NET ZERO PARTNERSHIP

Best Practices for Enhancing Monitoring, Reporting and Verification systems for NDC tracking

A QUICK GUIDE

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

WHAT ARE MRV SYSTEMS AND WHY DO THEY MATTER?

MRV systems help countries meet their international reporting commitments

At the global level, Monitoring, Reporting and Verification (MRV) systems are an important part of reporting progress on countries' climate commitments, known as **Nationally Determined Contributions (NDCs).** NDCs requires a supporting MRV system to monitor implementation and outcomes.

MRV systems are part of the **Enhanced Transparency Framework (ETF)** under the Paris Agreement, which requires countries to regularly report on progress. These systems provide a reliable governance structure and data for these progress reports - called **Biennial Transparency Reports (BTRs)** - help countries meet their international reporting responsibilities and provide credible information on climate action.

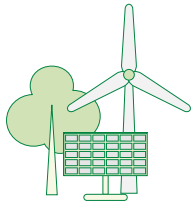
MRV systems enable countries to manage their industrial decarbonization effectively

In the industrial sector, **MRV systems help countries plan mitigation measures** using a data-driven approach, monitor industrial emissions, and track progress of national climate goals. They enable governments to **set realistic targets**, **assess what is effective** and what isn't, and **take corrective actions** when necessary.

MRV systems strengthen global trust and cooperation on climate action. They are a crucial element of transparent carbon markets under the Article 6 of the Paris Agreement. They show that policies are being implemented, resources are allocated, and results are real. This supports good governance and builds confidence among the public, investors, and international partners creating a supportive environment for decarbonization investments.

DIMENSIONS OF MRV SYSTEMS UNDER THE ETF

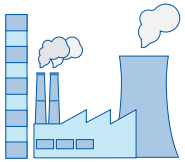
MRV systems are vital for implementing the Enhanced Transparency Framework (ETF) of the Paris Agreement, which requires countries to submit Biennial Transparency Reports (BTRs) covering emissions, mitigation progress, adaptation, and support received or provided.



MITIGATION

Monitors the implementation and effectiveness of actions taken to reduce emissions, helping assess progress toward national and sectoral targets.

- Level of progress
- Emissions reduction



EMISSIONS

Tracks greenhouse gas emissions across sectors using consistent methodologies to ensure accuracy, comparability, and transparency in national inventories.

- GHG emissions inventory

- Level of progress
- Risks and vulnerability

ADAPTATION

Documents climate risks, adaptation measures, and their outcomes and mitigation co-benefits to evaluate resilience-building efforts and inform future planning.

- Support received
- Support needed

SUPPORT

Captures information on financial, technological, and capacity-building support received and provided, ensuring accountability and facilitating access to climate finance.

SYNERGIES

HOW DOES AN MRV SYSTEM WORK?

A well-functioning MRV system is based on several factors. These include, clear institutional arrangements, standardized data collection procedures, robust quality assurance and control processes, and transparent reporting procedures to ensure accurate tracking of GHG emissions and climate actions. This formal approach helps countries improve the ambition and implementation of industrial decarbonization measures in their NDCs.

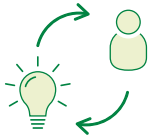
ORGANIZATIONAL MANDATES

Roles and responsibilities

- Stakeholder engagement
- Expertise
- Coordination and leadership

Legal frameworks

- Laws
- Regulations
- Competencies



INFORMATION FLOWS

Communication modalities

- Data Sharing Agreements
- Memorandums of Understanding
- Terms of Reference

Data requirements

- Content and quality standards

TOOLS AND SYSTEMS

Information collection and sharing platforms

- Confidentiality provisions
- Restricted access
- Compatibility

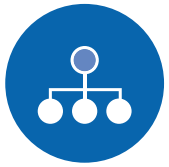
REINFORCE EXISTING SYSTEMS

KEY QUESTIONS TO ASK ABOUT YOUR MRV SYTEM

Whether you are setting up a new MRV system or wanting to improve an existing one, a good starting point is to consider these questions.

1. What type of information and data should be collected?

- Data needed to enhance NDC ambition in line with defined areas alongside the data required to implement and track the NDC.



2. Through what processes should information and data be collected?

- Data should be collected systematically with clear stakeholder roles and responsibilities, standardized methodologies and predefined timelines.

3. How often should information and data be collected?

- Information should be collected at least annually to allow for timely tracking of NDC progress as part of the BTR, with updates to the NDC aligned with the enhancement cycle (typically every five years).

4. Who is responsible for collecting and processing information and data?

- Those responsible are institutions involved in the design and implementation of the NDC, as defined under the data collection processes. These data requirements inform which institutions should participate.

5. Who communicates the information, what information, how, to whom and when?

- Communication flows should be based on institutional arrangements, supported by data sharing agreements or collaborative mechanisms for effective data compilation.

6. How is quality controlled and assured?

- Data quality should be verified both by the institutions producing the data and by those leading NDC design, implementation and tracking efforts.

7. Who coordinates and manages MRV activities?

- The lead institution for the industry sector MRV should be determined at the national level.

8. How can the quality of information produced and MRV procedures be improved over time?

- Continuous improvement can be made through careful planning, by identifying challenges and incorporating lessons learned into MRV procedures.

9. How can the MRV system be formalised?

- The MRV system should be formalised through extensive stakeholder consultations, and by determining the degree of legal formalization needed to embed the NDC process firmly within national planning frameworks.

HOW TO ENSURE AN MRV SYSTEM IS WORKING WELL?

Establishing a robust MRV can be hampered by a number of factors such as **limited capacity** - which often leads to dependency on external consultants -, **weak institutional frameworks**, **funding constraints, loss of institutional memory** and **expertise and lack of cooperation and trust** in the system from industry.

Moreover, the **added workload and burden** placed on existing organizations and staff can further impede the development and sustainability of an effective MRV system. However, these gaps can be addressed **if careful planning is undertaken from the outset.**

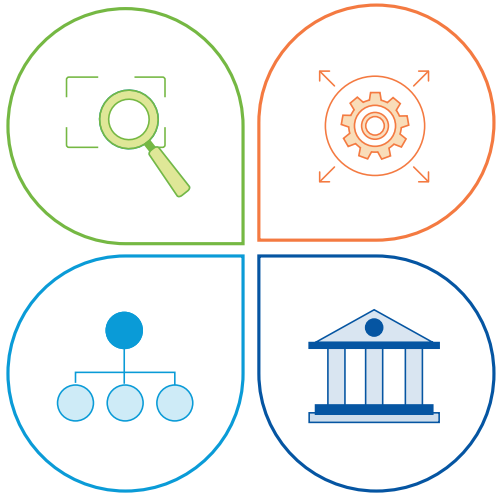
Key elements of a robust MRV system:

CLEAR SCOPE

The system's scope must be clearly defined. For example, in the industrial sector, the focus would be on designing, implementing, and tracking mitigation targets and associated measures.

CAPACITY ACROSS ALL ENTITIES

All participating entities must have the necessary capacity to fulfill their roles and responsibilities. This ensures the MRV system operates effectively and remains sustainable over time.



DEFINED INSTITUTIONAL ROLES

Institutions involved should be identified through an assessment of the industrial sector landscape. This helps determine which entities are responsible for developing policy and implementing decarbonization measures.

INSTITUTIONALIZED PROCEDURES

Clear procedures should be established, including mechanisms for smooth information flow between institutions and clarity on the type, frequency, and timing of data collection. Standardised formats for data processing should also be developed to support consistency and effectiveness.

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This brochure and the NDC 3.0 Guidebook for Industrial Decarbonization was developed by The Net Zero Partnership for Industrial Decarbonization.

This is a global initiative led by UNIDO that supports lower-income countries with transitioning towards low-carbon steel, cement and concrete. The project offers tailored policy support, promotes decarbonization solutions, and encourages international collaboration to achieve net zero emissions by 2050.

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on the basis of a decision by the German Bundestag