# Transport NAMAs: An Overview

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This is a product of the Bridging the Gap Initiative.  It is a multi-stakeholder initiative formed in 2009 to encourage international recognition that land transport should play a more prominent role in addressing climate change in the Post-2012 agreement. The Initiative has provided an on-going review of NAMA submissions from a transport perspective (t-NAMAs). The partners work together at 'bridging the gap' between the transport sector and the climate change negotiations process and the initiative conducts a series of workshops and side events linked to the negotiation process to increase the mitigation potential of land transport and  promote sustainable solutions for developing countries.

## www.transport2020.org

The work of the Bridging the Gap Initiative is further strengthened by supporting the Sustainable Low Carbon Transport Partnership (SLoCaT). The SLoCaT partnership is a multi-stakeholder partnership of over 80 members consisting of development banks, international organizations, NGOs, private sector, and research organizations. It was formed in 2009 to improve the knowledge on sustainable low carbon transport, help develop better policies and catalyze their implementation. It promotes the integration of sustainable transport in global policies on sustainable development and climate change.  www.slocat.net

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[1] GIZ contribution by the TRANSfer project which is part of the International Climate Initiative (IKI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU).

## Contents

## Introduction

Nationally Appropriate Mitigation Actions (NAMAs) are increasingly being seen as a promising opportunity to support national efforts to reduce greenhouse gas emissions from the transport sector in Non-Annex I countries under the UNFCCC. They are recognised as an additional instrument that is available to complement wider mechanisms that are providing technical and financial support to low carbon transport activities in these countries. Twenty-six of the 120 NAMAs (22%) featured in the Ecofys NAMA Database[2] propose activities that are exclusively in the transport sector.

According to the information recorded in the Ecofys NAMA Database, transport has the second highest number of NAMA activities of any sector. International climate change policy for Non-Annex I countries has to date been dominated by project based approaches that have not been well suited to sustainable transport, mainly because of the need to prove additionality and their strict methodologies for measuring GHG emissions. NAMAs therefore present an enhanced opportunity for Non-Annex I countries to receive recognition and support under the UNFCCC for sustainable transport.

NAMAs can be implemented, voluntarily, by developing country Parties to the UNFCCC. There is no restriction on the nature of climate change mitigation activities that can be submitted to the UNFCCC as a NAMA. They can be local, regional or national policies, projects or strategies - indeed any intervention, either new or existing, stand-alone or 'bundled,' sector specific or economy-wide, that can be shown to reduce emissions from a business as usual (BAU) scenario. The only official distinction that has been made is between domestic and supported NAMAs, although in reality NAMAs can be a combination (with, for example, domestic and supported components). The only requirement is that NAMAs requesting related financial, capacity building or technological support adopt an approach where impacts are Measurable, Reportable and Verifiable (MRV). This document gives an overview of transport NAMA feasibility studies, concepts and proposals as well as recent developments in initiatives supporting NAMAs. Its aim is to increase awareness of the wide range of transport NAMA activities that are taking place, and to encourage related discussion and further engagement with the concept between developing countries, potential financiers, and the wider technical community.

This document is partly based on information from the Transport NAMA Database. The Transport NAMA Database has been designed as an interactive, wiki- and web-based portal to facilitate the access to details about transport NAMAs. It is embedded into the Ecofys NAMA Database as a sector-specific component. A prototype version of the Transport NAMA Database, whose development was led by GIZ and created in partnership with WRI/EMBARQ in the framework of the Bridging the Gap Initiative and SLoCaT partnerships, was launched during Transport Day on November 17th, 2013 at COP19 in Warsaw. It is currently going through a review and feedback process and in parallel to this information is continually being added and updated. For more information see www.transport-namadatabase.org.

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[2] http://www.nama-database.org/index.php/Main_Page

## NAMAs - Context and approach

The concept was first introduced in the Bali Action Plan (2007) where Parties agreed on '*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 manner*'[3].

Non-Annex I Parties to the UNFCCC were first invited to submit NAMA proposals to the UNFCCC in the Copenhagen Accord of December 2009[4]. Twenty-five Parties initially responded to this call and since then the number of intentions to conduct NAMAs that have been communicated to the UNFCCC has steadily continued to increase.

According to the information contained in the Ecofys NAMA Database transport is the second most represented sector in terms of NAMA activities (26 of 120 or 22%). It is exceeded by energy supply (34%) as shown in Figure 1. Figure 2 shows that these NAMAs have been developed in all regions, although are concentrated in Latin America.
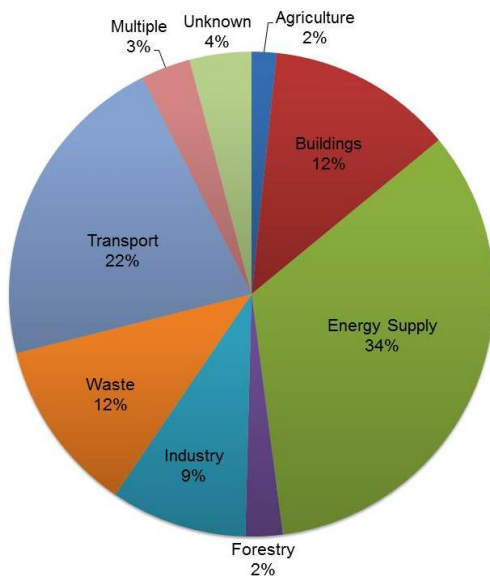


**Figure 1**: Sectoral distribution of NAMAs featured in the Ecofys Database.
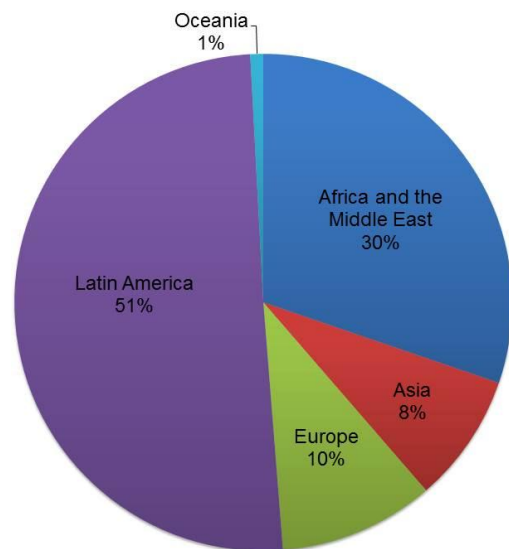
**Figure 2**: Geographic representation of all NAMAs in the Ecofys Database.

The transport sector is slightly less well represented relative to other sectors in terms of submissions by the parties to the UNFCCC's NAMA Registry (see Figure 3). The UNFCCC NAMA Registry differs from the Ecofys NAMA Database (and the prototype Transport NAMA Database) as it contains only those NAMA activities, that have been submitted to the UNFCCC for recognition or requesting support for preparation or implementation. Figure 3 has been extracted from the first annual report of the operation of the NAMA registry, which contains an analysis of information recorded in the registry as of September 1, 2013[5]. 'Transport and Infrastructure' NAMAs, referring to transport activities and its

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[3] Conference of the Parties (2008) 1/CP.13. Available from
http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf
[4] Conference of the Parties (2010) Decision 2/CP.15. Available from
http://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf#page=4
[5] http://unfccc.int/resource/docs/2013/cop19/eng/inf02.pdf

related transport infrastructure, account for seven (10%) of the 70 NAMAs that have been submitted to the Registry to date[6].
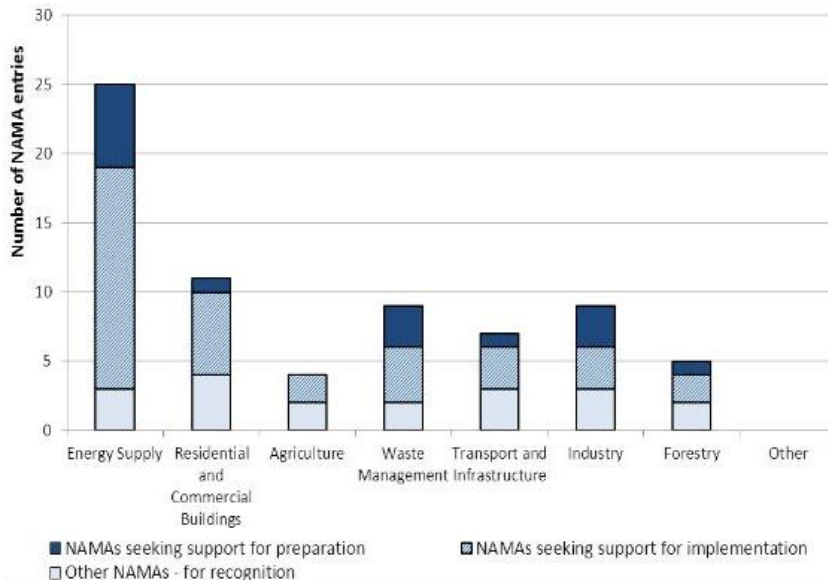


**Figure 3:** Sectoral distribution of NAMAs featured in the NAMA Registry[7]

This document contains an overview of the transport NAMAs that are featured in the Ecofys NAMA Database and the prototype Transport NAMA Database[8]. These two linked Databases contain details of the transport NAMAs in the UNFCCC NAMA Registry as well as others (for more information about each see Annex 1)[9]. The partial and fragmented reporting of NAMA activities that are taking place on the ground in developing countries means that the Ecofys and Transport NAMA Databases cannot claim to be representative of the full scale of transport NAMA design and development that is taking place across the world, but they provide the most comprehensive overview of NAMA intentions and development activities in the sector[10].

## An Overview of Transport NAMAs

Table 1 contains an overview of the proposed transport NAMAs that are featured in the Ecofys NAMA Database and the Transport NAMA Database. The NAMAs are presented according to the type of action that they are proposing. Policy/ programme NAMAs are either government-led programmes or measures that have been, or are intended to be, embodied in legislation. The term 'strategy/ plan'

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[6] The UNFCCC's typology of sectors is the same as that used by the Working Group III to the IPCC'S Fourth Assessment Report. See: http://www.ipcc.ch/publications_and_data/ar4/wg3/en/contents.html. The term 'Transport and Infrastructure' is not specifically defined. For reference, 'infrastructure' more widely is said to include 'the basic equipment, utilities, productive enterprises, installations and services essential for the development, operation and growth of an organization, city or nation'.
[7] http://unfccc.int/resource/docs/2013/cop19/eng/inf02.pdf
[8] www.transport-namadatabase.org
[9] For more details about the transport NAMAs featured in the Transport NAMA Database please refer to http://www.transport-namadatabase.org/index.php/Main_Page
[10] The 'Compilation of information on nationally appropriate mitigation actions to be implemented by developing country Parties' was published by the UNFCCC in May 2013 and contains details of broader communications about NAMAs that 57 Parties to the UNFCCC and the African Group have stated that they intend to implement. This document can be accessed from: http://unfccc.int/resource/docs/2013/sbi/eng/inf12r02.pdf. An overview of intentions to conduct transport NAMAs, as outlined in this document, is included in this earlier combined Bridging the Gap analysis: http://www.transport2020.org/file/transport-nama-submissions-overview2013-update-june-2013vf-18-07-13.pdf

refers to long-term comprehensive plans of measures and actions that have been designed to achieve a common goal, and 'project' refers to a localised activity that has a defined timeline and scope[11].

It should also be noted that not all of the NAMA concepts listed below are being actively developed. A number of Parties have made significant efforts to progress concept from an initial idea to detailed proposals, and to explore how to measure the expected positive reduction in emissions as well as what will be required to implement them, such as institutional reform. In some instances, however, the concepts remain undeveloped.

*Table 1: Transport NAMAs featured in the Transport NAMA Database.*
*(NAMAs that have been submitted to the UNFCCC Registry are in red text, and feasibility studies are distinguished by blue text)*

| Type of action | NAMA | Country |
|---|---|---|
| Policy/ Programme | Renovation of cargo vehicle fleet | Colombia |
| | Improvement of Road-based freight sector | Colombia |
| | Transport Demand Management in Jakarta | Indonesia |
| | Enhancing Vehicle Renovation in Mexico | Mexico |
| | Integrated Urban Mobility Systems/ NAMA based on the Federal Mass Transit Programme | Mexico |
| | Mexico's Energy Efficiency Program for Freight Vehicles | Mexico |
| | Optimisation of the conventional bus system in the valley of Mexico City | Mexico |
| | Public Transport Route Optimisation and Vehicle Fleet Renovation | Mexico |
| Strategy/ Plan | Comprehensive mobility plan for Belo Horizonte | Brazil |
| | E-mobility readiness plan | Chile |
| | Integrated improvement of transit management | Chile |
| | Programme for Energy Efficiency in the Transport Sector | Chile |
| | Santiago Transportation Green Zone | Chile |
| | Electric Vehicles NAMA | Colombia |
| | National plan for freight transport: NAMA pilot study | Colombia |
| | Transit Oriented Development | Colombia |
| | Sustainable Urban Transport Initiative | Indonesia |
| | City wide mitigation programme of Greater Amman Municipality | Jordan |
| | Master Plan on Comprehensive Urban Transport of Vientiane | Laos |
| | Public transport development | Lebanon |
| | Transport NAMA in Peru | Peru |
| Project | Interurban Electric Rail/ Shifting freight to electric rail | Ethiopia |
| | Rehabilitation of Arterial Roads[12] | Serbia |
| | MRV for Passenger Modal Shift from Road to Rail | South Africa |
| Multiple | Low Carbon Climate Resilient Development Strategy in Dominica[13] | Dominica |
| Unspecified | Modernisation of freight train infrastructure | Argentina |
| | Freight transport NAMA | Mexico |
| | Rollout of electric private passenger vehicles | South Africa |

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[11] For more information on this classification see http://www.nama-database.org/index.php/What%27s_included_in_the_database%3F#Classification
[12] This is also a feasibility study.
[13] This NAMA has been classified in the UNFCCC NAMA Registry as a: 'quantified target,' 'strategy/plan,' 'policy/ program,' 'Project,' and 'Other' (specifically technical assistance).

## Initial analysis from the Transport NAMA Database

Preliminary analysis regarding the NAMA proposals and feasibility studies included in the prototype Transport NAMA Database reveal that transport NAMA activities account for 26 of 120 (22%) NAMAs and Feasibility Studies. Currently, 11 are at the feasibility study level, while the remaining are at a more advanced stage. Latin America is the most active region in developing transport NAMAs, representing 64% (17), with 20% (5) in Africa and the Middle East and 12% (3) in Asia. Diverse transport NAMAs are being explored and developed, in terms of mode, approach, and policy instruments, as shown in Table 2. Many NAMA activities cover several transport modes and policy instruments. The relatively high share of "Improve" approaches might be linked to the fact that MRV tends to be more straightforward compared to "Shift" and "Avoid" approaches. The Transport NAMA database is a dynamic resource, therefore the figures will change.

*Table 2: Type of Mode, Approach, and Policy Instruments in Transport NAMA activities*

| Mode | | Approach | | Policy Instruments | |
|---|---|---|---|---|---|
| Freight | 56% | Avoid | 8% | Regulations | 44% |
| Public Transport | 68% | Shift | 35% | Economic Instruments | 32% |
| Motorised individual transport | 56% | Improve | 55% | Public spending/investments | 76% |
| Non-Motorised Transport | 32% | | | Information | 32% |

## Initiatives supporting NAMAs – recent additions to the field

There has been significant international dialogue on NAMAs since Bali (2007), which has continued to gather momentum. These activities are being supported and informed by a continually expanding field of experience and expertise from governments and technical experts operating within all geographic regions.

The Bridging the Gap network, which is a member of the Partnership on Sustainable Low Carbon Transport (SLoCaT), has been actively supporting and disseminating information about these activities since 2009 with side events, reports and workshops (www.transport2020.org). There has been a proliferation of new partnerships and initiatives over the last two years, and with each adding to the knowledge base in different ways there is a lot that can be learnt from outputs of a wide range of stakeholders.

A diverse range of actors have focused on different types of NAMAs, different sectors, and different aspects of NAMA design and development, many of the insights of which are complementary. Transport NAMA development therefore has, and will continue to, benefit extensively from activities and knowledge generated from a range of sources. These include the work of a number of partnerships that have been established to support the development and implementation of effective

NAMAs in all sectors of the economy. Three such initiatives, whose members include sustainable transport and transport NAMA experts, are introduced below.

The NAMA Partnership is an example of a recent initiative that was created in recognition of both the demand from developing countries for support with preparing and implementing NAMAs and the uncoordinated nature of support that was available. Launched at COP18 in Doha (Qatar) it is an international partnership of multilateral organisations, bilateral cooperation agencies and think tanks that is co-ordinated by the UNFCCC Secretariat[14]. The partnership is working on NAMAs to enhance collaboration and the complementarity of activities that the different organisations are involved in, identify best practices, and facilitate the preparation and implementation of NAMAs in developing countries. The ultimate aim is to find synergies and leverage the work of partners to accelerate support provided to developing countries for NAMAs. To this end it focuses on aspects such as finance, MRV and national sustainable development but also different sectors and different technologies.  More information can be accessed from: http://www.namapartnership.org/.

The NAMA Partnership is based on the principle of collaboration and so the partners work also with other partnerships, notably the Low Emissions Development Strategies (LEDS) Global Partnership (LEDS-GP) and the International Partnership on Mitigation and MRV (see below). It also invites knowledge sharing through initiatives such as the 'NAMA-Wiki' (http://namapartnership.wikispaces.com/) which aims to provide access to information regarding NAMAs, as well as the latest developments within related fields. It is a platform that welcomes and encourages an active participation of users either through providing relevant information, creating discussion points or posting comments. The NAMA Partnership also has a Twitter account (@NAMAPartnership), which provides a further opportunity to access other audiences and share information in a very different format.

The International Partnership on Mitigation and MRV, which was launched to support practical exchange on mitigation related activities and MRV between developing and developed countries, supports the effective implementation of LEDS, NAMAs and MRV systems.  As a partnership it brings climate experts together from a variety of countries to identify best practices, support learning between members, establish a shared mitigation related knowledge base, and disseminate lessons learnt. It has 40 members and conducts technical as well as capacity building activities seeking to co-ordinate national implementation and international negotiations.  See http://www.mitigationpartnership.net/.

LEDS is a partnership also founded to use coordination, information exchange and cooperation between programmes and countries to advance climate-resilient low emission development.  It was launched in 2011, has 113 members, and is comprised of a number of Work Streams that include a Transport Working Group, which is led by WRI/ EMBARQ in partnership with UNEP and NREL (the USA's National Renewable Energy Laboratory). This Working Group capitalises upon its broad

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[14] The members are as follows: United Nations Environment Programme Division of Technology, Industry and Economics (UNEP-OTIE), UNEP Risø Centre, United Nations Development Programme (UNDP), Food and Agricultural Organisation (FAO), Inter-American Development Bank (IDB), United Nations Institute for Training and Research (UNITAR), The World Bank, NEFCO, Asian Development Bank (ADB), African Development Bank (AfDB), Agence Française Développement (AFD), Japan International Cooperation Agency (JICA), KfW,  GIZ, Climate Policy Initiative (CPI), International Fund for Agricultural Development (IFAD), World Resources Institute (WRI), Climate Marks and Investment Association (CMIA), Center for Clean Air Policy (CCAP), Climate Works Foundation, Organisation for Economic Cooperation and Development (OECD) and World Business Council for Sustainable Development (WBCSD).

membership to support the realisation of common goals by encouraging exchange of, and engagement with, diverse perspectives, fostering open peer to peer learning and exchange, including sharing and collaborating on development of methods and tools and on innovative approaches being considered and adopted,  For more information see http://ledsgp.org/home.

Recent initiatives are financial as well as technical.  It does not appear that any transport NAMAs have yet been fully implemented but dedicated finance is starting to be made available for this purpose. The German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the UK's Department of Energy and Climate Change (DECC), for example, launched a 'NAMA Facility' at COP18.  DECC has committed £25m (€30 million) with BMU committing an additional €40m to this fund, which is intended to support developing countries that want to implement 'transformational country-led NAMAs'[15]. A competitive process is used to select transformational NAMA activities with a focus on short-term delivery. The funding offered to support the implementation of NAMAs may include technical and/or financial elements. Finance can come either in the form of grant-based instruments or in form of concessional loans. The first call for proposals opened in July 2013 and closed on 2 September 2013.  Forty-seven project outlines were received in this period with an even geographical distribution across Africa, Asia and Latin America. The types of activity that have been most frequently addressed by the proposals are renewable energy and energy efficiency, followed by waste and transport, again highlighting the demand for transport NAMAs[16]. In total five projects were selected during COP 19 to be supported by the NAMA Facility. Two are from the transport sector, the Transit Oriented Development (TOD) NAMA in Colombia and a NAMA on Sustainable Urban Transport in Indonesia (SUTRI NAMA). The TOD NAMA in Colombia will receive $20 million (USD) in technical and financial resources from the Centre for Clean Air Policy and Colombian Development bank FINDETER. The NAMA will support the building of TOD neighbourhoods in five cities throughout Colombia[17]. The SUTRI NAMA in Indonesia will promote sustainable urban transport in Indonesian cities, beginning with a pilot phase that includes the implementation of low-carbon mobility plans in three cities and support activities at the national level to upscale the policies of the pilot phase. The Indonesian Government commits to contribute at least EUR 2 for each EUR 1 received from the NAMA Facility[18].

## Conclusions and Recommendations

The reaction of developing countries to the NAMA concept reflects their ambition to conduct climate change mitigation activities in the context of sustainable development.  Countries are starting to develop initial intentions to conduct NAMAs into concrete activities, and with technical support are using a robust, systematic and informed approach for both selecting and developing NAMAs.

Official modalities and procedures for NAMA development and implementation are still lacking, but this has not prevented NAMAs from being developed, and the launch of the UNFCCC's NAMA Registry in October 2013 could catalyse the development of more formal provisions and NAMA activities in

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[15]For more information about the NAMA facility, see: https://www.gov.uk/government/publications/information-about-the-nationally-appropriate-mitigation-actions-nama-facility
[16]http://www.international-climatehttp://ccap.org/colombia-transit-oriented-development-nama-selected-for-funding/-initiative.com/en/issues/nama-facility/
[17]http://ccap.org/colombia-transit-oriented-development-nama-selected-for-funding/
[18]http://nama-facility.org/fileadmin/user_upload/pdf/Indonesia_Presentation_Warsawa_UNFCCC-NAMA_Facility_MoT_of_Indonesia.pdf

developing countries. The UNFCCC has created a Manual (which does not focus on any particular sector but is relevant for all mitigation activities) to assist developing countries and organisations who are interested in accessing, using and submitting information to the UNFCCC NAMA Registry[19]. The Manual was published when the UNFCCC NAMA Registry was in the prototype phase, although the information and guidance that it contains appear to be just as valid now that the Registry has moved from a prototype to a live resource,[20] and additional guidance could be available imminently.

The NAMAs outlined in this document indicate that **NAMAs appear well suited to a variety of transport interventions** that would deliver emission reductions while also contributing to sustainable development objectives. Transport NAMAs have been developed in all geographic regions, although as shown in Figure 2 some regions are relatively underrepresented and it would be interesting to explore the reasons behind this.

The transport NAMA activities that are taking place also show that **engagement with NAMAs is having a considerable impact on domestic capacity**. Technical support is being provided to identify, select, develop and implement transport NAMAs (both unilateral and supported), and the related capacity building will have a positive impact on wider low carbon transport and development activities. This cooperation is building the capacity of technical experts and developed country institutions as well as those in developing countries, with many stakeholders 'learning by doing' in the absence of official international processes and procedures to be followed. The international partnerships and initiatives that have been developed to support NAMAs and transport NAMAs are increasing in their number, diversity and geographic focus, and will play a role in both developing and disseminating related knowledge and experiences.

The availability of technical and financial international support, the matching of available support with demand, and MRV are all issues that need to be tackled to support transport NAMAs. The prototype **Transport NAMA Database** contains additional information about the transport NAMAs outlined in this report, including the specific mitigation measures, their financial ambition and proposed approaches to funding and MRV, where they have been developed. The Transport NAMA Database can be accessed from: www.transport-namadatabase.org.

The website of Bridging the Gap (www.transport2020.org) contains links to a wide range of different outputs that contain information relating to all of the issues outlined above. It also contains contact details of transport NAMA experts who can advise on any related issues that are not covered by the literature featured.

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[19] http://unfccc.int/files/cooperation_support/nama/application/pdf/manual_for_prototype_version_of_30_april_release.pdf
[20] http://www4.unfccc.int/sites/nama/SitePages/Home.aspx

## Annex 1

This Annex introduces the four 'live' sources of information about NAMA activities, which are kept updated and can be edited by users (with all additions subject to verification). These are outlined below and summarised in Table 2.

*Table 3: An overview of the four 'live' sources of information about NAMA activities.*

| | UNFCCC Registry | Ecofys NAMA Database | Transport NAMA Database (linked to Ecofys Database) | UNEP Risoe NAMA pipeline |
|---|---|---|---|---|
| **Includes transport NAMAs** | Yes | Yes | Yes | Yes |
| **In-depth information about transport NAMAs** | No | No | Yes | No |
| **Focussed exclusively on Transport NAMAs** | No | No | Yes | No |
| **Covers NAMA submissions to the UNFCCC Registry by Parties** | Yes | Yes | Yes (only transport) | Yes |
| **Covers Transport NAMAs not submitted to UNFCCC NAMA Registry** | No | Yes (as complete as possible and in the process of being extended; base databases are technically linked) | | Yes (partially) |
| **Sources** | UNFCCC parties | | Open (entries sent for review to NAMA owners) | |
| **Current number of Transport NAMAs covered** | 7 | 26 | 26 | 7 |

The following text provides more details on these sources.

**UNFCCC NAMA Registry**

The UNFCCC agreed to establish a NAMA Registry to record NAMAs and to "…*facilitate matching of finance, technology and capacity building support for their implementation.*" At COP 17 (2011) it was decided to develop the registry as a dynamic, web-based platform and the Secretariat was requested to develop a prototype for trial. The NAMA Registry was operationalised in October 2013,[21] and can be used to record NAMAs for recognition, NAMAs seeking international support for preparation or implementation, and support that is available.

**Transport NAMA Database**

This is the most comprehensive source of information about transport NAMAs and can be accessed from www.transport-namadatabase.org. It is an interactive web-based portal that provides details of

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[21] UNFCCC NAMA Registry website: http://unfccc.int/cooperation_support/nama/items/7476.php

transport NAMAs that are at all stages from initial concept to implementation with the aim of improving knowledge management, supporting the identification of capacity building needs, the matching of financial and technical support, and the establishment of contacts and networks for the transport NAMA community. It has been developed by GIZ within the framework of the International Climate Initiative (IKI) supported by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and WRI/EMBARQ. The Database contains a wide-range of information about each NAMA that is presented in three 'Levels,' each more detailed than the last. They collectively give users an in-depth insight into the main characteristics and processes behind each transport NAMA featured, including the policy identification process, mitigation actions, co-benefits, MRV, financing and the registration process.

**Ecofys NAMA Database**

Ecofys has developed a database that contains information about NAMA activities that are taking place economy-wide. It contains details of NAMA proposals and feasibility studies that have been published and that indicate specific actions and which are either supported or have specified a clear finance, technology or capacity building need[22]. Its aim is to share information about NAMA activities, enabling countries to learn from these experiences and gain insights into how mitigation activities can be undertaken within the NAMA framework. The Database (http://www.nama-database.org/) is regularly updated and features publicly available data across all sectors.

**NAMA Pipeline**

UNEP RISOE centre have developed a NAMA pipeline (www.namapipeline.org/)[23]. It provides an informal overview of activities submitted to the UNFCCC as NAMAs. The NAMA pipeline contains details of all communications to the UNFCCC from developing countries for Nationally Appropriate Mitigation Actions, even where these communications have not yet been formalised.

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[22] The Ecofys NAMA Database does not, therefore, contain details of all published NAMAs. Where mitigation actions have not been specified, and where unilateral NAMAs do not contain a clear specified finance, technology or capacity building need, they are not featured. For more information about the inclusion criteria of the Ecofys NAMA Database see http://www.nama-database.org/index.php/What%27s_included_in_the_database%3F

[23] A copy of the 'NAMA Pipeline overview' is available as a download from www.namapipeline.org

## Annex 2

**Summary of transport NAMAs by Party (the transport NAMAs highlighted in red have been registered in the UNFCCC's NAMA Registry) from the Transport NAMA Database[24]**

| NAMA | Country | Sub-sector | Objective |
|---|---|---|---|
| Modernisation of freight train infrastructure | Argentina | Rail cargo | Modernise the infrastructure of the Belgrano Cargas freight rail system and promote a modal shift from trucks to rail for agricultural products. |
| Comprehensive mobility plan for Belo Horizonte | Brazil | Public transport Non-motorised transport | Increase the share of non-motorised and public transport to generate reductions in GHG emissions from urban transport and improve conditions of transport and the local environment. |
| E-mobility readiness plan | Chile | Public transport Private vehicles (freight and passenger) | Designed to promote the introduction of grid-enabled electric vehicles in Chile on a large scale, leading to a target of 70,000 electric vehicles by the year 2020. The plan foresees the implementation of a set of activities to target barriers and provide incentives to achieve the overall target. |
| Santiago Transportation Green Zone | Chile | Public transport Passenger vehicles | Low emission vehicles (taxis and Transantiago), bicycle promotion, transit management |
| Integrated improvement of transit management | Chile | Urban planning and Transit management | Implementation of transit management measures in cities to improve the overall flow of traffic and to reduce GHG emissions. |
| Programme for energy efficiency in the transport sector in Chile | Chile | Road cargo | Promotion of energy efficiency in the transport sector to reduce GHG emissions and to secure sustainable cargo and passenger transport. |
| Transit Oriented Development | Colombia | Urban planning and Transit management | Focusing urban development around transit stations, combining policies on transport, housing and land use to yield both economic and social benefits. |
| Electric vehicles NAMA | Colombia | Public transport Passenger vehicles | Substitute conventional vehicles with electric vehicles. The penetration of electric vehicles should reach 20% for the passenger sector, 30% for taxi fleets and 30% for urban freight. |
| Improvement of Road-Based freight sector | Colombia | Road cargo | Reduce emissions from the road-based freight sector through fuel and efficiency standards, fleet renovation, and improved logistics. |
| Low carbon climate resilient development strategy in Dominica | Dominica | Renewable energy (geothermal), Green technology (including fuels) | Implementing appropriate low carbon and climate resilient technologies to support Dominica's continued transformation to the Greenest Economy in the Caribbean region. To include measures to mitigate $CO_2$ emissions from the transport sector. |
| Interurban Electric Rail/ Shifting freight to electric rail | Ethiopia | Rail cargo | Increase in tonne-km of freight transported by electric rail as opposed to road transport. Rail transport will be powered by renewable electricity. |
| Sustainable Urban Transport Initiative | Indonesia | Urban planning and Transit management | Promote sustainable urban transport in Indonesian Cities by implementing and monitoring measures in order to halt the increasing motorisation and reduce externalities of transportation. |
| Transport demand management in Jakarta | Indonesia | Public transport; Urban planning and Transit | Transport demand management. |

[24] www.transport-namadatabase.org

| | | management | |
|---|---|---|---|
| City wide mitigation programme of Greater Amman Municipality | Jordan | Renewable energy (unspecified); Public transport Solid waste management; Urban forests | The NAMA seeks emission reduction opportunities in municipal waste, urban transport, sustainable energy, and urban forestry estimated to average around 560 ktCO$_2$e per year. |
| Master Plan on Comprehensive Urban Transport of Vientiane | Laos | Urban planning and Transit management | The Lao Transport NAMA will implement the Sustainable Transport Strategy as well as the Master Plan on Comprehensive Urban Transport of Vientiane. |
| Public transport development | Lebanon | Public transport | This NAMA aims to modernise the transport system which today depends on a large share of old passenger vehicles. |
| Mexico's Energy Efficiency Program for Freight Vehicles | Mexico | Freight transport | To increase the energy efficiency of the domestic freight vehicle fleet by encouraging training and adoption of eco-driving techniques and installing technologies. |
| Public Transport Route Optimisation and Vehicle Fleet Renovation | Mexico | Public transport | To increase the efficiency of public transport operations in the 56 Metropolitan areas of Mexico to reduce related GHG emissions and other pollutants. |
| Freight transport NAMA | Mexico | Freight transport | Renovate freight transport fleets and adopt strategies, technologies and best practice in this transport mode, building on existing projects. |
| Optimisation of the conventional bus system in Mexico City | Mexico | Public transport | Optimisation of the conventional bus system in the valley of Mexico. |
| Enhancing vehicle renovation in Mexico | Mexico | Road cargo | Support of the national vehicle renovation program. |
| Integrated Urban Mobility Systems/ NAMA based on the Federal Mass Transit Programme | Mexico | Public transport; Urban planning and Transit management | The NAMA has two objectives. In the short term, the objective is to provide complementary support to the federal mass transit programme to undertake capacity building and to improve internal processes to speed up project development. In the long term, the NAMA will provide funding to continue activities under the program beyond 2016 when a large part of existing funding will finish. |
| Transport NAMA in Peru | Peru | Not known | Reduce emissions from transport, specifically in urban areas. |
| Rehabilitation of arterial roads | Serbia | Road infrastructure | Rehabilitate 19 arterial roads across the country, which are considered essential for the transport of people and goods. |
| Rollout of electric private passenger vehicles | South Africa | Passenger vehicles | GHG emission reductions through production and use of private passenger electric vehicles. |
| MRV for Passenger Modal Shift from Road to Rail | South Africa | Public Transport | Reduce GHG emissions and create a more efficient centrally managed mass transit system through the Gautrain electric rail. |