



Trinidad and Tobago's Nationally Determined Contribution under the Paris Agreement and (MRV) System

Progressing to Economy-wide Targets

Kishan Kumarsingh

Head, Multilateral Environmental Agreements Unit

Ministry of Planning and Development

MTCC Webinar Series
Wednesday 11th November 2020

Trinidad and Tobago's Nationally Determined Contribution (NDC) under the Paris Agreement



Conditional component:

Reduce cumulative emissions from the power generation, industrial and transportation sectors by 15% relative to a business-as-usual baseline by 2030 (equivalent to 103,000,000 tonnes of CO₂-e in absolute terms)

Unconditional component:

Reduce public transportation emissions by 30% relative to BAU by Dec 31 2030 relative to 2013
(equivalent to 1,700,000 tonnes of CO₂-e) (already underway and achieving emissions reductions through State-funded fuel switching programme (300 Mil USD))

Trinidad and Tobago's National Climate Mitigation Monitoring, Reporting and Verification (MRV) System



As a result, the need for systematic data collection and reporting was identified in order to track the emissions and emissions reductions

MRV system developed

Objectives of the MRV system:

1. To ensure that Trinidad and Tobago's monitoring, reporting and verification of its GHG emissions is in accordance with applicable international standards, while taking national circumstances into account.
2. To enable Trinidad and Tobago to effectively track its GHG emissions and mitigation actions (NDC and National Climate Change Policy).
3. To enable Trinidad and Tobago to effectively monitor the support provided (from external and domestic sources) for climate change policies and related actions.

Trinidad and Tobago's National Climate Mitigation Monitoring, Reporting and Verification (MRV) System



Objectives of the MRV system cont'd:

4. To promote GHG emission reduction efforts and actions, and their co-benefits.

5. To enhance cooperation among stakeholders through their defined roles and responsibilities.

6. To support stakeholders with relevant technical information, knowledge and guidance to implement the National Climate Mitigation MRV System through the use of detailed tasks and templates.

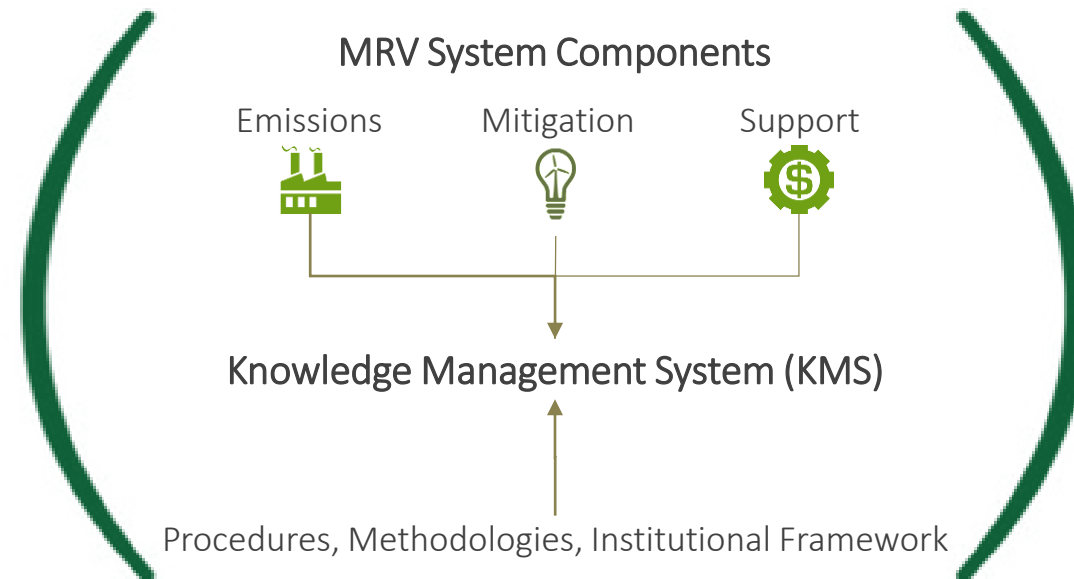
Trinidad and Tobago's National Climate Mitigation Monitoring, Reporting and Verification (MRV) System

National MRV System

The National MRV System is intended to facilitate the collection, analysis and transparent reporting of accurate and reliable information and data on *GHG emissions*, efforts to *mitigate* them and *resources/support* devoted to enabling these efforts. The system is supported by templates that have been designed to systematically capture relevant information/data for easy retrieval and checking.

Knowledge Management System

The Knowledge Management System (KMS) is the central repository that includes: (i) data and information on GHG emissions, mitigation efforts and support received; (ii) methodologies, guidelines, standards and protocols on how to monitor, report and verify emissions sources and (iii) standardized reporting procedures and formats.



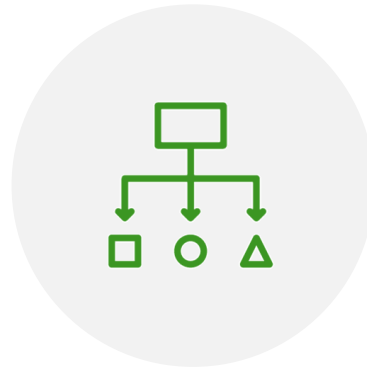
KMS Core Areas

The KMS is a web-based database designed to identify, collect, record and analyze data and information coming from different sources and institutions. Its three core areas include data, methodologies and procedures, that guide the technical and functional requirements.



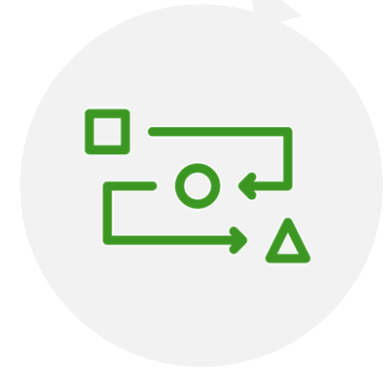
Data

- Information/data supplied by data suppliers (emitting entities) and required to support the MRV of GHG emissions (including emission factors)
- Information reported by emitting entities ministries/agencies on their mitigation efforts and outcomes
- Records of resources allocated to national mitigation efforts
- Quality controls, security and associated permissions
- Data driven information sets



Methodologies

- Methodological guidelines on how to monitor, report, and verify GHG emissions and emission reductions from public and private sector mitigation efforts
- For emissions data, this will follow Intergovernmental Panel on Climate Change (IPCC) guidance, while other protocols will be developed for data on mitigation efforts



Procedures

- Standardized procedures for collecting, processing, archiving and applying data in meeting reporting and verification requirements
- Standardized reporting procedures and formats
- A quality assurance/quality control system

Key Players

The National MRV System will be implemented by key players including the Coordinating Entity, Host/Manager of the KMS, Executing Entities and a Quality Assurance (QA) Working Group, with the following responsibilities:



Coordinating Entity

Ministry with Responsibility for the Environment: (Currently the MPD)
Plan, test, implement and manage the National MRV System.



KMS Host

Environmental Management Authority (EMA):
Collect and maintain checks on incoming data, prepare the GHG emissions inventory estimate and submit reports.



Executing Entities

Ministries and Private Sector Stakeholders:
Report on emissions from their sector/entity and implement, monitor and report on mitigation efforts to reduce their emissions.

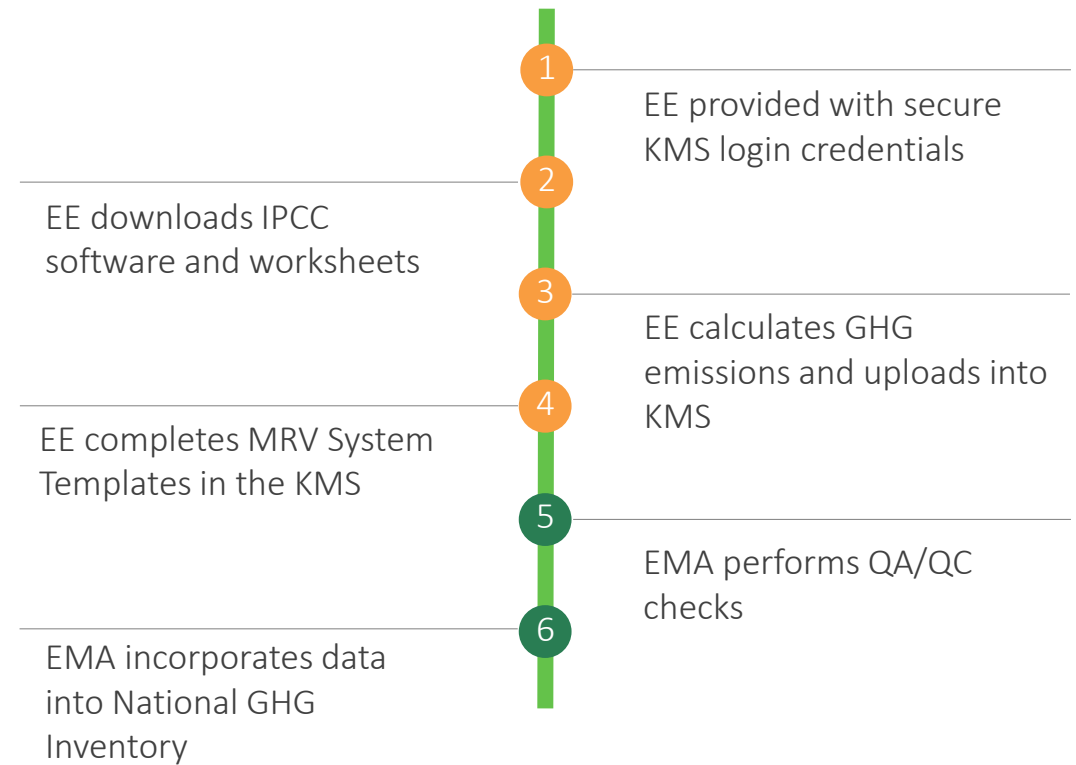


QA Working Groups

Academia and Sector Experts:
Research relevant data sets, GHG emission estimation methods and sector and country-specific emission factors.

National GHG Inventory Process

Trinidad and Tobago's National Climate Mitigation MRV System and its supporting KMS are designed to allow stakeholders (i.e., **Executing Entities (EE)**) to calculate their GHG emissions using the Intergovernmental Panel on Climate Change (IPCC) Guidelines and upload the information into the KMS. The **EMA Air Unit** will then perform the necessary QA/QC checks on the data before incorporating into the National Inventory.



Trinidad and Tobago's National Climate Mitigation Monitoring, Reporting and Verification (MRV) System



In order to facilitate data documentation, templates were designed utilising guidance documents from:

- the United Nations Framework Convention on Climate Change (UNFCCC),
- World Resources Institute (WRI) GHG Guidance Protocols,
- United States Environmental Protection Agency (US EPA) templates,
- documentation provided by the Greenhouse Gas Management Institute (GHGMI).

The templates are consistent with UNFCCC and IPCC guidelines for national GHG inventory development.

Trinidad and Tobago's National Climate Mitigation Monitoring, Reporting and Verification (MRV) System

Components:

MRV System templates include, inter alia:

Confidentiality Agreement

This document allows for an agreement between the coordinating entity, holder of the KMS and the relevant ministerial executing entity/stakeholder for the supply of confidential information for the development of Trinidad and Tobago's national GHG inventory emission estimates.

Trinidad and Tobago's National Climate Mitigation Monitoring, Reporting and Verification (MRV) System



Components:

MRV System templates include, inter alia:

Unit Tables

This document provides relevant/applicable conversion tables for all ministerial and stakeholder executing entities involved within Trinidad and Tobago's National Climate Mitigation MRV System. Use of these conversion tables will further improve TACCC principles within the system for units of data and GHG emission calculations.

Key Category Analysis

This document provides the template for Trinidad and Tobago to identify the sources and sinks present that have the largest contribution to Trinidad and Tobago's GHG net emission totals. A key category analysis tool has been provided to work in conjunction with the IPCC reporting software used in the KMS.

Trinidad and Tobago's National Climate Mitigation Monitoring, Reporting and Verification (MRV) System



Components:

MRV System templates include, inter alia:

QA/QC Document

This guidance document provides a template for the establishment of a National QA/QC Programme that improves TACCC principles for Trinidad and Tobago's GHG inventory.

Checklists have been included for the following: inventory and QA/QC coordinators, sector leads and specific management roles for QA/QC procedures.

Trinidad and Tobago's National Climate Mitigation Monitoring, Reporting and Verification (MRV) System

Components:

MRV System templates include, inter alia:

Quality Assurance Document

This document provides checklists for expert reviewers/chosen personnel not involved in the operational running of the MRV System to run quality assurance checks on Trinidad and Tobago's national GHG inventory estimates. Checklists provided for the reviewer include the following:

Cross-cutting checks for Trinidad and Tobago's national GHG inventory.

Checklists for the energy, IPPU, AFOLU and waste sectors.

Trinidad and Tobago's National Climate Mitigation Monitoring, Reporting and Verification (MRV) System

Components:

MRV System templates include, inter alia:

Data Archiving System

This document aims to facilitate the following:

Provide Trinidad and Tobago with safeguard measures to avoid loss of data and information.

Allow for Trinidad and Tobago to reproduce and update GHG estimates entered into the KMS.

Allow/facilitate future inventory staff to develop Trinidad and Tobago's subsequent GHG inventories.

Trinidad and Tobago's National Climate Mitigation Monitoring, Reporting and Verification (MRV) System

Components:

MRV System templates include, inter alia:

Methodologies/Data Documentation

This document assists Trinidad and Tobago's stakeholders involved in GHG estimates/removals to document and report relevant activity datasets, relevant emission factors and the origin/reasoning of chosen methodologies. The information provided will also allow for future GHG inventory teams to access the following:

- What chosen methods were used.

- How relevant activity data/emission factors were obtained.

- How information relevant to the inventory was obtained.

MRV System Pilot Project



Pilot Project Objectives

A Pilot Project was designed and conducted as an initial small-scale implementation of the **Emissions Component of Trinidad and Tobago's National Climate Mitigation MRV System** with the following objectives:

- Ensuring that Trinidad and MRV of its GHG emissions is in accordance with applicable international standards, while taking national circumstances into account.
- Coordinating and enhancing cooperation amongst the selected ministries and stakeholders in T&T's MRV System through their designed roles and responsibilities.
- Testing the efficacy of the organisational structure of T&T's National MRV System.
- Testing the operational procedures of data flow inputs/outputs to the KMS by identified institutional players.
- Testing the ease of use of T&T's MRV System Templates by the relevant stakeholders and identify any additional technical capacity necessary for their use.
- Ensuring that stakeholders are adhering to the TACCC principles throughout their use of the MRV System Templates and Implementation Plan Action Tasks during the pilot project.
- Supporting key institutional players with relevant technical information, knowledge and guidance to implement the National Climate Mitigation MRV System Pilot Project through the use of detailed tasks and templates.
- Identifying obstacles and opportunities for the improvement of the National MRV System, highlighted action tasks for each stakeholder and the recommended templates.

KMS Interfaces

In order to facilitate the submission, collection and analysis of data, the KMS has two interfaces that are synonymous with the two key groups that are to utilize the system, and did so during the Pilot Project. The software requirements for the KSM hardware include Windows Server 2016 as the Operating System, SQL Server or Azure Cosmos Database for the database, Power BI for reporting and SharePoint online for collaboration.

Stakeholder Interface



Knowledge Management System

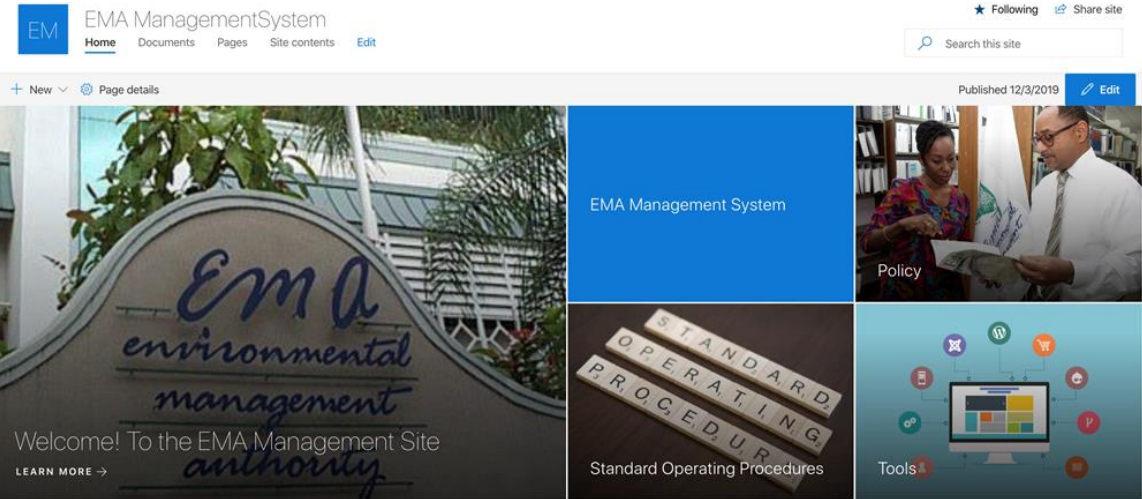
Welcome to the Knowledge Management System (KMS)

Trinidad and Tobago's National Climate Mitigation Monitoring, Reporting and Verification (MRV) System is intended to facilitate the collection, analysis and transparent reporting of accurate and reliable information and data on GHG emissions, efforts to mitigate them and resources devoted to enabling these efforts. The Knowledge Management System (KMS) is the central repository for this information and data, and includes methodologies, procedures and institutional frameworks.

As a key stakeholder in this process, please follow the steps below to upload your information:



EMA Interface



Current/Next Steps

- BAU developed for AFOLU and waste - training in AFOLU and waste sectors to fill identified gaps in data collection/QA/QC
- Incorporating Art 13 of PA into the MRV system for ETF compliance and compatibility
- Development of adaptation component
- Training in using the MRV data and applying to BAU to assess compliance and hence tracking
 - Bringing the MRV system and BAU construction skill together with aim of developing economy-wide targets for future NDCs
- Legal underpinning of GHG MRV completed - Regulatory incorporated into existing legislation (Air Pollution Rules) for mandatory GHG reporting and mitigation actions
- Full integration of MRV system into overall environmental governance framework



Capacity Building Measures and Training

Creating “redundancy capacity and capability”

– on-demand online training



Establishment of Legal Underpinning

To support the legal requirement for the submission of GHG emissions data.



Development of a Certification Programme

To provide national and sectoral-specific standards and pool of experts for GHG inventorying and QA/QC.



National Roll-out

To institutionalize the implementation of Trinidad and Tobago’s National Climate Mitigation MRV System.