



NORDIC PARTNERSHIP INITIATIVE:

# MEASUREMENT, REPORTING AND VERIFICATION IN NAMAs LESSONS FOR NDCs

Under the Nordic Partnership Initiative (NPI), set up by the Nordic countries in 2011 and funded partly by the Nordic Environment Finance Corporation (NEFCO) and the Nordic Development Fund (NDF), NAMA Readiness Programmes have been established in the waste sector of Peru and the cement sector of Vietnam. The Programmes support the development of concrete financeable proposals of Nationally Appropriate Mitigation Actions (NAMAs) as proof-of-concept activities that will drive the development and implementation of further NAMAs. A central feature of the Programmes is developing robust and sustainable Measurement, Reporting and Verification (MRV) systems, in order to reassure international donors of the credibility of the NAMAs and their capacity to deliver real and measurable emission reductions. MRV systems are also critical to confirm the environmental integrity of the NAMAs as well as to protect the donor countries' interests and reputation.

When the Paris Agreement was reached in December 2015, the world entered a new era where all countries will have the same transparency requirements for their greenhouse gas (GHG) emissions reporting from 2020 onwards. These universal requirements provide increased accountability on the steps countries are taking towards implementing the

emission reduction goals set in their Intended Nationally Determined Contributions (INDCs). This means a big step up for the developing countries' measurement and reporting systems, and thus there is a significant need for capacity building in this area. As part of the Paris Agreement a new Capacity-building Initiative for Transparency was created. The NAMA Readiness Programmes of the NPI have created robust sector-wide MRV systems in two developing countries which will provide valuable lessons learned for the required nation-wide transparency systems. The experience with such programmes can help identify areas where further guidance is required within the new transparency rules to be developed in the post-Paris climate negotiations.

Under the NPI the Nordic countries have been providing extensive capacity-building for Vietnam and Peru, helping the countries in setting up nationally appropriate and sustainable MRV systems in their cement and waste sectors. The data derived through these systems can also be directly provided as inputs for the countries' national greenhouse gas inventories. This way the NAMAs can serve as concrete building blocks for INDCs and future NDCs, and in building a robust nation-wide transparency system.

Photo: Ulla Jernische / Swedish EPA



#### Increasing transparency - from NAMAs to NDCs

- Sector-wide data collection for a NAMA can be time-consuming, but gathered knowledge is transferrable to other sectors and to a nation-wide transparency system. Developing an emission measurement system (that is institutionally sustainable) in parallel with collecting the data is an efficient way to improve future reporting.
- The mitigation contribution of a NAMA or a NDC can only be calculated if a robust, credible and conservative baseline scenario has been developed.
- Long-term capacity building and training for using the MRV system is the key to success. For example, online training modules are important for knowledge retention.

## Key steps towards implementing a sustainable MRV system

The 2010 Cancun Agreement established that “internationally supported mitigation actions will be measured, reported and verified domestically and will be subject to international measurement, reporting and verification in accordance with guidelines to be developed under the Convention”. Such guidelines still have to be developed under the Paris Agreement, which envisions harmonized, although flexible, reporting and verification requirements.

As a result, the concrete MRV requirements of an internationally supported NAMA can presently be largely determined by the host countries and the key players within the relevant sector, while taking into account the requirements from donors supporting the NAMA.

### Data collection

The first step towards developing a NAMA’s MRV system typically is to assemble a database for the sector’s GHG emissions. At the start of the NAMA Readiness Programme for Vietnam’s cement sector, cement companies were required to report on environmental indicators as well as the quality and quantity of cement and clinker. However, these reporting requirements had not yet been standardized to meet international standards for the MRV of GHG emissions. Therefore, a nation-wide survey had to be conducted with the help of the Ministry of Construction (MoC) in order to develop a comprehensive database on energy use and CO<sub>2</sub> emissions for the cement sector in Vietnam. The database now contains information from 47 of the country’s 55 cement plants. With a coverage of 85% of the installations and 87% of overall clinker production, the database can be considered as representative for the performance of

the overall cement sector in Vietnam in the period from 2009 to 2013.

“The NAMA proposal is of high quality. The team has done an enormous job building the database according to international standards.”

*Ms. Martina Jägerhorn, Nordic Development Fund (NDF)*

The database forms the basis for the NAMA’s MRV system and has been developed in line with best international practices as developed by the Cement Sustainability Initiative (CSI) of the World Business Council for Sustainable Development (WBCSD). To effectively implement the sector-wide MRV system it will be necessary to establish a legal obligation for all cement companies to participate, while improving the quality and credibility of current in-plant monitoring practices.



Photo: Tung Le Anh, NAMA Readiness Programme in Vietnam Cement sector project

The NAMA Readiness Programme in Peru completed a comprehensive waste inventory. This was facilitated by the fact that Peru’s waste sector already had a monitoring and reporting system in place. Unfortunately the usage rate of the system was previously only 62%. Via interviews with 156 stakeholders and site visits it was determined that

the main reason for this situation was a lack of training of key staff. Clearly, capacity building, training and motivation are key components of an effective MRV system.

### Baseline calculations

Most MRV systems in the climate change area are designed to measure and report against a baseline, i.e. the emission reductions are calculated as the difference between the baseline and the actual emissions. Within the context of climate change policy, a baseline is typically understood as a business-as-usual scenario from which a policy-driven improvement is desired. The way the baseline is determined plays a key role in the credibility of any MRV system, as it provides the basis for assessing the mitigation potential of an activity as well as for enabling MRV post-implementation.

During the development phase of a NAMA one faces the choice

between different kinds of baselines. Typically, one distinguishes between absolute baselines and intensity baselines. Absolute baselines have the appeal that they can be used to set an overall emissions threshold for the relevant sector. They fit well with a scheme that offers rewards only when overall emissions are reduced below the target threshold

level. However, in fast-growing economies, such as Peru and Vietnam, absolute baselines are difficult to implement, as emissions in the sector are largely driven by economic growth, which may be highly volatile, difficult to predict and independent of the mitigation actions undertaken as part of the NAMA. Instead, intensity baselines, such as GHG emissions per ton of cement, are often more acceptable for developing country host parties and are more readily comparable to actual emissions.

When establishing the baseline for the Peru waste sector NAMA it turned out that the sector's GHG emissions can actually increase over time once the country replaces waste dumps with sanitary landfills. In order to avoid this situation, mitigation considerations need to be mainstreamed into the planning process.

Baselines can be linked either to the historical performance within the sector or to benchmarks derived from best available technology. In principle the baseline should reflect the most plausible scenario that would be realized in the absence of the NAMA or other climate policy action. It is therefore necessary to apply additionality considerations when establishing the baseline.

Such an analysis may come to the conclusion that certain improvements over the historic performance can be expected to occur naturally and are thus part of the business-as-usual scenario, as companies comply with already existing policies, benefit from technological progress or implement commercially-driven energy savings initiatives. According to the NAMA proposal for Vietnam's cement sector many of the priority actions to mitigate GHG emissions generate at the same time significant production cost savings for the implementing cement companies. For the baseline to be credible, it therefore needs to be determined, which of these measures could be expected to take place even without the NAMA.

#### Measurement, Reporting and Verification

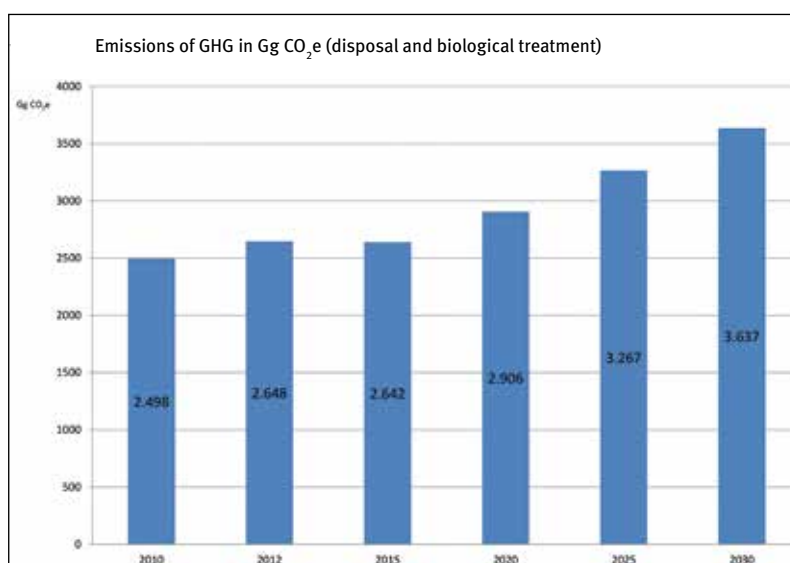
In the case of internationally supported NAMAs, monitoring and verification of the GHG emission reductions is necessary to assure the donors that the expected project results are indeed being achieved. The requirements of the MRV system depend on the extent to which funding is provided on the basis of delivered results and on whether crediting of emission reductions is desired. If climate finance is provided in the form of results-based payments, donors need to have a high

level of confidence that the emission reductions have actually occurred. This generally requires the involvement of an independent third-party to verify the monitoring results and the calculated emission reductions. In a similar vein, if either crediting of the emission reductions towards the commitments of the donor countries or the on-sale of emission reductions within international emissions trading is desired, the application of a well-established international standard along with third-party verification is highly desirable.



Monitoring the contributions of a NAMA to sustainable development in the host countries is a further key MRV aspect. On the one hand, NAMAs are "Nationally Appropriate", i.e. they are supposed to originate from the development planning and priorities of the host countries. In many cases, NAMAs are pursued primarily for their domestic environmental or development benefits, with GHG emission reductions being of secondary importance. On the other hand, it is typically very important for donors to avoid damage to the reputation of the financing entity and the donor countries. As a result, thorough sustainability assessments are frequently required. Important environmental and social concerns of stakeholder groups as well as mitigation measures for key risks should be included in the MRV system.

The MRV system for the Vietnam cement sector NAMA is in line with best international practices. It tracks the environmental and social co-benefits associated with the NAMA, in line with CSI principles, adjusted as needed according to the requirements of the Gold Standard certification scheme.



Picture: Peru baseline emissions in the waste sector to 2030. Emissions increase as Peru builds more sanitary landfills (Source: Ministry of Environment of Peru)



## General recommendations on MRV for scaled-up climate action

NAMAs are frequently seen as a pre-2020 tool for enhancing mitigation actions in developing countries in the absence of a universal legally binding climate agreement. However, they can also be important and concrete building blocks for the mitigation efforts and the enhanced transparency system under the Paris Agreement. For developing country policy makers, designing and implementing NAMAs in selected sectors can bring enhanced understanding of the day-to-day activities in key sectors, which aspects of the national MRV system still need to be improved and how tightened climate policies affect various sectors.

The Paris Agreement contains a “review and ratchet up” mechanism in the form of global stock-takes and the requirement to increase ambition every 5 years. Understanding the implications of increased ambition in individual sectors is fundamental to increase the ambition in the NDC as a whole. Finding reliable and sustainable ways of gathering and reporting sectoral data therefore becomes ever more important. In the upcoming post-Paris climate negotiations the details of the globally harmonized transparency system will be developed. In this process it is essential to have a clear picture of what it takes for developing countries to improve their national MRV systems and to achieve transparency of their GHG emissions. This is not an easy task, and good examples from countries that have gone through such processes already, on a sectoral or national level, are essential. In Peru and Vietnam, national and local government officials as well as private companies have taken advantage of the NAMA Readiness Programmes and gathered knowledge on what makes a comprehensive MRV system successful. They are therefore in a good position to provide insights to representatives of other developing countries. Such strengthened capacity will go a long way towards building

their nation-wide transparency systems for their future NDCs.

The NAMA Readiness Programmes under the NPI provide the following lessons for strengthening the transparency regarding scaled-up mitigation actions:

- **Data collection can be time-consuming, but gathered knowledge is transferable to other sectors.** If there is significant lack of data, it takes time to gather the information correctly for the first time. Site visits, surveys, interviews and training are needed. However, the gathered knowledge could be applied in other sectors as well.
- **The mitigation contribution of a NAMA can only be calculated if a robust, credible and conservative baseline scenario has been developed.** This also applies to INDCs with mitigation targets that are compared to Business-as-Usual (BAU). This area needs substantial further work from countries that have not yet indicated their BAU emission levels in their INDCs. Intensive consultations with stakeholders are required, as well as with institutions that have relevant knowledge about the economic and sector history of the country.
- **Waste sector emissions have been over-estimated in several previous developing country inventories.** This can be fixed by using the IPCC 2006 Tier 2 guidelines, which are much more reliable than the extrapolations based on default factors applied in Tier 1.
- **Long-term capacity building and training for using the MRV system is a key to successful implementation.** Frequent rotation of private sector personnel and government officials can lead to a low level of knowledge retention. Therefore, a long-term approach to training, including online modules, is needed to sustain the capacities of the staff.

- **A key function of MRV systems is to protect the reputation of the donors.** The MRV system should be sufficiently robust to reassure donors that the supported NAMAs contribute positively to the sustainable development of the host countries.
- **The overall transaction costs of the MRV system need to be minimized.** This can be achieved by building on existing infrastructure and business practices. As a result, a larger share of the financial support can go towards the implementation of the mitigation actions.



Photo: Jenna Hytti / GreenStream

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