



MitigationMomentum

Annual Status Report

on Nationally Appropriate
Mitigation Actions (NAMAs)

2012



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Annual Status Report on Nationally Appropriate Mitigation Actions (NAMAs)

Editors

Gesine Hänsel, Frauke Röser and Niklas Höhne (Ecofys)
Xander van Tilburg and Lachlan Cameron (ECN)

Authors

Lachlan Cameron, Stacey Davis, Donovan Escalante, Jared Finnegan, Gesine Hänsel, Martina Jung, Sumalee Khosla, Kelly Levin, David Rich, Frauke Röser, Xander van Tilburg, Caroline de Vit, Sebastian Wienges, Laura Würtenberger

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Acronyms

| | |
|--------|--|
| ADB | Asian Development Bank |
| BMU | Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit |
| BUR | Biennial Update Report |
| CDM | Clean Development Mechanism |
| CIF | Climate Investment Funds |
| COP | Conference of the Parties to the United Nations Framework Convention on Climate Change |
| CTF | Clean Technology Fund |
| GCCA | Global Climate Change Alliance |
| GCF | Green Climate Fund |
| GEF | Global Environment Facility |
| GGGI | The Global Green Growth Institute |
| GHG | Greenhouse Gas |
| ICA | International Consultation and Analysis |
| ICI | International Climate Initiative |
| IDB | Inter-American Development Bank |
| KfW | Kreditanstalt für Wiederaufbau |
| LEDS | Low-Emission Development Strategies |
| MDB | Multilateral Development Bank |
| MENA | The Middle East and North Africa |
| MRV | Measurement, Reporting and Verification |
| NAMA | Nationally Appropriate Mitigation Action |
| NEFCO | Nordic Environment Finance Corporation |
| UNDP | United Nations Development Programme |
| UNEP | United Nations Environment Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |

Foreword

Nationally Appropriate Mitigation Actions (NAMAs) continue to be one of the cornerstones of the international climate negotiations. Many countries have started to develop NAMAs and are building institutional capacity for their implementation. With the UNFCCC NAMA Registry close to being launched, processes and frameworks for NAMAs are beginning to take shape. However, many issues around NAMAs remain undefined and there is a great need for mutual learning and exchange of best practice in order to turn this new mechanism into a driver for mitigation.

Ecofys, the Energy research Centre of the Netherlands (ECN), the Center for Clean Air Policy (CCAP), the World Resources Institute (WRI) and the Gesellschaft für Internationale Zusammenarbeit (GIZ) are pleased to present the Annual Status Report on NAMAs 2012. As in the previous year, the report presents a snapshot and analysis of the current state of play of NAMAs around the world. As a central feature, the report includes articles on specific topics of interest associated with NAMAs, written by the collaborating organisations and authors of this report.

The Status Report is produced as part of the Mitigation Momentum project supported by the International Climate Initiative of the German Government.

Executive summary

The development of Nationally Appropriate Mitigation Actions (NAMAs) has increased significantly over the last few years. The flexibility of the NAMA mechanism is widely regarded as an opportunity to deliver benefits that go far beyond greenhouse gas (GHG) emission reductions. Many developing countries are developing pilot NAMAs that deliver important insights into the challenges of, and opportunities for, NAMA development from a national perspective. A few countries are already a step ahead and experiences gained from pilot NAMA development are feeding into the formulation of national climate change policies in which NAMAs are becoming a key element. To maintain the momentum in NAMA development, clear signs at the international level are needed that developed countries will follow through with their financial commitments made under the Copenhagen Accord. Without this financial support, NAMAs will not be able to realise their full potential and induce transformational change.

The Annual Status Report on NAMAs 2012 is a continuation of previously published NAMA Status Reports (Röser *et al.*, 2011; van Tilburg *et al.*, 2012). The report presents an overview of the state of play of NAMAs and of support activities for NAMA development and implementation. A new feature of the Annual Status Report on NAMAs 2012 is that it is produced as a joint effort by several organizations that are closely involved in analysing and supporting NAMA development processes worldwide. The Annual Status Report on NAMAs 2012 is written by authors from Ecofys, the Energy research Centre of the Netherlands, the Center for Clean Air Policy (CCAP), the World Resources Institute (WRI) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

In the section on “Selected contributions on NAMAs”, each organization discusses a specific topic of interest in relation to NAMA development that is closely related to their current NAMA activities or that is expected to provide “food for thought” on potential ways forward for NAMAs. ECN covers considerations on “Ambitious NAMAs and national climate governance”, arguing for balanced support for NAMA development and strengthening institutional structures. “Crafting the finance components of a supported NAMA”, written by CCAP, focuses on characteristics of NAMAs that help to attract donor country support. Authors from WRI discuss the status of MRV of NAMAs under the UNFCCC, NAMA MRV plans, and quantifying greenhouse gas effects of NAMAs in their chapter on “MRV of NAMAs”. GIZ presents their experience developing a NAMA support toolkit in the chapter “Capacity development with GIZ mitigation tools”. In the chapter on “Learning from results-based finance for NAMA implementation”, Ecofys reflects on a possible finance approach based on achievement of sectoral or national emission reductions to help developing countries to attract financing, both within and as a complement to the existing NAMA financing framework.

As in the previous edition, the last chapter of the Status Report discusses key issues and observations associated with NAMA development. This is based on interviews with developing countries, development agencies, funders and technical assistance practitioners in an attempt to capture a wide range of experiences and views.

1. NAMA development

Gesine Hänsel and Donovan Escalante, Ecofys

This chapter provides an update on NAMA development activities around the world. It presents an overview of NAMAs submitted to the UNFCCC NAMA Registry Prototype, as well as an update on statistics on supported NAMAs, covering, for example, regional and sectoral distribution of NAMAs and types of NAMAs under development.

1.1 NAMAs submitted to the UNFCCC NAMA Registry Prototype

At the sixteenth session of the Conference of Parties (COP), it was decided to set up a registry to record NAMAs seeking international support, to facilitate the matching of finance, technology and capacity-building support with these actions, and to recognize other NAMAs (UNFCCC, 2012a). Developing countries and international supporters of NAMAs are awaiting the official launch of the UNFCCC NAMA Registry, which is expected to take place at the eighteenth session of the COP in Doha. Currently, countries that are seeking recognition or support for NAMA development and implementation can submit their NAMA information to a prototype of the registry. In September 2012, Mali and Ethiopia were the first countries to submit NAMAs seeking support for preparation. Mali is planning NAMAs in the renewable energy and forestry sectors (Government of Mali, 2012b), while Ethiopia is seeking support for the development of an inter-urban electric rail NAMA (Government of Ethiopia, 2012c). The Chilean National Council for Clean Production has submitted the first NAMA for recognition that is based on their Clean Production Agreement (Chilean National Council for Clean Production, 2012d). The agreement is a standard that seeks to reduce GHG emissions, among other goals, by promoting clean production in different sectors through specific actions.

1.2 Supported NAMAs under development

For the Annual NAMA Status Report 2012, information and feasibility studies on internationally supported NAMAs were collected between May and October 2012. As in previous NAMA Status Reports (Röser *et al.*, 2011; van Tilburg *et al.*, 2012), information was taken from the NAMA Database which tracks ongoing NAMA activities ranging from feasibility studies to implemented actions using publicly available sources¹.

¹ The NAMA Database is maintained by Ecofys and supported by the International Climate Initiative of the German government. The database does not represent official NAMA submissions and may not reflect the priorities of the country government.

Box 1: Criteria for inclusion of activities in the NAMA Database

The NAMA Database lists feasibility studies and “mitigation actions undertaken by a developing country with the intention to seek financing, capacity building and/or technology transfer support under UNFCCC agreements”. The following criteria are used to classify NAMAs according to their stage of development, differentiating between a feasibility study, concept, proposal and implementation stage:

Feasibility study: A feasibility study describes a potential NAMA but may not yet have government backing.

Concept: A specific mitigation objective is given. It is published and has traceable sources. Documentation in addition to (other than) the official UNFCCC documentation is provided, and sector(s) are specified. The action has a clear proponent and is backed by the government.

Proposal/planning: Cost estimates are presented, including a specification of support needs and an estimate of GHG mitigation potential; activities are clearly specified.

Implementation: All of the above, plus (some) support secured to undertake implementation activities, and international funders and/or other organisations providing support have been specified.

Current status of NAMA development

The database currently contains information on 35 NAMAs and 28 feasibility studies from 26 countries. The reduced number of NAMAs compared to the number presented in the 2012 mid-year update of the NAMA Status Report (which identified 52 NAMAs) is the result of a more rigid classification between feasibility studies and NAMA concepts. Figure 1 shows the number of NAMAs according to their stage of development.

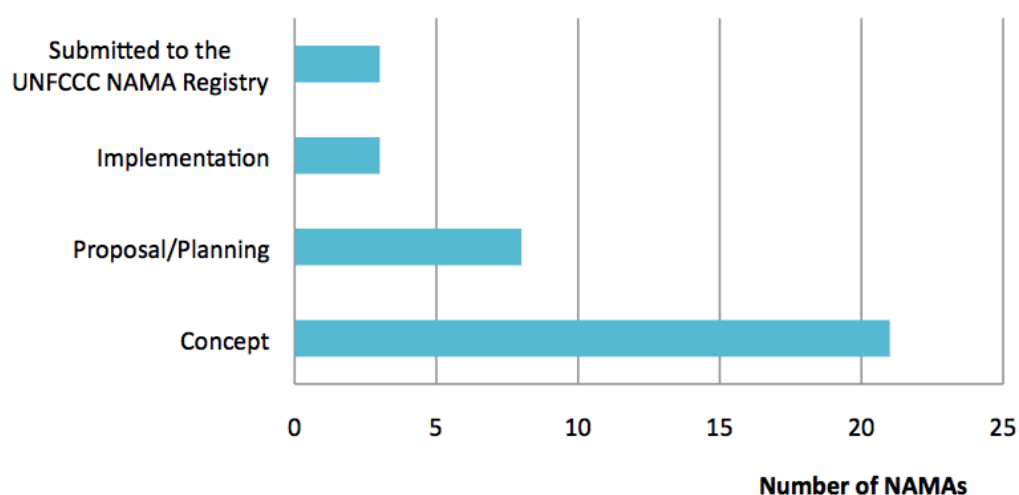


Figure 1: Number of NAMAs according to the stage of development

While new NAMA concept notes and proposals were presented, including by countries that did not have presented NAMAs before (for example Mali, Ethiopia and Georgia), little progress has been made in bringing NAMAs to implementation.

Table 1 presents examples of new entries of supported NAMAs to the NAMA Database.

| Country | Sector | Objective of NAMA | Stage of NAMA development |
|----------|---------------|---|---------------------------|
| Georgia | Energy supply | Construction of 10 hydro power plants in the Kakheti region of Eastern Georgia to reduce fossil fuel based electricity generation and related GHG emissions | Concept |
| Mali | Energy supply | Reduction of GHG emissions through renewable energy production (e.g. with hydro, wind, biomass and solar PV technologies) | Concept |
| Ethiopia | Transport | Increase in tonne/km of freight transported by electric rail, powered by renewable electricity, as opposed to road transport | Concept |
| Colombia | Transport | Build the planning and implementation capacity of the Ministry of Transport and the National Planning Department in Colombia, to structure NAMAs in the transportation sector and more specifically in the field of freight transportation. | Proposal/Planning |
| Chile | Energy supply | Revolving fund to insure renewable energy projects against spot market price fluctuation | Proposal/Planning |

Table 1: Examples of new entries of supported NAMAs to the NAMA Database (NAMA Database, 2012)

Regional overview on NAMA development

Over 50 percent of NAMAs are currently being developed in Latin America which continues the regional trend in NAMA development of previous years. One-third of NAMA initiatives are carried out in the Middle East and Africa, followed by Asia and Europe (Figure 2). The regional distribution is quite different from the distribution observed under the Clean Development Mechanism (CDM), where over 80 percent of CDM projects take place in the Asia and Pacific region (UNEP Risoe CDM/JI Pipeline Analysis and Database, November 1st 2012). In addition, over 80 percent of CDM projects are developed in only four countries, India, China, Brazil and Mexico, while NAMA development sees a much broader participation from countries since the mechanism became operative.

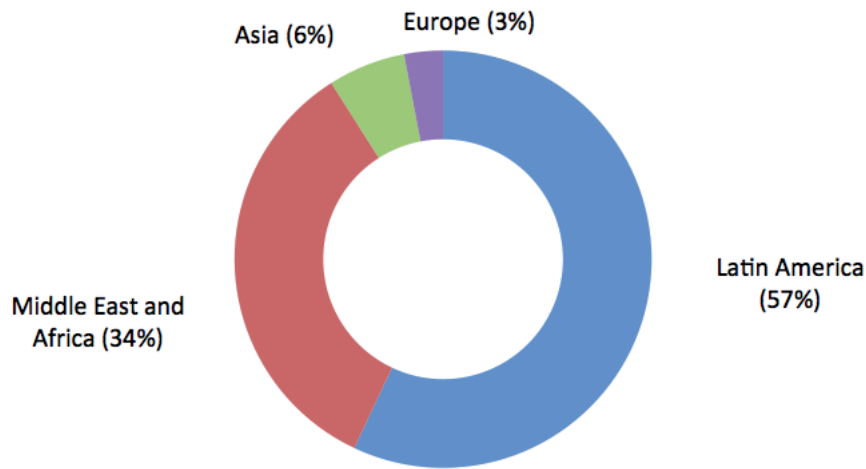


Figure 2: Regional development of NAMAs

Sectoral overview

Current NAMA development is taking place in all economic sectors and shows no deviation from development trends in previous years (Figure 3). Almost two-thirds of NAMAs are developed in the energy supply and transport sectors. The strong interest in the transport sector for NAMAs directly contrasts with the CDM, where the sector accounts for the least amount of projects. However, the agriculture and forestry sectors, for example, which are largely underrepresented under the CDM, also show little NAMA activity to date, even though many countries proposed agricultural and forestry NAMAs in their submissions to the UNFCCC Secretariat.

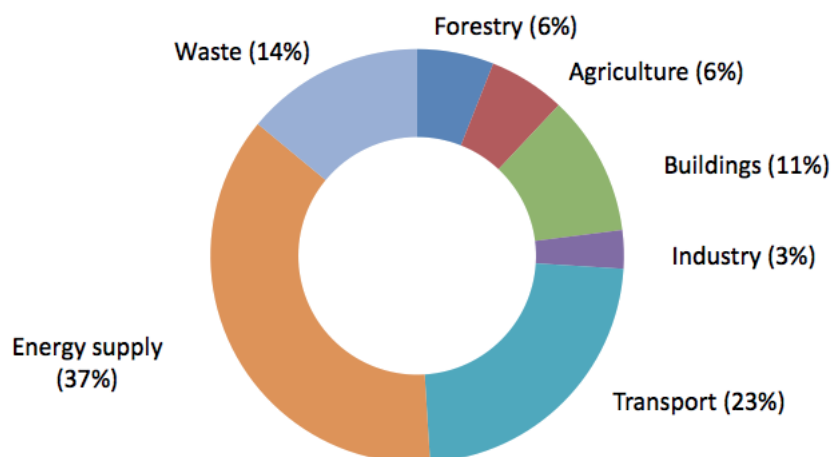


Figure 3: Sectoral distribution of NAMAs

Types of activities

NAMA policies and strategies account for over 70 percent of the NAMAs included in the NAMA Database. Policies and strategies have a broader scope than projects, both in terms of geography and time, and objectives with transformational impacts.

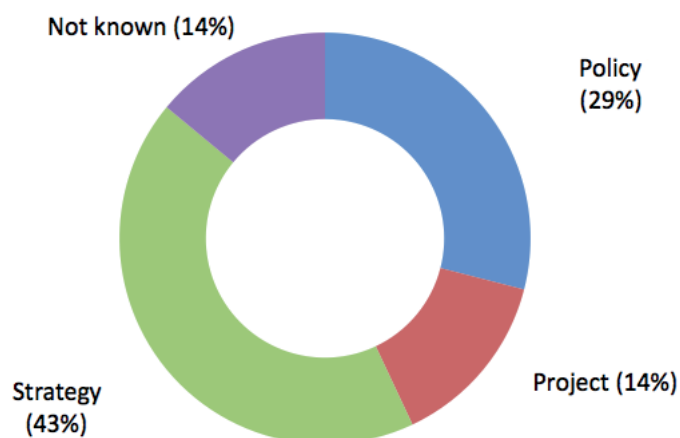


Figure 4: Type of activity

The dominance of NAMA policies and strategies underlines the statements made by developers and supporters of NAMAs (see for example Chapter 4 of this report) that NAMAs are considered a mechanism that has the potential, if properly designed, to achieve far-reaching GHG emission reductions and to thereby induce transformational change.

Box 2: NAMA typologies and examples

A. Strategy - a long term comprehensive plan of measures and actions designed to achieve a common goal. It contains many types of activities with various degrees of impact. Examples include:

- 20% Renewable Energy target backed by a market and regulatory strategy to break barriers in RE development
- Master plan to improve transit management

B. Policy - a government led programme or measure that has been or is intended to be embodied in legislation. Examples include:

- Feed in tariff
- Emissions trading scheme
- Building code

C. Project - a localized capital investment in either infrastructure or machinery. Examples include:

- Building a concentrated solar power plant
- Building a bus rapid transit system
- Deployment of energy efficient industrial motors

2. Recent trends in support for NAMAs

Lachlan Cameron, ECN

A central feature of recent rounds of UNFCCC negotiations has been a commitment by developed countries to provide finance, technology and capacity-building support to developing countries to enhance their mitigation actions. This chapter focuses on support provided by developed countries for developing country NAMAs, so called 'supported NAMAs'.

Introduction

Efforts to move forward on providing support for NAMAs have largely been following two separate tracks, one a more formal approach through the UNFCCC negotiation rounds, and the other based on bilateral and multilateral initiatives outside of those negotiations.

Within the UNFCCC, the idea of a NAMA Registry was agreed at COP16 in Cancun, not only to record NAMAs seeking international support, but also to facilitate the matching of support with these actions. This NAMA Registry was announced at the UNFCCC's 36th session of the Subsidiary Body for Implementation (SB) in Bonn in May 2012 and gives developed country Parties a place to list information on available support. As noted in Chapter 1, there have now been three NAMAs registered as seeking support, but there has yet to be any information on available support recorded in the UNFCCC NAMA Registry². However, this lack of official registration does not mean that NAMA support is not taking place: instead it is happening in parallel with negotiations through a number of programmes and partnerships. These parallel efforts support preparation for NAMAs and the development of the NAMA concept into an accepted mechanism for supporting developing country mitigation.

It is expected that support will be made available for the implementation of NAMAs, whether through the UNFCCC NAMA Registry or independently. However, such implementation support is only now beginning to emerge. To date, support has focused on activities related to NAMA preparation, readiness and capacity building, both in order to gain experience with the concept of NAMAs and to provide the first NAMA proposals to be financed and implemented. This work is starting to bear fruit and a large number of countries are actively preparing actions for support or have completed this work and are seeking support to start implementation.

Due to be launched at COP18 in Doha, the *International Partnership on NAMAs* has been established with the objective to enhance collaboration between multilateral, bilateral and other organizations on the topic of NAMAs; in particular, on how to accelerate support to developing countries in preparation and implementation of their actions. The Partnership will not have a normative role in terms of setting standards, instead it aims to identify best practices and share knowledge between partners and with the broader climate change community. More details on the Partnership will be available in the next update of the NAMA Status Report and through the partnership website after COP18 (www.namapartnership.org).

² http://unfccc.int/cooperation_support/nama/items/6945.php

This chapter of the Annual NAMA Status Report examines the current state of play for these two broad categories: support for preparatory activities and support for implementation.

2.1 Support for preparation

The previous update of the NAMA Status Report (May 2012) noted that the majority of NAMA support initiatives had focused on activities that are more preparatory in nature. It is still the case that most of the current NAMA support aims to develop proposals and create the right enabling environment for NAMAs, or so called 'readiness'. These preparatory support activities have focused on three broad elements reflecting different phases in NAMA development (van Tilburg *et al.*, 2012):

- i) *capacity building and awareness raising*; including information on the characteristics of NAMAs, the state of the international discussion, opportunities for receiving support, the role that NAMAs can play in achieving national policy objectives.
- ii) *processes and institution building*; including putting in place national processes and frameworks to ensure that priority NAMAs are identified and developed, are embedded in national policy and enjoy the appropriate level of political support.
- iii) *proposal development*; including developing a detailed plan for implementation of the NAMA, securing commitment from domestic stakeholders, and designing tailored financial and MRV structures to secure support.

As per the previous update of this report, the Annex lists a selection of major NAMA related support initiatives. These are typically those that span more than one country, updated with new or previously omitted programmes. Providing a more comprehensive listing of bilateral NAMA support is very challenging, as many of these bilateral efforts are less well publicised.

Existing NAMA support initiatives often involve a mix of the three above elements, sometimes combined with support for closely linked concepts such as low-emission development strategies (LEDS) or MRV systems. For this reason it is difficult to provide firm figures on the amount of support that is being delivered for NAMA preparatory activities, as there is little clear distinction between programmes that prepare the way for NAMAs more broadly and those that explicitly focus on NAMA preparation. A rough assessment of the support initiatives listed in the Annex suggests that in the order of €100 million of support has been provided to programmes that are closely linked to NAMA preparation, but this does not capture many bilateral initiatives, nor distinguish those programmes that are only focussed on NAMAs. Most of this support has come from developed country fast-start finance commitments. With fast-start finance meant to be spent by the end of 2012, it is not yet clear how future NAMA preparation activities will be supported.

Much of the existing support has effectively been provided as technical assistance. Readiness for NAMAs (the capacity to develop them, and attract support) varies among countries. It depends on the capacity within government ministries and other institutional stakeholders, on sectoral organization and (local) expertise, the availability of data, and existing policies and regulations. So far, technical NAMA preparation activities in many countries have been supported by development agencies and international experts/consultants. Drawing lessons, best practices and guidance from these assistance efforts, as well as developing local capacity, will be critical in moving countries closer to preparing and implementing NAMAs more independently.

Which countries have received support for preparatory activities has largely been a result of the level of demand and political support for the idea of NAMAs in a given host country, due to the current informal nature of matching support to partner countries. There is clearly demand for additional and continued support beyond the 2012 deadline for fast-start finance commitments. At the recent third UNFCCC workshop on developing country NAMAs, Parties expressed the following views with regard to support for developing and implementing their NAMAs³:

(a) Greater commitment to international financial support for NAMA preparation and implementation in 2012-2015 is needed to enable effective mitigation actions in developing country Parties;

(b) Technical, financial and capacity-building support is needed.

It is worth reiterating, as was stated in the previous update of this report, that in most instances support for NAMA readiness has been independent of support for implementation. Those who support preparation have, generally, not committed to finance any resulting NAMAs⁴. This leads to two of the key questions for NAMAs, which are: where will support for implementation come from and when will it be available?

2.2 Support for implementation

As a new instrument, there is currently little clarity on the future sources, channels and financial flows for NAMAs. Major existing funding sources (for example the Global Environment Facility (GEF) and the Climate Investment Funds (CIF)) do not formally recognise NAMAs⁵ and there are presently no dedicated funds for the implementation of NAMAs. However, progress is being made on a number of fronts and this situation is expected to change in the short to medium term as bilateral support arrangements, as well as new or emerging sources of finance, start to be used for NAMA implementation. It is important to note that, although support for the implementation of NAMAs is still being established, the existing mitigation-related public climate finance flows to developing countries are significant, even if this support is not labelled as NAMA support.

The broader climate finance context is very relevant for the future of NAMAs as they are seen as one of the key mechanisms for delivering climate support in a future climate change agreement. In the longer term, developed countries signalled a commitment to jointly mobilise an additional USD 100 billion per year by 2020 from public and private sources to address the needs of developing countries⁶. Already in 2010, climate finance flows for mitigation were estimated at USD 97 billion (Buchner *et al.*, 2011), including public and private sources⁷. Furthermore, preliminary results from 2011 suggest that climate finance flows have grown significantly since 2010 (Usher, 2012). However, for a number of reasons, this does not necessarily mean that the commitments of the Copenhagen Accord are being satisfied (Buchner *et al.*, 2011). A key issue is that the exact definition of what should be counted towards the USD 100 billion commitment has not been agreed. The question of concrete commitments for new and additional resources after the 2010-2012 fast-start funding period ends therefore remains unanswered (Würtenberger, 2012). In addition to this uncertainty as to the source of future climate finance flows, there is no understanding of what fraction will go to NAMAs and no agreement as to what the criteria should be used to assess requests for support.

³ <http://unfccc.int/resource/docs/2012/awglca15/eng/inf02.pdf>

⁴ The Memorandum of Understanding (MoU) signed by Norway are the notable exception as discussed in the following section.

⁵ Though many projects and programmes funded through these channels may be closely analogous to NAMAs (Vanamali, 2012)

⁶ Copenhagen Accord FCCC/CP/2009/11/Add.1

⁷ The total figure covers mostly financial flows from developed to developing countries, but also some South-South and domestic sources but these are a smaller fraction

On the one hand, the current scale of mitigation-related climate finance can be considered to be positive for NAMAs, as it demonstrates experience with delivering large-scale financial flows through existing channels as well as a desire to support mitigation in developing countries. On the other hand, with to date no support delivered explicitly for NAMA implementation and significant questions as to future sources, much progress is still needed. This section describes some different potential sources of support for NAMA implementation including bilateral and multilateral support and the Green Climate Fund (GCF).

Bilateral

In the short term, it is expected that the first supported NAMAs will rely on bilateral funding (van Tilburg *et al.*, 2012) or multilateral funding sources with a small number of donor countries. This is due to a number of reasons. First, the somewhat political nature of NAMAs makes multilateral action from organisations such as development banks less likely, as they must typically maintain a more apolitical stance. Second, agreeing on accepted criteria for NAMA support within multilateral sources of support is likely to be a more time consuming process. Third, the desire of some developed countries is to demonstrate successful support of NAMAs in order to prove the concept, learn from experience and ultimately move forward on negotiations.

One of the first announcements of support for NAMA implementation has been in line with this assertion that early pilot NAMAs will be funded through bilateral agreements. In June 2012, the governments of Ethiopia and Norway signed a partnership agreement for financial support for the implementation⁸ of Ethiopia's NAMA "Electricity Generation from Renewable Energy for Off-grid Use and Direct Use of Renewable Energy", submitted to the UNFCCC in 2010 (Government of Norway, 2012). This was signed in the framework of Norway's Energy+ Initiative which will provide USD 1.8 billion through 2015 for renewable-energy development and energy access. The initiative also committed to provide NOK 250 million to Kenya and NOK 100 million to Liberia over the next five years through a performance-based financing approach, meaning that most of the money will be disbursed in steps with results achieved. While these agreements with Kenya and Liberia were not framed explicitly as NAMAs, the actions they support - respectively the phasing out of kerosene use, and developing a strategic energy and climate plan - share many elements with NAMAs.

Apart from the Energy+ Initiative, there are other potential bilateral sources of implementation support for NAMAs. The UK Government recently established the ICF⁹ to help developing countries tackle climate change and reduce poverty. Through this fund the UK will provide £2.9 billion of international climate finance from April 2011 to March 2015. The financing approaches and priorities of the fund are now being established, and NAMAs are arguably a likely candidate for support. Additionally, a June 2012 Capital Market Climate Initiative agenda hints at the possible creation of a "finance facility to implement stretching and transformational Nationally Appropriate Mitigation Actions (NAMAs)" with the German government.¹⁰ The International Climate Initiative (ICI) of the German government is one of the main bilateral sources of NAMA support to date, although it is currently more focussed on activities that relate to NAMA readiness. It provides support in roughly half of the programmes listed in Annex 1.

Early indications from some bilateral agencies and banks suggest that other countries are also looking at providing support for NAMA implementation. However, at this stage there is little firm information available.

⁸ Phase I (2012-2013) consist of readiness activities, but Norway's financial commitment also covers the Phase II for implementation (2014-2016), with the understanding that after 2016 payment by results may be covered by a broader group of Energy+ partners.

⁹ <http://www.decc.gov.uk/en/content/cms/tackling/international/icf/icf.aspx>

¹⁰ <http://www.decc.gov.uk/assets/decc/11/tackling-climate-change/international-climate-change/5508-cmci-innovation-platform-agenda-jun2012.pdf>

Multilateral

Multilateral sources of support, such as the GEF and multilateral development banks (MDBs), are some of the largest channels for public climate finance at present. They represent an established and proven approach to delivering large amounts of financial support for mitigation and development activities. For example, a recent mapping of green finance by the International Development Finance Club, a network of 19 national and sub-regional development banks, showed that finance flows from their institutions based in OECD countries to non-OECD countries constituted USD 15 billion in 2011, and this represents only a portion of the total green finance that is channelled through all multilateral development banks.

At this stage there is little public indication on whether NAMAs will formally feature in the portfolio of MDBs. However, it is possible to observe a general ‘greening’ of projects and programmes that are receiving support from many of the MDBs, which is promising for the concept of NAMAs. Funding sources such as the World Bank’s Clean Technology Fund (CTF), the Global Climate Change Alliance (GCCA), the Inter-American Development Bank’s (IDB) Sustainable Energy and Climate Change Initiative and the Asian Development Bank’s (ADB) Climate Change and Clean Energy Funds are all designed to support actions in developing countries that can bear a strong resemblance to NAMAs. This gives MDBs an important role, not only as a potential channel for NAMA financing, but also as a source of experience and knowledge from which future NAMA support efforts can learn.

Some multilateral sources have already started to support NAMAs. Perhaps the first NAMA to receive financing for implementation is in Mexico for the use of energy-efficient appliances and building design for houses at a national level. The CTF recently approved support of USD 51,614,000 there for the “Ecocasa” Program, which is an integral part of Mexico’s broader NAMA and will be complimented by support from the IDB and KfW. The programme aims to improve the supply of energy efficiency financing products and services, both through capacity building and provision of investment capital.

In addition, the Nordic Environment Finance Corporation (NEFCO), a finance institution established by Denmark, Finland, Iceland, Norway and Sweden, recently signed a Memorandum of Understanding with the Peruvian Ministry of Environment to cover technical cooperation in the area of scaled-up mitigation in the waste sector under the Nordic Partnership Initiative. While this support is currently focussed on preparatory and readiness activities, such as improving data quality and building technical and institutional capacity, it shows that some multilateral institutions have started to explicitly include NAMAs in their approach to support.

Green Climate Fund (GCF)

One of the main vehicles for delivering multilateral support for NAMA implementation is the GCF which was established in the Cancun Agreements to support developing country projects, programmes, policies and other activities. The GCF is aiming to become “the main global fund for climate change finance”, in particular for delivery of the commitment of USD 100 billion by 2020. However, at this time it is not known exactly what share of international climate finance will be channelled through the GCF, nor what mechanisms will be utilised for disbursing these funds and under which criteria.

¹¹ [www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/PID_Mexico%20ECOCASA% 20Program.pdf](http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/PID_Mexico%20ECOCASA%20Program.pdf)

¹² http://www.nefco.org/en/news/nefco_signs_memorandum_of_understanding_with_republic_of_peru

¹³ The GCF is an operating entity of the financial mechanism of the UNFCCC and is accountable to and functions under the guidance of the COP.

¹⁴ Paragraph 32, annex to decision 3/CP.17

These aspects will become the centre of debate now that many of the functional aspects of the GCF have been established. The fund is governed and supervised by a Board that has been elected and currently operates with a joint interim secretariat provided by the GEF and UNFCCC until an independent secretariat can be created. At the second meeting of the board Songdo, Incheon City, South Korea was selected as the host city of the GCF. This choice will be presented for endorsement at COP18 in Doha, Qatar.

It is still unclear when the GCF will be fully operational. In addition to procedural issues that need to be agreed, there is also the related problem of committed support. Some countries already made pledges or disbursements for the start-up/operational costs of the GCF; however, pledges of support for implementation have yet to materialise. Securing early pledges for the GCF is likely to be important for early action, both as a signal of commitment and to allow the GCF to be operational as soon as possible (Grießhaber, 2012).

Finally, what role the GCF plays in the support of NAMAs remains to be seen. However, successful NAMA pilots could play a major role in how the GCF views this new mechanism.

Summary

The landscape of support for NAMAs has undergone some important steps since the previous NAMA Status Report update. While the majority of NAMA support activities continue to be focussed on preparatory activities, we have also seen commitments from bilateral and multilateral sources for support for NAMA implementation. These include the partnership agreement between Norway and Ethiopia, as well as support from the CTF, IDB and KfW for components of the Mexico housing NAMA. With the GCF facing a significant task to agree on procedural guidelines for the disbursement of funds, it seems likely that in the short term NAMA implementation will continue to be supported by bilateral and other multilateral sources. What opportunities there are for NAMA financing from these sources should become clearer as the growing number of NAMA proposals create a pipeline of demand for implementation support.

At the same time, substantial experience in structuring international support already exists, as indicated by the amount of financial support already disbursed for activities related to mitigation in developing countries (Würtenberger, 2012). It will be important to draw on these experiences, as well as recognise that initial pilot NAMAs provide an opportunity for learning-by-doing, not only for host countries but also for sources of support. The overall message on support is the same as from the previous NAMA Status Report; that support for NAMA implementation is needed, in order to start expanding experience beyond “small-scale” support and demonstrate success.

3. Selected contributions on NAMAs

3.1 Ambitious NAMAs and national climate governance

Xander van Tilburg and Laura Würtenberger, ECN¹⁵

This chapter argues that it is encouraging to see recent changes in climate governance structures in developing countries which are likely to facilitate the development and implementation of ambitious NAMA proposals, but recommends to be mindful of the fact that these structures are still relatively recent and may not be working smoothly, yet. The chapter therefore suggests that countries and development partners should aim for a balance between strengthening climate governance and pragmatically supporting pilot NAMAs, the scope and ambition of which is adjusted to what can be achieved within the existing governance structures.

NAMAs as bottom-up approach to supporting development while curbing emissions

The international community is acutely aware that, in order to limit global temperature rise to below two degrees Celsius over pre-industrial levels, mitigation efforts need to be stepped up considerably. This has been confirmed in recent rounds of international climate negotiations under the UNFCCC (e.g. in the 2009 Copenhagen Accord, the 2010 Cancun Agreements, and the 2011 Durban Outcomes). Many developed countries have communicated their ambitions in terms of economy-wide emission reduction targets (UNFCCC, 2011a), while developing countries are planning (nationally appropriate) mitigation actions to deviate emissions relative to 'business-as-usual' emissions in 2020 (UNFCCC, 2012). In addition to the global mitigation challenge, developing countries face the challenge of establishing a climate resilient society as the key to improving living conditions in the face of climate change (Metz, 2010). Moving towards a sustainable development pathway that takes both low-carbon (mitigation) and climate resilience (adaptation) aspects into account usually requires substantial social and economic change. Ultimately, integrating climate change into development decisions will require governments to set up a strong climate governance structure.

Because of the intricate link between mitigation and development, the new international climate policy instrument of support through Nationally Appropriate Mitigation Actions (NAMAs) is explicitly framed in the context of national appropriateness and 'sustainable development' (UNFCCC, 2011b). The UNFCCC currently advocates a 'bottom-up' approach to detailing supported NAMAs, inviting developing countries to define what nationally appropriate mitigation actions they could take, and what the associated support needs are. Similarly, developed countries are invited to convey their potential support availability. These invitations generate substantial interest and efforts with host and donor countries, and a long list of potential NAMAs has been submitted to the UNFCCC (UNFCCC, 2011c). However, five years after the introduction of the concept, almost all current efforts are still in the preparatory stage (Ecofys, 2012). That is not to say that developing countries and development partners are currently not working on mitigation initiatives, but they are not labelled as NAMAs.

¹⁵ Authors would like to thank Lachlan Cameron and James Falzon for their valuable contributions.

Recent trends in climate change governance

Meadowcroft (2010) identifies three basic models to integrate climate change into governance: placing responsibility for climate policy within the environment ministry or agency, creating an independent climate change authority, or placing climate change with another senior ministry such as energy. In all three models, there is usually a role for the ministry of foreign affairs in the international climate negotiations. There are pros and cons associated with each model and it is impossible to make any general claims on which is best. Regardless of the administrative structure, however, a climate change agency must enjoy appropriate resources, political support from the top, and authority to engage with other groups working in climate change across government. Meadowcroft (2010) stresses the need for leadership capacity both with senior political decision makers and in organizations: “The most important factor influencing the success of climate change governance to date has been engagement (or not) by the top political leadership”.

Since climate change entered national policy agendas in the late 1980s and early 1990s, it was initially dealt with by environment ministries as a logical extension of their focus on local environmental issues. In 1996, the 2nd session of the Conference of Parties (COP) established National Climate Change Focal Points to formally represent countries in the UNFCCC process. Similarly, the Marrakesh Accords established Designated National Authorities (DNAs), the national bodies responsible for assessing potential CDM projects with respect to their contribution to sustainable development goals of the host country (Lecocq and Ambrosi, 2007). In many developing countries, the UNFCCC Focal Points and the DNA were hosted by the same government agency, mostly an environment ministry, with these posts frequently being filled by the same persons. For the following decade, in most developing countries, the UNFCCC focal points were the main “owners” of the topic of climate change nationally, and climate related activities, such as programmes and projects funded by the GEF, were undertaken either by the focal points’ government agencies or by technical staff in sector ministries such as energy ministries.

The publication of the 4th IPCC Assessment report and the Bali COP in 2007 brought increasing attention and priority for climate change on national and international policy agendas. This included a growing recognition of the need for mitigation actions by developing countries, and an increasing awareness that in order to meet the challenges (and opportunities) posed by climate change, governments will need to approach climate policy as *integral part of economic development planning*.

This changing perception of climate change as a policy issue also initiated a change in climate governance structures in developed and developing countries. The UK for example developed a more complex and innovative governance structure with the establishment of an independent Climate Change Committee to advise governments, and publicly supported institutions, such as The Carbon Trust and several climate research groups. As of 2008, climate change moved from the department responsible for environment (DEFRA) to the newly set up Department for Energy and Climate Change (DECC). But there have also been changes in many developing countries. Over the past five years, many countries have established cross-sectoral committees on climate change as well as specific departments within or outside of existing ministries, in addition to securing higher-level political commitment and responsibility for the topic. Examples are the establishment of the Indonesian National Council on Climate Change (DNPI) chaired by the President, and the Inter-Ministerial Climate Change Commission in Mexico which was already formed in 2005 and headed a multi-year process leading to the adoption of an ambitious climate change law in early 2012, among many others.

In many cases, these changes in governance structures went hand in hand with the preparation of low-carbon (climate resilient) development plans, and green growth strategies. Low-Carbon Development Strategies for non-Annex I countries were first introduced under the UNFCCC negotiations in 2009, and by 2011, at least 70 countries were undertaken activities related to low-emission development planning (CLEAN, 2011).

For the development and the implementation of a low-carbon development strategy, a well-functioning institutional structure for climate change policy integration needs to be in place (Metz, 2010; van Tilburg *et al.*, 2011) to facilitate interactions between the public sector, the private sector, and civil society, and create the right conditions for climate investments to pick up. Whereas some mitigation actions can be initiated from individual ministries and sectors, a more structural integration of climate change into development requires coordination among key ministries (such as sectoral ministries, planning, finance, and environment), and serious buy-in and effort from the countries' leaders. Moreover, these plans and strategies require proper integration into the policy process and a clear articulation of alignment with national interests (van Tilburg *et al.*, 2011).

NAMAs as building blocks for mitigation strategies

So if climate change governance is improving, and many countries in one way or another have started to view it as a cross-sectoral coordination issue, how is this related to NAMAs?

NAMAs actually have a natural fit with LEDS, either as a direct building block for the implementation of such a strategy or as part of an intermediate-level strategy document, such as a climate change action plan or investment plan. Indeed, most of the countries which are relatively far advanced with concrete NAMA proposals put these into the context of their national LEDS or similar strategy documents. NAMA concept notes developed in Indonesia are, for example, in-line with Indonesia's climate change action plan (RAN-GRK) (Situmeang *et al.*, 2011). Ethiopia's transport NAMA seeking support for preparation under the UNFCCC (Government of Ethiopia, 2012) and its NAMA agreement with the Government of Norway for Increasing Access to Sustainable Energy in Rural Areas build on the country's recently launched climate-resilient green-growth strategy (Government of Ethiopia, 2011). And the government of Kenya is considering to develop NAMA proposals based on potential priority actions identified in its National Climate Change Action Plan (Government of Kenya, 2012). An alignment of NAMAs with a country's broader climate change strategy is also in line with donor preferences.

Ambitious NAMAs require improved climate governance

As an international instrument, NAMAs are (still) loosely defined and give room to individual countries to determine what would be 'nationally appropriate'. Supported NAMAs can be seen as voluntary government actions that, with international support, contribute to emission reduction through direct interventions or through creating favourable conditions for low-carbon investments. NAMAs can consist of 'packages' of government actions and can be relevant within one single sector, or have implications across multiple sectors. The scope of what has been suggested as NAMA, ranges from very specific single (project) actions, to more extensive suggestions for policies, programmes and strategies. Despite this lack of detailed scope, experts and stakeholders place high hopes on the concept: "Ambitious" NAMAs would be actions that are part of an effort to structurally change (or transform) a sector towards a low-carbon pathway, and where the overlap between development and climate benefits is maximized.¹⁶

¹⁶ Such high ambitions for NAMAs are reflected in many recent publications on the topic, e.g. "NAMAs should be ambitious in achieving transformational changes" (Comstock, 2012, p.6,15), "The focus of NAMAs on policy and strategy development reflects the general notion that NAMAs may support transformative processes leading to profound and long term emissions reductions." (Röser, and De Vit, 2012, p.4), "NAMAs are just the vehicle to fit ambitious transformational action into a global climate architecture" (Wienges, 2012, p.7,9).

As government actions, NAMAs require political decisions and a certain level of political buy-in. This is in contrast with political support for CDM projects, which are actions driven by the private sector and in many cases requires a ‘rubber stamp’ approval from the DNA. Especially “ambitious” NAMAs will require senior-level government commitment within sector(s) that will need to implement it, and potentially also at a national level and from other affected ministries. Senior-level political commitment will likely be easiest to achieve if the NAMA is in line with, or an extension of, existing sectoral development aims and strategies.

Mexico’s “Eco Casa” NAMA proposal for sustainable housing, for example, is an extension of the scope of existing activities to improve the energy efficiency in the residential housing sector (CONAVI, 2011). Moreover, “ambitious” NAMAs are likely to require buy-in from stakeholders in the private sector, from financial institutions and civil society, depending on the specific mitigation action. Initial experience with the development of NAMA proposals in Mexico and in Asia indeed suggests that consistency with national development plans is essential for the successful development of NAMA proposals. Other key success criteria for the proposal development are high-level political support and country ownership, governmental institutions which have sufficient convening power and are capable and willing to manage the NAMA actions, and buy-in from and coordination between stakeholders in the sector (Comstock, 2012; Stöcklein, 2012).

In other words, in an ideal case NAMAs require the climate governance structures that have started to develop over the past five years in developing countries with increasing awareness on climate change and with the advent of LEDS processes.

NAMAs are not only a national instrument for structuring international support for mitigation actions in developing countries, but also have a role within the international climate negotiations. When compared to other instruments for providing support for mitigation actions, this international dimension may pose an additional institutional barrier to the implementation of NAMAs. The COP’s invitation to developing countries to ‘submit, subject to availability, more information relating to ... estimated mitigation outcomes [of nationally appropriate mitigation actions]’ (UNFCCC, 2011b), may raise the fear of a ‘back-door’ commitment to international mitigation targets. As a consequence, whereas sectoral ministries may have an interest in moving ahead with securing international support for the development and implementation of NAMAs, the institutions responsible for the country’s negotiating position may be unwilling to submit NAMA proposals to the UNFCCC or allow for any bilateral international support labelled as “NAMA support”. Anecdotal evidence indeed suggests that such tensions do occur in some countries which are in the process of developing NAMAs.

Discussion and recommendations

It is encouraging to see that the latest development in climate governance structures in developing countries towards more cross-sectoral coordination, more senior level political buy-in and commitment, and larger stakeholder involvement are likely to facilitate the development and implementation of ambitious NAMA proposals. However, it is equally important to recognize that in most cases these new governance structures are relatively recent and may require more time and additional iteration steps to be fully functional. Ahmad (2011) notes for example in an analysis of the climate governance structure in Malaysia and Pakistan that there may be a “disconnect between the high-level political priority accorded to climate change ... and the slow rate of agency response and implementation”.

Developing country governments would benefit from introspection, a critical look at what current governance can deliver, and what steps will need to be taken to maximally capitalise on the promise of support for planning and coordination (LEDS) and implementation (NAMAs). Gaining a good understanding of the current governance structures and effectiveness is essential before starting the development of NAMA proposals. The key is to get started at the right level of ambition, and to choose pilot NAMAs that have a maximum overlap between mitigation and development priorities. These first NAMAs can provide a pilot for cross ministerial coordination and for further mobilizing awareness and buy-in.

Development partners (or donors) should start moving beyond preparatory measures, pragmatically providing support for implementation of pilot NAMAs. In addition, there is a continued need for actively working on building mutual trust between donor and host countries around the questions on the international dimension of NAMAs within the climate negotiations. In parallel, however, in order to have NAMAs reach their full 'transformative' potential, it is crucial to support the improvement of governance. For example, by assisting sectors in identifying and articulating opportunities for actions that improve their development in a low-carbon manner - only then one can expect to create the necessary buy-in. At the same time, expectations will need to be managed (and possibly moderated). Building coordinative capacity and more sophisticated governance structures is an evolving process that in many countries is only just starting; decision making processes may for now prove to be slow.

The scope and ambitions of NAMA proposals should be adjusted to what is achievable within the existing climate governance structures, even if this implies that proposals are less ambitious than desired. Putting the bar too high, for example by requiring a LEDS before supporting NAMAs, may discourage governments from getting started with NAMAs. If cross-sectoral coordination tends to be challenging, it is for example advisable to limit the scope of the NAMA to an action that can be undertaken by a single sectoral ministry or agency.

3.2 Crafting the finance component of a supported NAMA¹⁷

Stacey Davis, Center for Clean Air Policy

This chapter highlights characteristics of NAMAs that are crucial to increase the chance of attracting donor country support. It further focuses on the design of financing for supported NAMAs and on common financial tools to leverage private sector investment.

Introduction

As originally agreed in the Bali Action Plan¹⁸ and reiterated in the Cancún agreements¹⁹ and Durban COP decisions²⁰, international financial support is fundamental to the concept of Nationally Appropriate Mitigation Actions (NAMAs) by developing country Parties. As more NAMAs reach advanced stages of development, the countries preparing NAMAs are hopeful that international climate finance will increasingly be dedicated to support NAMA implementation.²¹ NAMA finance is expected to come from donor governments and multi-lateral institutions, as well as through investments from the private sector. Funds could be delivered for implementation of the NAMA (supported NAMAs) or potentially as payment for emissions reductions generated and sold for compliance to developed countries (often referred to as "credited NAMAs"²²). Our focus here is on the design of financing for supported NAMAs, which are "aimed at achieving a deviation in emissions relative to 'business as usual' emissions in 2020"²³, and at helping developing countries to meet their own emission reduction pledges.

¹⁷ This section borrows extensively from ideas presented in earlier CCAP papers, including Comstock et al., Discussion Draft: Criteria for Evaluating Supported NAMAs, October 2012 and Johnson, Brad, Overview of NAMA Financial Mechanisms, July 2012

¹⁸ Paragraph (1)(b)(ii).

¹⁹ Paragraph 48.

²⁰ Decision 2/CP.17, Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, section II(B) Nationally appropriate mitigation actions by developing country parties.

²¹ Leading up to the COP 18 negotiations in Doha, Qatar, developing countries are seeking greater clarity from donor governments and multi-lateral institutions on the climate finance that will be made available leading up to the 2015 deadline for a legally-based outcome on enhanced action and to 2020—the year that annual climate finance was pledged to reach \$100 billion.

²² Unlike domestically supported (unilateral) and internationally supported NAMAs, credited NAMAs are not specifically referenced in decisions by the Conference of Parties.

²³ Cancún Agreements, paragraph 48.

NAMAs should carefully combine developing country policy interventions with international financial support to remove barriers to low carbon investments by the public and private sectors. While the total funding available in the next few years for international climate finance and for NAMA support is not yet known, NAMAs that have a well thought-out financial design will be better positioned to receive early support. Donor and recipient countries alike have an interest in ensuring that NAMA funds are used in a cost-effective and efficient manner, as this will help make the available finance go further to support more actions. Careful design of the financing elements of a NAMA can also help donor governments justify spending in the tight fiscal climate. NAMAs that have the following characteristics will have a better chance of attracting donor country support:

- **Includes a budget that clearly describes how the international support will be used and justifies the need for the support.**
- **Specifies the recipient country's domestic financial contribution** to NAMA implementation. A developing country that invests some of its own funds towards the NAMA, potentially as a “unilateral NAMA,” might be seen as demonstrating buy-in and commitment. Some level of unilateral contribution is generally expected, with the specific amount depending on the developing country's economic circumstances and the contributions required to successfully implement the NAMA in question.
- **Maximizes the impact of international funding, especially through leveraging of other public/private spending.** While NAMAs require public sector investments to overcome barriers, given the scale of the investment required, there is an expectation that a large proportion of funding for mitigation actions in developing countries will come from the private sector. Contributing countries will be interested in leveraging NAMA finance to the greatest extent possible. Some of the main tools for leveraging private sector investment include: co-financing options with local banks to lower interest rates and/or extend lending maturities; partial credit risk guarantees; performance guarantees; and use of special purpose entities. These options are detailed in text box 1. A more targeted example is highlighted in text box 2.
- **Supports action in a cost-effective manner.** In addition to ensuring that the overall cost per ton of emissions reduced is reasonable compared to other international investments, the NAMA should focus financial resources on overcoming barriers to action. When the barriers are financial in nature, the NAMA should seek to write down the investment cost just enough to enable private investors to earn a competitive rate of return in relation to risk. Through consultations with local banks and private developers, the NAMA developers can determine the minimum incentive needed to stimulate the desired private sector investment.
- **Reflects consultation with private sector interests.** In addition to considering the needs of the developing country and donor government or institution, extensive consultation with local and international financial institutions and potential borrowers is critical in designing a financial mechanism that works. Such consultations are needed early in the NAMA design process to ensure private sector receptiveness, and later to provide a final “ground testing” of the proposal.
- **Mitigates risks.** The NAMA should include strategies to mitigate risks that are potentially significant and/or likely to occur, including currency risk, market risks, political risks, etc. Risk guarantees or insurance schemes can be used to reduce some of these risks²⁴.
- **Avoids duplication of efforts/funding.** NAMA proposals will need to demonstrate that funders' resources do not duplicate other funding for similar actions, including efforts that are supported as CDM projects.

²⁴ For further detail, see Vanamali, A., Emerging Trends in Climate Finance, Discussion Draft, January 2012 and Würtenberger, L., Financing Supported NAMAs (Nationally Appropriate Mitigation Actions), Discussion Paper, August 2012.



Box 1: Common financial tools to leverage private sector investment

Co-financing with local banks can overcome high interest rate environments and/or instances where the loan period (7-10 years in most countries) is considerably shorter than the duration of the NAMA. In both cases, this can mean prohibitively high loan payments that exceed the value of NAMA revenues. In these cases, international climate finance can work in tandem with local bank loans by offering an incrementally better interest rate and/or by extending the term of the loan. In the first instance, NAMA support can provide below-market rate co-financing for a portion of the loan amount, so that the weighted average interest rate makes the action financially viable.

In the latter case, extending the term of the loan can dramatically reduce annual debt service payments and make a project financially viable. While there are different ways to operationalize this, one example used in the Philippines involved an agreement between the government and local banks that allowed banks to make 7-year loans with a 15-year payback period. Under this arrangement, a balloon payment for the balance of the loan was due in year 8. If a bank decided not to renew the loan up to 15 years, the government made the balloon payment to the bank and the borrower made annual debt service payments to the government for years 8-15.

Partial credit risk guarantees can overcome instances where the borrowers are not deemed to be credit-worthy by the local bank and are seen as having a high risk of defaulting on their loan. This can happen when local banks are not familiar with a class of borrowers. To mitigate this risk, donor funds are placed in an account to cover a portion (e.g., 50 percent) of a project's credit risk, protecting the primary lender from loan defaults for up to the specified portion of the loan, and helping to reduce the cost of borrowing.

Performance guarantees can overcome lack of familiarity with the effectiveness and cost of a new technology. This is especially a challenge for energy efficiency projects where energy and cost savings from investments are expected to be sufficient to cover debt service payments, but the local bank is unable to assess this. To address this impediment, donor funds can be used to capitalize a performance risk guarantee program that provides bankers with assurances of performance. This can be done by setting up an energy services company (ESCO) to provide due diligence for the banks and back up the assessment with a guarantee. If a project fails to meet performance levels, the donor funds are used to make up the difference for banks.

Special purpose entities can be used when the local banks do not have capacity to initiate lending for a class of NAMAs due to high transaction costs. This is most likely to occur when mitigation actions are too small to be financed on an individual basis. The SPE addresses this problem by bundling multiple projects for financing through one debt instrument. The SPE uses standard eligibility requirements, financial analysis and legal agreements to lower transaction costs.

Source: Johnson, Brad, Overview of NAMA Financial Mechanisms, July 2012.

- **Includes a clear exit strategy for funders.** Contributing countries will want to know that their financial support will not be required indefinitely, and that funding can be withdrawn at a logical point in time without threatening the sustainability of the NAMA. Effective NAMAs will likely utilize international support to get off the ground, later attracting private-sector investment so the action is financially sustainable.
- **Has scale-up potential.** NAMA policy concepts can be tested initially at a pilot scale. Such pilot-scale efforts can lay the groundwork to attract local and/or international financial institutions to finance a stream of similar projects once the initial pilots are successful. In particular, involvement of international financial institutions can lead to widespread replication.

Beyond the above elements of a NAMA financing plan, contributing countries seek to support NAMAs that are highly effective in reducing greenhouse gas emissions in the context of sustainable development; have a robust system for monitoring, reporting and verifying progress to ensure transparency and demonstrate the NAMA is able to deliver and is well-managed; are described clearly and well integrated into sectoral development plans, and possess the required political support, stakeholder buy-in, and human capacity to enable implementation. These additional design features are described in Comstock *et al.*, 2012.

Box 2: Crafting the finance portion of a renewable energy NAMA in Chile: Price Stabilization Fund

NAMA objective: Meet Chile's future electric capacity needs (8-10 GW) with renewable energy sources in lieu of imported coal. There is significant renewable energy potential in the country that is not being realized. Use of renewable energy would provide local development and health benefits in addition to GHG reductions.

Barrier: In Chile's deregulated power market, pricing is done via the spot market. Prices vary widely during the year, from \$0.03 to nearly \$0.30 per kWh. Lack of price certainty and intermittent electricity production makes it difficult for wind and solar developers to get long-term contracts. Local banks are unwilling to accept this price risk and there are no financial instruments in the market to cover this risk.

Financial solution: A Price Stabilization Fund (PSF), capitalized with NAMA resources, would provide a guaranteed price for the delivery of energy from renewable energy projects. Projects would be selected through a reverse auction, where the lowest cost renewable energy projects get chosen first. The PSF would take spot market risk and make money when the spot market price at the time of delivery of energy to the grid is higher than the contracted price between the PSF and the developer, and would sustain losses if the spot market price is below the contracted price of energy in the PSF contract. Over time, earnings would cancel out losses, ensuring sustainability of the fund. Price certainty from the PSF will mean developers can successfully win financing from local banks.

In summary, this proposed NAMA is an excellent example of a mechanism where significant private sector investments can be incentivized and the impact of donor funds can be multiplied many times over.

3.3 MRV of NAMAs

Kelly Levin, David Rich and Jared Finnegan, World Resources Institute

This chapter discusses key issues related to the measurement, reporting, and verification (MRV) of NAMAs, including the status of MRV of NAMAs under the UNFCCC, the current status of MRV plans for proposed and implemented NAMAs, and quantifying greenhouse gas effects of NAMAs.

1. Status of MRV of NAMAs under the UNFCCC

Under the United Nations Framework Convention on Climate Change (UNFCCC), developing country Parties have announced a diversity of Nationally Appropriate Mitigation Actions (NAMAs) to reduce greenhouse gas (GHG) emissions by 2020. These NAMAs are framed in a variety of ways, including: economy-wide GHG reduction goals (e.g., business-as-usual goals, carbon neutrality goals, intensity goals), sectoral strategies, mitigation policies, and individual projects. Some of these NAMAs are being funded domestically, while others require support from developed countries. Some are intended to generate credits for sale in the carbon market, while others are intended to achieve emissions reductions that will remain in the host country (Soren *et al.*, 2012).

Central to the operationalization of NAMAs is the putting in place of a robust MRV system. MRV can serve a number of purposes (Levin and Finnegan, 2011), including assisting in designing more effective NAMAs, tracking progress towards achievement of NAMAs and their desired effects, understanding cost-effectiveness of NAMAs, enhancing transparency and trust, strengthening understanding of global aggregate emissions reductions and whether they are adequate for meeting global temperature limits, avoiding double claiming of emissions reductions, lowering the risk of inaccurate assessment, and gaining understanding of the provision of and needs related to support. In addition, MRV can assist in the identification and sharing of best practices and in securing international recognition of NAMAs (Bakker and Würtenberger, 2012).

Several aspects of NAMAs can be subject to MRV, such as:

- Implementation of NAMAs;
- GHG and non-GHG related effects of NAMAs; and
- Financial, technological and capacity building needs and support received (Tilburg *et al.*, 2012)

Accordingly, decision makers under the UNFCCC have adopted a number of MRV-related provisions for NAMAs. In Durban, the Convention of the Parties (COP) advanced guidelines for the preparation of biennial update reports (BURs) (UNFCCC, 2011). BURs will require developing country Parties preparing NAMAs to submit the following information:

- National circumstances and institutional arrangements related to the preparation of national communications;
- National inventories;
- Information on NAMAs and their effects, including methodologies, assumptions, and progress towards implementation;
- Finance, technology and capacity building needs and support received; and
- Information related to domestic MRV.

Developing country Parties are to submit their first BUR by December 2014. The COP also put forward more details on international consultation and analysis (ICA), which involves a two-step process - technical analysis followed by a facilitative sharing of views - in which BURs will be reviewed. In addition to BUR and ICA provisions, Parties have also given a mandate to the Subsidiary Body for Scientific and Technological Advice (SBSTA) to develop general guidelines for domestic MRV of domestically-supported NAMAs. And for those NAMAs that seek international support, developing country Parties have been invited to provide information related to the expected timeframe of implementation, costs, estimated emissions reductions, and additional factors such as co-benefits.

As a result of the developments under the UNFCCC, in carbon markets, and in public and private sector investments in developing country actions, a number of initiatives have recently been launched to support countries in both domestic and international MRV of NAMAs. While the traditional focus of MRV has been on GHG impacts, some initiatives also focus on tracking sustainable development metrics, as well as metrics for tracking NAMA implementation²⁵. Templates have been created for NAMAs to assist developing countries in presenting information in a manner that can facilitate support (Center for Clean Air Policy, 2011). Primers (Lutkn *et al.*, 2012) have been created on MRV of NAMAs in an effort to demystify MRV-related provisions of the UNFCCC. And several capacity building initiatives related to MRV exist.

Together, efforts both under and beyond the UNFCCC will focus on how best to develop MRV approaches that facilitate action rather than presenting a further burden to developing countries (Bakker and Würtemberger, 2011). In doing so, new methodologies and tools will be required because, to date, experience related to MRV has limited applicability to NAMAs. MRV provisions have focused largely on national inventories, on the economy-wide targets of Annex I Parties, and project-level emissions reductions through the CDM. MRV of some types of NAMAs, especially those framed in terms of policies, is considerably more complex, especially given the challenges inherent in attributing emissions reductions to a particular mitigation action or policy.

²⁵ For example, see Winkelman, S. et. al., "MRV for NAMAs: Tracking progress while promoting sustainable development," Center for Clean Air Policy, Discussion Draft, 2011

2. Current status of MRV plans for proposed and implemented NAMAs

NAMAs that are currently in the proposal stage or under implementation vary widely in their proposed MRV plans. Table 1 summarizes MRV plans for seven selected NAMAs. These seven have been selected because they are either proposed or under implementation according to the NAMA Database (www.namadatabase.org). The remaining NAMAs in the database are excluded from this table since they are in the concept stage only.

For each selected NAMA, Table 1 summarizes the monitoring and reporting provisions included in the MRV plans along with quantified estimates of GHG mitigation potential, if specified.

Only some MRV plans provide monitoring procedures and estimates of GHG mitigation potential. Most MRV plans do not specify reporting procedures and none include information about verification. Wang-Helmreich *et al.* (2011) analyzed 16 NAMAs and found similar results, namely that only seven of the 16 provided minimum information on MRV²⁶. Of those seven, four included reliable indicators that would enable measurement of GHG effects,²⁷ while only one (Mexico's NAMA for sustainable housing) has moved into the data monitoring phase.

| Country and sector | NAMA | Examples of data to be monitored | Reporting | Estimated mitigation effect |
|-------------------------------------|--|---|------------------|---|
| Chile (Transport) | E-mobility readiness plan | <ul style="list-style-type: none"> Number of electric vehicles (quarterly) Passenger figures (monthly) Km traveled (monthly) | Annual reporting | Cumulative 2.8 MtCO ₂ by 2035 |
| Colombia (Transport) | National plan for freight transport | Not specified | Not specified | Not specified |
| Jordan (Waste) | Zarqa industrial wastewater treatment and energy project | Not specified | Not specified | Not specified |
| Mexico (Buildings) | NAMA for sustainable housing | <ul style="list-style-type: none"> Electricity use (annual, direct metering) Emission factor from grid electricity Gross floor area of building units | Not specified | Cumulative 84-140 MtCO ₂ by 2020 |
| Mexico (Transport) | NAMA based on the federal mass transit program | Not specified | Not specified | Cumulative 6.4 MtCO ₂ e by 2030 |
| South Africa (Energy supply) | South African Renewable Initiative | <ul style="list-style-type: none"> Capacity of CSP installed through program Electricity produced from funded CSP installations Capacity of wind power installed through program | Not specified | 60 MtCO ₂ per year |
| Tunisia (Energy supply) | Plan Solaire | <ul style="list-style-type: none"> Power installed (MW) Solar panels produced each year Amount of exchanged refrigerators | Not specified | 1.5 MtCO ₂ e per year |

Table 1: MRV elements of seven NAMAs

²⁶ The seven are Mexico's NAMA for sustainable housing, Tunisia's Plan Solaire and biowaste treatment NAMA, and South Africa's NAMAs on concentrated solar power (CSP), wind power, energy specification in new low-income housing, and rollout of electric private passenger vehicles. Not all seven are included in Table 1 because some are in the concept stage. South Africa's CSP and wind power NAMAs are part of the South African Renewable Initiative (SARI).

²⁷ The four are Mexico's NAMA for Sustainable Housing, Tunisia's Plan Solaire, and South Africa's CSP and wind power NAMAs.

²⁸ Unless otherwise noted, all information in this column is based on the NAMA Database, accessed October 12, 2012, <http://namadatabase.org>

3. Quantifying greenhouse gas effects of NAMAs

New methodologies and capacity building efforts are needed to improve the state of NAMA MRV plans in several areas, including MRV of NAMA implementation, MRV of GHG and non-GHG effects of NAMAs, and MRV of financial, technological, and capacity building needs and support received. This section focuses on one area in particular: quantifying GHG effects of NAMAs.

GHG effects of NAMAs should be quantified both before implementation (i.e., ex-ante assessment to estimate GHG mitigation potential) and after implementation (i.e., ex-post quantification to evaluate GHG reductions achieved). Quantifying GHG effects from NAMAs is necessary to assist host countries in:

- Designing potential NAMAs and developing NAMA proposals based on estimates of GHG mitigation potential
- Attracting support for NAMAs based on the ability to estimate GHG mitigation potential (ex-ante), monitor and report achieved GHG reductions (ex-post), and assess the cost-effectiveness of support
- Tracking performance of NAMAs and progress toward GHG reduction goals
- Reporting on GHG effects of NAMAs domestically or internationally

Current practices for estimating GHG effects of NAMAs, where they exist, vary widely. While some proposed NAMAs have put forward detailed methodologies to quantify GHG effects (e.g., the Mexican sustainable housing NAMA), many proposed NAMAs do not yet have a robust quantification methodology.

Determining which GHG quantification method is most suitable for a particular NAMA depends on:

- Type of NAMA (goal, strategy, policy, or project)
- Source of funding for the NAMA (unilateral, supported, or market-based/credited)

Each type of NAMA presents unique quantification challenges. For NAMAs framed as individual GHG mitigation projects or groups of similar projects (e.g., Programmes of Activities under the CDM), existing project-based methodologies can be adapted to the NAMA context, such as those provided by the CDM, Climate Action Reserve, Verified Carbon Standard, and the WRI/WBCSD GHG Protocol for Project Accounting. However, no agreed upon guidelines exist that prescribe how project-based methods should be adapted for NAMAs, including the appropriate types of monitoring, reporting, and verification or level of accuracy required.

For policy-based NAMAs, no agreed upon methods or guidelines exist for how to quantify their GHG effects. Policy-based NAMAs can include a wide variety of policy instruments (e.g., performance standards, taxes, subsidies, voluntary agreements, information instruments, and deployment of new technologies or infrastructure). Additional challenges beyond project accounting arise when seeking to quantify the GHG effect of policy-based NAMAs, including:

- Larger scale of indirect or unintended effects (e.g., leakage, rebound, spillover effects)
- Setting a baseline at a larger scale than a project
- Greater potential for double counting of GHG reductions between NAMAs, policies, and CDM projects in a sector
- Greater challenge in attributing GHG reductions to a specific NAMA rather than other policies or various external trends, such as changes in energy prices, economic activity, population, weather, or structural changes

To quantify GHG effects of policy-based NAMAs, several methodological questions need to be resolved, as outlined in Table 2.

²⁷ Ministry of Environment, Ministry of Transport and Telecommunications, Government of Chile, "Proposal: E-mobility readiness plan Chile, To be presented as a national appropriate mitigation action (NAMA) to the UNFCCC," 2012: 44-50, http://www.ecofys.com/files/files/ecofys_2012_nama_e-mobility_readiness_plan_chile.pdf.

In addition to NAMA type, each source of funding demands a different minimum level of rigour. While MRV requirements have been agreed for purposes of project-based crediting under the CDM, there is no agreement on the level of accuracy appropriate or expected for unilateral, supported, or market-based/credited NAMAs. The MRV approach for unilateral NAMAs depends on national priorities, while supported NAMAs are subject to donor requirements for MRV. Any market-based or credited NAMAs should ensure that GHG reductions are real, additional, verifiable, permanent, and avoid double counting.

| Topic | Methodological questions |
|-------------------------------------|---|
| Monitoring | <ul style="list-style-type: none"> · What types of data should be collected for various types of NAMAs · How data should be collected (e.g., surveys, samples, direct measurement) especially where source-level monitoring is not feasible (e.g., transportation sector) · How frequently data should be monitored |
| Quantification methodologies | <ul style="list-style-type: none"> · What methodologies to use for ex-ante estimation and ex-post evaluation of GHG effects · What level of accuracy is needed for unilateral, supported, and market-based or credited NAMAs · How to estimate baseline emissions, including whether to use a static or dynamic baseline and which policies and measures and external drivers should be included in the baseline scenario · How to attribute GHG reductions to a specific NAMA rather than other policies in a given sector or various external trends, such as changes in energy prices, economic activity, population, weather, or structural changes · Which indirect effects (e.g., leakage) should be quantified and how should they be quantified · How to avoid double counting of GHG reductions between a given NAMA and other NAMAs, policies, or CDM projects that may be implemented in the same sector or jurisdiction |
| Reporting | <ul style="list-style-type: none"> · What emissions information should be reported (e.g., annual/cumulative effects, emissions by individual GHG or aggregated in units of CO₂e, etc.) · What methodological information should be reported (e.g., assumptions, models, data sources used) · What format should be used for reporting |
| Verification | <ul style="list-style-type: none"> · What verification procedures should be applied (e.g., scope of verification, level of assurance, who performs verification) |

Table 2: Methodological questions related to quantifying GHG effects from policy-based NAMAs

To address the need for new GHG accounting guidelines, the WRI is convening a global, multi-stakeholder process to develop Greenhouse Gas Protocol guidelines for mitigation actions and policies. The guidelines will provide a step-by-step guide on how to quantify and report GHG reductions from policies and mitigation actions, with particular applicability to policy-based NAMAs. For more information, see www.ghgprotocol.com/mitigation-accounting.

In order to quantify GHG effects of NAMAs, many countries will need to build capacity in several areas, including:

- Establishing a legal framework or mandate that outlines clear institutional roles and responsibilities, including identifying a lead institution responsible for coordinating GHG monitoring and quantification;
- Developing systems, institutions, and skilled staff for collecting data from various GHG sources and applying quantification methods;
- Implementing databases and tools (e.g., software systems) for collecting and managing data; and
- Accessing financial resources to implement new data collection systems and methodologies.

3.4 Capacity development with GIZ mitigation tools

Dr. Sebastian Wienges, GIZ

This chapter presents GIZ mitigation tools for developers, planners and implementers of NAMAs, Low-Emission Development Strategies (LEDS) and Monitoring, Reporting and Verification (MRV) schemes.

NAMAs, MRV and LEDS are evolving as three central pillars in global mitigation architecture. However, none of the three mechanisms is defined by a UNFCCC negotiations outcome yet. So far MRV has achieved the greatest progress, with guidelines and modalities in the process of development. Technical expertise and capacities for this development process are limited so far. Learning by doing is hence the strategy of choice to advance in the development of NAMAs, MRV and LEDS.

To support each other with the development of NAMAs, LEDS and MRV schemes, partnerships between developing and developed countries are emerging, for example the International Partnership on Mitigation and MRV. Available global expertise should be used to support NAMA, LEDS and MRV development processes. However, the challenge often lies in identifying which available instruments, knowledge and experiences could contribute to these development processes, and at which point in the process. A chicken-and-egg situation is currently in place where NAMA developers sometimes do not know what kind of tools are available, nor what kind of capacity or knowledge gaps should be bridged by NAMAs, LEDS and MRV. To improve this situation, the GIZ started to develop mitigation tools to guide developers, planners and implementers of LEDS, NAMAs and MRV systems step-by-step through the process from idea to implementation. The tools are designed to consider all relevant requirements and questions and identify useful and accessible instruments. These tools are based on practical experiences from projects already under implementation and the process to develop these mitigation tools was launched with a workshop.

On June 11th, 2011, during the UN climate negotiations in Bonn, the International Climate Initiative (ICI) of the German Federal Ministry for the Environment (BMU) brought together about 50 practitioners and experts for the workshop: "Developing Knowledge on the Building Blocks of a Global Mitigation Architecture." Workshop participants analyzed the approaches being used in the 13 ICI-projects developing and implementing LEDS, NAMAs and MRV systems. Discussions generated ideas about certain generic success factors and necessary steps for the development and implementation of LEDS, NAMAs and MRV systems. The outcomes of the workshop were subsequently used to develop the three tools via collaboration between two GIZ-implemented programs that are supporting the Federal Ministry for Economic Cooperation (BMZ) in the global climate negotiations, and the BMU's secretariat of the International Partnership on Mitigation and MRV.

The tools are based on PowerPoint or alternatively PDF files. Each individual step is explained with brief, one sentence instructions on what to do and how, followed by internal links to additional information, explanations or examples from other NAMAs, LEDS, or MRV systems, and external links to useful instruments and publications accessible on the internet. Thereby the user will be guided step-by-step to the relevant information and selected, implementation-oriented knowledge. Thus, the tools serve as navigation tools and fulfil knowledge management functions for guidance on LEDS, NAMAs and MRV

The NAMA Tool

10 Steps to a NAMA

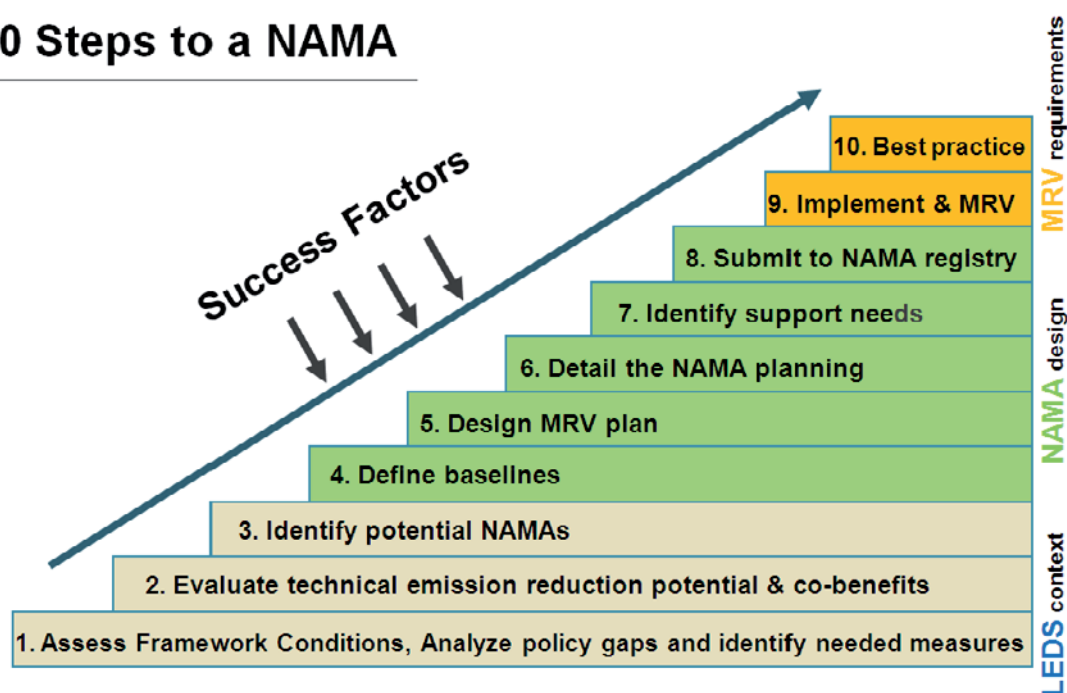


Figure 1: Main Menu of the NAMA Tool (Source: GIZ)

In general, the tools differentiate the steps to be taken by an implementer from the success factors determining the overall success of the whole implementation process, as an implementer may have only limited control over some of these factors.

The ten steps have been set in chronological order for reasons of user friendliness. Implementers have stated that they find it much easier to follow a step-by-step process rather than having only a list of the individual components of a NAMA which they must then elaborate, while lacking any clear understanding of how they are interconnected. However, the order of these steps can be changed if outputs from individual steps have already been produced.

- In the initial phase of NAMA planning, the whole LEDS context of the NAMA must be taken into consideration (Step 1). The assessment of framework conditions shall ensure a holistic approach considering interferences with and influences of other developments. This assessment shall analyze gaps in existing policies to mitigate GHG emissions. This can be the basis for identifying needed measures to reduce a sector's or country's emissions to a sustainable level.
- In Step 2, the technical emission reduction potential is evaluated including associated costs of the reduction, as well as any sustainable development co-benefits. A Marginal Abatement Cost curve can be useful in this step but needs to be complemented by other tools to consider other costs and benefits as well. This analysis is the basis for the next step.
- The third step identifies potential NAMAs. This step should involve stakeholders to prioritize sectors and actions. As soon as the identification of potential NAMAs has been finalized, potential financiers should be involved to ensure resource availability for the implementation of NAMAs.

- With step 4 the actual NAMA design phase begins. Although the agreements in the UNFCCC negotiations do not require NAMAs to define baselines, it is recommended to elaborate a baseline. Baselines help to measure impacts, and improve the quality of mitigation actions. However, the elaboration of baselines can be quite costly, as for instance in many CDM projects. Baselines should not raise the costs of NAMA development so that they prohibit the NAMA from being implemented. Hence, the instructions in the NAMA-Tool on how to design a baseline are kept as simple and general as possible but recommend the inclusion of non-GHG co-benefits if possible.
- Step 5 provides advice on how to develop an MRV plan. This should already happen at this early stage in order to incorporate the MRV system for the NAMA into the detailed planning of the NAMA. This approach reflects good practices taken from experiences in development cooperation. As MRV is still under negotiation and – although guidelines for reporting (BURs) and verification (International Consultation and Analysis) have been agreed upon – no agreement on guidelines for MRV in individual NAMAs has been reached. Until such an agreement has been reached, NAMA developers and supporters of the NAMA may design MRV plans for NAMAs that suit the parties involved. In general, MRV should measure, and indicators should reflect, what the host country wants to know in order to manage their mitigation action.
- Step 6 moves on to detailed planning. In this step, a NAMA template and a defined timeline for activities under the NAMA should be developed. The detailed planning of the NAMA should then define a timeline for activities under a NAMA. These activities should consider creating a policy framework and an enabling environment, effective institutions, economic incentives, relevant information systems, and promotion of investments in technologies for implementation. While planning all these interventions in detail, negative impacts like societal resistance to changes introduced under the NAMA, as well as the external and long-term effects of the NAMA, should be analyzed and avoided.
- After having planned what is supposed to be implemented under the NAMA, it should be possible to calculate costs and identify needed technologies and capacities. These costs and requirements, when compared against the domestically available resources and capacities in the host country, will identify which countries cannot, at least in the short term, sufficiently provide for implementation and will therefore require international support.
- The detailed planning in step 6 of the NAMA shall generate a full NAMA proposal, including links of where to find the most appropriate technologies for implementation of the NAMA.
- The identification of needs and the instructions and links in step 7 shall help NAMA developers and implementers to develop a financing plan and to find potential sources for the needed financial support.
- After having finalized these steps, countries can consider (step 8) the voluntary submission of the NAMA to the UNFCCC registry, to receive recognition for their mitigation efforts and their contribution to global emission reductions, and to showcase their NAMAs. The registry might also help countries to identify donors providing international support appropriate for the needs of the NAMA host country.
- Finally, the implementation phase of the NAMA must be started, in which MRV requirements in particular should be considered. In step 9, an implementation plan including a timeline for individual activities and MRV processes should be worked out. MRV has the function of delivering the information which is needed to improve mitigation actions and to keep track of what is achieved in terms of emission reductions as well as co-benefits. What is supposed to be achieved and needs monitoring therefore has to be decided ultimately by the host country.
- As MRV is supposed to provide the information basis for mitigation actions and continuous improvements (a final step 10) in the NAMA development, a learning process should be instigated and institutionalized. This process can draw on lessons learnt from early action and experiences on the ground in NAMA implementation, and should set up communication platforms to spread the knowledge distilled from this new NAMA process.

The LEDS Tool

LEDS*

Low Emission Development Strategies

*Note: When developing an individual LEDS, this sequence of steps does **not** require to be followed strictly **chronologically** nor **completely**! However, a **comprehensive LEDS** must most likely have **completed every step** **somewhen** in the process!

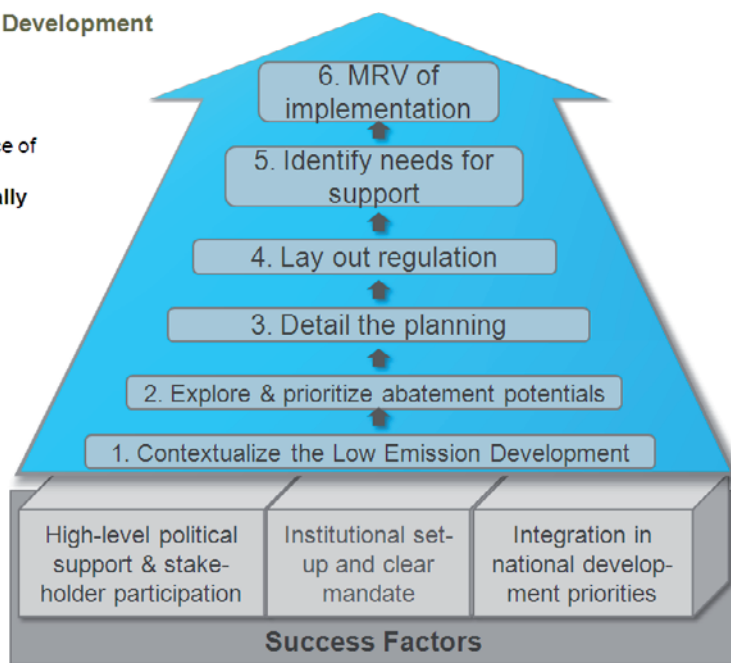


Figure 2: Main Menu of the LEDS Tool (Source: GIZ)

The process to develop a LEDS resembles the NAMA process to some degree. However, while NAMAs refers to the actions of reducing emissions and overcoming barriers to emission reduction, LEDS are national strategies for reducing emissions while promoting sustainable development. They can be an overall framework for the development of NAMAs.

The success factors for the development and implementation of a LEDS comprise process-related factors, such as the ones related to institutions and resources, and those related to a long-term, holistic and inter-ministerial perspective.

- The LEDS process should start (step 1) with a contextualization, taking sustainable development goals and strategies into account, and with involving relevant stakeholders. Hence, the LEDS Tool provides references of successful stakeholder processes and their organisation, as well as links to relevant development planning documentation and information.
- In the next step (2) abatement potentials, socio-economic impacts, socio-economic co-benefits, and political and cultural issues are all taken into consideration in order to prioritise sectors for mitigation action under the LEDS.
- The prioritization of sectors (step 3) is the basis for a more detailed planning of the LEDS, including action plans, sectoral baselines, comprehensive MRV systems, targets, and partnerships of public and private actors. LEDS should always contribute to a long-term sustainable low emission development, consider a holistic, cross-sectoral perspective and avoid gaps or conflicting impacts of different NAMAs, while increasing synergies among sectoral activities.
- This detailed planning (step 4) must be translated into the layout of concrete policies, which define responsible lead institutions, create enabling environments, and address institutional and technical barriers. In order to make these policies effective a high level political backing for the LEDS is crucial.

3.5 Learning from results-based finance for NAMA implementation?

Martina Jung, Frauke Röser and Sumalee Khosla, Ecofys³⁰

This chapter explores a possible complementary approach to supported NAMAs which could help developing countries attract financing based on the achievement of sectoral, subsectoral or even national GHG emission reductions.

Introduction

Nationally Appropriate Mitigation Actions (NAMAs) have emerged as a new policy instrument which provides a mechanism to channel financial (as well as technology and capacity building) support from developed to developing countries for climate change mitigation. Alongside carbon markets, NAMAs are currently the only finance mechanism under the international climate policy framework dedicated to supporting mitigation efforts in developing countries. With the lack of a long-term demand signal in international carbon markets, and the modalities of carbon market mechanisms currently being negotiated, (supported) NAMAs are gaining ground as an important pillar of the international climate finance regime.

One of the key questions in the current debate about NAMAs concerns the availability of finance - public and private - for the implementation of NAMAs, as well as the modalities under which such finance would be dispersed. As has been discussed widely elsewhere, currently NAMA support has focused on readiness activities with little clarity on available funding for NAMA implementation. What appears to be one of the bottlenecks in the provision of financial support is the need or desire of potential funders of NAMAs to have some degree of certainty of funds well spent, i.e. that funded activities actually perform according to the objectives set. More specifically for NAMAs that means that they actually lead to emission reductions. Against this background, we reflect on a possible complementary approach to supported NAMAs which could help developing countries attract financing based on the achievement of sectoral, subsectoral or even national emission reductions. Similar to the discussion on the staged approach under Reducing Emissions from Deforestation and Degradation (REDD), this is not appropriate for all the countries, but an option for some ambitious countries in an advanced stage of NAMA development and implementation. The approach could be conceived both within, and complementary to, a NAMA framework based on project or programme finance via grants or (concessional) loans, as a way to attract additional climate financing.

Results-based financing in the literature

The core of the concept of result-based (sometimes also called performance-based) finance is that the finance provided is linked to the verified achievement of a specific goal of the funder according to pre-defined indicators. The concept has been piloted in development cooperation, especially in the health sector³¹ (see for example www.rbfhealth.org). In international climate policy, it has been a central part of the REDD discussions (Meridian Institute, 2009) and is increasingly being discussed by a variety of stakeholders in a broader climate financing context. While performance indicators can in theory be qualitative and quantitative in nature, the discussion on result-based climate financing is typically focused on the achievement of emission reductions and thus a quantitative GHG-related metric. Jung *et al.* (2010) introduced an idea of results-based financing which implies that financing would be provided in case a predefined national or sectoral baseline³², expressed in GHG emissions or emission intensity, is over-achieved. Edwards (2010) and Gosh *et al.* (2012) discuss result-based approaches as well as Würtenberger (2012), who sketches how performance-based support could be applied in the context of NAMAs. A concrete example is provided by the Energy Plus Programme of the Norwegian government, where funding is made available to Ethiopia, Kenya and Liberia over a period of time in a phased approach according to the achievement of set milestones³³. Summarising, there are mainly two types of results-based financing approaches that can be found in the literature:

The first relates to a staged financing approach which makes payment for each phase, contingent on the successful implementation of the previous phase. Performance would mostly be measured based on a range of indicators which are not or only partly GHG-based. For those approaches, MRV of results needs to take a broader approach based on a range of indicators.

The second approach links financing to reduced GHG emissions as the main performance metric. It is important to note that the main difference to carbon market approaches is that support is provided in the form of financing instead of income from carbon credits.

In the following, we will reflect on how the second approach could be applied to NAMAs. The main characteristics of this approach are summarized in Box 1.

Box 1: The proposed results-based financing approach in a nutshell:

- Financial support (not carbon credits) would be provided if a voluntary, predefined, sectoral or national baseline is overachieved (see Figure 1).
- The baseline can be expressed in GHG or intensity terms.
- The host country would be able to freely choose the policy package to achieve the emission reductions.

Why at all think about results-based financing?

International carbon markets have played an important role in driving mitigation actions in developing countries, particularly via the CDM, through encouraging institutional infrastructure, technology transfer and human capacity in the over eighty countries that host CDM projects. The advantage of carbon market mechanisms is that funding is directly linked to performance measured in tonnes of CO₂e reduced, based on monitoring, reporting and verification (MRV) systems and agreed methodologies which provide investors with some form of performance guarantee. However, a number of drawbacks to the CDM approach also became apparent, such as unequal geographical and sectoral distribution, little contribution to sustainable development, as well as limited ability to stimulate policy changes inducing long-term emission reductions at a scale large enough to achieve real transformation of key economic sectors. These issues can be partly attributed to the MRV requirements, which result in high transaction costs and limit the activities that can actually be undertaken. The debate on sectoral crediting tries to address the need for scaling-up. Sectoral crediting discussions are much less advanced than the discussion on REDD+. This can be attributed to weak demand signals from international carbon markets as well as high data requirements for baseline setting and carbon market-proof monitoring. In addition, the performance risk has to be borne by the host government.

³⁰ The authors would like to thank Benito Mueller, Jochen Harnisch and Timon Wehnert for their valuable comments and input to this article.

³¹ See for example Results- Based Financing for Health. World Bank. Available at <http://www.rbfhealth.org>

³² One could also think of baselines at sub-sectoral or sub-national level.

³³ See Norway http://www.regjeringen.no/en/dep/ud/press/news/2012/energy_africa.html?id=686716

In the discussions around NAMAs much emphasis is put on the expectation that NAMAs may be a more appropriate instrument than the CDM as a means to encourage transformative processes leading to long-term emission reductions in line with wider sustainable development objectives. However, transformational processes require a longer-term perspective based on removal of a range of different barriers through comprehensive policy packages. Monitoring the impacts of such actions, based on direct emission reductions expressed in tonnes of CO₂e only, is potentially too narrow and will not do justice to the longer term, often indirect benefits of NAMAs.

Currently, it seems politically unlikely that there will be international guidelines for MRV of supported NAMAs and thus the MRV of NAMAs will depend to a considerable extent on requirements of the respective funding institution³². This offers the flexibility to base the monitoring on different, not necessarily CO₂-based indicators (e.g. proxy indicators like MW of solar panels installed). NAMAs furthermore offer the possibility to provide ex -ante as well as ex -post financing.

Table 1 provides an overview of the main characteristics of the different mechanisms, including the results-based approach proposed in this paper.

| Approach | Scaling-up potential | GHG based MRV only | Transformational potential | Ex-ante payment | Ex-post payment |
|---|----------------------|--------------------|----------------------------|-----------------|-----------------|
| CDM | (√) | √ | | | √ |
| Sectoral crediting | √ | √ | √ | | √ |
| Supported NAMAs | √ | | √ | √ | √ |
| Results-based financing (as defined in Box 1) | √ | (√) | √ | | √ |

Table 1: Advantages and disadvantages of different approaches

In summary (see also Table 1), it can be said that the CDM provides a GHG-based performance metric, but in many cases implies high transaction costs for monitoring, as well as a less potential for transformational changes. Sectoral crediting could theoretically address scale, but is subject to other disadvantages mentioned for carbon market approaches, e.g. the performance risk being transferred to the host country. On the other hand, supported NAMAs using grants and concessional loans can have transformational potential, can provide financing ex ante, but performance with regard to GHG emission reductions cannot always be linked to the financing provided. Therefore, it is worth analysing if results-based financing based on sectoral or national level emission baselines could provide a way to marry the best of various worlds, namely those of carbon markets as well as NAMAs and climate finance.

Benefits of result-based financing

The advantage of an approach which provides finance (not credits) for emission reductions is that the MRV of emission reductions can be broader than for carbon market approaches as the generated emission reductions are not used to offset emissions occurring elsewhere. It allows for a differentiated MRV approach (e.g based on tiers) considering different national circumstances and gradual improvement of MRV systems over time. This is especially interesting against the background of national reporting requirements (GHG inventories, BURs) for developing countries included in the Durban Agreement. The capacities and systems which will have to be built up at the national level to fulfill these reporting requirements could also be useful for monitoring of emission reductions under a results-based financing approach. In this way, results-based financing could provide an additional financial incentive for setting up good inventory systems and building MRV capacities in the country.

A clear advantage is also that the approach would effectively fix a price for carbon. Finance provided per tonne of GHG reduced would not depend on potentially volatile market developments, thus providing greater predictability and certainty to countries.

Results-based finance would also be compatible with and complementary to the current NAMA framework. Countries could still receive upfront support for NAMAs in the same sectors (e.g. for pilots, capacity building, policy development). Financing received under a results-based approach could be seen as additional support for achieving measured GHG emission reductions at the sectoral and national level.

With regard to accounting of GHG emissions, the proposed approach could, at least to some extent, help to alleviate the pressure on individual NAMAs to attribute emission reductions to single actions. This is not only time and cost-intensive, but also technically difficult because supported NAMAs (as illustrated in Figure 1) do not act independently of the respective policy setting in a country and can overlap with each other as well as with existing policies and unilateral actions. Therefore, a more comprehensive understanding of the national policy environment and how individual NAMAs fit into it is likely to be more helpful than an MRV framework focusing on quantifying and adding up effects of single supported NAMAs. Consequently, measuring the overall GHG development at the sectoral or national level - as needed for results-based finance MRV - and understanding how policies and measures (including NAMAs) can change the emissions pathway is what countries need to be able to define effective interventions for low-carbon development. If applying Figure 1 to the proposed results-based NAMA framework, the low carbon development path of the sector of the country (red line) would be the baseline against which the performance-based finance would be determined. The monitoring of this baseline could be based on information available in the GHG inventory of the country.

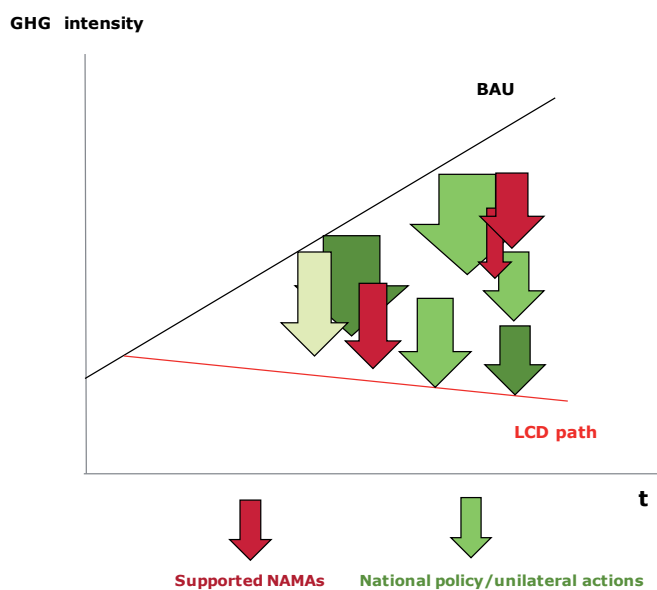


Figure 1: NAMAs in the national policy context and contribution to the low carbon development path
(Source: own elaboration)

Lastly, another advantage of the approach is that it does not prejudge any future climate architecture. The required (institutional) capacities and systems to implement the approach would build up needed capacities independently of the existence and nature of a future carbon market.

Some potential challenges

The results-based financing approach as described here also presents some challenges. One relates to the uncertainty for both investors and public sector decision makers as financing of the project is made ex-post and remains conditional to political recognition of greenhouse gas mitigation results. This could lead to a bias towards non-additional emission reductions under the umbrella of results-based finance. Another one is inherent to baseline setting, namely uncertainties in the assumptions for the baseline (e.g. economic development). Challenges arising in baseline setting have been discussed widely in the literature (e.g. Prag, 2012). Some of the solutions proposed include intensity baselines and regular updates of assumptions. However, setting national or sectoral baselines will, independently of such technical solutions, however always be a political decision. This again raises the issue of who would determine the baseline. In a bilateral setting, it could be agreed between the funder and the host government, while in a multilateral setting (e.g. Green Climate Fund) institutional structures would have to be set up which would be able to judge as well as determine the baseline in cooperation with the country. This would require a considerable amount of information and capacity in the host country as well as the funding institution. Furthermore, uncertainties in data used for monitoring might be relatively high, especially in early phases of setting up MRV systems. Finally, results-based financing may provide a clear incentive to reduce emissions, however not a guarantee that certain emission reductions are actually achieved.

Conclusions

Results-based financing is far from being a silver bullet for future climate policy but may offer some interesting elements for some countries and sectors to complement and accelerate NAMA development and finance, similar to the results-based financing within a staged approach discussed under REDD. In this sense, it offers potential to marry beneficial elements of carbon market as well as climate financing approaches while at the same time supporting countries to gradually build capacities which will serve, but do not prejudge, the architecture of a future climate agreement. It needs to be emphasized, however, that the supported NAMAs which aim at inducing comprehensive and sustainable policies are the basis for transformational changes leading to long-term emission reductions. Therefore, results-based financing should not distract from such a long-term policy-based view, but rather be seen as a potential additional, voluntary approach complementing it.

4. Where progress is most needed

Xander van Tilburg (ECN), Gesine Hänsel and Caroline de Vit (Ecofys)

This chapter shows where the community of practice sees the most need for progress. The Annual Status Report on NAMAs aims to provide a balanced and inclusive view point. Depending on their role in the NAMA development process, actors have different views on opportunities and challenges that this new mechanism provides. To capture these views, interviews were held with government representatives from developing countries, development agencies, funders and technical assistance practitioners.

This series of interviews is a continuation of interviews that were first started in the 2012 Mid-year update of the Status Report on NAMAs. To identify both areas of progress and stagnation in the world of NAMAs, interviews cover again four main themes: defining, financing, monitoring and operationalising NAMAs.

Defining NAMAs

Negotiations under the UNFCCC resulted in a broad definition of NAMAs, and it is unclear whether the mechanism will be further defined. At the same time, countries are encouraged to get started with the design and implementation of NAMAs. As a result, many countries are using their own (working) definitions of NAMAs that are appropriate in their national contexts. The broad international definition of NAMAs allows for innovation and flexibility in the national design of mitigation actions. This flexibility is expected to be a key factor for the successful implementation and replication of NAMA initiatives. For some countries and practitioners however, the lack of a clear definition continues to create confusion, leading to inactivity as countries opt to wait for firmer definitions and guidelines to emerge.

Current NAMAs are still mainly pilot activities that are developed based on bottom-up approaches. Interviewees consider pilot initiatives as an important component of learning-by-doing processes that are needed for scaling up NAMA development. Although the NAMAs mechanism is widely regarded to have the potential to achieve transformational change and far-reaching GHG emission reductions, opinions differ as to whether NAMAs can achieve this on their own or whether they should be embedded in a broader policy and decision-making framework, such as a low-carbon development or green growth strategy. Several development partners indicate that they like to see NAMAs framed as implementation vehicles for coordinated national or sectoral mitigation efforts. This would allow them to move their support programmes from a project-by-project approach to a more structured, longer term engagement on mitigation support.

Some development partners express concern that with too broad interpretations of what constitutes a nationally appropriate action, the primary objective of NAMAs -GHG emission reductions - may not always be sufficiently accounted for in current pilots. While sustainable development is a fundamental principle of NAMAs, undue emphasis on (co)benefits at the expense of mitigation could result in proposed actions that are not considered eligible for receiving support from climate funds.

Another potential drawback to the flexible definition of NAMAs is reflected in the hesitance of some Parties to fully accept the NAMA concept before a new global climate regime is adopted. Negotiations typically do not happen on an issue-by-issue basis and there is a fear that embracing NAMAs too early might compromise a country's position in the negotiations on a legal agreement to be adopted by 2015.

Where progress is most needed

- Continued bottom-up exchange on developing NAMAs with emphasis on the importance of country-driven, flexible approaches.
- Exploring the potential of NAMAs as building blocks in a broader climate policy framework, to encourage coordinated mitigation strategies.
- Continued dialogue between developers and potential funders of NAMAs to find a suitable balance between mitigation and development benefits.

Financing NAMAs

Lack of finance commitments for implementation remains the key concern for moving NAMAs forward. Good progress has been made on NAMA readiness through pilot projects and programmes. However, to maintain this momentum, developing countries and practitioners expect clearer signals on how and when financial commitments made under the Copenhagen Accord will be delivered.

Independently from outcomes of international climate change negotiations, many financial institutions already support mitigation actions in developing countries. They stressed that their principal objective is to facilitate sectoral mitigation programmes, but whether or not these mitigation actions are labelled as NAMAs is thought to be a national decision. However, funders stress the need for proposals that present actions with clear (and preferably quantifiable) mitigation and development benefits.

In preparation of substantial (additional) flows of mitigation support, several countries are elaborating and strengthening their climate governance structures, for example, by mainstreaming mitigation into national and sectoral investment plans, and by setting up specific public finance mechanisms and risk facilities. Although in their early stages, these improvements are generally encouraged and supported by development partners.

One of the expected features of NAMAs is that they will 'leverage' or 'mobilise' private finance by removing existing barriers to investment. Several interviewees indicated that it is therefore important to involve private sector players in NAMA design processes. At this early stage of NAMAs as an international climate policy mechanism, the link between NAMAs and the private sector is much less obvious to entrepreneurs than it was when the CDM and JI mechanisms were introduced. Two reasons are mentioned: First, private sector actors are direct beneficiaries of CDM revenues, while NAMAs support is delivered to governments who decide how to disburse it. This may create uncertainty about how support will be used or accessed. Second, the CDM developed against the background of firm reduction targets that gave an indication of the future market size. For NAMAs, it is not yet clear how efficient the mechanism will be in achieving GHG emission reductions.

The Green Climate Fund (GCF) is expected to become an important vehicle for channelling NAMA support, but decisions on the operational modalities have not yet been taken. Several interviewees suggest that a limited scale testing phase for supporting NAMAs could help to generate insight on which financing criteria could prove suitable for the GCF. Opinions differ as to how much of NAMA support will eventually flow through the GCF. At least until the fund comes into operation, continued support from existing bilateral and multilateral sources for readiness activities is regarded as key to keep the momentum for NAMAs.

Where progress is most needed

- Clear signals on available funding for implementing NAMAs, as part of reliable climate finance at a scale large enough to enable far-reaching mitigation action.
- Elaborating and strengthening the development of mechanisms to facilitate increased flows of climate finance, such as investment plans and public finance mechanisms.
- Practical experience to demonstrate how the private sector can be involved in NAMA finance.

Monitoring NAMAs

Defining guidelines on the MRV of NAMA impacts and support remains an issue high on the agenda of NAMA topics that need further clarification. NAMA developers continue to express the need for practical methodologies and tools for MRV of NAMAs to be able to demonstrate their impact and to attract support. In parallel, solid schemes for the MRV of support are requested to be put in place to strengthen the credibility of the support commitments made by developed countries.

The knowledge base on mitigation potentials and other sustainable development benefits is being strengthened by analytical work undertaken in the context of readiness activities on NAMAs. It is expected that in many cases NAMAs will be evaluated against indicators that go beyond tonnes of CO₂-eq. reduced, but that development impacts will play a key role in evaluating NAMA effectiveness.

The difficulties associated with the clear attribution of mitigation impacts to (supported) actions remain, especially for policy NAMAs. Many practitioners emphasise the need to find the right balance between accuracy of an MRV system and the required effort to develop and implement it, in particular in view of countries with less developed governance structures.

Where progress is most needed

- Concrete and clear examples of MRV of different types of NAMAs.
- Design of pragmatic MRV schemes for NAMAs and NAMA support.

Operationalising NAMAs

The UNFCCC NAMA Registry is anticipated to provide more clarity on available sources of support for the development and implementation of NAMAs, as well as on NAMA activities undertaken in countries. It remains to be seen how comfortable stakeholders will be with using the Registry as a 'clearing house' for actions and support. However, it is still viewed by many as a promising step towards avoiding duplication of efforts between different donors and implementing agencies.

Bottom-up approaches in NAMA development have encouraged countries to share experiences through different fora (such as multi-donor working groups and UNFCCC-led workshops). Such dialogues have proven to be crucial in operationalizing NAMAs because they help to identify solutions to institutional and technical challenges while promoting a common understanding of NAMAs. Many countries mentioned that they would like to receive more guidance on available tools and methodologies for development and reporting on NAMAs. Ideally this guidance is non-prescriptive to one single method of action, and practical enough to be used directly by NAMA practitioners on the ground.

Another challenge to operationalizing NAMAs is having the right institutions. Weak institutions are seen as a major barrier to the successful development and implementation of NAMAs. As argued elsewhere in this report, NAMA preparation and implementation require an inter-ministerial effort, whereas climate related knowledge and capacity is often concentrated in environmental

ministries. Some countries have already taken a proactive role in NAMA development. They have formulated national mitigation climate policies and are building institutions that are able to transform policies into action, for example through setting up a central body for NAMA coordination. Expected roles of such a body could be the coordination of NAMA preparation and implementation processes, the channelling of support as well as the submission of NAMAs to the UNFCCC Registry. Mexico, for example, is currently defining the functions and the institutional framework for a NAMA office, and Indonesia is in the process of aligning its NAMA efforts closely to the national and provincial climate action plans.

Where progress is most needed

- Institutional strengthening and creation of national focal points to better coordinate NAMA development processes, submissions, finance and MRV.
- Practical guidance for practitioners on NAMA development, finance and MRV.

Annex

International support for NAMA readiness

This section presents a selection of major NAMA-related support initiatives that, typically, span more than one country. Many bilateral efforts are less well publicised, making a complete list very challenging. Also included are initiatives that are not focused on support for specific countries, but rather cataloguing NAMA development activities, such as the NAMA Pipeline and NAMA Database.

| Initiative | Lead organisation(s) | Partner countries |
|--|--|--|
| NAMA Database | Ecofys | n/a |
| NAMA Pipeline | UNEP-Risoe | n/a |
| Supporting international mitigation and MRV activities | GIZ | numerous ⁵ |
| Measurement and Performance Tracking (MAPT) | World Resources Institute (WRI) | Brazil, Colombia, Ethiopia, India, South Africa, Thailand |
| MAIN dialogue | CCAP | Argentina, Chile, Colombia, Costa Rica, Dominican Republic, Panama, Peru, Uruguay, China, Indonesia, Malaysia, Pakistan, Philippines, Thailand and Vietnam |
| Low Emission Capacity Building Programme | UNDP | Argentina, Bhutan, Chile, China, Colombia, Costa Rica, DRC, Ecuador, Egypt, Ghana, Indonesia, Kenya, Lebanon, Malaysia, Mexico, Moldova, Morocco, Peru, Philippines, Tanzania, Thailand, Trinidad and Tobago, Uganda, Vietnam and Zambia |
| MAPS programme | SouthSouthNorth and the Energy Research Centre (ERC) | South Africa, Brazil, Chile, Columbia and Peru |
| FIRM | UNEP | Costa Rica, Senegal, Ethiopia, Vietnam, Indonesia, Ghana, and Morocco |
| Nordic Partnership Initiative (NPI) on Up-scaled Mitigation Action | | Peru and Vietnam |
| GovNAMAs | CSPR at Linköping University | Brazil |
| TRANSfer | GIZ | Colombia, South Africa and Indonesia |
| Regional Center for Renewable Energy and Energy Efficiency (RCREEE) | Perspectives CC and Alcor | Jordan, Lebanon, Syria, Yemen, Algeria, Morocco, Egypt, Tunisia and Libya |
| Mitigation Momentum | ECN and Ecofys | Chile, Indonesia, Kenya, Peru and Tunisia |
| Analysing issues and options for implementing NAMAs | Energy and Resources Institute (TERI) | India, Brazil, South Africa and China |
| Proklima - Green cooling for a warming world | GIZ | India, Mexico and South Africa with a focus on NAMAs. Many other countries included in the broader programme. |

| | | |
|--|---|--|
| Integrated Approach for the Development of Climate-Friendly Economies in Central Asia | DIW econ | Uzbekistan, Turkmenistan, Kyrgyzstan and Tajikistan (Kazakhstan focuses on a green growth strategy) |
| International Energy and Climate Initiative – Energy* | Norwegian Government | Ethiopia, Kenya, Liberia, India (for major support to date; the overall list of members of the partnership is considerably larger) |
| Green Growth Planning for Developing and Emerging Countries | GGGI | Brazil, Cambodia, China, Ethiopia, Indonesia, Kazakhstan, Mongolia, Philippines, Thailand and the United Arab Emirates |
| Human Capacity Building for NAMAs Development and MRV Implementation | Overseas Environmental Cooperation Center (OECC) | Cambodia, Lao PDR, Mongolia and Vietnam |
| Canadian NAMA support | CCAP, Petroleum Technology Alliance Canada (PTAC) and the Energy Efficiency Exporters Alliance (EEEA) | Mexico, Colombia, Peru, Brazil, the Dominican Republic and Chile |
| Mexican-German NAMA programme | GIZ | Mexico |

Table 1: NAMA related readiness and preparation support initiatives that span more than one country³⁴

NAMA Database

The NAMA Database³⁵ tracks ongoing NAMA activities ranging from feasibility studies to implemented actions using publicly available sources. The NAMA Database is maintained by Ecofys and supported by the ICI of the German government.

NAMA Pipeline

The UNEP Risoe Centre (URC) NAMA pipeline analysis and database³⁶ contains all submissions to the UNFCCC from developing countries and countries in transition for NAMAs. The 104 entries (last updated on September 13th 2011) are a list of the Copenhagen Accord submissions³⁷ and submissions to the so-called ‘chapeau to the Copenhagen Accord’³⁸.

Supporting international mitigation and MRV activities

The International Partnership on Mitigation and MRV was launched during the Petersberg Climate Dialogue in 2010 by Germany, South Africa and the Republic of Korea. The partnership is supported by GIZ through the ICI sponsored project “Supporting international mitigation and MRV activities”. The aim of the partnership is to facilitate the exchange of practical experiences on mitigation between participating industrial and developing countries, to build mutual trust through transparency, communication and joint learning, and to provide impetus to the UN climate negotiations. Included in this scope is the topic of NAMAs, as well as LEDS and MRV systems.

Measurement and Performance Tracking (MAPT)

Executed by WRI, the project works together with six partner countries - Brazil, Colombia, Ethiopia, India, South Africa, Thailand - on assessing existing monitoring systems, GHG inventories and institutional capacities in the area of MRV. It will align these with country-specific needs and subsequently develop and expand them. It supports the development of MRV systems for NAMAs, as well as for the sub-national, sectoral and international level, through workshops, training events and case studies.

MAIN dialogue

CCAP's Mitigation Action Implementation Network (MAIN)³⁹ initiative is increasing the capacity of developing countries in Latin America and Asia to design and develop ambitious NAMAs that can leverage contributing-country funds to achieve both greenhouse gas and sustainable-development goals. CCAP provides direct support to governments on the design of NAMAs and, through regional and global dialogues, engages policymakers and climate negotiators to build a shared understanding of NAMA opportunities and best practices. Participating countries include: Argentina, Chile, Colombia, Costa Rica, Dominican Republic, Panama, Peru, Uruguay, China, Indonesia, Malaysia, Pakistan, Philippines, Thailand and Vietnam. Primary support for MAIN comes from ICI, Environment Canada, and the Kingdom of Denmark.

The UNDP Low Emission Capacity Building (LECB) Programme promotes essential cooperation between relevant institutions, engaging the public sector and industry in a concerted effort to address climate change consistent with national development priorities around the world. Programme-supported projects aim to strengthen technical and institutional capacity at the national level. This work includes the identification and formulation of NAMAs, Low emission development strategies (LEDS), mitigation actions in selected industries with the participation of the private sector, the strengthening of GHG inventory management systems and the design of Measurement, Reporting and Verification (MRV) systems.

The global programme is supported through contributions by the European Commission, the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), the Australian Department of Climate Change and Energy Efficiency and AusAID, while implemented by UNDP. The LECB Programme runs through 2016 and is active in twenty five countries around the globe, including: Argentina, Bhutan, Chile, China, Colombia, Costa Rica, DRC, Ecuador, Egypt, Ghana, Indonesia, Kenya, Lebanon, Malaysia, Mexico, Moldova, Morocco, Peru, Philippines, Tanzania, Thailand, Trinidad and Tobago, Uganda, Vietnam and Zambia.

MAPS programme

MAPS (Mitigation Action Plans and Scenarios) programme⁴¹ is designed to build national capacity to accelerate political commitment to reductions in emissions of greenhouse gases by key developing countries. Its focus on a stakeholder-driven approach, scenarios and rigorous modelling could be considered to overlap greatly with the development needs of NAMAs. It runs from 2010-2013 and is sponsored by the Children's Investment Fund Foundation (CIFF). It is implemented through a consortia lead by SouthSouthNorth (SSN) and the Energy Research Centre (ERC) at the University of Cape Town. As well as a 'base' team in South Africa, MAPS has four teams in Brazil, Chile, Columbia and Peru.

³⁴ The International Partnership on Mitigation and MRV (<http://www.mitigationpartnership.net/>) provided a starting point for this list. Launched in the framework of the Petersberg Climate Dialogue in May 2010, the partnership is open for all countries to join, with the aim to support a practical exchange on mitigation-related activities and MRV between developing and developed countries. It keeps a list of many of the projects and activities related to NAMAs.

³⁵ <http://namadatabase.org/>

³⁶ <http://namapipeline.org/>

³⁷ http://unfccc.int/meetings/cop_15/copenhagen_accord/items/5265.php

³⁸ http://unfccc.int/meetings/copenhagen_dec_2009/items/5276.php

FIRM

FIRM (Facilitating Implementation and Readiness for Mitigation)⁴² is a UNEP project supporting Costa Rica, Senegal, Ethiopia, Vietnam, Indonesia, Ghana, and Morocco in strengthening national mitigation plans, and identifying and elaborating NAMAs. FIRM builds on existing mitigation analyses, such as Technology Needs Assessments (TNAs), in an effort to allow partner countries to quickly engage and move from project planning to implementation. The project is funded by the Danish Government and is jointly implemented by UNEP and URC.

Nordic Partnership Initiative on Upscaled Mitigation Action

The Nordic Partnership Initiative (NPI) on Upscaled Mitigation Action⁴³ is a partnership between the Nordic Ad-Hoc Group on Climate Change (NOAK), the Nordic Environment Finance Corporation (NEFCO) and the Nordic Development Fund (NDF). The initiative seeks to build host countries' capacity to evaluate, structure and implement NAMAs, which make use of international finance and possible new market mechanisms. The NPI programme in Peru focuses on exploring possibilities to lower emissions in the waste sector, while in Vietnam the focus is on the highly energy intensive cement production sector. These countries are currently engaged in a two year technical assistance programme to assess and improve NAMA readiness with a view to moving towards implementation.

GovNAMAs

GovNAMAs (Governing NAMAs: Matching design and support for low carbon trajectories)⁴⁴ explores, through three case studies in Brazil, how NAMAs by developing countries can be mobilized to meet both developed and developing countries perspectives. Specifically the project aims to assess how NAMAs can be designed to meet the dual goals of 1) attracting international funding that contribute to development and 2) spurring innovation and diffusion of technology that mitigate climate change. The project is executed by the Centre for Climate Science and Policy Research at Linköping University in Sweden, runs from early 2012 until the end of 2013 and is sponsored by Swedish Energy Agency.

TRANSfer

The TRANSfer project⁴⁵ aims to enable decision-makers in developing countries to develop climate change strategies in the transport sector to be registered as NAMAs. During the 3-year project, project partners will develop the online handbook "Navigating Transport NAMAs" with practical advice on how to develop and implement a mitigation action in the transport sector, based on case studies in Colombia, South Africa and Indonesia. The project is led by GIZ, with expert support from ECN and the Wuppertal Institut, and funded by ICI.

Regional Center for Renewable Energy and Energy Efficiency

The Regional Center for Renewable Energy and Energy Efficiency (RCREEE) with the support of BMU's CDM-JI Initiative for the MENA region carried out a study on the potential for NAMAs and sectoral mechanisms to finance energy efficiency and renewable energy projects in the region⁴⁶. The study was performed by a consortium of Perspectives CC and Alcor, and covered the RCREEE members states of Jordan, Lebanon, Syria, Yemen, Algeria, Morocco, Egypt, Tunisia and Libya.

39 <http://www.ccap.org/index.php?component=programs&id=43>

40 <http://www.lowemissiondevelopment.org/>

41 <http://www.mapsprogramme.org/>

Mitigation Momentum

The Mitigation Momentum⁴⁷ project aims to support the development of NAMAs by contributing to the development of concrete NAMA proposals, and foster cooperation and knowledge exchange within the NAMA community. The overall objectives of the project are: 1) advancing NAMA development in a selected number of countries, 2) contributing to knowledge on NAMA development and best practice, 3) to increase knowledge sharing and cooperation among the NAMA community, and 4) advancing the international climate policy debate on mitigation. A collaboration between ECN Policy Studies and Ecofys Germany, the project is sponsored by the BMU International Climate Initiative and will run from March 2012 to December 2014.

Analysing issues and options for implementing NAMAs

The project “Analysing issues and options for implementing NAMAs”⁴⁸ aims to develop a framework to assess the appropriateness of a given mitigation action in a particular developing country context. It will also examine some mitigation options in Brazil, South Africa, India and China to illustrate applicability of this framework. It is led by The Energy and Resources Institute (TERI), with partners Vitae Civilis (Brazil), University of Cape Town (South Africa) and Tshingua University (China), and is sponsored by The Norwegian Ministry of Foreign Affairs as part of a broader framework of support to India on mitigation and energy security⁴⁹.

Proklima - Green cooling for a warming world

The GIZ ‘Proklima’ project⁵⁰ has now been working for some 15 years to help introduce environment and climate-friendly alternatives to ozone depleting industrial gases in partner countries. Since 2008 Proklima has also been working on behalf of the BMU International Climate Initiative to disseminate climate-friendly technologies in support of mitigation objectives. Of particular relevance is the project “Development of NAMAs in the refrigeration, air-conditioning and foam manufacturing sectors”⁵¹. Under this initiative a number of selected partner countries (India, Mexico and South Africa) are supported in the development of their national strategies and preparation of requests for funding of NAMA proposals in these sectors.

Integrated Approach for the Development of Climate-Friendly Economies in Central Asia

As part of a broader programme of assistance, DIW econ, along with partner organisations, will support the development of a NAMA in four Central Asian countries (Uzbekistan, Turkmenistan, Kyrgyzstan and Tajikistan). The project⁵² is supported by the BMU International Climate Initiative.

International Energy and Climate Initiative - Energy+

The Norwegian government launched the International Energy and Climate Initiative - Energy+⁵³ together with the UN Secretary General on 10 October 2011. The initiative aims to increase access to modern energy and energy efficiency, and avoid emissions of GHGs in developing countries. Energy+ will provide financial support to developing countries based on results in the form of increased access and reduced (avoided) emissions, and measures taken to support these goals. The use of results-based approaches is expected to contribute towards making the energy sector in partner developing countries “Green Climate Fund-Ready” and to help inform the design of the GCF.

42 <http://unepri.org/FIRM/index.htm>

43 http://www.nefco.org/en/financing/nordic_partnership_initiative

44 <http://www.cspr.se/forskning/namas?l=en>

45 <http://www.transferproject.org/>

46 <http://www.rcreee.org/studies.html>

Green Growth Planning for Developing and Emerging Countries

The Green Growth Global Institute (GGGI) supports emerging and developing countries that seek to develop rigorous green growth economic development strategies⁵⁴. Since 2010, GGGI has launched work in 10 countries: Brazil, Cambodia, China, Ethiopia, Indonesia, Kazakhstan, Mongolia, Philippines, Thailand and the United Arab Emirates. Although not explicitly focused on the topic of NAMAs, many of the aims of the GGGI workplan, including country or provincial level techno-economic mitigation analyses, overlap with the needs of NAMAs.

Mexican-German NAMA programme

Funded by the BMU International Climate Initiative, the objective of the Mexican-German NAMA programme⁵⁵ is to prepare the first Mexican NAMAs in the key sectors of construction/renovation of residential buildings, energy efficiency in small and medium-sized enterprises (SMEs) and freight traffic, to achieve broad-based implementation and secure international co-financing. The programme partners are building a NAMA coordination office in Mexico to advise the local authorities effectively. The programme supports Mexican partner institutions, such as the Ministry for the Environment, Energy and Transport as well as the National Housing Commission, in developing strategies and financing mechanisms, setting up MRV systems and developing the necessary capacity for implementing NAMAs.

Human Capacity Building for NAMAs Development and MRV Implementation

Implemented by the Overseas Environmental Cooperation Center (OECC) for the Ministry of the Environment of Japan (MOEJ), the project aims to build human and institutional capacities for NAMAs development and MRV implementation in a selected sector in the following Asian partners: Cambodia, Lao PDR, Mongolia and Vietnam⁵⁶. It seeks to build capacity of individuals, institutions, and systems through joint activities of:

- Identification of Reference and NAMA Scenarios
- Drafting domestic guidelines for NAMA selection and MRV
- Domestic Institutional Arrangement
- Study on Potential Low Carbon Technology Application

Canadian NAMA support

Canada is supporting the development and implementation of NAMAs in the waste, housing and oil and gas sectors with assistance efforts respectively led by CCAP, Petroleum Technology Alliance Canada (PTAC) and the Energy Efficiency Exporters Alliance (EEEA). Partner countries include Mexico, Colombia, Peru, Brazil, the Dominican Republic and Chile depending on the sector⁵⁷. The overall objective is to support country-led development of long-term sectoral mitigation strategies that enable the partner countries to identify, select and develop alternatives to “business as usual” and create enabling conditions for transformational mitigation actions.

47 <http://www.mitigationmomentum.org/>

48 <http://www.teriin.org/projects/nfa/2b-analysing.php>

49 <http://www.teriin.org/projects/nfa/>

50 <http://www.gtz.de/en/themen/13841.htm>

51 <http://www.gtz.de/de/dokumente/giz2011-en-proklima-namas.pdf>

52 http://www.diw-econ.de/en/examples_climate_centralasia.html

53 http://www.regjeringen.no/en/dep/ud/campaigns/energy_plus.html?id=672635



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54 <http://www.gggi.org/project/main>

55 <http://www.giz.de/themen/en/36354.htm>

56 http://www.mmechanisms.org/document/new_Mecha-Express/NewMechaExp_Aug2012_E.pdf

57 <http://www.climatechange.gc.ca/default.asp?lang=En&ndn=57B84C7D-1>

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Xander van Tilburg

Senior Researcher
ECN

T: +31 (0) 224564863
vantilburg@ecn.nl

Frauke Röser

Senior Consultant
Ecofys

T: +49 (0)30 29773579-32
f.roeser@ecofys.com

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