cost estimation available
- Financing structure available
- Fundraisig strategy available
- International support needs clearly described
- NAMA concept note available or NAMA fully entered into NAMA database
- NAMA proposal available
- UNFCCC registry realised

Please select the transport mode of your t-NAMA

- Bus (public transport)
- Rail (public transport)
- Waterborne (public transport)
- Other public transport
- Car (motorized transport)
- Motorcycle (motorized transport)
- Other motorized transport
- Walking (non-motorized transport)
- Cycling (non-motorized transport)
- Other non-motorized transport
- Rail cargo (freight)
- Road cargo (freight)
- Water/river based cargo (freight)
- Other freight
- Not known

Expected GHG mitigation:

- Provide, if available, the expected GHG mitigation (ex-ante projections or expectations).
- Please specify the reference of your calculation (average per year / cumulative) the transport mode of your t-NAMA

[Textbox]

Annex 2: Transport NAMA activities referred to in surveys, interviews and the Transport NAMA Database

Table 2 below contains a list of the 35 transport NAMAs featured in the Transport NAMA Database and referred to in surveys and interviews.

NAMA development has typically started with a 'feasibility study,' and if viable the idea has then progressed to being 'under development' and if it receives financial support next it moves to 'implementation.' This has recently evolved, and transport NAMA proposals revert to 'feasibility studies' again after development because they are being appraised with support by external funders. This applies to two NAMAs in Table 2 (the Colombian Transit-Oriented Development NAMA and the Indonesian Sustainable Urban Transport Initiative NAMA).

Table 2: List of transport NAMA activities.

Country	Transport NAMA	Development stage
Argentina	Modernisation of freight train infrastructure	Feasibility study
Bangladesh	NAMA Proposal for the Railway Sector in Bangladesh	Under development
Bhutan	Sustainable Urban Transport System for Thimphu and Phuentsholing cities	Under development
Brazil	Comprehensive mobility plan for Belo Horizonte	Feasibility study
Chile	E-mobility readiness plan	Under development
Chile	Integrated improvement of transit	Feasibility study
Chile	Programme for Energy Efficiency in the Transport Sector in Chile	Feasibility study
Chile	Santiago Transportation Green Zone	Under development
Colombia	Electric vehicles NAMA	Under development
Colombia	Unilateral NAMA: Sustainable road-based freight transport Colombia	Feasibility study (although 'under development' according to Ministry of Transport)
Colombia	Non-Motorised Transport	Feasibility study
Colombia	Transit-Oriented Development	Feasibility study
Costa Rica	Fostering technological change and fleet modernisation in the public transport sector (Greater Metropolitan Area of San José)	Under development
Costa Rica	Urban NAMA	Under development
Dominican Republic	Low Carbon Climate Resilient Development Strategy in Dominica	Under development
Egypt	Sustainable Transport NAMA	Under development
Ethiopia	Railway Network	Under development
Ethiopia	LRT Addis Ababa	Under development
Ghana	BRT for Accra	Under development
Indonesia	Sustainable Urban Transport Initiative (SUTRI)	Feasibility study
Indonesia	BRT in Greater Jakarta	Under development

Jordan	City wide mitigation programme of Greater Amman Municipality	Feasibility study
Kenya	Mass Rapid Transit (Nairobi)	Under development
Laos	Master Plan on Comprehensive Urban Transport of Vientiane	Feasibility study
Lebanon	Hybrid electric vehicles	Under development
Lebanon	Public transport development	Feasibility study
Mexico	Mexico's Energy Efficiency Program for Freight Vehicles	Under development
Mexico	Enhancing Vehicle Renovation and Operating Efficiency in Mexico's Federal Freight Sector	Implementation
Mexico	Integrated Urban Mobility Systems as a Crediting Mechanism	Under development
Mexico	Optimisation of the conventional bus system in the valley of Mexico City	Feasibility study
Mexico	Public Transport Route Optimisation and Vehicle Fleet Renovation	Under development
Mexico	Natural gas in public transport	Feasibility study
Pakistan	Transport NAMA	Under development
Peru	TRANSPeru, Sustainable Urban Transport NAMA	Feasibility study (although 'under development' according to Ministry of Transport and Communications and GIZ)
Serbia	Rehabilitation of Arterial Roads in Serbia	Under development
South Africa	Passenger Modal Shift from Road to Rail – the Gautrain Case	Implementation
South Africa	Rollout of electric private passenger vehicles	Feasibility Study
Thailand	Urban Public Transport Connectivity and Public Transport Management	Under development
Uganda	Periodic vehicle inspection for emissions and roadworthiness	Under development
Uganda	BRT for Kampala	Under development
Vietnam	Production and application of hybrid and electric cars in Vietnam	Feasibility Study
Vietnam	Fuel Efficiency Policies	Under development
Vietnam	Green Freight	Under development

Bridging the gap

Pathways for transport in the post 2020 process