ACCELERATING INDUSTRIES' CLIMATE RESPONSE
SRI LANKA

EXECUTIVE SUMMARY

Measurement, Reporting and Verification (MRV) Framework for Industrial Sector GHG Emissions and Mitigation Actions in Sri Lanka

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Funded by
the European Union

Acknowledgements

This report was developed by Gauss International Consulting under the supervision of the United Nations Industrial Development Organization (UNIDO) within the scope of the Accelerating Industries' Climate Response in Sri Lanka project. It was developed with the financial assistance of the European Union. The authors would like to thank all local and international experts for their valuable input to this study and/or their insightful comments on the earlier version of this document.

Disclaimer

The authors and their affiliated organizations have provided the information in this publication for informational purposes only. Although great care has been taken to maintain the accuracy of the information collected and presented, the authors and their affiliated organizations do not make any express or implied warranty concerning such information. Any estimates contained in the publication reflect authors' current analyses and expectations based on available data and information. Any reference to a specific commercial product, process or service by trade name, trademark, manufacturer, or otherwise, does not constitute or imply an endorsement, recommendation or favoring by the authors and their affiliated organizations.

The views expressed herein can in no way be taken to reflect the official opinion of the European Union. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of UNIDO's Secretariat concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as "developed", "industrialized" or "developing" are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process.

This document has been produced without formal United Nations editing. It may be freely quoted or reprinted, but acknowledgment is requested.

©Accelerating Industries' Climate Response in Sri Lanka, 2024
Design: Small World Stories

Introduction

The adoption of the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) in 2015 marked an important moment in the global effort to address climate change. A core part of the Paris Agreement is the Enhanced Transparency Framework (ETF) which introduces new and enhanced reporting and review requirements with the aim to enhance global transparency on climate change action.

In this context, all countries are required to comply with a range of reporting and accounting requirements, including the reporting of information in Biennial Transparency Report (BTR) and the assessment of that information through technical reviews and the communication of Nationally Determined Contributions (NDCs).

The NDC defines the actions countries will take to reduce their GHG emissions in order to reach the goals of the Paris Agreement. NDCs are to be communicated every five years. The BTR presents the information on tracking progress towards implementing and achieving their NDC, including emissions inventories disaggregating national GHG emissions by their sources, domestic actions for mitigating and adapting to climate change, and the status of financial, capacity-building, and technology support for mitigation and adaptation activities in the country. The submission of BTRs is every two years.

Considering these reporting requirements of the ETF, Sri Lanka needs to develop an effective system or mechanism to ensure the NDC and BTR can be continuously and efficiently reported within the required time frames. This is done through developing a comprehensive national Measuring, Reporting and Verification (MRV) System. As such, in the context of the Industry Sector of Sri Lanka, the objective of the MRV framework is for the country to report an inventory report of anthropogenic emissions by sources and removals by sinks of GHG for the industry sector as well as to report on progress on the industry sector targets as determined by the NDC.



Collecting and estimating data on GHG emissions and emissions reductions of mitigation actions

Measuring



Reporting information on the GHG inventory and the NDC progress in the required formats to the UNFCCC

Reporting



Verifying the quality of the data and reports and implement improvement plans to increase accuracy over time

Verification

GHG Inventory MRV Cycle

1 The objective of the MRV for the GHG inventory is for Sri Lanka to be able to compile and report the national inventory covering the industry-relevant emissions occurring in the emissions categories within the Energy and Industrial Processes and Product-Use sectors.

The key activities to be conducted to compile and report the GHG inventory, are formalised in the MRV cycle as seen below and contain the following elements:



MRV cycle activities

Planning of the MRV cycle activities.
Collection of sectoral data for the Energy and IPPU sectors.
Estimation of sectoral emissions data for the Energy and IPPU sectors..
Verification of the data and estimation quality through Quality Control and Quality Assurance (QA&QC).
Improvement of the estimations and of the MRV processes.
Reporting of the required documents including the GHG inventory estimations and descriptions to the UNFCCC.
Archiving of any relevant information and data throughout the MRV cycle.

2 To carry out the activities of the MRV cycle, specific roles and responsibilities need to be determined. These are formalised in the Institutional Arrangements for the GHG inventory.

Institutional arrangements are a set of established roles and associated responsibilities of institutions in a country. In the context of the Industry Sector GHG inventory development and reporting in Sri Lanka, these arrangements need to be developed taking into consideration the specific activities that are to be carried out for the inventory MRV process. As seen in the MRV cycle above, these activities relate to **planning, data collection, data estimation, verification, improvement, reporting as well as archiving.**

Therefore, reflecting these activities, key functions can be defined. The MRV functions form the backbone of the GHG inventory MRV system and need to carried out by institutions in Sri Lanka, which due to their organisational mandates, are best suited to carry out the responsibilities in the GHG inventory MRV process.

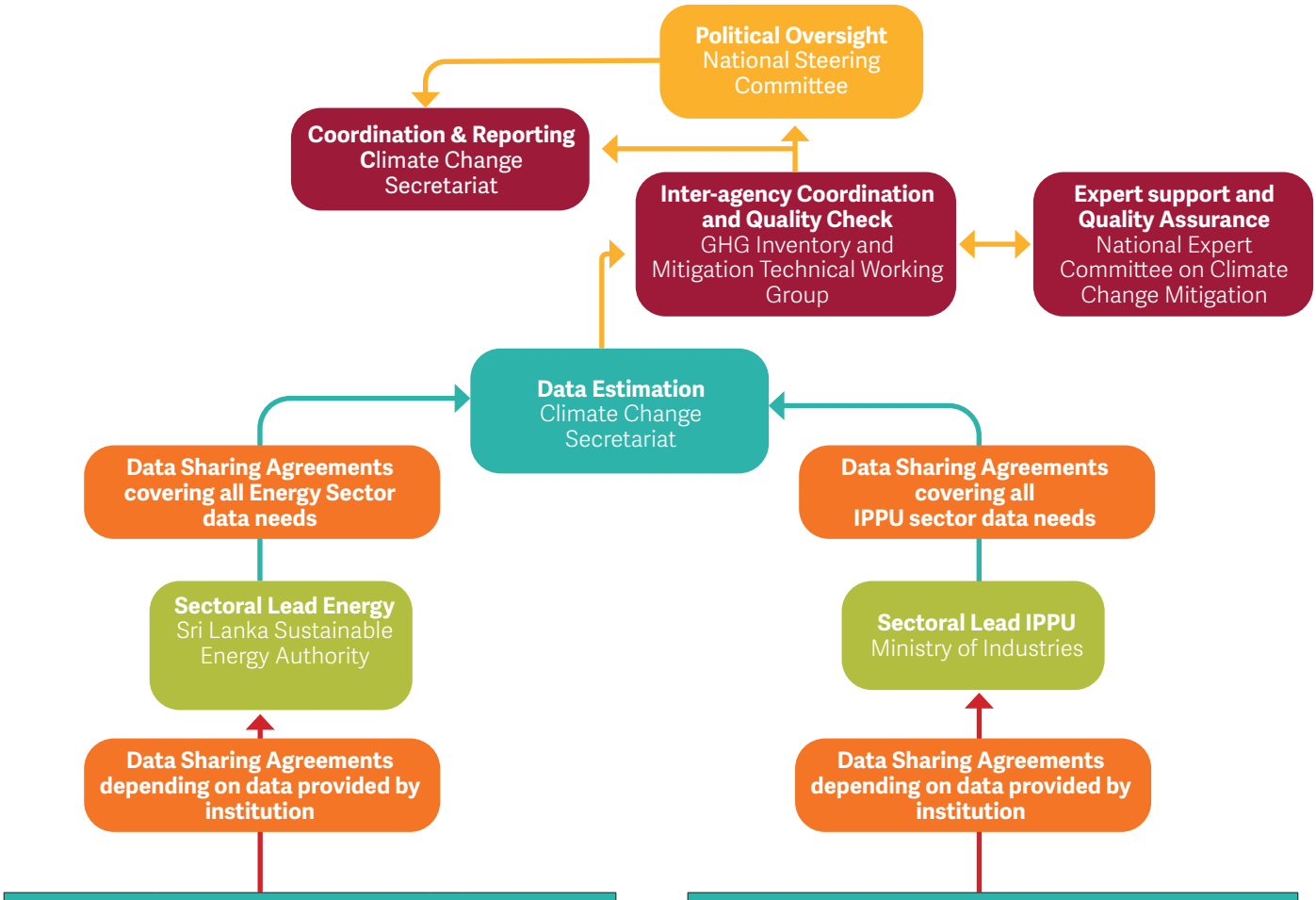
Core Function	Energy Sector Actors	IPPU Sector Actors
Coordination and Reporting	Climate Change Secretariat (CCS)	Climate Change Secretariat (CCS)
Sectoral Data Collection	Sri Lanka Sustainable Energy Authority (SLSEA)	Ministry of Industries (MoI)
Data Provision	Various Institutional and Private Sector Entities with relevant data	Various Institutional and Private Sector Entities with relevant data
Data Estimation	Climate Change Secretariat (CCS)	Climate Change Secretariat (CCS)
Inter-agency coordination and QC	GHG Inventory and Mitigation Working Group (IMWG)	GHG Inventory and Mitigation Working Group (IMWG)
Expert support and QA	National Experts Committee for Climate Change Mitigation (NECCCM)	National Experts Committee for Climate Change Mitigation (NECCCM)
Political Oversight and Validation	National Steering Committee (NSC)	National Steering Committee (NSC)
Archiving	Climate Change Secretariat (CCS)	Climate Change Secretariat (CCS)

3 Once the core functions of the GHG inventory MRV system are defined and linked to the key institutions in Sri Lanka, the MRV system requires to be enabled.

Enablement in this context means to ensure data can effectively flow between the institutions involved in the MRV process for the GHG Inventory. To facilitate this process, a few aspects must be taken into consideration:

- The **specific data needs**, hence, the data to be collected for the industry sector GHG inventory must be determined so that adequate data providers can be identified.
- The **directionality of the data flows** must be established in line with the MRV cycle activities.
- **Compliance of stakeholders** with the data flow procedures needs to be ensured through adequate instruments, such as for instance Data Sharing Agreements.

Institutional Arrangements and Data Flows in the GHG Inventory MRV System



Energy Data Providers			
Ceylon Electricity Board, Lanka Coal Company, Litro Gas, Laugfs Gas, Ceylon Petroleum Corporation, Sinopec, Lanka IOC, Sri Lanka Tea Board	Sri Lanka Customs, Department of Census and Statistics	Central Environmental Authority - EPL issuing system	
Data category 1A1 Energy Industries Power Generation and Oil Refining	**Data category** 1A2 Fuel use in Manufacturing Industries and Construction	**Data category** Cross-cutting 1A1 and 1A2	**Data category** Cross-cutting 1A1 and 1A2 for Tier 3 inventory elaboration

IPPU Data Providers	
Department of Census and Statistics - Annual Industry Survey, Sri Lanka Customs, Ministry of Environment - Ozone Unit, Sustainable Energy Authority, Central Environmental Authority - EPL issuing system, Geological Surveys and Mines Bureau	Siam City Cement, Ceylon Petroleum Corporation, Sinopec, Lanka IOC
Institutional data providers Categories of Industrial Processes and Product-use (IPPU) 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H	**Private sector data providers** Categories of Industrial Processes and Product-use (IPPU) 2A, 2D

4 The MRV IT system hosted at the Ministry of Environment and administered by the staff at the CCS, provides an effective platform for further strengthening the MRV process for the GHG inventory compilation.

The MRV IT system in its current stage is geared toward the registration, validation, and monitoring of projects that contribute to mitigating GHG emissions. However, the system provides with a well-designed structure and different user types which can be well adapted to reflect the MRV functions and roles for the GHG inventory. The following overview shows the required GHG Inventory functionalities of the MRV IT system:

GHG Inventory Functionalities

- Provide background information and guidance material on the compilation of the GHG inventory.
- Establish a clear functionality and formats for registering relevant data for the inventory.
- Link the Data Sharing Network of the Climate Change Secretariat to the platform.
- Allow for submission and linkages of data national statistics (Environmental Protection License, Energy Balance, Annual Industry Survey, Economic and Social Statistics).
- Ensure data from the IPCC software can be uploaded to the platform.
- Amend user types and, if necessary, access levels to reflect the roles and responsibilities defined in the MRV Protocols.
- Archiving of any relevant information and data throughout the MRV cycle.

Mitigation MRV Cycle

1 The objective of the MRV cycle for Mitigation is for Sri Lanka to be able to sustainably monitor and report on the progress in implementing mitigation actions and achieving mitigation objectives for the industry sector, and thus support the achievement of NDC.

The key activities to be conducted to compile and report on Mitigation and NDC tracking, are formalised in the MRV cycle as seen below and contain the following elements:



MRV cycle activities

Planning of the MRV cycle activities.
Collection of data on the progress of mitigation policies and measures for the Electricicty (Power) and Industry sector.
Estimation of the mitigation impact of the policies and measures (PAMs).
Verification of the data and estimation quality through Quality Control and Quality Assurance (QA&QC).
Improvement of the estimations and of the MRV processes.
Reporting of the required documents including the required tables and descriptions to the UNFCCC.
Archiving of any relevant information and data throughout the MRV cycle.

2 To carry out the activities of the MRV cycle, specific roles and responsibilities need to be determined. These are formalised in the Institutional Arrangements for mitigation and NDC tracking.

In the context of mitigation and NDC tracking for the industry sector in Sri Lanka, these arrangements need to be developed taking into consideration the specific reporting requirements as well as the already defined institutional strucutres for the NDC Implementaton Plan of Sri Lanka, published in 2023. Nonetheless, the key functions remain the same as for the GHG inventory and the key activities the arrangements need to cover relate to **planning, data collection, data estimation, verification, improvement, reporting as well as archiving.**

In the table below, key institutions in Sri Lanka are identified, which, due to their organisational mandates, are best suited to carry out effective tracking and reporting of mitigation activities and NDC tracking.

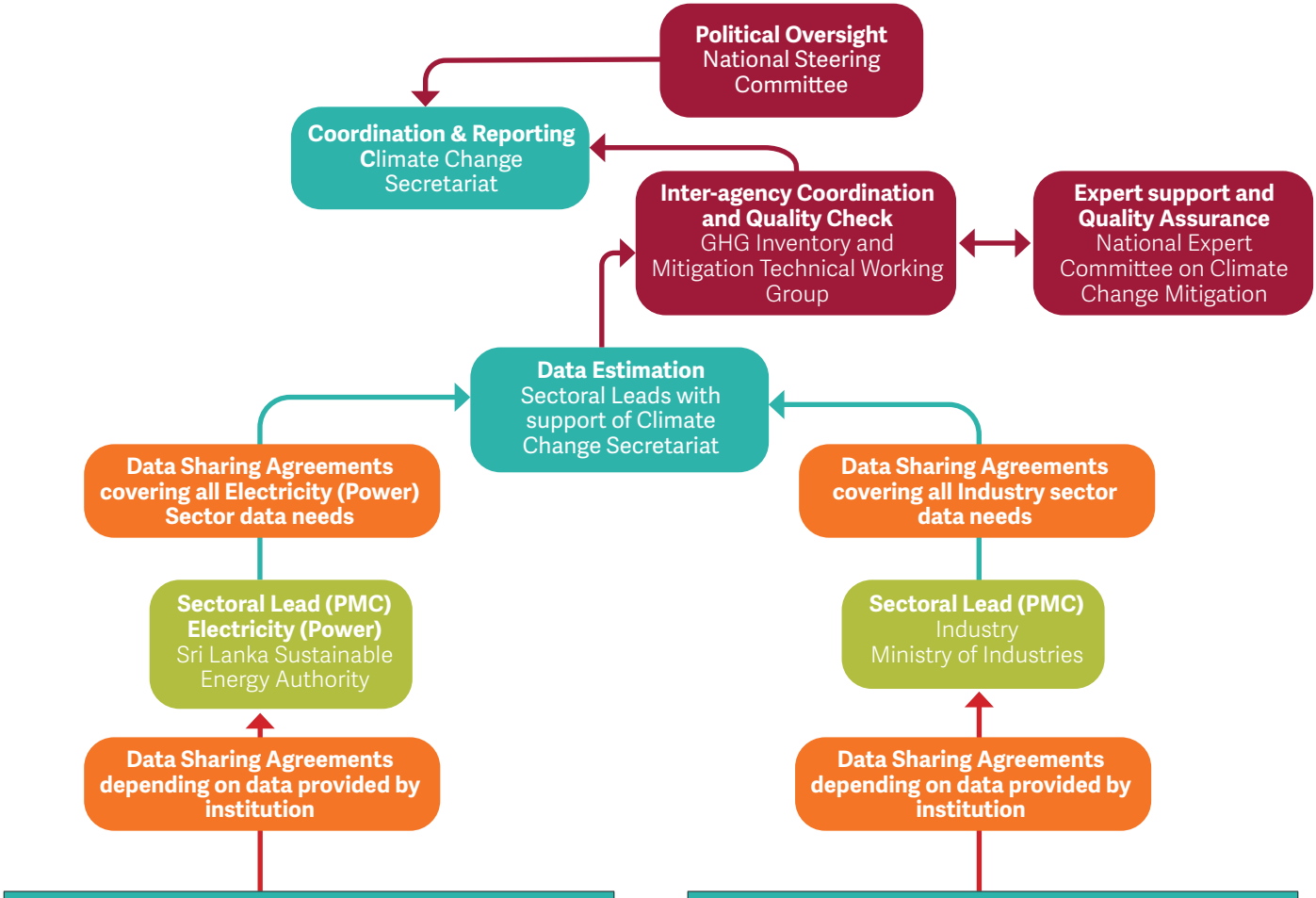
Core Function	Energy Sector Actors	IPPU Sector Actors
Coordination and Reporting	Climate Change Secretariat (CCS)	Climate Change Secretariat (CCS)
Sectoral Data Collection	Sri Lanka Sustainable Energy Authority (SLSEA)	Ministry of Industries (MoI)
Data Provision	Various Institutional and Private Sector Entities with relevant data	Various Institutional and Private Sector Entities with relevant data
Data Estimation	Climate Change Secretariat (CCS)	Climate Change Secretariat (CCS)
Inter-agency coordination and QC	GHG Inventory and Mitigation Working Group (IMWG)	GHG Inventory and Mitigation Working Group (IMWG)
Expert support and QA	National Experts Committee for Climate Change Mitigation (NECCCM)	National Experts Committee for Climate Change Mitigation (NECCCM)
Political Oversight and Validation	National Steering Committee (NSC)	National Steering Committee (NSC)
Archiving	Climate Change Secretariat (CCS)	Climate Change Secretariat (CCS)

3 Based on the defined institutional arrangements for the Mitigation MRV system, the key data flows between institutions are determined. Note, the identified data needs, data providers and directionality of data flows are crucially informed by the NDC Implementation Plan.

To ensure data can effectively flow between the institutions involved in the MRV process:

- The **specific data needs**, hence, the data to be collected for the industry sector mitigation policies and measures must be determined so that adequate data providers can be identified.
- The **directionality of the data flows** must be established in line with the MRV cycle activities.
- **Compliance of stakeholders** with the data flow procedures needs to be ensured through adequate instruments, such as for instance Data Sharing Agreements.

Institutional Arrangements and Data Flows Mitigation



Electricity (Power) Data Providers

Ceylon Electricy Board, Department of Census and Statistics, Private Entities (Investors, Companies), Central Environmental Authority, Local Authorities, Ministry of Power and Energy, Ministry of Finance, Ministry of Environment, Sri Lanka Standards Institution, Urban Development Authority, Chambers and Industry Associations, Academia, Mahaweli Authority of Sri Lanka, Land Custodians

Data category Electricity (Power) Policies and Measures

NDC Elements 1, 2, 3, 4, 5

Industry Data Providers

Sri Lanka Sustainable Energy Authority, Ministry of Power and Energy, Ceylon Electricy Board, Board of Investments, Ministry of Environment, Department of Census and Statistics, Central Environmental Authority, Ministry of Finance, Chambers and Industry Association, Industrial Services Bureau, Industrial Development Board, Urban Development, Lanka Industrial Estates Ltd., Sri Lanka Sustainable Energy Authority, Waste Management Actors, Sustainable Consumption and Production (SCP) Providers, National Cleaner Production Centre, Industrial Technology Institute, Academia, National Enterprise Development Authority, Mahaweli Authority of Sri Lanka, Coconut Development Authority

Data category Industry Policies and Measures

NDC Elements 1, 2, 3, 4, 5, 6, 7

4 The MRV IT system hosted at the Ministry of Environment and administered by the staff at the CCS, provides an effective platform for further strengthening the MRV process for the Mitigation MRV.

The MRV IT system in its current stage is not populated with targeted mitigation data. Going forward, the mitigation PAMs of the NDC Implementation Plan should be registered on the platform to enable effective tracking of progress on the implementation of these PAMs. To that end, the current functionality only allowing to register individual projects should be expanded to also allow for submission of larger policies. Lastly, the IT platform should be strongly integrated with the MRV system for mitigation, and functionalities displaying progress on achieving the NDC may be considered as a strong visual tool.

Mitigation and NDC tracking Functionalities

Provide background information and guidance material on the compilation of mitigation PAMs and NDC tracking
Enable registration of policies in addition to projects. Provide default selection from NDC Implementation Plan
Enable managing user types to make direct changes to PAMs and reports
Allow for flexibility on the responsible institution when registering a policy or project
Enhance the templates for registering the PAMs to reflect the data of the NDC Implementation Plan
Establish a function that distinguishes general projects from those PAMs which are centrally tracking the NDC
Integrate targeted monitoring indicators on for each registered PAM on the platform. Include a function to show the percentage of progress on the PAM
Amend user types and, if necessary, access levels to reflect the roles and responsibilities defined in the MRV Protocols

Sample of MRV Protocols

In this part, a brief example of carrying out all activities of the Mitigation MRV cycle process is provided to outline a typical MRV cycle process. This includes descriptions of the specific actions that must be taken in each step of the MRV cycle for Mitigation.

Planning: The various activities to be conducted throughout the MRV cycle, and the timelines for completing these activities, are established by the CCS in collaboration with the GHG Inventory and Mitigation Working Group. In this stage, the data templates to be used during the collection of data, as well as the list of key stakeholders that will be involved in the cycle will be defined and updated, if necessary.

Measuring and Monitoring: The activities to be conducted under this step are undertaken during the "Collect" and "Estimate" stages of the MRV cycle, and involve the following steps:

1. Identification of relevant PAMs

The sectoral leads, SLSEA and MoI, must identify relevant sectoral mitigation PAMs, which are those policies and measures with substantial emissions reduction impacts on the relevant emissions categories. These PAMs should be prioritised for data collection and subsequent estimation and reporting.

2. Data collection

In this step, the required data is collected from data providers and the data collection template is filled with the most relevant sectoral PAMs. This process can be seen in the graph below. Note, the MRV IT system may be used for collecting the data, provided it undergoes a few technical improvements.

3. Measuring

This component requires carrying out a set of steps to estimate the mitigation impact of a PAM on the basis of the data collected, as defined in the data compilation templates. The steps for measuring are explained below.

4. Monitoring

The monitoring component is the responsibility of the SLSEA and MoI as the sectoral leads. It consists of the continuous assessment of the implementation status of mitigation policies and measures to track their progress over time. Implementation progress can be tracked via performance indicators that reflect the objective of the PAM and are specific to each PAM as they must assess the progress level at a given point in time. In the NDC Implementation Plan of Sri Lanka, Key Performance Indicators (KPIs) are already defined for most PAMs.

Verification: The verification stage includes the Quality Assurance (QA) and Quality Control (QC) processes of the mitigation cycle which are essential to ensure accuracy and completeness. Quality control activities are incorporated in all the steps of the MRV cycle to enable swift identification of any issues with the data. All key institutions will participate in QA/QC activities depending on their specific roles and responsibilities, which includes quality checks of the estimates and of the mitigation section of the BTR. Quality assurance, on the other hand, is a formal process by which the National Expert Committee assesses the overall appropriateness and correctness of the progress and estimation of mitigation impacts of PAMs to be reported.

Archiving: Another crucial aspect to consider during the MRV cycle is archiving. Archiving essentially involves safely storing any relevant information and data. This includes planning documents, data templates and forms, any calculations conducted as well as up-to data information on all relevant PAMs.

Reporting: The CCS is responsible for reporting the estimated mitigation PAMs to the UNFCCC and preparation of the BTR chapter on mitigation in a two-year cycle in line with requirements of the Paris Agreement, such as the Common Tabular Formats (CTF), and the Biennial Transparency Report chapter on mitigation.

The Biennial Transparency Report (BTR) chapter on mitigation provides an overview of the countries NDC, and mitigation actions implemented to achieve the NDC. Chapter II of the BTR defines the outline regarding mitigation, including:

- Information necessary to track progress made in implementing and achieving nationally determined contributions under Article 4 of the Paris.
- Mitigation policies and measures, actions, and plans, including those with mitigation co-benefits resulting from adaptation actions and economic.

Common Tabular Formats (CTF) are a set of tables that contain detailed information on the countries progress on the NDC, as per CTF 4 as well as on individual mitigation PAMs as per CTF 5.

Data Sharing Agreements and Terms of Reference

To enable the implementation of effective MRV cycles, it needs to be ensured that institutions fulfil their responsibilities. This includes the adequate sharing of data between institutions as well as the adoption of the key roles of the MRV system. To facilitate this, targeted Data Sharing Agreements and Terms of References for the key institutions are developed providing guidance on the required data to be shared and on the specific roles and responsibilities by institutions.

1 Data Sharing Agreements

A key component to ensure the effective flow of data in the MRV Framework is the development and adoption of Data Sharing Agreements (DSA) by the institutions involved in data compilation and estimation. DSA therefore serve as an important element of the MRV system as they support the continuous provision of necessary data.

The DSA are developed following several key principles:

- DSA clarify the **terms and modalities** for sharing of data between **two institutions**.
- DSA clearly define the **type and format of data** that is to be shared and provide detailed guidance as well as defined tabular formats to facilitate this.
- DSA are established between the Sectoral Leads and the Climate Change Secretariat and between the Sectoral Leads and additional Data Providers as required.
- DSA additionally contain provisions for:
    - Confidentiality.
    - Data Transfer and Security.
    - Amendment and Entry into Force.

In line with the defined responsibilities of the industry sector MRV system, the following DSA are required:

Data Sharing Agreements	Who	What
	Climate Change Secretariat & Sustainable Energy Authority	All energy (electricity-power) sector data related to the GHG Inventory and Mitigation
	Climate Change Secretariat & Ministry of Industry	All industry (IPPU) sector data related to the GHG Inventory and Mitigation
	Sustainable Energy Authority & Energy (Electricity-Power) sector data providers	Relevant energy (electricity-power) sector data available at the data provider institution
	Ministry of Industries & Industry (IPPU) sector data providers	Relevant energy (electricity-power) sector data available at the data provider institution

2 Terms of Reference

Terms of Reference (TOR) detail the specific roles and responsibilities of all key institutions involved in the industry sector MRV system. As such, they are developed as concise information sheets that support the adoption of the respective roles in the MRV by providing detail on:

- The main role (name) of the institution in the MRV system.
- A full list of all responsibilities of the institution.
- Clear distinction between responsibilities in the GHG inventory and mitigation MRV, as applicable.
- Work and meeting modalities.
- Provisions for sharing of information referencing the DSA, as applicable.
- Provisions for amendment and written agreement.

TOR are developed for the key institutions of the industry sector MRV system which include the Coordinator, the Sectoral Leads, Key Data Providers, and the different Working Groups and Committees, as follows:

Terms of Reference	Developed for
	Climate Change Secretariat(CCS)
	Sustainable Energy Authority (SLSEA)
	Ministry of Industries (MoI)
	Central Environmental Authority (CEA)
	Department of Census and Statistics (DCS)
	GHG Inventory and Mitigation Working Group (IMWG)
	National Expert Committtee on Climate Change Mitigation (NECCCM)
	National Steering Committee

Action Plan to Adopt the MRV System

The MRV Framework presents a robust set of institutional arrangements, protocols, and requirements for operationalising the industry sector GHG inventory and mitigation MRV systems in Sri Lanka. However, the effectiveness of the MRV hinges on the successful adoption of the protocols and arrangements by all key stakeholders. To facilitate this, an Immediate Action Plan is developed which lines out 8 activities to be implemented over the course of 2024.

*The Immediate Action Plan further supports the Roadmap for Upscaling the MRV System, detailing short, medium, and long-term actions to expand the MRV system beyond the industry sector.

The key objective of the Immediate Action Plan is to enable the swift adoption of the MRV system including the uptake of the envisioned roles and responsibilities and the commencement of the 2024 BTR reporting cycle.

The immediate action plan is developed with strong consideration of the current circumstances, the latest developments in the country, and especially in view of the reporting of the first national BTR by December 2024 at the latest. The 8 envisioned activities take into account the possibility of receiving external support to develop the BTR components by 2024, while simultaneously proposing a way to utilise the MRV structures to contribute to this report, particularly focusing on the steps of Data Provision, QA/QC, and the Final Validation of the report.

To enable the direct utilisation of the MRV system, the first set of activities aims to adopt the MRV arrangements by means of finalising the Data Sharing Agreements and Terms of Reference for the key institutions. These activities are complemented by additional activities including the official kick-off of the BTR reporting cycle, organisation of required capacity-building activities and short-term IT improvements to further support data compilation.

On the next page a consolidated timeline for the Immediate Action Plan is provided.

2024												
Task / Deliverables	January	February	March	April	May	June	July	August	September	October	November	December
Activities												
Activity 1 - Adopt MRV Arrangements and Identify Stakeholders for Additional Sectors												
Activity 2 - Formalise the Data Sharing Agreements												
Activity 3 - Finalise the Terms of References												
Activity 4 - Kick-off Meeting												
Activity 5 - Capacity-building for Data Provision, QA/QC and Validation												
Activity 6 - Implement a Simplified MRV Cycle												
Activity 7 - Short-term MRV IT Improvements												
Activity 8 - Prepare the 2025-2026 BTR Cycle												
M&E of the Action Plan												
M&E Status Updates			X		X		X		X		X	

Legend							
Consultation	Meeting	Agreement	Capacity building	Product/ Report	IT System	Pilot	M&E Status Updates
							X

Accelerating Industries' Climate Response in Sri Lanka is a project funded by the European Union under the Global Climate Change Alliance+, and implemented by the United Nations Industrial Development Organization with the Ministry of Environment, Ministry of Industry and the Ministry of Power and Energy.

ACCELERATING INDUSTRIES' CLIMATE RESPONSE
SRI LANKA

Accelerating Industries' Climate Response in Sri Lanka Project
Ground Floor, New CSL Building | No. 133, Kinsey Road
Colombo 08, Sri Lanka.
Tel/Fax: +94 112 689 155 Email: aicr-srilanka@unido.org