

## Overview

In an effort to meet global greenhouse gas (GHG) emission reduction targets and limit rising global temperatures, setting countries on a trajectory towards economic development that limits GHG emissions is critical for both sustainable economic development and climate change mitigation. For countries that enact low emission development strategies (LEDS) and their projects, policies, and programmes that result in climate change mitigation on the ground (e.g., Nationally Appropriate Mitigation Actions or NAMAs), the systems that govern measurement, reporting, and verification (MRV) help quantify benefits and impacts and play a key role in determining to what degree the strategies and actions are successful.

A properly designed and implemented MRV system adds transparency to mitigation efforts and is an important management tool. These systems track progress and measures and estimates impacts, and can be used by governments to assess contributions towards meeting national development goals as well as the effectiveness of mitigation policies, programmes, and regulations.

Measurement gauges the achievements of objectives or goals, and reporting and verification provide a proper top-down mechanism to facilitate

communication and quality assurance and quality control (QA/QC). Verification may be performed by an independent third party reviewer or, depending on the desired level of rigor, the entity can be first-party (self-verification) or second-party (an internal 'arms-length' review).

## Climate Change Mitigation

Tracking NAMA/LEDS progress against 'business-as-usual' emissions plays a valuable role in identifying emission trends, data gaps, and emissions reduction opportunities. MRV is a tool that provides accountability, notably via documentation of GHG emission reductions, cost-effectiveness, and co-benefits such as job creation. Such documentation provides governments, funding agencies, implementation bodies, etc., with information needed to make objective decisions and serves as feedback to improve mitigation decision-making and strategies.

MRV data also contributes towards NAMA prioritization and potentially attracting climate finance as robust MRV systems can raise the level of confidence in donors and financiers that their money will have its value maximized (e.g., in terms of emission reductions). MRV GHG emissions data systems can also contribute to UNFCCC reporting requirements via national communications and biennial update reports (NCs and BURs, respectively).

To date, there exists minimal formal guidance on MRV, including from the UNFCCC so it is recommended countries build off existing frameworks where possible such as the Kyoto Protocol Clean Development Mechanism or CDM, which has rigorous monitoring methodologies. Other institutions that offer a range of methodologies include the International Standards Organization, World Resource Institute, and Gold Standard, so country MRV planning does not need to start from scratch.

### Key points to remember:

- M ... Measure relevant information on progress and impacts**
- R ... Report the measured information in a transparent and standardized manner**
- V ... Verify the completeness, consistency, and reliability of the reported information**

## Designing a MRV System

A key objective of a well-designed MRV system is to raise confidence in the system and attract private investment, and its proper design begins with stakeholder consultations. Similar to securing strong host-country commitment, soliciting feedback from relevant stakeholders during the planning process is recommended to ensure comprehensive, reliable, and cost-effective data collection and reporting processes are established, including legal, regulatory, and administrative frameworks.

Methodologies should result in measured data being accurate, complete, comparable, regularly collected, and transparent. Plans for data interpretation, storage, and archiving must also be designed. Typically, third-party financiers pre-approve modalities and national guidelines must be followed, and these conditions can govern level of data precision, assumptions, default values, frequency of reporting, etc.

### Useful tools and resources

- UNDP/UNEP/UNFCCC 2013: [Guidance for NAMA Design: Building on Country Experiences](#)
- UNEP Risoe Center 2013: [Sustainable Development impacts of NAMAs](#), Karen Holm Olsen
- 2013: [Measuring, Reporting and Verifying Nationally Appropriate Mitigation Actions, Mitigation Momentum](#)
- 2013: [MRV Manual for CDM Programme of Activities](#), KFW and DNV
- UNDP 2013: [Innovations in Monitoring and Evaluating Results](#)
- UNEP Risoe 2013: [Measuring, Reporting, Verifying: A Primer on MRV for Nationally Appropriate Mitigation Actions](#)
- GIZ 2013: [MRV Tool: How To Set up National MRV Systems](#)
- GIZ 2013: [Knowledge Product: Institutional Arrangements for MRV](#)
- 2012: [MRV of NAMAs: Guidance for selecting sustainable development indicators](#), CCAP

To track the progress of mitigation actions and impacts, key performance indicators are selected. These can include sustainable development benefits such as: renewable energy capacity installed, GHG emissions, jobs or income created, enactment of legislation, and number of projects applying for a Feed-in Tariff. Capacity building will likely be required to confirm proper implementation, the system will be iterative as lessons are learned and capacity grows, and roles and responsibilities must be clearly defined.

## Conclusions

Measurement, reporting, and verification play a critical role in objectively determining if national sustainable development goals are being met and NAMAs and LEDS are successful. It can be a challenge to balance creating a comprehensive MRV system that meets country and project needs while not overloading projects with technical, administrative, and financial barriers that hinder NAMA and LEDS implementation. However, risks can be mitigated if challenges are analyzed during the MRV planning and implementation process and emphasize flexibility, stakeholder collaboration and outreach, capacity building, and a solid institutional foundation.



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