



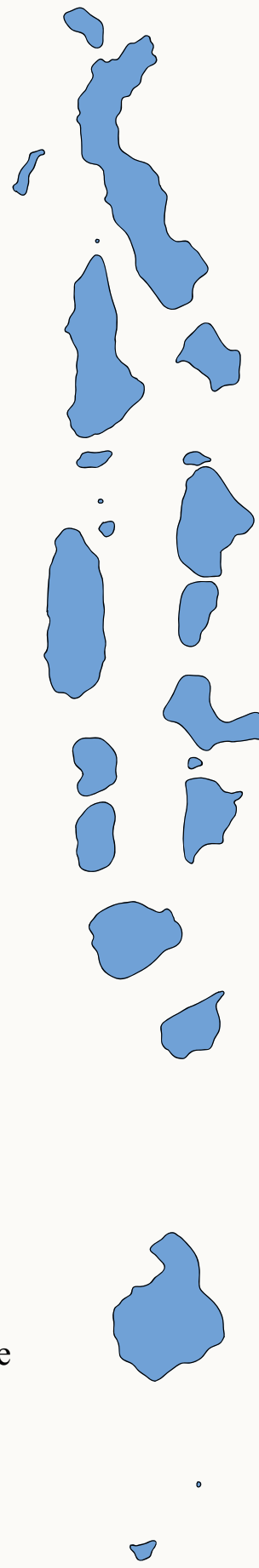
**Ministry of Climate Change,
Environment and Energy**

Report on Gaps and Needs and Institutional Arrangements for the Monitoring of Mitigation Actions

Consultancy Services to Review and
Strengthen the Institutional Arrangements for
Climate Change Reporting

CBIT Maldives

Capacity Building for Improved Transparency of Climate Change
Mitigation and Adaptation Actions in the Maldives





Ministry of Climate Change, Environment and Energy
Male', Republic of Maldives

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*Capacity Strengthening for Improved Transparency of
Climate Change Mitigation and Adaptation Actions in
the Maldives Project*





Ministry of Climate Change, Environment and Energy

Capacity Strengthening for Improved
Transparency of Climate Change
Mitigation and Adaptation Actions in
the Maldives Project (CBIT Maldives)



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Acronyms

BAU	Business As Usual
BTR	Biennial Transparency Report
BUR1	1st Biennial Update Report
CBIT	Capacity-Building Initiative for Transparency
CCD	Climate Change Department
CH4	Methane
CO2	Carbon Dioxide
ETF	Enhanced Transparency Framework
FAO	Food and Agriculture Organization
FTE	Full-Time Equivalent
GACMO	Greenhouse Gas Abatement Cost Model
GEF	Global Environment Facility
GHG	Greenhouse Gas
IA	Institutional Arrangements
ICAT	Initiative for Climate Action Transparency
LEAP	Low Emissions Analysis Platform
LNG	Liquefied Natural Gas
MCCEE	Ministry of Climate Change, Energy and Environment
MRV	Monitoring, Reporting, and Verification
MW	Megawatt
NBS	National Statistics Bureau
NC2	2nd National Communication
NDC	Nationally Determined Contribution

NOx	Nitrogen Oxides
PV	Photovoltaic
QA	Quality Assurance
QC	Quality Control
RE	Renewable Energy
SINAMECC	Sistema Nacional de Medición, Reporte y Verificación (National System for Measurement, Reporting, and Verification)
SMART	Specific, Measurable, Achievable, Relevant, Time-bound (used for objectives)
STELCO	State Electric Company
TNA	Technology Needs Assessment
TOR	Terms of Reference
UNEP DTU	United Nations Environment Programme - Technical University of Denmark Partnership
UNFCCC	United Nations Framework Convention on Climate Change
URA	Utilities Regulatory Authority

Executive summary

This report has been commissioned as part of the Capacity Building Initiative for Transparency (CBIT) project, funded by the Global Environment Facility (GEF). It aims to address the gaps and needs highlighted in the 1st Biennial Update Report (BUR1) and establish a robust monitoring, reporting, and verification (MRV) system for tracking national climate change efforts and progress towards Nationally Determined Contribution (NDC) targets.

The thematic focus of the report is NDC and mitigation action tracking, involving data collection, analysis, and reporting on policies, measures, and actions that impact greenhouse gas (GHG) emissions. It outlines the expected outputs from the MRV system, such as expert reviews, data sets, and indicators, contributing to various domestic and international reports and strategies, thereby supporting transparency in climate change mitigation efforts.

The report reviews institutional arrangements for monitoring mitigation actions across governance, expertise, data flows, tools, and stakeholder engagement, examining legal frameworks and potential data collection bottlenecks. It lays the groundwork for a comprehensive MRV system to support informed decision-making on climate action, policy, and investment. The report proposes a detailed list of recommendations for a National Improvement Plan that serves as the foundation for recommendations in the Enhanced Transparency Framework (ETF) Roadmap.

Key findings and recommendations under each of the components of institutional arrangements include:

Governance

Key Findings:

- Governance structures lack a clear and formal system with defined roles and responsibilities for climate change mitigation reporting.
- Legal frameworks and compliance systems for MRV lack detail, with most mandates only identified for the Climate Change Department.
- There is limited engagement from academia and sub-national government organizations in MRV activities, and technical working groups are not regularly convened.

Key Recommendations:

- Formalize roles and responsibilities through agreements and establish a robust MRV framework, including the creation of an MRV Steering Committee and Sectoral Working Groups.
- Develop supporting regulations for key legislation, such as the Climate Emergency Act and Waste Management Act, to operationalize MRV systems.
- Clearly define the roles of the Utilities Regulatory Authority and the Ministry of Climate Change, Environment and Energy (MCCEE) in data collection and provision.
- Ensure a sustainable flow of resources for the ongoing development and management of the MRV system, including resource needs assessments and implementation plans.

Expertise

Key Findings:

- Expertise is concentrated within the Climate Change Department, with significant technical capacity gaps in other ministries and among stakeholders.
- There's a lack of adequate training in climate change-related areas and data handling, alongside challenges in retaining trained staff due to non-competitive conditions and lack of a junior expert development program.

- There is an existing gender imbalance in the number of experts working in the field of MRV of climate change mitigation.

Key Recommendations:

- Conduct a detailed training needs assessment and implement capacity-building programs for MRV-related tasks.
- Develop staff retention policies and create centralized learning hubs to preserve institutional memory and ensure continuity of expertise.
- Ensure gender balance is maintained implementing capacity building programs in MRV related works.

Data flows

Key Findings:

- Data flows for MRV in the Maldives are hindered by a lack of data collection plan which results in irregular collection schedules, insufficient quality control, and a lack of standardized data verification protocols.
- There's a notable absence of localized emission factors and uniform data formats across sectors, compounded by private sector reluctance to share data.

Key Recommendations:

- Establish a comprehensive list of NDC tracking indicators and develop sector-specific data collection and management plans.
- Create a database for climate actions, conduct impact analyses to gauge their GHG reduction potential, and negotiate data sharing agreements to ensure consistent and transparent data provision.

Systems and tools

Key Findings:

- The current lack of comprehensive database management, templates and standardized IT tools hampers effective data collection, analysis, and reporting for consistent climate action and NDC tracking.

Key Recommendations:

- Develop and implement a centralized data management system that includes data collection templates, methodologies, and guidelines for use across different sectors.
- Ensure this system is integrated with GHG inventories, adaptation data, and other relevant information to support transparency and improve institutional memory.

Stakeholder engagement

Key Findings:

- Stakeholder engagement is currently limited to the publication of data in official reports only, affecting the usefulness of the transparency system for evidence-based decision-making.

Key Recommendations:

- Develop a comprehensive stakeholder engagement plan to facilitate broader participation and access to climate action data, ensuring stakeholders at all levels are involved in the decision-making process and have access to data beyond just the publication of reports.

Introduction

This report is part of the Capacity Strengthening for Improved Transparency of Climate Change Mitigation and Adaptation Actions in the Maldives project, under the Global Environment Facility (GEF) funded Capacity Building Initiative for Transparency (CBIT) program. The objective of this report is to update the gaps and needs identified in the 1st Biennial Update Report (BUR1) for the establishment of a robust monitoring, reporting and verification (MRV) system to track national climate change mitigation efforts and the progress of the Nationally Determined Contribution (NDC) targets.

This report will review the institutional arrangements for monitoring mitigation actions through five components: governance, expertise, data availability and flows, systems and tools and stakeholder engagement. This will include a review of the relevant legal frameworks and potential bottlenecks for mitigation data collection. Appendix 1. Key documents, inputs and research for the analysis of the MRV system presents the list of documents reviewed as part of the desk review for this study.

The development of a well-functioning MRV system will help the Maldives to track outcomes such as the targets in the NDC as well as improving access to climate change data and information that can support informed decision making on domestic climate change action, policy and investment.

The findings from this report will serve as the basis for the recommendations and improvement actions described in the Enhanced Transparency Framework (ETF) Roadmap (Deliverable 2.1.2). The report is structured as follows:

- An overview of the MRV System design with respect to the scope, outputs and data types covered.
- Comprehensive review of the institutional arrangements for tracking mitigation action
- Key gaps and barriers described, including any potential bottlenecks in the legal framework

MRV system concepts

This section introduces concepts for the development of an MRV system. Through the implementation of the CBIT project, the Maldives will develop a sustainable MRV system that will enable it to track progress towards a range of adaptation, mitigation and climate finance **targets** and **contribute to a range of different outputs and communications** using **well understood terms and indicators**.

The analysis draws on a range of recent reports and ongoing work specifications and reports that relate directly or indirectly to the development of an MRV system including:

- Key international climate change reports (e.g. BUR1, 2nd National Communication (NC2), NDC)
- National development strategies (e.g. Strategic Action Plan 2019 – 2023, Low Carbon Development Strategy, Climate Change Policy Framework)
- Ongoing and complete project documents (e.g. The Initiative for Climate Action Transparency (ICAT), Mitigation Technology Needs Assessment (TNA) Reports)

A full list of the documents reviewed for this project is included in Annex 1.

Scope

This section defines the key thematic scope for an MRV framework that help guide the development of institutional arrangements.

The full thematic **scope** of climate change MRV includes climate change **mitigation** (including GHG inventory, projections and actions), **adaptation** (including risks, vulnerabilities, loss and damage, and adaptation action),

and **support** (including climate finance, capacity building and technology transfer, provided, needed and received), as well as the wider impacts of climate action (e.g. on economic development, gender and social inclusion, youth).

This report will focus on **NDC and mitigation action tracking**, however the full scope of climate change MRV is considered across the CBIT project. This thematic focus relies on the data collection, analysis and reporting of **policies, measures and actions** that reduce sources of, or increase sinks of, GHG emissions. Also, the collection, compilation and reporting of data relevant for **NDC target progress indicators**. These data types are described in more detail in the sections below.

Outputs

In order to engage stakeholders and maximise successful outcomes, the Maldives' MRV system needs to regularly and transparently produce and update a range of reports, indicators and other stakeholder engagement pieces (e.g. briefings, documents, strategies, workshops, websites etc). The MRV System support to outputs will draw on a range of human and data resources and take the form of:

- Expert advice and review of material
- Expert creation of material
- Datasets and factsheets
- Indicators and data visualisations
- Sections, chapters, narratives for reports
- Background documents to reports
- Participation in consultations and review
- Training material
- Guidance

Outputs will support communications on ambition, analysis of changes and narratives on progress. The mitigation action data managed through the MRV system is valuable for a range of domestic and international outputs. The following provides examples of outputs which could be managed by the MRV system:

- Nationally Determined Contribution implementation plans and its updates
- National Growth and development strategies, Strategic Action Plans, progress reports and briefings
- Reports to the United Nations Framework Convention on Climate Change (including the first Biennial Transparency Report (BTR) and 3rd National Communication which are both in development, as well as future annual Article 6 submissions)
- Sustainable development goal reporting, the MRV system needs to highlight the wider impacts of the SDGs on climate goals as well as the impacts of climate action on SDGs.

Appendix 2. Example key outputs supported by the mitigation action MRV system presents a list of key outputs and their data requirements relevant to mitigation action MRV.

Targets, actions and indicators

The MRV system will help stakeholders identify and track a range of climate related targets (such as those in the NDC), actions (policies, measures, projects, initiatives), and indicators to track the progress of both. The sections below introduce these key data types and provides a summary from publicly available documents. The annexes provide more detailed information on each of these data types.

It is important to build a good understanding of the data managed by the MRV system to better understand the challenges and requirements of collecting that data, as well as which stakeholders are involved in the process.

Targets

Appendix 3. NDC targets introduces an example working list of the targets and their source documents compiled for this project that should guide the scope of the MRV system. Designing the MRV system around tracking these targets will ensure that it develops sufficient data flows, expertise and stakeholder engagement.

Climate change mitigation targets can be specific to GHG emissions reduction (compared to a base year or business as usual scenario), or they can non-GHG specific targets such as renewable energy % contribution targets. Some targets may be the completion of specific policies and measures. In general, a target with a quantitative progress indicator is easier to collect data for and track progress against.

The targets extracted from the NDC are provided below:

- Unconditional emissions reduction target of 26% by 2030, compared to BAU (Updated NDC, 2020)
- Conditional net zero target by 2030 (Updated NDC, 2020)
- Increase the installed the RE share to 15% of the energy mix across the public and private sector (Updated NDC, 2020)
- Increase of efficiency of generators and reducing grid loss to at least 5% (Updated NDC, 2020)
- Implementation of the standard labelling program and improvement of building standards for energy efficiency (Updated NDC, 2020).
- The planned installation of 8 MW in Thilafushi and 1.5 MW in Addu City Waste to Energy plants (Updated NDC, 2020).
- Establishment of vehicle/vessels emissions standard and establishment of efficient transport management system and promotion of hybrid-vehicles (Updated NDC, 2020)
- Use of Liquefied Natural Gas (LNG) for electricity generation within greater Malé region (Updated NDC, 2020).

In addition to the NDC, it is important to consider other sectoral strategies or national development plans to ensure the targets and ambitions are aligned across the mandates of different stakeholder organizations.

Actions

The Actions list will detail various projects and programs and initiatives, focusing on mitigation with wider impacts that could impact adaptation outcomes, loss and damage response, and support. The BUR contains a list of mitigation actions, some examples are provided below:

- Promotion of PV in Greater Male area. Install 740 kW of solar PV
- Diesel-solar-hybrid systems (114kW) to cater for the Desalination plant power requirements
- Low Emission Climate Resilient Development (LECRd): Installation of a 66kW grid-connected photovoltaic system (PV)
- STELCO 6 Island Project: installation of a 652kW grid-connected photovoltaic system (PV)
- Islands Waste to Energy Project: 1.5MW waste to energy plant installed at Addu as solution for regional waste management

Developing a live database of climate actions is an important step to developing a functional MRV system and improving accessibility of climate related data for domestic and international audiences. Appendix 4. Actions presents the tabular format to capture information on climate actions relevant for reporting to the UNFCCC and domestically.

Indicators

Indicators are a transparent, trusted set of metrics updated regularly and used to inform a wide stakeholder audience on progress with meeting the outcomes, implementing actions and addressing challenges tracked by the MRV system. Indicators will be linked to actions and targets. Indicators will include a core set and a wider set which will be developed through consultation. Clear reliable data flows and well documented methods and regular updates will be needed to ensure that indicators are valued and trusted by stakeholders.

Example indicators suggested from an analysis of the NDC mitigation targets could include:

- Annual national GHG emissions and removals from all sources and sinks
- Annual renewable energy generation (kWh)
- Reduction in fuel consumption per unit of electricity generated
- Percentage reduction in grid transmission and distribution losses
- Reduction in total energy consumption (GWh)
- Progress of the installation of Waste to Energy plants (% completion)
- Percentage of vehicles compliant with new emissions standards
- Number of hybrid vehicles sold/imported
- Percentage of Electricity Generated from LNG

The development of a full set of indicators is planned under CBIT Project *Output 2.2 Indicators for tracking mitigation actions, methods and tools for estimating indicators, templates and protocols for collecting data to estimate indicators, etc., including data base storage and management system, developed and operationalized.* An analysis of gaps and barriers in the BUR, stated that 'Initial identification of mitigation indicators, templates for compilation of data on indicators and timelines for compilation of data on indicators' has been conducted 'to some extent'.

Institutional arrangements

Successful MRV of climate change mitigation data requires consideration of five components for strong institutional arrangements:

1. **Governance** such as roles, responsibilities, agreements, laws, and commitments
2. **Expertise** including data, modelling, compilation, and reporting experts across a range of themes.
3. **Data flows** and availability of the data necessary for the MRV system to be of value.
4. **Systems and tools** for information, communication, and engagement
5. **Stakeholder engagement** to effectively communicate the value of the data

These components will cover a range of formalities and activities across several organisations. These organisations might include government ministries and/or agencies, academic/research institutions, local self-government, private organisations, and consultants. Well-functioning institutional arrangements will ensure that the MRV system can fulfil the commitments set out in national strategic plans. They will be flexible and sustainable and ensure that resources are available for recurring and continuously improving data gathering, compilation, analysis and reporting across the agreed scope. This framework should be used to assess current institutional arrangements and be used as a foundation for future MRV development. Gaps and barriers under each component are presented below alongside recommendations for key improvements which should form the basis of a National Improvement Plan and the items foundation for the Roadmap.

Governance

Governance refers to the roles, responsibilities and legal framework that mandate and support regular and reliable reporting on climate action. The governance related gaps and barriers identified in the BUR1 included:

- **Legal mandate:** A legal mandate is only identified for the Maldives Climate Change Team at the Ministry of Environment and Energy. This follows its mandate to carry out the obligations of all climate change related International treaties and activities related to organizations that the Maldives is party to.
- **Compliance and Legal Frameworks:** No compliance system defined and no existing legal frameworks for MRV in the country.
- **Institutional Setup:** Although the Department of Climate Change has a clear role as a coordinator of climate initiatives in the country, and stakeholders were identified, the official definition of a system with institutions participating on a regular basis is still missing. This implies that no coordination work made by the Department of Climate Change team is based upon a formal system.
- **Roles and Responsibilities:** It is declared that roles and responsibilities of stakeholders (ministries, government departments, private sector and civil society) are only defined to a small extent and even for sub-national governments or academia they are not defined at all.
- **Technical working groups:** Technical Working groups are not identified on a regular basis, unless for the preparation of consolidated reporting documents to UNFCCC, including National Communications and BUR on a specific basis.

These gaps and presented in the BUR1 originate from a study conducted in 2018 by the UNEP DTU Partnership on an initial proposal of a national system for MRV of mitigation actions for the Maldives. This report highlights the role of the Climate Change Department (CCD) at the Ministry of Climate Change, Environment and Energy of Maldives (MCCEE) as the leading coordinator for the implementation of a national MRV system. However, this report cites a lack of sectoral support from stakeholders and challenges with mainstreaming climate change mitigation activities as key barriers for the MRV system. Since this report was published however, the Maldives have passed the Climate Emergency Law which establishes several key stakeholder roles and institutional arrangements for climate change reporting, see Table 1. Legislative review of national mitigation action MRV system for a detailed review of the Climate Emergency Law, as well as other relevant legislation.

A view of institutional arrangements are presented in the UNEP DTU report which have been interpreted into an organizational diagram (below) that describes the current roles and data flow for key stakeholders that collect and manage mitigation data. Appendix Stakeholder mapping presents a tabular view of the Maldives' national stakeholder roles and responsibilities for mitigation action MRV.

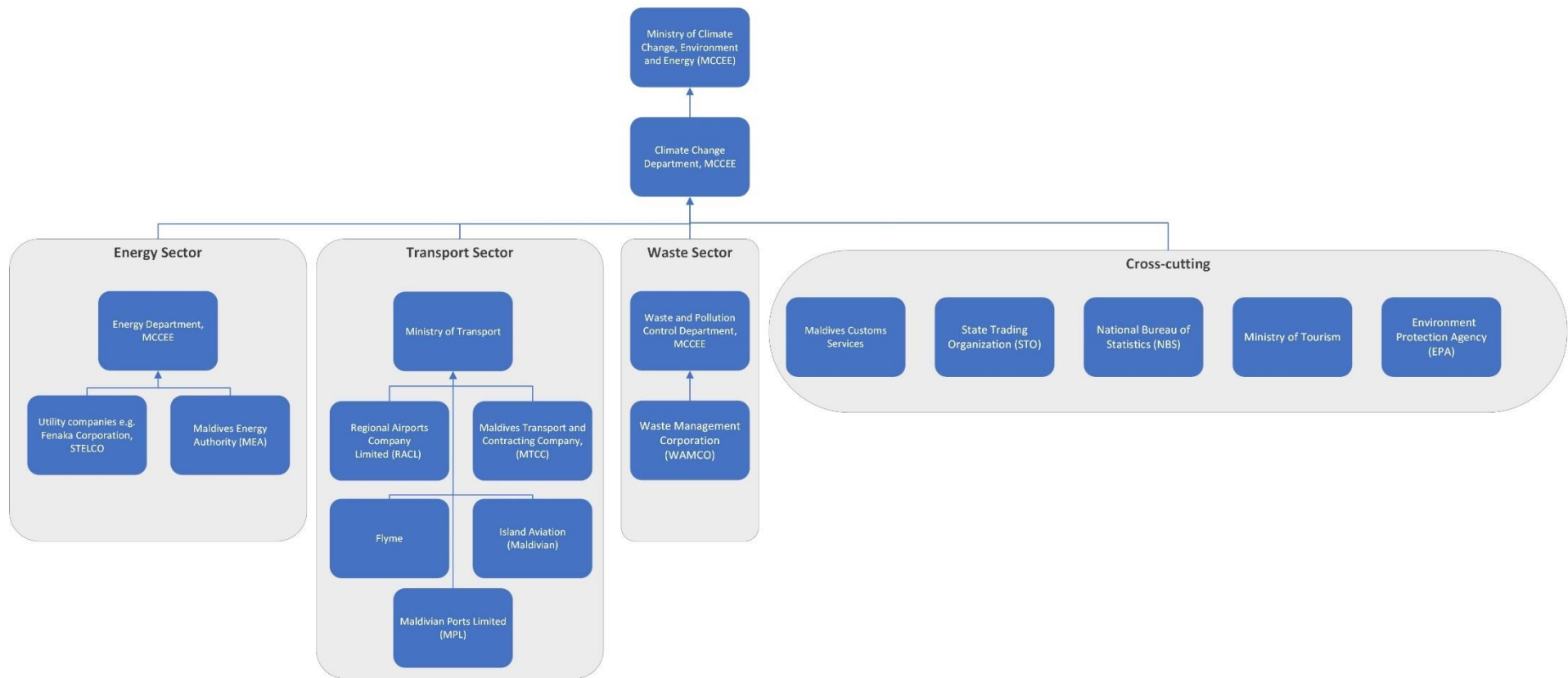


Figure 1. MRV of mitigation action - current organizational structure

It is worth noting that in this view of the roles and responsibilities of key stakeholders, there is no defined role for academia and sub-national government organisations, with limited engagement of the private sector. It is also relevant that women’s participation in decision-making, particularly in economic and political spheres, remains limited due to social and cultural barriers¹. It is important to establish mechanisms to ensure equitable representation of women in all decision-making processes related to climate mitigation and adaptation projects. This can include setting gender quotas, scheduling meetings at times convenient for women, and providing leadership training for women.

There is also a need for a **centralised MRV coordination team, an MRV steering committee** and the formalisation of **thematic working groups**. This is supported by the recommendations in the UNEP DTU report which proposes the establishment of a coordination team within CCD, a national MRV team that involves representatives from the CCD, Energy Department, Waste Department, Transport Authority, NBS and local government, and three sectoral working groups that cover the energy, transport and waste sectors. The organisational diagram below illustrates the proposed arrangements. This structure also aligns with the proposed institutional arrangements for the GHG inventory ² which includes the designation of a working group (here split into three sectoral sub-groups).

¹ Gender Assessment for GCF Project FP165: Building Climate Resilient Safer Islands in the Maldives, June 2021.

² MECCT, (2023). Stock-take and design option report on the institutional arrangements for GHG inventory: Ministry of Environment, Climate Change and Technology

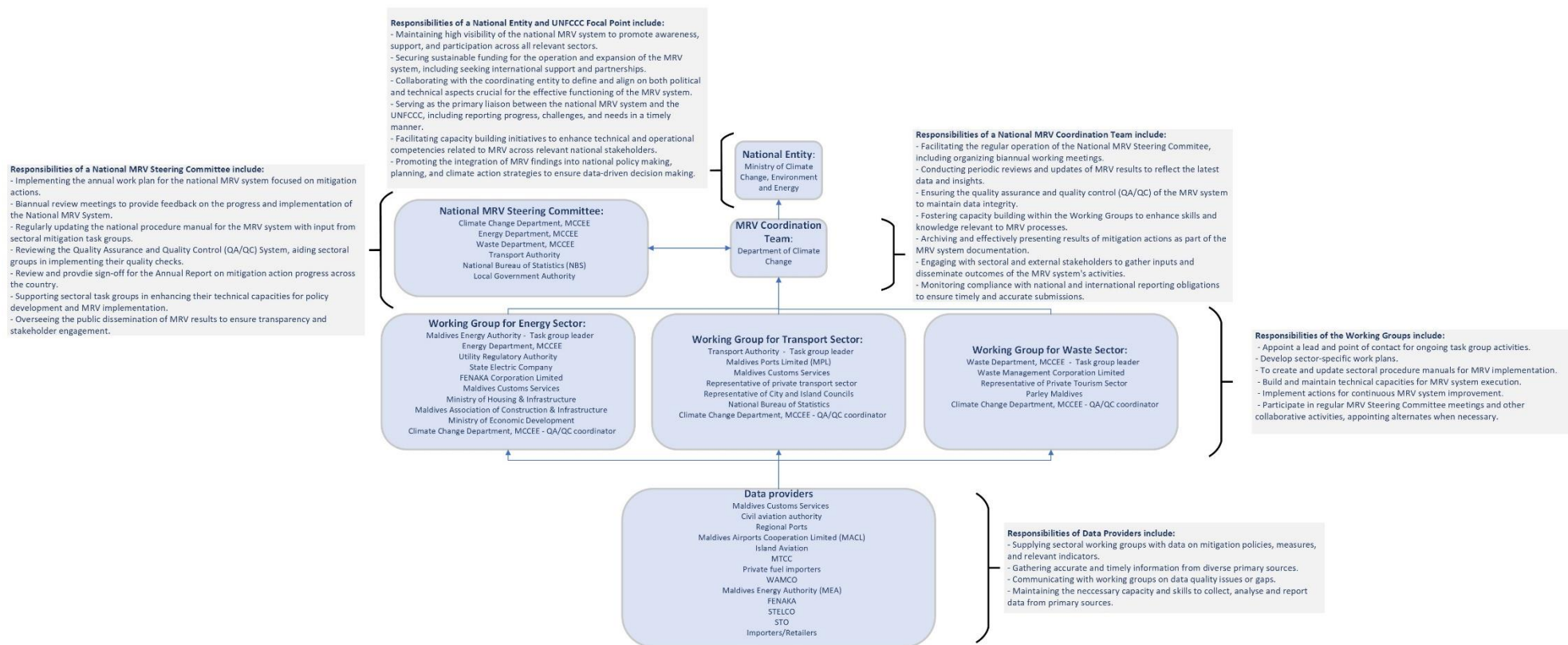


Figure 2. MRV of mitigation action - proposed structure

Since the publication of the UNEP DTU report, the Climate Emergency Bill (10/2021) was passed by the People’s Majlis on 29 April 2021. A summary of relevant legislation and its relevance to the mitigation action MRV system is presented in the table below.

Table 1. Legislative review of national mitigation action MRV system

Legislation	Relevance to the mitigation action MRV system in the Maldives	Comments
Climate Emergency Act 9/2021	<ul style="list-style-type: none"> • Commits the Maldives to carbon neutrality by the end of 2030 – this is only a conditional commitment in the updated NDC. • Establishes an annual carbon budget • Establishes the role of “Special Envoy for Climate Change” • Established the role of the CCD as the lead coordinator for the Maldives’ domestic and international climate change efforts. • Defines CCD’s role in evaluating and reporting on NDC progress. • Mandates CCD to implement a sectoral carbon budget monitoring mechanism. • Mandates CCD to create a national action plan for climate change that includes mitigation measures, mechanisms to monitor greenhouse gas emissions, short-term, mid-term and long-term targets. • Established a domestic annual progress report that includes a description of progress towards: the carbon neutrality target, the national action plan, other climate related targets, and carbon budget related achievements. • Includes a high level mandate for government and other stakeholder organizations to ‘maintain data, statistics and other information required to monitor implementation of this Act and progress on achieving the related targets’. 	<p>Strong overall mandate for the CCD to manage and coordinate climate change MRV activities. Establishment of a domestic, annual reporting requirement provides a strong signal for the need to develop a regular and reliable flow of data. The Act does not mention the conditions under which the commitment to a 2030 carbon neutral target are valid (since this is a conditional target in the NDC). The details of the carbon budget are not included, particularly calculation methodologies and guidelines on how these budgets will be calculated, reviewed, and adjusted. Details on annual progress reporting i.e. specific indicators, granularity of data, key stakeholders involved, consistency of methodologies, reporting deadlines etc. are not included.</p>
Maldives Energy Act 18/2021	<ul style="list-style-type: none"> • Establishes target for production of electricity from renewable energy sources. • Empowers the Utility Regulatory Authority to collect, process and maintain all information and statistics related to the energy sector in the Maldives. • mandates City and Island Councils to collect and share with the Ministry and Authority, data related to Energy that is required by the 	<p>Unclear what the role of the Energy Department is in relation to the Utilities Regulatory Authority with respect to data collection.</p>

	<p>Ministry and Authority to formulate reports, policies and strategies mandated the Act.</p> <ul style="list-style-type: none"> • Requires service providers and councils in islands to publish every 6 months, information on renewable energy production and consumption within that island. • Mandates energy service providers to collect, maintain and provide information to the Authority (information that the Authority determines as information that must be submitted to the Authority under the Act and related Regulations). • Mandates managers/owners of buildings, factories, resorts, hotels, and industrial areas to maintain information on energy consumption, reduction of wastage and other related information as required by the Authority under related Regulations. Act states that it is an offence not to adhere to this obligation. 	
Waste Management Act (24/2022)	<ul style="list-style-type: none"> • Requires the formulation of a National Strategy for Reduction of Waste, based on data from waste management centers. • Requires information regarding waste to be collected and a waste audit to be done. The Act states that, the Ministry must formulate a Regulation that contains rules on the collection and processing of waste management data including parameters on collecting and maintaining information. The Act states that, those parties mandated under the Regulation to collect and process data, must do so in accordance with the Regulation and share with the Ministry, yearly. • States that it is the responsibility of the Managers of Waste Management Centers to duly collect and share information required by the Ministry to prepare the National Waste Reduction Strategy, in accordance with the guidelines set by the Ministry to share such information (modalities on how to share the information, and deadlines). In addition to this, there is also a general obligation on parties providing waste management services to share with the Ministry, information and reports requested under the Act and Regulation. data. 	<p>The main legal barrier for this Act to be enforced is due to the lack of supporting regulations.</p> <p>Also there are conflicting mandates to collect waste data, between the Waste Management Act and the Utility Regulatory Authority (URA) Act (which specifies that the URA have a broad authority to collect and report statistics to service providers, whereas the Waste Act specifies that service providers should provide statistics to MCCEE.</p> <p>Chapter 12 highlights the absence of established regulations and guidelines for data collection and statistics, presenting a major barrier for service providers in collecting waste data.</p>
Utility Regulatory	<ul style="list-style-type: none"> • Grants the Utility Regulatory Authority to include as a condition in any license provided by 	The mandate for the Utility Regulatory Authority to

<p>Authority Act (26/2020)</p>	<p>the Utility Regulatory Authority, to share data with the Utility Regulatory Authority on services provided by the licensee.</p> <ul style="list-style-type: none"> • Grants general powers to the Authority to acquire information and documents from utilities service providers (licensees) and other parties related to services regulated by the Authority. 	<p>collect data is clear, however the mandate to report that data to MCCEE is less clear.</p>
<p>Land Transportation Act (05/2009)</p>	<ul style="list-style-type: none"> • States that City Councils and Island Councils have the authority to determine the number of vehicles that may be registered to the area under their jurisdiction including the maximum duration for which such vehicles may be used. The Act further states that, for industrial areas, this number shall be determined by the Transport Ministry. • Has created a Road Safety Council, comprising of the Transport Ministry, the Ministry with the mandate of road construction, Maldives Transport Authority, Maldives Police Service, Attorney General’s Office, Local Government Authority, and the Ministry with the mandate on matters related to the Environment. The mandate of the Road Safety Council includes providing the Ministry and councils advice and recommendations on the implementation of the Act. 	<p>Places the responsibility of enforcing the transport related NDC target onto City and Island Councils.</p> <p>Road Safety Council is an existing working group that could be leveraged to implement the NDC target.</p>
<p>Water and Sewerage Act (08/2020)</p>	<ul style="list-style-type: none"> • Mandates the Utility Regulatory Authority to collect and maintain all information related to water and sewerage systems and to share such information with the Ministry as may be required. • Requires all other State entities to provide to the Ministry, information that the Ministry required to formulate the Strategic Plan under the Act. 	<p>Clear about the role of the Ministry and other state entities in the data flow relevant to water and sewerage.</p>

The key governance related improvement items, identified based on the analysis of the roles and responsibilities of key stakeholder organisations and the legal framework, are as follows:

- 1.1 Formalise roles and responsibilities with the necessary agreements, arrangements and resources.
 - 1.1.1 Develop Terms of Reference for MRV Steering Committee, MRV Coordination Team and Sectoral Working Groups include specifics of working arrangements, frequency of meetings, chain of command, and data supply mandates.

- 1.1.2 Develop Memorandums of Understanding to define working arrangements and responsibilities between stakeholders e.g. with Transport Authority, City Councils and Island Councils for Transport Sector Working Group.
- 1.1.3 Develop supporting regulations to operationalise key legislations such as Waste Management Act (24/2022), Climate Emergency Act (09/2021) and Energy Act 18/2021.
 - 1.1.3.1 Clearly define and differentiate the roles and responsibilities of the Utilities Regulatory Authority and MCCEE in relation to data collection and provision, along an agreed schedule, with defined content and formats.
- 1.1.4 Define a sustainable flow of resources to support ongoing development and management of the MRV system.
 - 1.1.4.1 Assess resource requirements for each working group and key stakeholder organisations and draft needs assessment.
 - 1.1.4.2 Develop implementation plan to secure resources.

Expertise

Expertise refers to the team of national experts should be capable of regularly gathering and processing data in order to produce the agreed outputs in a timely manner. The team should have suitable back-up expertise and access to relevant training materials. There should also be effective recruitment, retention and succession procedures in place that motivate the long-term and active involvement of experts in the reporting process. The expertise related gaps and barriers identified in the BUR1 included:

- **Capacity and skills training:** The core of the more solid climate expertise at Government level is limited to the members of the Department of Climate Change team, but technical capacities are lacking in top line ministries and stakeholders in general.
- Need for further gender equitable capacity building initiatives for increasing expertise of officials of related institutions with MRV matters. This includes technical as well as organizational aspects;

A detailed training needs assessment should be conducted to identify the specific technical areas that require capacity building and an increase in expertise, these topics could cover:

- General awareness of the Paris Agreement Enhanced Transparency Framework (ETF) and the Modalities, Procedures and Guidelines (MPGs).
- The Maldives' climate change commitment and targets
- Developing GHG emission projections and projection scenarios
- Data collection for policies, measures and indicators
- GHG emission impact analysis of policies and measures
- Development of appropriate SMART indicators to track the NDC
- Sex disaggregated data collection and gender sensitive assessments
- Wider impact analysis of policies and measures to identify the social and environmental consequences of actions
- Reporting formats and tables

Data handling and analysis in particular was highlighted as a capacity building gap in the 2nd National Communication, as well as the ability to retain trained staff. Therefore, a review of the institutional policies would be needed to better understand how staff retention can be improved. Typically this involves the implementation of a stable work environment, competitive salaries, professional development programs, flexible working conditions, and importantly, a junior expert development program to ensure that expertise in any particular field is not held by a single senior expert. Any training or capacity building programs should consider gender aspects and that measures are taken to ensure that both men and women can participate and

benefit from the trainings equally. Efforts should also be made to ensure a representative gender split in the training attendees.

In the waste sector for example, there is very little knowledge retention relating to data collection and standard methodologies, it is currently an ad-hoc process. The report prepared under the ICAT project on ‘Barriers and Gaps hindering data and information sharing in the waste sector’, highlighted that stakeholders reported a shortage of technical expertise within their institutions to fulfill their mandates, attributed to low wages, high skill requirements, and competition for resources with private sector and other institutions, leading to challenges in capacity retention.

There is also a need to ensure there are adequate human resources available. Regular reporting on mitigation progress under the ETF represents additional resource requirements. In the past reporting cycles, these have been met through ad hoc recruitment of external consultants to meet the capacity needs. However, if the Maldives intends to reduce reliance on external consultants, it will require dedicated resources to ensure national expertise is retained and there is a development pipeline of senior and junior expertise. The table below estimates the resources required to manage a national MRV system for small and medium-sized countries (e.g. 300,000–30 million inhabitants)³. This guide is provisional, as resource needs depend on various national circumstances like emission scale and economic factors. The example illustrates the complex demands of information collection and reporting, and includes an additional 30% full-time equivalent (FTE) staff for backstopping, succession planning, and backup support during peak periods. This extra support ensures seamless transitions and fosters an environment where senior experts can excel.

Table 2. Estimate of basic resource needs for climate action related transparency systems for small and medium-sized countries (e.g. 300,000–30 million inhabitants)

Transparency area	Number of people and workload (% of time)	Resource: FTE	Additional 30% FTE for backup and succession
Transparency system administrator	1 at 50%	0.5 FTE	0.2 FTE
Adaptation			
Adaptation MRV coordination	1 at 100%	1 FTE	0.3 FTE
Climate data	3 at 35%	1 FTE	0.3 FTE
Vulnerability, risks, loss and damage	10 at 30%	3 FTE	1 FTE
Adaptation action ¹²	15 at 20%	3 FTE	1 FTE
Mitigation			
Mitigation MRV coordination	1 at 100%	1 FTE	0.3 FTE
GHG inventory ¹³	5 at 50%	2.5 FTE	1 FTE
Projections	3 at 50%	1.5 FTE	0.3 FTE
Mitigation action	15 at 20%	3 FTE	1 FTE
Investment (climate finance and support)			
Investment and support	1 at 50%	0.5 FTE	0.2 FTE
Total	30–55 stakeholders	17 FTE	6 FTE

Note: FTE = Full time equivalent

The key expertise related improvement items, are as follows:

³ Opie, L. and Goodwin, J. (2020) *Handbook on institutional arrangements to support MRV/transparency of climate action and support*. tech. UNFCCC. Available at: https://unfccc.int/sites/default/files/resource/Hand%20book_EN.pdf.

- 1.2 Increase the technical capacity and expertise within the Maldives' institutions
 - 1.2.1 Perform detailed training needs assessment to identify specific capacity gaps within specific institutions
 - 1.2.2 Assess and build technical capacity within line ministries to regularly collect, compile and report data on mitigation actions
 - 1.2.3 Build technical capacity for climate action impact analysis
 - 1.2.4 Deliver training on climate change indicators and progress tracking
 - 1.2.5 Develop staff retention policies to reduce loss of expertise within line ministries
 - 1.2.6 Develop centralised learning hubs to build institutional memory

Data flows

Reliable, regular data flows are essential for well-functioning institutional arrangements and the delivery of a national transparency framework. This includes defining the need for and uses of data, managing the delivery of the required datasets from a range of data providers on a regular basis and continuously improving data and reducing uncertainty. Identifying and engaging with stakeholders who hold, produce and could supply this data will be important. DSAs will be important for securing reliable data flows. The data flow related gaps and barriers identified in the BUR1 included:

- **Initial identification of mitigation indicators, templates for compilation of data on indicators and timelines for compilation of data on indicators:** To some extent
- **Data on indicators collected on a regular basis:** Every two years
- **QA and QC for mitigation actions:** To a small extent
- **Verification:** Data verification protocols are not in place

Constraints and gaps identified in the 2nd National Communication relating to data availability and quality include:

- Lack of local emission factors in energy, waste and transport sector
- Inconsistent data formats from the same sources
- Lack of proper methods in data acquisition, analysis and management
- Reluctance by the private sector in provision of their data as it is collected on a commercial basis.
- Lack of the necessary infrastructure for collection of data such as atmospheric and oceanic data, coastal and geomorphological changes etc.

Importantly, the MRV Coordination Team within CCD needs to conduct a data mapping exercise and work with the Sectoral Working Groups to identify the data collection needs to track progress of the NDC targets, and the related policies and measures. This will involve defining the format, schedule and terms for supplying data regularly and reliably. Line Ministries such as the Transport Authority will then need to translate those data needs into sectoral data collection strategies and approaches, and communicate to primary data providers such as Island Aviation around the format and data collection methodologies to ensure they are standardized. This is particularly relevant where private sector data providers are reluctant to share data for confidentiality or competitive reasons, to clearly identify the data needed and to discuss the outcome of that data, how long it will be held, how it will be made available to the public etc.

The key data flow related improvement items are as follows:

- 1.3 Improve the availability and standardization of data for NDC tracking and mitigation actions
 - 1.3.1 Develop list of NDC tracking indicators
 - 1.3.1.1 Develop data collection plans for each indicator

- 1.3.2 Build database of planned, ongoing and implemented climate actions
 - 1.3.2.1 Develop data collection plan for climate actions in each sector
 - 1.3.2.2 Perform ex-ante impact analyses to estimate GHG emission reduction potential for all actions
 - 1.3.2.3 Perform wider impact analyses of climate actions
- 1.3.3 Where relevant, develop a list of data sharing agreements that define the format, quantity, frequency and supply conditions of the data being shared relevant for annual reporting mandated by the Climate Emergency Act and UNFCCC reporting.

Systems and tools

Systems and tools are important for the smooth functioning of the transparency system. This encompasses managing the collection, analysis, QA/QC, summarizing and archiving of data and the preparation of briefings and reports. Institutional arrangements need to provide for the development and maintenance of workplans, engagement tools, databases, data collection and data analysis tools, indicators and reports. The systems and tools related gaps and barriers identified in the BUR1 included:

- **Database management systems and information systems:** Database management systems and informational systems are not in place, but with initial level of development
- **Tools and Guidelines:** Limited tools and guidelines for data collection and this is limited mostly to the team of the Department of Climate Change
- Need for IT infrastructure to store and maintain MRV data in the Government institutions.

There is an identified need to develop database management and information systems to facilitate the data collection and reporting process for mitigation action and NDC tracking data. The lack of institutional memory discussed above under Expertise, is compounded by the lack of centralized data management tool. The systems and tools needed to support the operation of the national mitigation action MRV system include:

- Data collection templates and guidelines for sectoral working groups and data providers,
- Climate action and NDC tracking database management system
- QA/QC and verification system
- Methodologies and tools for analyzing mitigation action impact
- Tools for managing the proposed carbon budgets (under the Climate Emergency Act)

Where possible, tools and systems should take advantage of, and build on, existing systems for reporting. In some cases standard software and tools exist such as:

- Low Emissions Analysis Platform (LEAP) for developing GHG emission projection scenarios
- Greenhouse Gas Abatement Cost Model (GACMO) for the analysis of climate mitigation projects
- The National Climate Change Metrics System (Sistema Nacional de Métrica de Cambio Climático, SINAMECC) – developed by Costa Rica to track NDC progress and archive climate action information
- The NDC Tracking Tool by the Food and Agriculture Organization (FAO)

These tools may be used together with nationally specific tools, or adapted to fit the Maldives' national circumstances. The CBIT project plans to establish a linked online data management system to collect, aggregate and archive mitigation data, and integrate it with the GHG inventory, adaptation data, support and finance data. It should be developed with integration with any existing tools as well as compatible with UNFCCC reporting tools and streamlined data input.

The key systems and tools related improvement items are as follows:

- 1.4 Develop systems and tools to facilitate transparency activities and improve institutional memory
 - 1.4.1 Review existing systems and tools that can be integrated into any new tools developed.
 - 1.4.2 Develop data collection templates, methodologies and formats for data providers and sectoral working groups
 - 1.4.3 Develop climate action and NDC tracking database management system
 - 1.4.4 Populate database management system with full list of policies, measures, indicators, and NDC targets to build its value
 - 1.4.5 Use systems and tools to develop official output such as the BTR to refine its functionalities.
 - 1.4.6 Integrate climate action and NDC tracking database management system with GHG inventory, adaptation data, support and finance systems.

Stakeholder engagement

Collecting data and using it to prioritise and drive action requires stakeholder engagement. This includes data providers as well as data users and encompasses the public, local governments and communities, businesses and other decision makers. The greater the engagement the better (and more useful) the transparency system will be for evidence-based decision-making and the production of reports. Stakeholder engagement involves seeking out key individuals and organizations and offering benefits in exchange for their involvement (e.g. providing data, insights and resources) with the transparency system. Stakeholders engaged in national policy-making and business decision-making will provide an important link to the wider impacts of climate action and the integration of climate action with national social, environmental, economic and sustainability goals. Stakeholder engagement related gaps and barriers identified in the BUR1 included:

- **Stakeholder engagement:** Stakeholder engagement is limited to publication of data

The UNEP DTU analysis of the Maldives' gaps and barriers includes the need for formalized stakeholder consultation mandate and protocols to ensure all voices are heard and addressed, this includes providing a voice to marginalized groups and equal platforms for men and women. Stakeholder consultation also features in the Climate Emergency Act as a key consideration when revising targets and developing the national action plan. Introducing sub-national representation into the National Steering Committee and the Sectoral Working Groups will also improve the scope of the stakeholder dialogues held. Stakeholders at every level of society should be represented and have a say in far reaching decisions such as national mitigation efforts. It is particularly important to ensure that this debate is not dominated by male voices if there are a higher proportion of men in positions of power. Equal representation of men and women in stakeholder engagement, especially in relation to private individuals or entities and community groups will ensure voices of both genders are heard and addressed in an appropriate manner. They should also have access to national data on progress against said targets beyond the simple publication of the UNFCCC report.

The key stakeholder engagement related improvement items are as follows:

- 1.5 Increase stakeholder engagement and participation in climate mitigation related decision and access to data
 - 1.5.1 Develop a stakeholder engagement plan (communication strategy) for climate change information, include provisions to ensure equal participation and opportunities to be heard for both genders and marginalized groups.
 - 1.5.2 Develop high level engagement with outputs of the MRV system
 - 1.5.3 Increase availability and ease of access to climate targets and data for stakeholders through shared access to database management system outputs

Appendices

1. Key documents, inputs and research for the analysis of the MRV system

Document	Relevant content
Maldives' Capacity Building Initiative for Transparency (CBIT) CEO Endorsement Document	Baseline and barriers transparency framework for tracking NDC mitigation actions. A list of baseline projects for mitigation MRV. List of stakeholders involved in MRV of mitigation actions. Summary of key MRV system gaps adapted from the BUR1. Summary of barriers for MRV of mitigation action from 2018 UNEP DTU study.
Update of Nationally Determined Contribution of Maldives (2020)	NDC target, and key contributing strategies, plans and actions.
Maldives' First Biennial Update Report (2019)	Baseline and NDC projections, list of mitigation actions, gap analysis of MRV system, recommendations for enhanced MRV system.
Technical analysis of the first biennial update report of Maldives submitted on 24 November 2019	Review of the mitigation chapter – findings include that the transport sector is underreported and that there is a deficit in the information available. Identification of capacity building needs including improving progress monitoring and reporting, Enhancing the technical and managerial skills of relevant government staff for data collection and reporting, stakeholder consultations, engaging non-governmental entities, establishing a systematic data collection system, better understanding of market-based mechanism information, and improved data collection specifically for transport sector.
Maldives' Second National Communication (2016)	Summary of mitigation efforts in the Maldives. Constraints and gaps for mitigation technologies (high transition costs, lack of affordable technology and know how, limited access to investment and financial resources.) Capacity building needs including establishing a legal, regulatory and institutional framework, increased public awareness and provision of financial incentives.
Initiative for Climate Action Transparency (ICAT): Methodologies and procedures for data collection – Waste Sector (2021)	Description of waste sector data collection arrangements. Barriers to the implementation of an effective data management system. Description of waste sector legislation e.g. Waste Management Regulations (2013) and the lack of procedure for national waste database. Data collection templates. QA/QC activities.
Initiative for Climate Action Transparency (ICAT): Barriers and Gaps	Summary of waste management centers, data collection and waste management procedures. Summary of workshop outcomes

Hindering Data and Information Sharing (2023)	on barriers and gaps. Policy, Legal and Institutional barriers for data collection. Description of financial barriers also.
Initiative for Climate Action Transparency (ICAT): Roadmap for removal of Barriers and Gaps hindering data and information sharing in Waste Sector	Summary of barriers for data collection and sharing (legal, implementation and knowledge based). Description of institutional arrangements and the Waste Management Act. Strategic actions and milestones for waste data management (enhancing governance framework, develop data collection methods and protocols, establishing tools and technology for data collection, and training and technical capacity buildings.
Climate Emergency Act (2021)	Carbon goals and budgeting. Designation of roles and responsibilities such as the Special Envoy for Climate Change and the Climate Change Directorate. National Action Plan on Climate Change and reporting. Description of the Environment and Climate Change Funds.
Maldives Energy Act (2021)	Established the mandate of the Ministry of Environment, Climate Change and Technology to define a target for the production of electricity from renewable energy sources. The Ministry is mandated to survey renewable energy resources in Maldivian territory and publish an inventory of the resources identified by the survey within 24 months. It also contains clauses on production of electricity and permitting, including for petroleum services.
Waste Management Act (24/2022)	Specifies the standards and procedures for sustainable waste management and governs the implementation and enforcement of practices and regulations designed to reduce the harmful effects of waste and safeguard public health.
Utility Regulatory Authority Act (26/2020)	Establishes the mandate for an authority to regulate utilities, including water, electricity, and waste management services. The act empowers the authority to collect data and enforce regulations that encourage the use of renewable energy and water conservation practices, contributing to national carbon reduction goals. It mandates the authority to monitor utility providers' compliance with environmental standards and to report on their performance in terms of energy efficiency and resource conservation.
Land Transportation Act (05/2009)	Empowers local councils to regulate vehicle registration and usage, aiming to reduce congestion and emissions. The Transport Ministry oversees vehicle regulations in industrial areas. The act also establishes a Road Safety Council, involving multiple government bodies, to advise on sustainable and safe transportation practices. This approach supports climate change

	mitigation by encouraging efficient vehicle use and enhancing road safety.
Water and Sewerage Act (08/2020)	Defines responsibilities of the State in ensuring the availability of safe and clean water and good quality of water services; roles and responsibilities of the Ministries, including: issuance of certifications and authorisations; setting national standards in relation to water and sanitation; making rules regarding the maximum price to be charged for water and sewerage services; providing financial assistance in relation to water and sewerage services.
Maldives Low Carbon Development Strategy (2014)	Sectoral low carbon development strategies. Mitigation projects and outcomes. Investment requirements and costs.
Maldives' Initial Biennial Transparency Report Project Implementation Plan (2023)	Description of ongoing initiatives. List of key stakeholders. Synergies with CBIT project.
Maldives Climate Change Policy Framework (2015)	List of guiding legislation, national development plans, policies and strategies. Description of policy strategic framework.
UNEP DTU: Initial Proposal Of A National System For MRV Of Mitigation Actions For Maldives (2018)	Sectoral descriptions of institutional arrangements and lists of key stakeholders. Legal, Institutional, procedural, and data barriers and gaps. Next steps and key tasks for establishing IA. Draft TORs of key institutions and roles. Recommendations. Surveys and responses. Example cooperative agreements.
Strategic Action Plan 2019 – 2023 (2018)	Central policy framework and planning document that guides the overall development direction of the Maldives. Sectoral targets and strategies with specific actions including mitigation actions such as on share of renewable energy in national energy mix and reduction of fuel usage for electricity generation. Lists energy related policies and measures. Not fully aligned with NDC targets though. Also contains targets, strategies and actions for adaptation, enhanced resilience and reduced disaster risk.
Maldives Mitigation Technology Needs Assessment Report (2022)	Background on policy and legislative framework. Description of key mitigation technologies in key sectors with cost benefit analyses.
Maldives TNA Barrier Analysis and Enabling Framework Report (2023)	Analysis of barriers for implementing key technologies such as Roof top Solar Photovoltaics. Includes economic, financial, legal and regulatory, technical and other barriers.

2. Example key outputs supported by the mitigation action MRV system

Document	Update frequency	Lead	Mitigation relevant content
Annual progress report	Annually	CCD	<ul style="list-style-type: none"> • Progress on achieving the target to establish the Maldives as a carbon neutral country • Progress on the national action plan • Progress on other climate change related targets • Progress and achievements related to the carbon budget • Sectors and areas in which additional goals are required in relation to the carbon budget • Reviewing and coordinating the identified mechanisms to mitigate climate change effects and identifying policies for amendment • Identifying areas for amendment with respect to the roles and responsibilities of government and other institutions, and private parties in relation to climate change plans • Identifying challenges to the implementation of the national action plan and recommendations to overcome such challenges
Biennial Transparency Report (BTR)	Every two years	CCD	<ul style="list-style-type: none"> • GHG inventory • NDC targets • Indicators • Policies and measures with estimated GHG emission impacts • GHG projections and projection scenarios
National Communication (NC)	Every four years	CCD	
Nationally Determined Contribution (NDC) update	Every five years	CCD	

3. NDC targets

Target	Data requirements for tracking	Lead stakeholder
Unconditional emissions reduction target of 26% by 2030, compared to BAU	GHG emissions inventory	CCD
Conditional net zero target by 2030	GHG emissions inventory	CCD
Increase the installed the RE share to 15% of the energy mix across the public and private sector	Renewable energy statistics, RE project development information, energy balance and projections	Utilities Regulatory Authority
Increase of efficiency of generators and reducing grid loss to at least 5%	Generator efficiency data, grid loss statistics, energy transmission and distribution efficiency reports	Utilities Regulatory Authority
Implementation of the standard labelling program and improvement of building standards for energy efficiency	Energy efficiency labels data, building standards compliance reports, energy consumption data before and after standards implementation	Utilities Regulatory Authority
The planned installation of 8 MW in Thilafushi and 1.5 MW in Addu City Waste to Energy plants.	Installed capacity data, waste-to-energy project implementation reports, electricity generation and waste processing statistics	Waste Department, MCCEE
Establishment of vehicle/vessels emissions standard and establishment of efficient transport management system and promotion of hybrid-vehicles	Vehicle and vessel emissions data, transport policy implementation reports, hybrid vehicle adoption/customs statistics	Transport Authority
Use of Liquefied Natural Gas (LNG) for electricity generation within greater Malé region.	LNG consumption statistics, electricity generation mix data	Utilities Regulatory Authority

4. Actions

The table below indicates an example table structure (adapted from CTF Annex II Table 5, rows in light blue are additional to the CTF fields) required to report on mitigation actions with an example action from the BUR.

Name ^c	Promotion of PV in Greater Male area.	
Description ^{d,e,f}	Installation of 740 kW of solar PV	
Objectives	Promotion of PV in Greater Male area. Install 740 kW of solar PV	
Type of instrument ^g	Other	
Status ^h	Implemented	
Conditionality	Unconditional	
Information on what the conditionality depends upon	N/A	
Scenario	With Measures	
Sector(s) affected ⁱ	Energy	
Gases affected	CO ₂ , CH ₄ , NO _x	
Geography	Greater Male Region	
Start year of implementation	2010	
Full implementation year	2015	
Implementing entity or entities	Ministry of Housing and Environment (currently Ministry of Climate Change, Environment and Energy)	
Estimates of GHG emission reductions (kt CO₂ eq) ^{j,k}	Expected	799.2 tCO ₂ e per year
	Achieved	Unquantified
GHG estimation methodologies and assumptions	Energy produced multiplied by grid emission factor	
Progress indicator	Electricity supplied annually from RE displacing fossil fuel	
Estimated cost (USD)	Unquantified	

Part of international transfer?	No
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Note: a Each Party shall provide information on actions, policies and measures that support the implementation and achievement of its NDC under Article 4 of the Paris Agreement, focusing on those that have the most significant impact on GHG emissions or removals and those impacting key categories in the national GHG inventory. This information shall be presented in narrative and tabular format (para. 80 of the MPGs).

b For each Party with an NDC under Article 4 of the Paris Agreement that consists of mitigation co-benefits resulting from Parties' adaptation actions and/or economic diversification plans consistent with Article 4, para. 7, information to be reported under paras. 80, 82 and 83 of the MPGs includes relevant information on policies and measures contributing to mitigation co-benefits resulting from adaptation actions or economic diversification plans (para. 84 of the MPGs).

c Parties may indicate whether a measure is included in the 'with measures' projections.

d Additional information may also be provided on the cost of the mitigation actions, non-GHG mitigation benefits, and how the mitigation action interacts with other mitigation actions, as appropriate (para. 83(a-c) of the MPGs).

e Parties should identify actions, policies and measures that influence GHG emissions from international transport (para. 88 of the MPGs).

f Parties should, to the extent possible, provide information about how actions, policies and measures are modifying longer-term trends in GHG emissions and removals (para. 89 of the MPGs).

g Parties shall, to the extent possible, provide information on the types of instrument: regulatory, economic instrument or other (para. 82(d) of the MPGs).

h Parties shall, to the extent possible, use the following descriptive terms to report on status of implementation: planned, adopted or implemented (para. 82(e) of the MPGs).

i Parties shall, to the extent possible, provide information on sector(s) affected: energy, transport, industrial processes and product use, agriculture, LULUCF, waste management or other (paras. 81 and 82(f) of the MPGs).

j Each Party shall provide, to the extent possible, estimates of expected and achieved GHG emission reductions for its actions, policies and measures in the tabular format; those developing country Parties that need flexibility in the light of their capacities with respect to this provision are instead encouraged to report this information (para. 85 of the MPGs).

k To the extent available, each Party shall describe the methodologies and assumptions used to estimate the GHG emission reductions or removals due to each action, policy and measure. This information may be presented in an annex to the biennial transparency report (para. 86 of the MPGs).

5. Stakeholder mapping

The table below presents the current map of stakeholders relevant to the Maldives' mitigation action. This mapping is aligned with existing institutional structures, illustrated with the diagram below this table.

Title	Responsibility	Necessary Capacities	Organization
UNFCCC focal point	Overall responsibility for expected outputs such as NCs, BURs.	Administrative skills, government authority	Climate Change Department, MCCEE
Steering Committee	Provide overall planning, coordination, management and technical facilitators of inputs and outputs.	Technical and administrative expertise, government authority	No current independent steering committee, CCD Sections currently fill this role.
MRV Coordinator	Management of the inventory (and climate action reporting) program and timelines	Technical and administrative expertise, government authority, capacity to coordinate and lead process	CCD, Monitoring, Reporting and Verification Section: <ul style="list-style-type: none"> • NDC Implementation Unit • Climate Change Reporting Unit.
QA/QC Coordinator	Implementation of QA/QC Plan, oversees cross-cutting QA/QC	Quantitative skills, knowledge of the UNFCCC reporting requirements and IPCC methodologies	CCD, Greenhouse Gas Inventory Section: <ul style="list-style-type: none"> • Quality Control Officer *QC officer required in the MRV Section.
Data users – Decision makers and high level champions	Implementing change using the data from the MRV system	Political clout, policy development and implementation, persuasion	MCCEE, The People's Majlis, Special Envoy for Climate Change
Climate action tracking sector experts	Day to day climate action tracking for the sector. Good understanding of sectoral policies and measures	Quantitative skills, knowledge of the UNFCCC reporting requirements and IPCC methodologies	CCD: <ul style="list-style-type: none"> • NDC Implementation Unit, Monitoring, Reporting and Verification Section. • National Adaptation Planning and Implementation Unit, Adaptation and Resilience Section.

Data providers	Reliable and regular provision of key datasets	Technical skills, legal authority to improve and enhance data collection	Ministry of Transport and Civil Aviation, Energy Department (MCCEE), Waste and Pollution Control Department (MCCEE), Utilities Regulatory Authority, Maldives Customs Services, State Trading Organization, National Bureau of Statistics, Ministry of Tourism, Environmental Protection Agency, Waste Management Corporation, Regional Airports company, Island Aviation, Maldives Transport and Contracting Company, Flyme, Utility companies.